Cloud Container Engine Autopilot

API Reference

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Contents

1 Before You Start

Overview

Cloud Container Engine (CCE) is a container service that allows you to run containers efficiently in the cloud. CCE provides highly scalable, high-performance, enterprise-class Kubernetes clusters and supports Docker containers. With CCE, you can easily deploy, manage, and scale containerized applications in the cloud.

This document describes how to use APIs for performing operations on CCE, such as creating or deleting CCE resources, modifying resource specifications, or adding NICs.

If you plan to access CCE resources through APIs, ensure that you are familiar with CCE concepts. For details, see **Service Overview**.

CCE supports both Kubernetes-native APIs and proprietary APIs. With these APIs, you can use all functions of CCE.

- CCE APIs: These APIs that can be accessed through the API gateway allow you to manage cloud service infrastructures (for example, creating a cluster). Operations on cluster resources (such as **creating a workload**) are also supported.
- Kubernetes-native APIs: You can perform operations on cluster resources (such as **creating a workload**) using the Kubernetes-native API server. However, operations on cloud service infrastructures (such as creating a cluster) are not supported.

  For details about Kubernetes-native API versions, see **https://kubernetes.io/docs/concepts/overview/kubernetes-api/**.

  NOTE

  - The Kubernetes-native APIs called in the current version do not support HTTP persistent connections.
  - The Kubernetes-native APIs in the current version include Beta APIs, whose version names include **beta**, for example, **v1beta1**. This type of APIs varies depending on Kubernetes-native APIs. Therefore, you are advised to use this type of APIs in unimportant scenarios, for example, short-term test clusters.

API Calling

CCE supports Representational State Transfer (REST) APIs, allowing you to call APIs using HTTPS. For details about API calling, see **Calling APIs**.

Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. For the endpoints of all services, see **Regions and Endpoints**.

You need to select an endpoint based on your service requirements.

- The URL format for cluster and quota management is **https://Endpoint/uri**. In the URL, *uri* indicates the resource path, which is the path for API access.
- The URL format for Kubernetes APIs, storage management, and add-on management is **https://{clusterid}.Endpoint/uri**. In the URL, *{clusterid}* indicates the cluster ID, and *uri* indicates the resource path, which is the path for API access.

  NOTE

  - The format of the URL called by the add-on management APIs is **https://{clusterid}.Endpoint/uri**. However, *{clusterid}* is used only for the domain name and is not verified or used by the APIs. Set *{clusterid}* in the query or body. For details about *{clusterid}*, see the add-on management sections.
  - *{clusterid}* is required for Kubernetes APIs and storage management, which indicates the cluster that needs to be accessed by calling the API.

Table 1-1 URL parameters

Parameter	Description
{clusterid}	Cluster ID. After a cluster is created, call the **API for obtaining a cluster in a specified project** to obtain the cluster ID.
Endpoint	Entry (URL) for a web service. Endpoints vary depending on services and regions.
uri	Access path of an API for performing an operation. Obtain the path from the URI of an API. For example, the **resource-path** of the API used to obtain a user token is **v3/auth/tokens**.

Constraints

- CCE imposes a quota on the number and capacity of resources that a user can access. By default, you can create a maximum of five clusters in each region and a cluster can have a maximum of 50 nodes. To create more clusters or add more nodes, **submit a service ticket** to increase the quota. For more details about quotas, see **Quotas**.
- For more constraints, see API description.

Concepts

- Account

  An account is created upon successful registration. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity, which should not be used directly to perform routine management. For security purposes, create Identity and Access Management (IAM) users and grant them permissions for routine management.

- User

  An IAM user is created using an account to use cloud services. Each IAM user has their own identity credentials (password and access keys).

  The account name, username, and password will be required for API authentication.

- Region

  Regions are divided based on geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.

  For details, see **Region and AZ**.

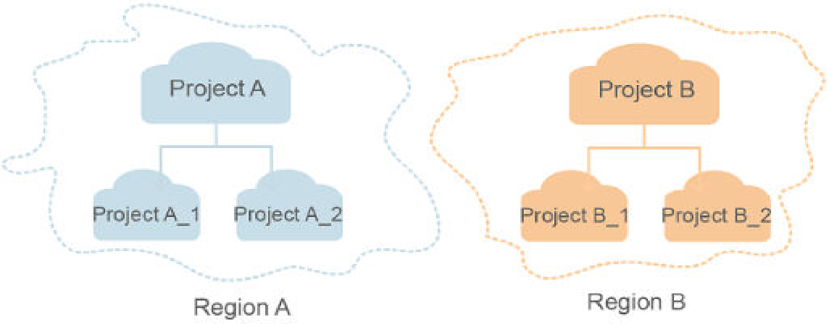
- AZ

  An AZ comprises of one or more physical data centers equipped with independent ventilation, fire, water, and electricity facilities. Computing, network, storage, and other resources in an AZ are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems.

- Project

  A project corresponds to a region. Default projects are defined to group and physically isolate resources (including compute, storage, and network resources) across regions. Users can be granted permissions in a default project to access all resources under their accounts in the region associated with the project. If you need more refined access control, create subprojects under a default project and create resources in subprojects. Then you can grant users the permissions required to access only the resources in the specific subprojects.

Figure 1-1 Project isolation model



- Enterprise project

  Enterprise projects group and manage resources across regions. Resources in different enterprise projects are logically isolated. An enterprise project can contain resources of multiple regions, and resources can be added to or removed from enterprise projects.

  For details about enterprise projects and about how to obtain enterprise project IDs, see ***Enterprise Management User Guide***.

2 API Overview

APIs provided by CCE are classified as proprietary APIs and Kubernetes-native APIs. Using these APIs, you can use all functions provided by CCE, including creating clusters, using the Kubernetes-native APIs to create workloads, and using the proprietary CCE APIs to monitor application data.

Type	Subtype	Description
Proprietary CCE APIs	**Cluster management**	Manage clusters, including creating and deleting clusters. You can use APIs in this category to create clusters and obtain information about created clusters.
	Add-on management	Manage add-ons, including querying AddonTemplates and creating, updating, deleting, and obtaining AddonInstances.
	Cluster upgrade	Upgrade clusters, including performing a pre-upgrade check and backing up cluster data.
	Quota management	Obtain quotas of CCE resources.
	Tag management	Manage tags, including adding and deleting resource tags of a cluster.
	Chart management	Manage charts, including creating, updating, obtaining, and deleting charts and chart releases.
Kubernetes-native APIs	None	For details about how to call Kubernetes-native APIs, see **Kubernetes APIs**.

Kubernetes APIs

API	Function	URI
Node	Reading a specified node	GET /api/v1/nodes/{name}
	Listing all nodes	GET /api/v1/nodes
	Updating a specified node	PATCH /api/v1/nodes/{name}
Namespace	Creating a namespace	POST /api/v1/namespaces
	Deleting a namespace	DELETE /api/v1/namespaces/{name}
	Querying a specified namespace	GET /api/v1/namespaces/{name}
	Replacing a specified namespace	PUT /api/v1/namespaces/{name}
	Replacing the status of a specified namespace	PUT /api/v1/namespaces/{name}/status
	Replacing the finalize values of a specified namespace	PUT /api/v1/namespaces/{name}/finalize
	Listing namespaces	GET /api/v1/namespaces
	Updating a specified namespace	PATCH /api/v1/namespaces/{name}
Resourcequotas	Querying resource quotas	GET /api/v1/resourcequotas
	Creating a resource quota	POST /api/v1/namespaces/{namespace}/resourcequotas
	Updating a resource quota	PUT /api/v1/namespaces/{namespace}/resourcequotas/{name}
	Deleting a resource quota	DELETE /api/v1/namespaces/{namespace}/resourcequotas/{name}
Pod	Creating a pod	POST /api/v1/namespaces/{namespace}/pods
	Deleting a pod	DELETE /api/v1/namespaces/{namespace}/pods/{name}
	Deleting all pods	DELETE /api/v1/namespaces/{namespace}/pods
	Reading a specified pod	GET /api/v1/namespaces/{namespace}/pods/{name}

API	Function	URI
	Replacing a specified pod	PUT /api/v1/namespaces/{namespace}/pods/{name}
	Replacing the status of a specified pod	PUT /api/v1/namespaces/{namespace}/pods/{name}/status
	Listing all pods in a specified namespace	GET /api/v1/namespaces/{namespace}/pods
	Listing pods	GET /api/v1/pods
	Updating a specified pod	PATCH /api/v1/namespaces/{namespace}/pods/{name}
Deployment	Creating a Deployment	POST /apis/apps/v1/namespaces/{namespace}/deployments
	Rolling back a Deployment	PATCH /apis/apps/v1/namespaces/{namespace}/deployments/{name}
	Deleting a Deployment	DELETE /apis/apps/v1/namespaces/{namespace}/deployments/{name}
	Deleting all Deployments	DELETE /apis/apps/v1/namespaces/{namespace}/deployments
	Reading a specified Deployment	GET /apis/apps/v1/namespaces/{namespace}/deployments/{name}
	Reading the status of a specified Deployment	GET /apis/apps/v1/namespaces/{namespace}/deployments/{name}/status
	Reading the scaling operation of a specified Deployment	GET /apis/apps/v1/namespaces/{namespace}/deployments/{name}/scale
	Replacing a specified Deployment	PUT /apis/apps/v1/namespaces/{namespace}/deployments/{name}
	Replacing the status of a specified Deployment	PUT /apis/apps/v1/namespaces/{namespace}/deployments/{name}/status
	Replacing the scaling operation of a specified Deployment	PUT /apis/apps/v1/namespaces/{namespace}/deployments/{name}/scale
	Listing Deployments in a specified namespace	GET /apis/apps/v1/namespaces/{namespace}/deployments
	Listing all Deployments	GET /apis/apps/v1/deployments
	Updating a specified Deployment	PATCH /apis/apps/v1/namespaces/{namespace}/deployments/{name}
	Updating the status of a specified Deployment	PATCH /apis/apps/v1/namespaces/{namespace}/deployments/{name}/status

API	Function	URI
	Updating the scaling operation of a specified Deployment	PATCH /apis/apps/v1/namespaces/{namespace}/deployments/{name}/scale
Stateful Set	Creating a StatefulSet	POST /apis/apps/v1/namespaces/{namespace}/statefulsets
	Deleting a specified StatefulSet	DELETE /apis/apps/v1/namespaces/{namespace}/statefulsets/{name}
	Deleting all StatefulSets	DELETE /apis/apps/v1/namespaces/{namespace}/statefulsets
	Reading a specified StatefulSet	GET /apis/apps/v1/namespaces/{namespace}/statefulsets/{name}
	Reading the status of a specified StatefulSet	GET /apis/apps/v1/namespaces/{namespace}/statefulsets/{name}/status
	Replacing a specified StatefulSet	PUT /apis/apps/v1/namespaces/{namespace}/statefulsets/{name}
	Replacing the status of a specified StatefulSet	PUT /apis/apps/v1/namespaces/{namespace}/statefulsets/{name}/status
	Listing StatefulSets in a specified namespace	GET /apis/apps/v1/namespaces/{namespace}/statefulsets
	Listing all StatefulSets	GET /apis/apps/v1/statefulsets
	Updating a specified StatefulSet	PATCH /apis/apps/v1/namespaces/{namespace}/statefulsets/{name}
	Updating the status of a specified StatefulSet	PATCH /apis/apps/v1/namespaces/{namespace}/statefulsets/{name}/status
Job	Creating a job	POST /apis/batch/v1/namespaces/{namespace}/jobs
	Deleting a job	DELETE /apis/batch/v1/namespaces/{namespace}/jobs/{name}
	Deleting all jobs	DELETE /apis/batch/v1/namespaces/{namespace}/jobs
	Reading a specified job	GET /apis/batch/v1/namespaces/{namespace}/jobs/{name}
	Reading the status of a specified job	GET /apis/batch/v1/namespaces/{namespace}/jobs/{name}/status
	Replacing a specified job	PUT /apis/batch/v1/namespaces/{namespace}/jobs/{name}
	Replacing the status of a specified job	PUT /apis/batch/v1/namespaces/{namespace}/jobs/{name}/status

API	Function	URI
	Listing jobs in a specified namespace	GET /apis/batch/v1/namespaces/{namespace}/jobs
	Listing all jobs	GET /apis/batch/v1/jobs
	Updating the status of a specified job	PATCH /apis/batch/v1/namespaces/{namespace}/jobs/{name}/status
	Updating a specified job	PATCH /apis/batch/v1/namespaces/{namespace}/jobs/{name}
CronJob	Creating a cron job	POST /apis/batch/v1/namespaces/{namespace}/cronjobs
	Deleting a cron job	DELETE /apis/batch/v1/namespaces/{namespace}/cronjobs/{name}
	Deleting all cron jobs	DELETE /apis/batch/v1/namespaces/{namespace}/cronjobs
	Reading a specified cron job	GET /apis/batch/v1/namespaces/{namespace}/cronjobs/{name}
	Reading the status of a specified cron job	GET /apis/batch/v1/namespaces/{namespace}/cronjobs/{name}/status
	Replacing a specified cron job	PUT /apis/batch/v1/namespaces/{namespace}/cronjobs/{name}
	Replacing the status of a specified cron job	PUT /apis/batch/v1/namespaces/{namespace}/cronjobs/{name}/status
	Listing cron jobs in a specified namespace	GET /apis/batch/v1/namespaces/{namespace}/cronjobs
	Listing all cron jobs	GET /apis/batch/v1/cronjobs
	Updating the status of a specified cron job	PATCH /apis/batch/v1/namespaces/{namespace}/cronjobs/{name}/status
	Updating a specified cron job	PATCH /apis/batch/v1/namespaces/{namespace}/cronjobs/{name}
ReplicaSet	Listing ReplicaSets	GET /apis/apps/v1/namespaces/{namespace}/replicasets
	Reading a specified ReplicaSet	GET /apis/apps/v1/namespaces/{namespace}/replicasets/{name}
	Listing all ReplicaSets	GET /apis/apps/v1/replicasets
ReplicationController	Creating a ReplicationController	POST /api/v1/namespaces/{namespace}/replicationcontrollers
	Deleting a ReplicationController	DELETE /api/v1/namespaces/{namespace}/replicationcontrollers/{name}

API	Function	URI
	Deleting all ReplicationControllers	DELETE /api/v1/namespaces/{namespace}/replicationcontrollers
	Reading a ReplicationController under a specified namespace	GET /api/v1/namespaces/{namespace}/replicationcontrollers/{name}
	Replacing a ReplicationController under a specified namespace	PUT /api/v1/namespaces/{namespace}/replicationcontrollers/{name}
	Replacing the status of a ReplicationController under a specified namespace	PUT /api/v1/namespaces/{namespace}/replicationcontrollers/{name}/status
	Listing ReplicationControllers in a specified namespace	GET /api/v1/namespaces/{namespace}/replicationcontrollers
	Listing ReplicationControllers	GET /api/v1/replicationcontrollers
	Updating a specified ReplicationController	PATCH /api/v1/namespaces/{namespace}/replicationcontrollers/{name}
Endpoints	Creating an endpoint	POST /api/v1/namespaces/{namespace}/endpoints
	Deleting an endpoint	DELETE /api/v1/namespaces/{namespace}/endpoints/{name}
	Deleting all endpoints	DELETE /api/v1/namespaces/{namespace}/endpoints
	Querying a specified endpoint	GET /api/v1/namespaces/{namespace}/endpoints/{name}
	Replacing a specified endpoint	PUT /api/v1/namespaces/{namespace}/endpoints/{name}
	Listing endpoints	GET /api/v1/endpoints
	Listing endpoints in a specified namespace	GET /api/v1/namespaces/{namespace}/endpoints
	Updating a specified endpoint	PATCH /api/v1/namespaces/{namespace}/endpoints/{name}
Service	Creating a Service	POST /api/v1/namespaces/{namespace}/services

API	Function	URI
	Deleting a specified Service	DELETE /api/v1/namespaces/{namespace}/services/{name}
	Obtaining a specified Service	GET /api/v1/namespaces/{namespace}/services/{name}
	Replacing a specified Service	PUT /api/v1/namespaces/{namespace}/services/{name}
	Listing Services in a specified namespace	GET /api/v1/namespaces/{namespace}/services
	Listing Services	GET /api/v1/services
	Updating a specified Service	PATCH /api/v1/namespaces/{namespace}/services/{name}
Ingress	Creating an ingress	POST /apis/networking.k8s.io/v1/namespaces/{namespace}/ingresses
	Updating a specified ingress	PATCH /apis/networking.k8s.io/v1/namespaces/{namespace}/ingresses/{name}
	Replacing a specified ingress	PUT /apis/networking.k8s.io/v1/namespaces/{namespace}/ingresses/{name}
	Deleting an ingress	DELETE /apis/networking.k8s.io/v1/namespaces/{namespace}/ingresses/{name}
	Deleting all ingresses	DELETE /apis/networking.k8s.io/v1/namespaces/{namespace}/ingresses
	Obtaining a specified ingress	GET /apis/networking.k8s.io/v1/namespaces/{namespace}/ingresses/{name}
	Listing ingresses in a specified namespace	GET /apis/networking.k8s.io/v1/namespaces/{namespace}/ingresses
	Listing ingresses	GET /apis/networking.k8s.io/v1/ingresses
	Obtaining the status of an ingress in a specified namespace	GET /apis/networking.k8s.io/v1/namespaces/{namespace}/ingresses/{name}/status
	Replacing the status of an ingress in a specified namespace	PUT /apis/networking.k8s.io/v1/namespaces/{namespace}/ingresses/{name}/status
	Updating the status of an ingress in a specified namespace	PATCH /apis/networking.k8s.io/v1/namespaces/{namespace}/ingresses/{name}/status

API	Function	URI
Network Policy	Creating a network policy	POST /apis/networking.k8s.io/v1/namespaces/{namespace}/networkpolicies
	Updating a specified network policy	PATCH /apis/networking.k8s.io/v1/namespaces/{namespace}/networkpolicies/{name}
	Replacing a specified network policy	PUT /apis/networking.k8s.io/v1/namespaces/{namespace}/networkpolicies/{name}
	Deleting a specified network policy	DELETE /apis/networking.k8s.io/v1/namespaces/{namespace}/networkpolicies/{name}
	Deleting network policies in batches	DELETE /apis/networking.k8s.io/v1/namespaces/{namespace}/networkpolicies
	Reading a specified network policy	GET /apis/networking.k8s.io/v1/namespaces/{namespace}/networkpolicies/{name}
	Listing network policies in a specified namespace	GET /apis/networking.k8s.io/v1/namespaces/{namespace}/networkpolicies
	Listing all network policies	GET /apis/networking.k8s.io/v1/networkpolicies
PersistentVolume	Creating a PersistentVolume	POST /api/v1/persistentvolumes
	Deleting a specified PersistentVolume	DELETE /api/v1/persistentvolumes/{name}
	Deleting all PersistentVolumes	DELETE /api/v1/persistentvolumes
	Reading a specified PersistentVolume	GET /api/v1/persistentvolumes/{name}
	Replacing a specified PersistentVolume	PUT /api/v1/persistentvolumes/{name}
	Replacing the status of a specified PersistentVolume	PUT /api/v1/persistentvolumes/{name}/status
	Listing all PersistentVolumes	GET /api/v1/persistentvolumes
	Updating a specified PersistentVolume	PATCH /api/v1/persistentvolumes/{name}

API	Function	URI
PersistentVolumeClaim	Creating a PersistentVolumeClaim	POST /api/v1/namespaces/{namespace}/persistentvolumeclaims
	Deleting a specified PersistentVolumeClaim	DELETE /api/v1/namespaces/{namespace}/persistentvolumeclaims/{name}
	Deleting all PersistentVolume-Claims	DELETE /api/v1/namespaces/{namespace}/persistentvolumeclaims
	Reading a specified PersistentVolumeClaim	GET /api/v1/namespaces/{namespace}/persistentvolumeclaims/{name}
	Replacing a specified PersistentVolumeClaim	PUT /api/v1/namespaces/{namespace}/persistentvolumeclaims/{name}
	Replacing the status of a specified PersistentVolumeClaim	PUT /api/v1/namespaces/{namespace}/persistentvolumeclaims/{name}/status
	Listing PersistentVolume-Claims in a specified namespace	GET /api/v1/namespaces/{namespace}/persistentvolumeclaims
	Listing all PersistentVolume-Claims	GET /api/v1/persistentvolumeclaims
	Updating a specified PersistentVolumeClaim	PATCH /api/v1/namespaces/{namespace}/persistentvolumeclaims/{name}
ConfigMap	Creating a ConfigMap	POST /api/v1/namespaces/{namespace}/configmaps
	Deleting a ConfigMap	DELETE /api/v1/namespaces/{namespace}/configmaps/{name}
	Deleting all ConfigMaps	DELETE /api/v1/namespaces/{namespace}/configmaps
	Reading a specified ConfigMap	GET /api/v1/namespaces/{namespace}/configmaps/{name}
	Replacing a specified ConfigMap	PUT /api/v1/namespaces/{namespace}/configmaps/{name}
	Listing ConfigMaps in a specified namespace	GET /api/v1/namespaces/{namespace}/configmaps
	Listing all ConfigMaps	GET /api/v1/configmaps
	Updating a specified ConfigMap	PATCH /api/v1/namespaces/{namespace}/configmaps/{name}

API	Function	URI
Secret	Creating a secret	POST /api/v1/namespaces/{namespace}/secrets
	Deleting a secret	DELETE /api/v1/namespaces/{namespace}/secrets/{name}
	Deleting all secrets in a specified namespace	DELETE /api/v1/namespaces/{namespace}/secrets
	Reading a specified secret	GET /api/v1/namespaces/{namespace}/secrets/{name}
	Replacing a specified secret	PUT /api/v1/namespaces/{namespace}/secrets/{name}
	Listing the secrets in a namespace	GET /api/v1/namespaces/{namespace}/secrets
	Listing secrets in a cluster	GET /api/v1/secrets
RBAC/ ClusterRole	Creating a ClusterRole	POST /apis/rbac.authorization.k8s.io/v1/clusterroles
	Updating a specified ClusterRole	PATCH /apis/rbac.authorization.k8s.io/v1/clusterroles/{name}
	Replacing a specified ClusterRole	PUT /apis/rbac.authorization.k8s.io/v1/clusterroles/{name}
	Deleting a specified ClusterRole	DELETE /apis/rbac.authorization.k8s.io/v1/clusterroles/{name}
	Deleting ClusterRoles in batches	DELETE /apis/rbac.authorization.k8s.io/v1/clusterroles
	Reading a specified ClusterRole	GET /apis/rbac.authorization.k8s.io/v1/clusterroles/{name}
	Listing ClusterRoles	GET /apis/rbac.authorization.k8s.io/v1/clusterroles
RBAC/ ClusterRoleBinding	Creating a ClusterRoleBinding	POST /apis/rbac.authorization.k8s.io/v1/clusterrolebindings
	Updating a specified ClusterRoleBinding	PATCH /apis/rbac.authorization.k8s.io/v1/clusterrolebindings/{name}
	Replacing a specified ClusterRoleBinding	PUT /apis/rbac.authorization.k8s.io/v1/clusterrolebindings/{name}
	Deleting a specified ClusterRoleBinding	DELETE /apis/rbac.authorization.k8s.io/v1/clusterrolebindings/{name}

API	Function	URI
	Deleting ClusterRoleBindings in batches	DELETE /apis/rbac.authorization.k8s.io/v1/clusterrolebindings
	Reading a specified ClusterRoleBinding	GET /apis/rbac.authorization.k8s.io/v1/clusterrolebindings/{name}
	Listing ClusterRoleBindings	GET /apis/rbac.authorization.k8s.io/v1/clusterrolebindings
RBAC/Role	Creating a Role	POST /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/roles
	Updating a specified Role	PATCH /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/roles/{name}
	Replacing a specified Role	PUT /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/roles/{name}
	Deleting a specified Role	DELETE /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/roles/{name}
	Deleting Roles in batches	DELETE /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/roles
	Reading a specified Role	GET /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/roles/{name}
	Listing Roles in a specified namespace	GET /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/roles
	Listing all Roles	GET /apis/rbac.authorization.k8s.io/v1/roles
RBAC/RoleBinding	Creating a RoleBinding	POST /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/rolebindings
	Updating a specified RoleBinding	PATCH /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/rolebindings/{name}
	Replacing a specified RoleBinding	PUT /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/rolebindings/{name}
	Deleting a specified RoleBinding	DELETE /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/rolebindings/{name}
	Deleting RoleBindings in batches	DELETE /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/rolebindings
	Reading a specified RoleBinding	GET /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/rolebindings/{name}

API	Function	URI
	Listing RoleBindings in a specified namespace	GET /apis/rbac.authorization.k8s.io/v1/namespaces/{namespace}/rolebindings
	Listing all RoleBindings	GET /apis/rbac.authorization.k8s.io/v1/rolebindings
API groups	Listing APIVersions	GET /api
	Listing APIGroups	GET /apis
	listing APIResources of GroupVersion apiregistration.k8s.io/v1beta1	GET /apis/apiregistration.k8s.io/v1beta1
	listing APIResources of GroupVersion extensions/v1beta1	GET /apis/extensions/v1beta1
	listing APIResources of GroupVersion apps/v1&apps/v1beta1	GET /apis/apps/v1
	listing APIResources of GroupVersion authentication.k8s.io/v1	GET /apis/authentication.k8s.io/v1
	listing APIResources of GroupVersion authentication.k8s.io/v1beta1	GET /apis/authentication.k8s.io/v1beta1
	listing APIResources of GroupVersion authorization.k8s.io/v1	GET /apis/authorization.k8s.io/v1
	listing APIResources of GroupVersion authorization.k8s.io/v1beta1	GET /apis/authorization.k8s.io/v1beta1
	listing APIResources of GroupVersion autoscaling/v1	GET /apis/autoscaling/v1
	listing APIResources of GroupVersion batch/v1	GET /apis/batch/v1
	listing APIResources of GroupVersion certificates.k8s.io/v1beta1	GET /apis/certificates.k8s.io/v1beta1

API	Function	URI
	listing APIResources of GroupVersion networking.k8s.io/v1	GET /apis/networking.k8s.io/v1
	listing APIResources of GroupVersion policy/v1beta1	GET /apis/policy/v1beta1
	listing APIResources of GroupVersion rbac.authorization.k8s.io/v1beta1	GET /apis/rbac.authorization.k8s.io/v1beta1
	listing APIResources of GroupVersion storage.k8s.io/v1	GET /apis/storage.k8s.io/v1
	listing APIResources of GroupVersion storage.k8s.io/v1beta1	GET /apis/storage.k8s.io/v1beta1
	listing APIResources of GroupVersion apiextensions.k8s.io/v1beta1	GET /apis/apiextensions.k8s.io/v1beta1
	listing APIResources of GroupVersion v1	GET /api/v1
Event	Reading events	GET /api/v1/events
	Listing events in a specified namespace	GET /api/v1/namespaces/{namespace}/events

3 Calling APIs

3.1 Making an API Request

This section describes how a REST API is formed and uses the IAM **API for obtaining a user token** as an example to describe how to call an API. The obtained token can be used to authenticate the calls of other APIs.

Request URI

A request URI is in the following format:

{URI-scheme}://{Endpoint}/{resource-path}?{query-string}

Although a request URI is included in the request header, most programming languages or frameworks require the request URI to be transmitted separately.

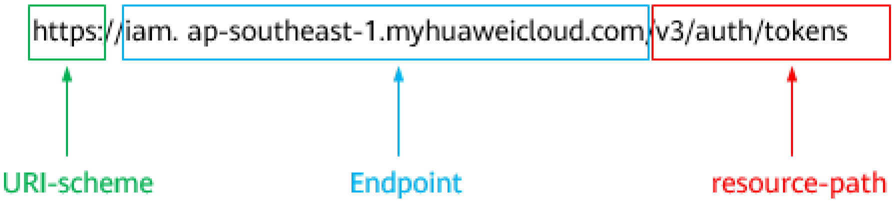
Table 3-1 URI parameters

Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from **Regions and Endpoints**. For example, the endpoint of IAM in region **CN-Hong Kong** is **iam.ap-southeast-1.myhuaweicloud.com**.
resource-path	Access path of an API for performing an operation. Obtain the path from the URI of an API. For example, the **resource-path** of the API used to obtain a user token is **/v3/auth/tokens**.
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of *Parameter name*=*Parameter value*. For example, **? limit=10** indicates that a maximum of 10 data records will be displayed.

For example, to obtain an IAM token in the **CN-Hong Kong** region, obtain the endpoint of IAM (**iam.ap-southeast-1.myhuaweicloud.com**) for this region and the **resource-path (/v3/auth/tokens)** in the URI of the API used to **obtain a user token**. Then, construct the URI as follows:

```
https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
```

Figure 3-1 Example URI


https://iam. ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
URI-scheme
Endpoint
resource-path

NOTE

To simplify the URI display in this document, each API is provided only with a **resource-path** and a request method. The **URI-scheme** of all APIs is **HTTPS**, and the endpoints of all APIs in the same region are identical.

Request Methods

The HTTP protocol defines the following request methods that can be used to send a request to the server.

Table 3-2 HTTP methods

Method	Description
GET	Requests the server to return specified resources.
PUT	Requests the server to update specified resources.
POST	Requests the server to add resources or perform special operations.
DELETE	Requests the server to delete specified resources, for example, an object.
HEAD	Same as GET except that the server must return only the response header.
PATCH	Requests the server to update partial content of a specified resource. If the resource does not exist, a new resource will be created.

For example, in the URI of the API for **obtaining a user token**, the request method is **POST**, and the request is as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
```

Request Header

You can also add additional header fields to a request, such as the fields required by a specified URI or HTTP method. For example, to request for the authentication information, add **Content-Type**, which specifies the request body type.

Common request header fields are as follows.

Table 3-3 Common request header fields

Parameter	Description	Mandatory	Example Value
Host	Specifies the server domain name and port number of the resources being requested. The value can be obtained from the URL of the service API. The value is in the format of *Hostname:Port number*. If the port number is not specified, the default port is used. The default port number for **https** is **443**.	No This field is mandatory for AK/SK authentication.	code.test.com or code.test.com:443
Content-Type	Specifies the type (or format) of the message body. The default value **application/json** is recommended. Other values of this field will be provided for specific APIs if any.	Yes	application/json
Content-Length	Specifies the length of the request body. The unit is byte.	No	3495

Parameter	Description	Mandatory	Example Value
X-Project-Id	Specifies the project ID. Obtain the project ID by following the instructions in **Obtaining a Project ID**.	No This field is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario.	e9993fc787d94b6c886cbaa340f9c0f4
X-Auth-Token	Specifies the user token. The user token is a response to the API used to **obtain a user token**. This API is the only one that does not require authentication. After the request is processed, the value of **X-Subject-Token** in the response header is the token value.	No This field is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZIhvcNAQc-Co...ggg1BBIINPXsidG9rZ

NOTE

In addition to supporting authentication using tokens, APIs support authentication using AK/SK, which uses SDKs to sign a request. During the signature, the **Authorization** (signature authentication) and **X-Sdk-Date** (time when a request is sent) headers are automatically added in the request.

For more details, see "Authentication Using AK/SK" in **Authentication**.

The API used to **obtain a user token** does not require authentication. Therefore, only the **Content-Type** field needs to be added to request headers for calling the API. An example of such requests is as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
```

(Optional) Request Body

This part is optional. The body of a request is often sent in a structured format as specified in the **Content-Type** header field. The request body transfers content except the request header.

The request body varies between APIs. Some APIs do not require the request body, such as the APIs requested using the GET and DELETE methods.

In the case of the API for **obtaining a user token**, the request parameters and parameter description can be obtained from the API request. The following provides an example request with the body included. Replace *username*, *domainname*, ********** (login password), and *xxxxxxxxxxxxxxxxxx* (project name) with the actual values. To learn how to obtain a project ID, see **Regions and Endpoints**.

NOTE

> The **scope** parameter specifies where a token takes effect. You can set **scope** to an account or a project under an account. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see **Obtaining a User Token**.

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json

{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",
                    "password": "********",
                    "domain": {
                        "name": "domainname"
                    }
                }
            }
        },
        "scope": {
            "project": {
                "name": "xxxxxxxxxxxxxxxxxx"
            }
        }
    }
}
```

If all data required for the API request is available, you can send the request to call the API through **curl**, **Postman**, or coding. In the response to the API used to obtain a user token, **x-subject-token** is the desired user token. This token can then be used to authenticate the calling of other APIs.

3.2 Authentication

Requests for calling an API can be authenticated using either of the following methods:

- Token authentication: Requests are authenticated using tokens.
- AK/SK authentication: Requests are encrypted using an AK/SK. AK/SK-based authentication is recommended because it is more secure than token-based authentication.

Token-based Authentication

NOTE

The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the IAM API used to obtain a user token.

A token specifies temporary permissions in a computer system. During API authentication using a token, the token is added to requests to get permissions for calling the API.

When calling the API to **obtain a user token**, you must set **auth.scope** in the request body to **project**.

```
{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",
                    "password": "********",
                    "domain": {
                        "name": "domainname"
                    }
                }
            }
        },
        "scope": {
            "project": {
                "name": "xxxxxxxx"
            }
        }
    }
}
```

After a token is obtained, the **X-Auth-Token** header field must be added to requests to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, **X-Auth-Token: ABCDEFJ....** can be added to a request as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

AK/SK Authentication

NOTE

AK/SK authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, token authentication is recommended.

In AK/SK authentication, AK/SK is used to sign requests and the signature is then added to the requests for authentication.

- AK: access key ID, which is a unique identifier used in conjunction with a secret access key to sign requests cryptographically.
- SK: secret access key, which is used in conjunction with an AK to sign requests cryptographically. It identifies a request sender and prevents the request from being modified.

In AK/SK authentication, you can use an AK/SK to sign requests based on the signature algorithm or using the signing SDK. For details about how to sign requests and use the signing SDK, see **API Request Signing Guide**.

NOTE

The signing SDK is only used for signing requests and is different from the SDKs provided by services.

3.3 Response

Status Code

After sending a request, you will receive a response, including a status code, response header, and response body.

A status code is a group of digits, ranging from 1xx to 5xx. It indicates the status of a request. For more information, see **Status Code**.

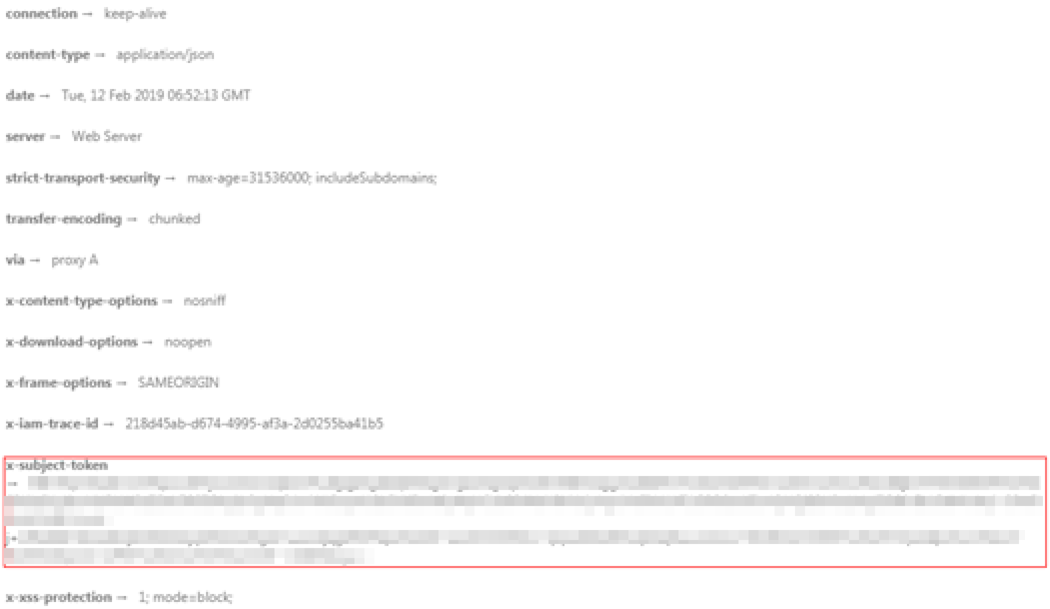
For example, if status code **201** is returned for the calling of the API for **obtaining a user token**, the request is successful.

Response Header

Similar to a request, a response also has a header, for example, **Content-Type**.

Figure 3-2 shows the response header of the API for **obtaining a user token**. The **x-subject-token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

Figure 3-2 Header fields of the response to the request for obtaining a user token



```
connection → keep-alive

content-type → application/json

date → Tue, 12 Feb 2019 06:52:13 GMT

server → Web Server

strict-transport-security → max-age=31536000; includeSubdomains;

transfer-encoding → chunked

via → proxy A

x-content-type-options → nosniff

x-download-options → noopen

x-frame-options → SAMEORIGIN

x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5

x-subject-token
→ [redacted]

x-xss-protection → 1; mode=block;
```

Response Body

The body of a response is often returned in structured format as specified in the **Content-Type** header field. The response body transfers content except the response header.

The following is part of the response body of the API for **obtaining a user token**.

```
{
    "token": {
        "expires_at": "2019-02-13T06:52:13.855000Z",
        "methods": [
            "password"
        ],
        "catalog": [
            {
                "endpoints": [
                    {
                        "region_id": "ap-southeast-1",
......
```

If an error occurs during API calling, an error code and a message will be displayed. The following shows an error response body.

```
{
    "error_msg": "The format of message is error",
    "error_code": "AS.0001"
}
```

In the response body, **error_code** is an error code, and **error_msg** provides information about the error.

4 APIs

4.1 Autopilot Cluster Management

4.1.1 Creating a Cluster

Function

This API is used to create an empty cluster, which has only master nodes but no worker nodes.

NOTE

- The URL for cluster management is in the format of **https://Endpoint/uri**, where **uri** specifies the resource path for API access.

Constraints

Before calling the CCE API to create a cluster, ensure that the following conditions are met:

- A VPC is available. Otherwise, the cluster cannot be created. If a VPC is available, you do not need to create a new one. A VPC provides an isolated, configurable, manageable virtual network environment for CCE clusters. If no VPC is available, you need to create one first. For details, see **Creating a VPC**.
- Before creating a cluster, you should properly plan the Service CIDR block. After a cluster using a container tunnel network is created, you cannot modify the CIDR blocks. After a cluster using a VPC network or Cloud Native 2.0 network is created, you can only add CIDR blocks or subnet CIDR blocks to the cluster but cannot modify the existing CIDR blocks or subnet CIDR blocks. To modify the existing CIDR blocks, you need to create a new cluster. Exercise caution when performing this operation.
- An agency has been correctly created and is not deleted. If the agency verification fails, the cluster fails to be created. You can log in to the CCE console to see if there is any agency. If no agency is created, the system prompts you to create one. If an agency has been created, no message is displayed.

- By default, an account can create up to five clusters in each region. If you need to create more clusters, you can submit an application to increase the quota. For details, see **How Do I Increase My Quota?**

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/projects/{project_id}/clusters

Table 4-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A

Request Parameters

Table 4-2 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: • application/json • application/json;charset=utf-8 • application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-3 Request body parameters

Parameter	Mandatory	Type	Description
kind	Yes	String	API type. The value is fixed at **Cluster** or **cluster** and cannot be changed.
apiVersion	Yes	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	Yes	**AutopilotClusterMetadata** object	Basic information about a cluster. Metadata is a collection of attributes.
spec	Yes	**AutopilotClusterSpec** object	Element type of the collection class. The main part of a cluster object to be managed is in **spec**. CCE creates or updates objects by defining or updating **spec**.
status	No	**AutopilotClusterStatus** object	Element type of the collection class, which is used to record the statuses of an object in the system, including the cluster status and the ID of the cluster creation job

Table 4-4 AutopilotClusterMetadata

Parameter	Mandatory	Type	Description
name	Yes	String	Cluster name. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed.
uid	No	String	Cluster ID, which uniquely identifies a resource. The value is automatically generated after the object is created. A custom value will not take effect. When you create a yearly/monthly cluster, no cluster ID will be returned in the response body.
alias	No	String	Alias of a cluster name displayed on the CCE console, and the name can be changed. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed. A cluster alias must be unique. In the request body for creating or updating a cluster, if the cluster alias is not specified or is left blank, the alias of the cluster is the same as the cluster name. In the response body for creating a cluster, if the cluster alias is not configured, the cluster alias will not be returned.

Parameter	Mandatory	Type	Description

annotations	No	Map<String,String>	Cluster annotations in the format of key-value pairs.
			`"annotations": {`
			`  "key1" : "value1",`
			`  "key2" : "value2"`
			`}`
			NOTE
			- Annotations are not used to label or select objects. The metadata in annotations may be small or large, structured or unstructured, and may include characters that are not allowed in labels.
			- This field is not stored in the database and is used only to specify the add-ons to be installed in the cluster.

labels	No	Map<String,String>	Cluster labels in the format of key-value pairs. **NOTE** The value of this field is automatically generated by the system and is used by the frontend to identify the features supported by a cluster during the upgrade. Customized values are invalid.
creationTimestamp	No	String	Time when a cluster was created
updateTimestamp	No	String	Time when a cluster was updated

Table 4-5 AutopilotClusterSpec

Parameter	Mandatory	Type	Description
category	No	String	Cluster type. Only Turbo is supported.
type	No	String	Master node architecture. - **VirtualMachine**: The master node is an x86 server.
flavor	Yes	String	Cluster specifications: **cce.autopilot.cluster**

Parameter	Mandatory	Type	Description
version	No	String	Version of a cluster, which mirrors the baseline version of the Kubernetes community. The latest version is recommended. You can create clusters of the latest three versions on the CCE console. To learn which cluster versions are available, log in to the CCE console, create a cluster, and check supported cluster versions. You can call APIs to create clusters of other versions. However, these cluster versions will be gradually terminated. For details about the support policy, see the CCE announcement. **NOTE** ● If not specified, a cluster of the latest version will be created.

Parameter	Mandatory	Type	Description
platformVersion	No	String	CCE cluster platform version, which is an internal version under the cluster version (**version**). Platform versions are used to trace iterations in a major cluster version. They are unique within a major cluster version and recounted when the major cluster version changes. This parameter cannot be customized, and when you create a cluster, the latest corresponding platform version is selected automatically. The format of **platformVersion** is **cce.X.Y**. ● **X**: internal feature version, which indicates changes in features, patches, or OS support in the cluster version. The value starts from **1** and increases monotonically. ● **Y**: patch version of an internal feature version. It is used only for software package update after the feature version is released. No other modification is involved. The value starts from **0** and increases monotonically.
description	No	String	Cluster description, for example, which purpose the cluster is intended to serve. By default, this field is left blank. To modify cluster description after a cluster is created, call the **API for updating a specified cluster** or go to the cluster details page on the CCE console. Only UTF-8 encoding is supported.

Parameter	Mandatory	Type	Description

customSan	No	Array of strings	The custom SAN field in the API server certificate of a cluster. It complies with the format specifications defined by the SSL standard X509. It is not supported by Autopilot clusters.
			1. Duplicate names are not allowed.
			2. The format must comply with the IP address and domain name formats.
			Example:
			`SAN 1: DNS Name=example.com`
			`SAN 2: DNS Name=www.example.com`
			`SAN 3: DNS Name=example.net`
			`SAN 4: IP Address=93.184.216.34`

enableSnat	No	Boolean	Whether SNAT is configured for a cluster. This parameter is used and returned only by the Autopilot cluster creation API. After this function is enabled, the cluster can access the Internet through a NAT gateway. By default, the existing NAT gateway in the selected VPC is used. Otherwise, the system automatically creates a NAT gateway of the default specifications, binds an EIP to the NAT gateway, and configures SNAT rules.
enableSWRImageAccess	No	Boolean	Whether a cluster is interconnected with SWR. This parameter is used and returned only by the Autopilot cluster creation API. To ensure that your cluster nodes can pull images from SWR, the existing SWR and OBS endpoints in the selected VPC are used by default. If not, new SWR and OBS endpoints will be automatically created.
enableAutopilot	No	Boolean	Whether the cluster is an Autopilot cluster

Parameter	Mandatory	Type	Description
ipv6enable	No	Boolean	Whether a cluster uses the IPv6 mode. This parameter is not supported by Autopilot clusters.
hostNetwork	Yes	**AutopilotHostNetwork** object	Node networking parameters, including VPC and subnet ID. This field is mandatory because nodes in a cluster communicate with each other using a VPC.
containerNetwork	Yes	**AutopilotContainerNetwork** object	Container networking parameters, including the container network model and container CIDR block
eniNetwork	No	**AutopilotEniNetwork** object	Cloud Native 2.0 network settings
serviceNetwork	No	**AutopilotServiceNetwork** object	Service CIDR block, including IPv4 CIDR block
authentication	No	**AutopilotAuthentication** object	Configuration of the cluster authentication mode, which is not supported by Autopilot clusters
billingMode	No	Integer	Cluster billing mode ● **0**: pay-per-use This parameter defaults to **pay-per-use**.
kubernetesSvcIpRange	No	String	Service CIDR block or the IP address range which the **kubernetes clusterIP** must fall within. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used. This parameter is being deprecated, so you can use **serviceNetwork** instead. The new field contains the IPv4 CIDR blocks.
clusterTags	No	Array of **AutopilotResourceTag** objects	Cluster resource tags

Parameter	Mandatory	Type	Description
kubeProxyMode	No	String	Service forwarding mode. ● **iptables**: Traditional kube-proxy uses iptables rules to implement Service load balancing. In this mode, too many iptables rules will be generated when many Services are deployed. In addition, non-incremental updates will cause latency and even tangible performance issues in the case of service traffic spikes. **NOTE** **iptables** is used by default.
az	No	String	AZ. This field is returned only for a query. For details about AZs supported by CCE, see **Regions and Endpoints**.
extendParam	No	**AutopilotClusterExtendParam** object	Extended field to decide whether a cluster will span across AZs or belong to a specified enterprise project, or whether a dedicated CCE cluster is to be created
configurationsOverride	No	Array of **AutopilotPackageConfiguration** objects	Overrides the default component configurations in a cluster. It is not supported in CCE Autopilot clusters.

Table 4-6 AutopilotHostNetwork

Parameter	Mandatory	Type	Description
vpc	Yes	String	ID of the VPC used to create a master node. Obtain the value using either of the following methods: - Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. - Method 2: Use the VPC API. For details, see **Querying VPCs**.
subnet	Yes	String	Network ID of the subnet used to create a master node. Obtain the value using either of the following methods: - Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. - Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-7 AutopilotContainerNetwork

Parameter	Mandatory	Type	Description
mode	Yes	String	Container network type - **eni***: specifies the Cloud Native 2.0 network model. This model has integrated cloud native elastic network interfaces (ENIs), uses VPC CIDR blocks to allocate container IP addresses, and supports ELB passthrough networking for high network performance. Use this model when creating a cluster.

Table 4-8 AutopilotEniNetwork

Parameter	Mandatory	Type	Description
subnets	Yes	Array of **AutopilotNetworkSubnet** objects	IPv4 subnet ID list of the subnet where an ENI resides. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the IPv4 subnet ID on the displayed page. ● Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-9 AutopilotNetworkSubnet

Parameter	Mandatory	Type	Description
subnetID	Yes	String	Specifies the IPv4 subnet ID of the subnet used to create control nodes and containers. (IPv6 is not supported.) To obtain the subnet ID, use either of the following methods: ● Method 1: Log in to the VPC console and click a subnet in the VPC. On the subnet details page, search for the IPv4 subnet ID. ● Method 2: Use the VPC API for obtaining subnets. For details, see **Querying Subnets**.

Table 4-10 AutopilotServiceNetwork

Parameter	Mandatory	Type	Description
IPv4CIDR	No	String	Value range of the Kubernetes clusterIP IPv4 CIDR block. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used.

Table 4-11 AutopilotAuthentication

Parameter	Mandatory	Type	Description
mode	No	String	Cluster authentication mode. The default value is **rbac**.

Table 4-12 AutopilotResourceTag

Parameter	Mandatory	Type	Description
key	No	String	Key. ● Cannot be null. Max characters: 128. ● Use letters, digits, and spaces in UTF-8 format. ● Can contain the following special characters: **_.:/=+-@**. ● Cannot start with **_sys_**.
value	No	String	Value. ● Can be null but not the default. Max characters: 255. ● Use letters, digits, and spaces in UTF-8 format. ● Can contain the following special characters: **_.:/=+-@**.

Table 4-13 AutopilotClusterExtendParam

Parameter	Mandatory	Type	Description
enterpriseProjectId	No	String	ID of the enterprise project that a cluster belongs to **NOTE** ● An enterprise project can be configured only after the enterprise project function is enabled.
upgradefrom	No	String	Records of how a cluster is upgraded to its current version

Table 4-14 AutopilotPackageConfiguration

Parameter	Mandatory	Type	Description
name	No	String	Component name
configurations	No	Array of **AutopilotConfigurationItem** objects	Component configuration items

Table 4-15 AutopilotConfigurationItem

Parameter	Mandatory	Type	Description
name	No	String	Component configuration item name
value	No	Object	Component configuration item value

Table 4-16 AutopilotClusterStatus

Parameter	Mandatory	Type	Description
phase	No	String	Cluster status. Options: ● **Available**: The cluster is running properly. ● **Unavailable**: The cluster is exhibiting unexpected behavior and needs to be manually deleted. ● **ScalingUp**: Nodes are being added to the cluster. ● **ScalingDown**: The cluster is being downsized to fewer nodes. ● **Creating**: The cluster is being created. ● **Deleting**: The cluster is being deleted. ● **Upgrading**: The cluster is being upgraded. ● **Resizing**: Cluster specifications are being changed. ● **ResizeFailed**: Cluster specification changing is abnormal. ● **RollingBack**: The cluster is being rolled back. ● **RollbackFailed**: The cluster rollback is abnormal. ● **Hibernating**: The cluster is being hibernated. ● **Hibernation**: The cluster is in hibernation. ● **Freezing**: The cluster is being frozen. ● **Frozen**: The cluster has been frozen. ● **UnFreezing**: The cluster is being unfrozen. ● **Awaking**: The cluster is being woken up from hibernation. ● **Empty**: The cluster does not have any resources. This field is discarded.

Parameter	Mandatory	Type	Description
			- **Error**: Resources in the cluster are abnormal. You can manually delete the cluster.
jobID	No	String	ID of the task associated with the current cluster status. Options: - ID of the associated task returned when creating a cluster. You can use it to obtain the auxiliary tasks for creating a cluster. - ID of the associated task returned when a cluster fails to be deleted or is being deleted. If this parameter is not empty, you can use the task ID to obtain the auxiliary tasks for deleting a cluster. **NOTE** Tasks are short-lived. Do not use task information in scenarios such as cluster status determination.
reason	No	String	Why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
message	No	String	Detailed information about why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
endpoints	No	Array of **AutopilotClusterEndpoints** objects	Access address of kube-apiserver in a cluster
isLocked	No	Boolean	CBC resource locked
lockScene	No	String	Scenario where the CBC resource is locked
lockSource	No	String	Resource locked
lockSourceId	No	String	ID of a locked resource

Parameter	Mandatory	Type	Description
deleteOption	No	Object	Status of the configuration to be deleted. This parameter is contained only in the response to the deletion request.
deleteStatus	No	Object	Information of the status to be deleted. This parameter is contained only in the response to the deletion request.

Table 4-17 AutopilotClusterEndpoints

Parameter	Mandatory	Type	Description
url	No	String	Access address of kube-apiserver in a cluster
type	No	String	Type of the cluster access address ● **Internal**: address for internal network access ● **External**: address for external network access

Response Parameters

Status code: 201

Table 4-18 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Cluster** or **cluster** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AutopilotClusterMetadata** object	Basic information about a cluster. Metadata is a collection of attributes.
spec	**AutopilotClusterSpec** object	Element type of the collection class. The main part of a cluster object to be managed is in **spec**. CCE creates or updates objects by defining or updating **spec**.

Parameter	Type	Description
status	**AutopilotClusterStatus** object	Element type of the collection class, which is used to record the statuses of an object in the system, including the cluster status and the ID of the cluster creation job

Table 4-19 AutopilotClusterMetadata

Parameter	Type	Description
name	String	Cluster name. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed.
uid	String	Cluster ID, which uniquely identifies a resource. The value is automatically generated after the object is created. A custom value will not take effect. When you create a yearly/monthly cluster, no cluster ID will be returned in the response body.
alias	String	Alias of a cluster name displayed on the CCE console, and the name can be changed. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed. A cluster alias must be unique. In the request body for creating or updating a cluster, if the cluster alias is not specified or is left blank, the alias of the cluster is the same as the cluster name. In the response body for creating a cluster, if the cluster alias is not configured, the cluster alias will not be returned.

Parameter	Type	Description
annotations	Map<String,String>	Cluster annotations in the format of key-value pairs. `"annotations": { "key1" : "value1", "key2" : "value2" }` **NOTE** - Annotations are not used to label or select objects. The metadata in annotations may be small or large, structured or unstructured, and may include characters that are not allowed in labels. - This field is not stored in the database and is used only to specify the add-ons to be installed in the cluster.
labels	Map<String,String>	Cluster labels in the format of key-value pairs. **NOTE** The value of this field is automatically generated by the system and is used by the frontend to identify the features supported by a cluster during the upgrade. Customized values are invalid.
creationTimestamp	String	Time when a cluster was created
updateTimestamp	String	Time when a cluster was updated

Table 4-20 AutopilotClusterSpec

Parameter	Type	Description
category	String	Cluster type. Only Turbo is supported.
type	String	Master node architecture. - **VirtualMachine**: The master node is an x86 server.
flavor	String	Cluster specifications: **cce.autopilot.cluster**

Parameter	Type	Description
version	String	Version of a cluster, which mirrors the baseline version of the Kubernetes community. The latest version is recommended. You can create clusters of the latest three versions on the CCE console. To learn which cluster versions are available, log in to the CCE console, create a cluster, and check supported cluster versions. You can call APIs to create clusters of other versions. However, these cluster versions will be gradually terminated. For details about the support policy, see the CCE announcement. **NOTE** ● If not specified, a cluster of the latest version will be created.
platformVersion	String	CCE cluster platform version, which is an internal version under the cluster version (**version**). Platform versions are used to trace iterations in a major cluster version. They are unique within a major cluster version and recounted when the major cluster version changes. This parameter cannot be customized, and when you create a cluster, the latest corresponding platform version is selected automatically. The format of **platformVersion** is **cce.X.Y**. ● **X**: internal feature version, which indicates changes in features, patches, or OS support in the cluster version. The value starts from **1** and increases monotonically. ● **Y**: patch version of an internal feature version. It is used only for software package update after the feature version is released. No other modification is involved. The value starts from **0** and increases monotonically.
description	String	Cluster description, for example, which purpose the cluster is intended to serve. By default, this field is left blank. To modify cluster description after a cluster is created, call the **API for updating a specified cluster** or go to the cluster details page on the CCE console. Only UTF-8 encoding is supported.

Parameter	Type	Description
customSan	Array of strings	The custom SAN field in the API server certificate of a cluster. It complies with the format specifications defined by the SSL standard X509. It is not supported by Autopilot clusters. 1. Duplicate names are not allowed. 2. The format must comply with the IP address and domain name formats. Example: SAN 1: DNS Name=example.com SAN 2: DNS Name=www.example.com SAN 3: DNS Name=example.net SAN 4: IP Address=93.184.216.34
enableSnat	Boolean	Whether SNAT is configured for a cluster. This parameter is used and returned only by the Autopilot cluster creation API. After this function is enabled, the cluster can access the Internet through a NAT gateway. By default, the existing NAT gateway in the selected VPC is used. Otherwise, the system automatically creates a NAT gateway of the default specifications, binds an EIP to the NAT gateway, and configures SNAT rules.
enableSWRImageAccess	Boolean	Whether a cluster is interconnected with SWR. This parameter is used and returned only by the Autopilot cluster creation API. To ensure that your cluster nodes can pull images from SWR, the existing SWR and OBS endpoints in the selected VPC are used by default. If not, new SWR and OBS endpoints will be automatically created.
enableAutopilot	Boolean	Whether the cluster is an Autopilot cluster
ipv6enable	Boolean	Whether a cluster uses the IPv6 mode. This parameter is not supported by Autopilot clusters.
hostNetwork	**AutopilotHostNetwork** object	Node networking parameters, including VPC and subnet ID. This field is mandatory because nodes in a cluster communicate with each other using a VPC.
containerNetwork	**AutopilotContainerNetwork** object	Container networking parameters, including the container network model and container CIDR block
eniNetwork	**AutopilotEniNetwork** object	Cloud Native 2.0 network settings

Parameter	Type	Description
serviceNetwork	**AutopilotServiceNetwork** object	Service CIDR block, including IPv4 CIDR block
authentication	**AutopilotAuthentication** object	Configuration of the cluster authentication mode, which is not supported by Autopilot clusters
billingMode	Integer	Cluster billing mode - **0**: pay-per-use This parameter defaults to **pay-per-use**.
kubernetesSvcIpRange	String	Service CIDR block or the IP address range which the **kubernetes clusterIP** must fall within. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used. This parameter is being deprecated, so you can use **serviceNetwork** instead. The new field contains the IPv4 CIDR blocks.
clusterTags	Array of **AutopilotResourceTag** objects	Cluster resource tags
kubeProxyMode	String	Service forwarding mode. - **iptables**: Traditional kube-proxy uses iptables rules to implement Service load balancing. In this mode, too many iptables rules will be generated when many Services are deployed. In addition, non-incremental updates will cause latency and even tangible performance issues in the case of service traffic spikes. **NOTE** **iptables** is used by default.
az	String	AZ. This field is returned only for a query. For details about AZs supported by CCE, see **Regions and Endpoints**.
extendParam	**AutopilotClusterExtendParam** object	Extended field to decide whether a cluster will span across AZs or belong to a specified enterprise project, or whether a dedicated CCE cluster is to be created
configurationsOverride	Array of **AutopilotPackageConfiguration** objects	Overrides the default component configurations in a cluster. It is not supported in CCE Autopilot clusters.

Table 4-21 AutopilotHostNetwork

Parameter	Type	Description
vpc	String	ID of the VPC used to create a master node. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. ● Method 2: Use the VPC API. For details, see **Querying VPCs**.
subnet	String	Network ID of the subnet used to create a master node. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. ● Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-22 AutopilotContainerNetwork

Parameter	Type	Description
mode	String	Container network type ● **eni***: specifies the Cloud Native 2.0 network model. This model has integrated cloud native elastic network interfaces (ENIs), uses VPC CIDR blocks to allocate container IP addresses, and supports ELB passthrough networking for high network performance. Use this model when creating a cluster.

Table 4-23 AutopilotEniNetwork

Parameter	Type	Description
subnets	Array of **AutopilotNetworkSubnet** objects	IPv4 subnet ID list of the subnet where an ENI resides. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the IPv4 subnet ID on the displayed page. ● Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-24 AutopilotNetworkSubnet

Parameter	Type	Description
subnetID	String	Specifies the IPv4 subnet ID of the subnet used to create control nodes and containers. (IPv6 is not supported.) To obtain the subnet ID, use either of the following methods: ● Method 1: Log in to the VPC console and click a subnet in the VPC. On the subnet details page, search for the IPv4 subnet ID. ● Method 2: Use the VPC API for obtaining subnets. For details, see **Querying Subnets**.

Table 4-25 AutopilotServiceNetwork

Parameter	Type	Description
IPv4CIDR	String	Value range of the Kubernetes clusterIP IPv4 CIDR block. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used.

Table 4-26 AutopilotAuthentication

Parameter	Type	Description
mode	String	Cluster authentication mode. The default value is **rbac**.

Table 4-27 AutopilotResourceTag

Parameter	Type	Description
key	String	Key. - Cannot be null. Max characters: 128. - Use letters, digits, and spaces in UTF-8 format. - Can contain the following special characters: **_.:/=+-@**. - Cannot start with **_sys_**.
value	String	Value. - Can be null but not the default. Max characters: 255. - Use letters, digits, and spaces in UTF-8 format. - Can contain the following special characters: **_.:/=+-@**.

Table 4-28 AutopilotClusterExtendParam

Parameter	Type	Description
enterpriseProjectId	String	ID of the enterprise project that a cluster belongs to **NOTE** - An enterprise project can be configured only after the enterprise project function is enabled.
upgradefrom	String	Records of how a cluster is upgraded to its current version

Table 4-29 AutopilotPackageConfiguration

Parameter	Type	Description
name	String	Component name
configurations	Array of **AutopilotConfigurationItem** objects	Component configuration items

Table 4-30 AutopilotConfigurationItem

Parameter	Type	Description
name	String	Component configuration item name
value	Object	Component configuration item value

Table 4-31 AutopilotClusterStatus

Parameter	Type	Description
phase	String	Cluster status. Options: - **Available**: The cluster is running properly. - **Unavailable**: The cluster is exhibiting unexpected behavior and needs to be manually deleted. - **ScalingUp**: Nodes are being added to the cluster. - **ScalingDown**: The cluster is being downsized to fewer nodes. - **Creating**: The cluster is being created. - **Deleting**: The cluster is being deleted. - **Upgrading**: The cluster is being upgraded. - **Resizing**: Cluster specifications are being changed. - **ResizeFailed**: Cluster specification changing is abnormal. - **RollingBack**: The cluster is being rolled back. - **RollbackFailed**: The cluster rollback is abnormal. - **Hibernating**: The cluster is being hibernated. - **Hibernation**: The cluster is in hibernation. - **Freezing**: The cluster is being frozen. - **Frozen**: The cluster has been frozen. - **UnFreezing**: The cluster is being unfrozen. - **Awaking**: The cluster is being woken up from hibernation. - **Empty**: The cluster does not have any resources. This field is discarded. - **Error**: Resources in the cluster are abnormal. You can manually delete the cluster.

Parameter	Type	Description
jobID	String	ID of the task associated with the current cluster status. Options: ● ID of the associated task returned when creating a cluster. You can use it to obtain the auxiliary tasks for creating a cluster. ● ID of the associated task returned when a cluster fails to be deleted or is being deleted. If this parameter is not empty, you can use the task ID to obtain the auxiliary tasks for deleting a cluster. **NOTE** Tasks are short-lived. Do not use task information in scenarios such as cluster status determination.
reason	String	Why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
message	String	Detailed information about why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
endpoints	Array of **AutopilotClusterEndpoints** objects	Access address of kube-apiserver in a cluster
isLocked	Boolean	CBC resource locked
lockScene	String	Scenario where the CBC resource is locked
lockSource	String	Resource locked
lockSourceId	String	ID of a locked resource
deleteOption	Object	Status of the configuration to be deleted. This parameter is contained only in the response to the deletion request.
deleteStatus	Object	Information of the status to be deleted. This parameter is contained only in the response to the deletion request.

Table 4-32 AutopilotClusterEndpoints

Parameter	Type	Description
url	String	Access address of kube-apiserver in a cluster

Parameter	Type	Description
type	String	Type of the cluster access address ● **Internal**: address for internal network access ● **External**: address for external network access

Example Requests

Create an Autopilot cluster of v1.28 billed on a pay-per-use basis.

```
/autopilot/v3/projects/{project_id}/clusters

{
  "kind" : "Cluster",
  "apiVersion" : "v3",
  "metadata" : {
    "name" : "test-cluster-autopilot",
    "annotations" : {
      "cluster.install.addons/install" : "[{\"addonTemplateName\":\"coredns\",\"values\":{\"flavor\":{\"category
\":[\"Autopilot\"],\"is_default\":true,\"name\":\"autopilot-flavor1\",\"replicas\":2,\"resources\":[{\"limitsCpu
\":1,\"limitsMem\":\"2Gi\",\"name\":\"coredns\",\"requestsCpu\":1,\"requestsMem\":\"2Gi\"}]}}},
{\"addonTemplateName\":\"metrics-server\",\"values\":{\"flavor\":{\"category\":[\"Autopilot\"],\"description
\":\"custom resources in autopilot cluster\",\"is_default\":true,\"name\":\"autopilot-flavor1\",\"replicas
\":2,\"resources\":[{\"limitsCpu\":1,\"limitsMem\":\"2Gi\",\"name\":\"metrics-server\",\"requestsCpu
\":1,\"requestsMem\":\"2Gi\"}]}}}]"
    }
  },
  "spec" : {
    "category" : "Turbo",
    "flavor" : "cce.autopilot.cluster",
    "type" : "VirtualMachine",
    "version" : "v1.28",
    "hostNetwork" : {
      "vpc" : "c6549063-d459-4ae1-9550-b5fec6741b0f",
      "subnet" : "xxxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx"
    },
    "extendParam" : {
      "enterpriseProjectId" : "0"
    },
    "containerNetwork" : {
      "mode" : "eni"
    },
    "description" : "",
    "billingMode" : 0,
    "eniNetwork" : {
      "subnets" : [ {
        "subnetID" : "186f9322-50c5-4e5a-91e3-47da86959afc"
      } ]
    },
    "enableSWRImageAccess" : true,
    "enableSnat" : true,
    "serviceNetwork" : {
      "IPv4CIDR" : "10.247.0.0/16"
    }
  }
}
```

Example Responses

Status code: 201

The cluster creation job is delivered.

```
{
  "kind" : "Cluster",
  "apiVersion" : "v3",
  "metadata" : {
    "name" : "test-cluster-autopilot",
    "uid" : "e18f8b25-2270-11ef-a160-0255ac100100",
    "creationTimestamp" : "2024-06-04 12:49:28.773718231 +0000 UTC",
    "updateTimestamp" : "2024-06-04 12:49:28.773718305 +0000 UTC",
    "annotations" : {
      "jobid" : "e1c49157-2270-11ef-a160-0255ac100100",
      "resourceJobId" : "e18fa26f-2270-11ef-a160-0255ac100100"
    }
  },
  "spec" : {
    "category" : "Turbo",
    "type" : "VirtualMachine",
    "flavor" : "cce.autopilot.cluster",
    "version" : "v1.28",
    "platformVersion" : "cce.4.0",
    "hostNetwork" : {
      "vpc" : "c6549063-d459-4ae1-9550-b5fec6741b0f",
      "subnet" : "3b18c2d5-b352-4f59-b421-c2d2d48a1333"
    },
    "containerNetwork" : {
      "mode" : "eni"
    },
    "eniNetwork" : {
      "subnets" : [ {
        "subnetID" : "186f9322-50c5-4e5a-91e3-47da86959afc"
      } ]
    },
    "serviceNetwork" : {
      "IPv4CIDR" : "10.247.0.0/16"
    },
    "authentication" : {
      "mode" : "rbac"
    },
    "billingMode" : 0,
    "kubernetesSvcIpRange" : "10.247.0.0/16",
    "kubeProxyMode" : "iptables",
    "extendParam" : {
      "enterpriseProjectId" : "0"
    },
    "enableSWRImageAccess" : true,
    "enableSnat" : true
  },
  "status" : {
    "phase" : "Creating",
    "jobID" : "e1c49157-2270-11ef-a160-0255ac100100"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Create an Autopilot cluster of v1.28 billed on a pay-per-use basis.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;

import java.util.List;
import java.util.ArrayList;
import java.util.Map;
import java.util.HashMap;

public class CreateAutopilotClusterSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        CreateAutopilotClusterRequest request = new CreateAutopilotClusterRequest();
        AutopilotCluster body = new AutopilotCluster();
        AutopilotClusterExtendParam extendParamSpec = new AutopilotClusterExtendParam();
        extendParamSpec.withEnterpriseProjectId("0");
        AutopilotServiceNetwork serviceNetworkSpec = new AutopilotServiceNetwork();
        serviceNetworkSpec.withIpv4CIDR("10.247.0.0/16");
        List<AutopilotNetworkSubnet> listEniNetworkSubnets = new ArrayList<>();
        listEniNetworkSubnets.add(
            new AutopilotNetworkSubnet()
                .withSubnetID("186f9322-50c5-4e5a-91e3-47da86959afc")
        );
        AutopilotEniNetwork eniNetworkSpec = new AutopilotEniNetwork();
        eniNetworkSpec.withSubnets(listEniNetworkSubnets);
        AutopilotContainerNetwork containerNetworkSpec = new AutopilotContainerNetwork();
        containerNetworkSpec.withMode(AutopilotContainerNetwork.ModeEnum.fromValue("eni"));
        AutopilotHostNetwork hostNetworkSpec = new AutopilotHostNetwork();
        hostNetworkSpec.withVpc("c6549063-d459-4ae1-9550-b5fec6741b0f")
            .withSubnet("xxxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx");
        AutopilotClusterSpec specbody = new AutopilotClusterSpec();
        specbody.withCategory(AutopilotClusterSpec.CategoryEnum.fromValue("Turbo"))
            .withType(AutopilotClusterSpec.TypeEnum.fromValue("VirtualMachine"))
            .withFlavor("cce.autopilot.cluster")
            .withVersion("v1.28")
            .withDescription("")
            .withEnableSnat(true)
            .withEnableSWRImageAccess(true)
            .withHostNetwork(hostNetworkSpec)
            .withContainerNetwork(containerNetworkSpec)
            .withEniNetwork(eniNetworkSpec)
            .withServiceNetwork(serviceNetworkSpec)
            .withBillingMode(0)
            .withExtendParam(extendParamSpec);
        Map<String, String> listMetadataAnnotations = new HashMap<>();
        listMetadataAnnotations.put("cluster.install.addons/install", "[{"addonTemplateName":"coredns","values":{"flavor":{"category":["Autopilot"],"is_default":true,"name":"autopilot-flavor1","replicas":2,"resources":[{"limitsCpu":1,"limitsMem":"2Gi","name":"coredns","requestsCpu":1,"requestsMem":"2Gi"}]}}},
{"addonTemplateName":"metrics-server","values":{"flavor":{"category":["Autopilot"],"description":"custom
resources in autopilot cluster","is_default":true,"name":"autopilot-flavor1","replicas":2,"resources":
[{"limitsCpu":1,"limitsMem":"2Gi","name":"metrics-server","requestsCpu":1,"requestsMem":"2Gi"}]}}}]");
        AutopilotClusterMetadata metadatabody = new AutopilotClusterMetadata();
        metadatabody.withName("test-cluster-autopilot")
            .withAnnotations(listMetadataAnnotations);
        body.withSpec(specbody);
        body.withMetadata(metadatabody);
        body.withApiVersion("v3");
        body.withKind("Cluster");
        request.withBody(body);
        try {
            CreateAutopilotClusterResponse response = client.createAutopilotCluster(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Create an Autopilot cluster of v1.28 billed on a pay-per-use basis.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateAutopilotClusterRequest()
        extendParamSpec = AutopilotClusterExtendParam(
            enterprise_project_id="0"
        )
        serviceNetworkSpec = AutopilotServiceNetwork(
            i_pv4_cidr="10.247.0.0/16"
        )
        listSubnetsEniNetwork = [
            AutopilotNetworkSubnet(
                subnet_id="186f9322-50c5-4e5a-91e3-47da86959afc"
            )
        ]
        eniNetworkSpec = AutopilotEniNetwork(
            subnets=listSubnetsEniNetwork
        )
        containerNetworkSpec = AutopilotContainerNetwork(
            mode="eni"
        )
        hostNetworkSpec = AutopilotHostNetwork(
            vpc="c6549063-d459-4ae1-9550-b5fec6741b0f",
            subnet="xxxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx"
        )
        specbody = AutopilotClusterSpec(
            category="Turbo",
            type="VirtualMachine",
            flavor="cce.autopilot.cluster",
            version="v1.28",
            description="",
            enable_snat=True,
            enable_swr_image_access=True,
            host_network=hostNetworkSpec,
            container_network=containerNetworkSpec,
            eni_network=eniNetworkSpec,
            service_network=serviceNetworkSpec,
            billing_mode=0,
            extend_param=extendParamSpec
        )
        listAnnotationsMetadata = {
            "cluster.install.addons/install": "[{"addonTemplateName":"coredns","values":{"flavor":{"category":
["Autopilot"],"is_default":true,"name":"autopilot-flavor1","replicas":2,"resources":
[{"limitsCpu":1,"limitsMem":"2Gi","name":"coredns","requestsCpu":1,"requestsMem":"2Gi"}]}}},
{"addonTemplateName":"metrics-server","values":{"flavor":{"category":["Autopilot"],"description":"custom
resources in autopilot cluster","is_default":true,"name":"autopilot-flavor1","replicas":2,"resources":
[{"limitsCpu":1,"limitsMem":"2Gi","name":"metrics-server","requestsCpu":1,"requestsMem":"2Gi"}]}}}]"
        }
        metadatabody = AutopilotClusterMetadata(
            name="test-cluster-autopilot",
            annotations=listAnnotationsMetadata
        )
        request.body = AutopilotCluster(
            spec=specbody,
            metadata=metadatabody,
            api_version="v3",
            kind="Cluster"
        )
        response = client.create_autopilot_cluster(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Create an Autopilot cluster of v1.28 billed on a pay-per-use basis.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
```

```
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateAutopilotClusterRequest{}
    enterpriseProjectIdExtendParam:= "0"
    extendParamSpec := &model.AutopilotClusterExtendParam{
        EnterpriseProjectId: &enterpriseProjectIdExtendParam,
    }
    iPv4CIDRServiceNetwork:= "10.247.0.0/16"
    serviceNetworkSpec := &model.AutopilotServiceNetwork{
        IPv4CIDR: &iPv4CIDRServiceNetwork,
    }
    var listSubnetsEniNetwork = []model.AutopilotNetworkSubnet{
        {
            SubnetID: "186f9322-50c5-4e5a-91e3-47da86959afc",
        },
    }
    eniNetworkSpec := &model.AutopilotEniNetwork{
        Subnets: listSubnetsEniNetwork,
    }
    containerNetworkSpec := &model.AutopilotContainerNetwork{
        Mode: model.GetAutopilotContainerNetworkModeEnum().ENI,
    }
    hostNetworkSpec := &model.AutopilotHostNetwork{
        Vpc: "c6549063-d459-4ae1-9550-b5fec6741b0f",
        Subnet: "xxxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx",
    }
    categorySpec:= model.GetAutopilotClusterSpecCategoryEnum().TURBO
    typeSpec:= model.GetAutopilotClusterSpecTypeEnum().VIRTUAL_MACHINE
    versionSpec:= "v1.28"
    descriptionSpec:= ""
    enableSnatSpec:= true
    enableSWRImageAccessSpec:= true
    billingModeSpec:= int32(0)
    specbody := &model.AutopilotClusterSpec{
        Category: &categorySpec,
        Type: &typeSpec,
        Flavor: "cce.autopilot.cluster",
        Version: &versionSpec,
        Description: &descriptionSpec,
        EnableSnat: &enableSnatSpec,
        EnableSWRImageAccess: &enableSWRImageAccessSpec,
        HostNetwork: hostNetworkSpec,
        ContainerNetwork: containerNetworkSpec,
        EniNetwork: eniNetworkSpec,
        ServiceNetwork: serviceNetworkSpec,
        BillingMode: &billingModeSpec,
        ExtendParam: extendParamSpec,
    }
    var listAnnotationsMetadata = map[string]string{
        "cluster.install.addons/install": "[{"addonTemplateName":"coredns","values":{"flavor":{"category":
["Autopilot"],"is_default":true,"name":"autopilot-flavor1","replicas":2,"resources":
[{"limitsCpu":1,"limitsMem":"2Gi","name":"coredns","requestsCpu":1,"requestsMem":"2Gi"}]}}}],
{"addonTemplateName":"metrics-server","values":{"flavor":{"category":["Autopilot"],"description":"custom
resources in autopilot cluster","is_default":true,"name":"autopilot-flavor1","replicas":2,"resources":
[{"limitsCpu":1,"limitsMem":"2Gi","name":"metrics-server","requestsCpu":1,"requestsMem":"2Gi"}]}}}]",
    }
    metadatabody := &model.AutopilotClusterMetadata{
        Name: "test-cluster-autopilot",
        Annotations: listAnnotationsMetadata,
    }
    request.Body = &model.AutopilotCluster{
        Spec: specbody,
        Metadata: metadatabody,
        ApiVersion: "v3",
        Kind: "Cluster",
    }
    response, err := client.CreateAutopilotCluster(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
201	The cluster creation job is delivered.

Error Codes

See **Error Codes**.

4.1.2 Obtaining a Cluster

Function

This API is used to obtain details about a cluster.

NOTE

The URL for cluster management is in the format of **https://Endpoint/uri**, where **uri** specifies the resource path for API access.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/clusters/{cluster_id}

Table 4-33 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Table 4-34 Query Parameters

Parameter	Mandatory	Type	Description
detail	No	String	Obtains details about a cluster. If this parameter is set to **true**, the add-on name (**addonTemplateName**), version (**version**), and status (**status**) from the list of installed add-ons in the cluster are obtained and added to the annotation.

Request Parameters

Table 4-35 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-36 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Cluster** or **cluster** and cannot be changed.

Parameter	Type	Description
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AutopilotClusterMetadata** object	Basic information about a cluster. Metadata is a collection of attributes.
spec	**AutopilotClusterSpec** object	Element type of the collection class. The main part of a cluster object to be managed is in **spec**. CCE creates or updates objects by defining or updating **spec**.
status	**AutopilotClusterStatus** object	Cluster status

Table 4-37 AutopilotClusterMetadata

Parameter	Type	Description
name	String	Cluster name. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed.
uid	String	Cluster ID, which uniquely identifies a resource. The value is automatically generated after the object is created. A custom value will not take effect. When you create a yearly/monthly cluster, no cluster ID will be returned in the response body.
alias	String	Alias of a cluster name displayed on the CCE console, and the name can be changed. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed. A cluster alias must be unique. In the request body for creating or updating a cluster, if the cluster alias is not specified or is left blank, the alias of the cluster is the same as the cluster name. In the response body for creating a cluster, if the cluster alias is not configured, the cluster alias will not be returned.

Parameter	Type	Description

annotations	Map<String,String>	Cluster annotations in the format of key-value pairs.
		"annotations": {
		  "key1" : "value1",
		  "key2" : "value2"
		}
		NOTE
		● Annotations are not used to label or select objects. The metadata in annotations may be small or large, structured or unstructured, and may include characters that are not allowed in labels.
		● This field is not stored in the database and is used only to specify the add-ons to be installed in the cluster.

labels	Map<String,String>	Cluster labels in the format of key-value pairs. **NOTE** The value of this field is automatically generated by the system and is used by the frontend to identify the features supported by a cluster during the upgrade. Customized values are invalid.
creationTimestamp	String	Time when a cluster was created
updateTimestamp	String	Time when a cluster was updated

Table 4-38 AutopilotClusterSpec

Parameter	Type	Description
category	String	Cluster type. Only Turbo is supported.
type	String	Master node architecture. ● **VirtualMachine**: The master node is an x86 server.
flavor	String	Cluster specifications: **cce.autopilot.cluster**

Parameter	Type	Description
version	String	Version of a cluster, which mirrors the baseline version of the Kubernetes community. The latest version is recommended. You can create clusters of the latest three versions on the CCE console. To learn which cluster versions are available, log in to the CCE console, create a cluster, and check supported cluster versions. You can call APIs to create clusters of other versions. However, these cluster versions will be gradually terminated. For details about the support policy, see the CCE announcement. **NOTE** ● If not specified, a cluster of the latest version will be created.
platformVersion	String	CCE cluster platform version, which is an internal version under the cluster version (**version**). Platform versions are used to trace iterations in a major cluster version. They are unique within a major cluster version and recounted when the major cluster version changes. This parameter cannot be customized, and when you create a cluster, the latest corresponding platform version is selected automatically. The format of **platformVersion** is **cce.X.Y**. ● **X**: internal feature version, which indicates changes in features, patches, or OS support in the cluster version. The value starts from **1** and increases monotonically. ● **Y**: patch version of an internal feature version. It is used only for software package update after the feature version is released. No other modification is involved. The value starts from **0** and increases monotonically.
description	String	Cluster description, for example, which purpose the cluster is intended to serve. By default, this field is left blank. To modify cluster description after a cluster is created, call the **API for updating a specified cluster** or go to the cluster details page on the CCE console. Only UTF-8 encoding is supported.

Parameter	Type	Description

customSan	Array of strings	The custom SAN field in the API server certificate of a cluster. It complies with the format specifications defined by the SSL standard X509. It is not supported by Autopilot clusters.
		1. Duplicate names are not allowed.
		2. The format must comply with the IP address and domain name formats.
		Example:
		`SAN 1: DNS Name=example.com`
		`SAN 2: DNS Name=www.example.com`
		`SAN 3: DNS Name=example.net`
		`SAN 4: IP Address=93.184.216.34`

enableSnat	Boolean	Whether SNAT is configured for a cluster. This parameter is used and returned only by the Autopilot cluster creation API. After this function is enabled, the cluster can access the Internet through a NAT gateway. By default, the existing NAT gateway in the selected VPC is used. Otherwise, the system automatically creates a NAT gateway of the default specifications, binds an EIP to the NAT gateway, and configures SNAT rules.
enableSWRImageAccess	Boolean	Whether a cluster is interconnected with SWR. This parameter is used and returned only by the Autopilot cluster creation API. To ensure that your cluster nodes can pull images from SWR, the existing SWR and OBS endpoints in the selected VPC are used by default. If not, new SWR and OBS endpoints will be automatically created.
enableAutopilot	Boolean	Whether the cluster is an Autopilot cluster
ipv6enable	Boolean	Whether a cluster uses the IPv6 mode. This parameter is not supported by Autopilot clusters.
hostNetwork	**AutopilotHostNetwork** object	Node networking parameters, including VPC and subnet ID. This field is mandatory because nodes in a cluster communicate with each other using a VPC.
containerNetwork	**AutopilotContainerNetwork** object	Container networking parameters, including the container network model and container CIDR block
eniNetwork	**AutopilotEniNetwork** object	Cloud Native 2.0 network settings

Parameter	Type	Description
serviceNetwork	**AutopilotServiceNetwork** object	Service CIDR block, including IPv4 CIDR block
authentication	**AutopilotAuthentication** object	Configuration of the cluster authentication mode, which is not supported by Autopilot clusters
billingMode	Integer	Cluster billing mode - **0**: pay-per-use This parameter defaults to **pay-per-use**.
kubernetesSvcIpRange	String	Service CIDR block or the IP address range which the **kubernetes clusterIP** must fall within. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used. This parameter is being deprecated, so you can use **serviceNetwork** instead. The new field contains the IPv4 CIDR blocks.
clusterTags	Array of **AutopilotResourceTag** objects	Cluster resource tags
kubeProxyMode	String	Service forwarding mode. - **iptables**: Traditional kube-proxy uses iptables rules to implement Service load balancing. In this mode, too many iptables rules will be generated when many Services are deployed. In addition, non-incremental updates will cause latency and even tangible performance issues in the case of service traffic spikes. **NOTE** **iptables** is used by default.
az	String	AZ. This field is returned only for a query. For details about AZs supported by CCE, see **Regions and Endpoints**.
extendParam	**AutopilotClusterExtendParam** object	Extended field to decide whether a cluster will span across AZs or belong to a specified enterprise project, or whether a dedicated CCE cluster is to be created
configurationsOverride	Array of **AutopilotPackageConfiguration** objects	Overrides the default component configurations in a cluster. It is not supported in CCE Autopilot clusters.

Table 4-39 AutopilotHostNetwork

Parameter	Type	Description
vpc	String	ID of the VPC used to create a master node. Obtain the value using either of the following methods: - Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. - Method 2: Use the VPC API. For details, see **Querying VPCs**.
subnet	String	Network ID of the subnet used to create a master node. Obtain the value using either of the following methods: - Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. - Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-40 AutopilotContainerNetwork

Parameter	Type	Description
mode	String	Container network type - **eni***: specifies the Cloud Native 2.0 network model. This model has integrated cloud native elastic network interfaces (ENIs), uses VPC CIDR blocks to allocate container IP addresses, and supports ELB passthrough networking for high network performance. Use this model when creating a cluster.

Table 4-41 AutopilotEniNetwork

Parameter	Type	Description
subnets	Array of **AutopilotNetworkSubnet** objects	IPv4 subnet ID list of the subnet where an ENI resides. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the IPv4 subnet ID on the displayed page. ● Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-42 AutopilotNetworkSubnet

Parameter	Type	Description
subnetID	String	Specifies the IPv4 subnet ID of the subnet used to create control nodes and containers. (IPv6 is not supported.) To obtain the subnet ID, use either of the following methods: ● Method 1: Log in to the VPC console and click a subnet in the VPC. On the subnet details page, search for the IPv4 subnet ID. ● Method 2: Use the VPC API for obtaining subnets. For details, see **Querying Subnets**.

Table 4-43 AutopilotServiceNetwork

Parameter	Type	Description
IPv4CIDR	String	Value range of the Kubernetes clusterIP IPv4 CIDR block. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used.

Table 4-44 AutopilotAuthentication

Parameter	Type	Description
mode	String	Cluster authentication mode. The default value is **rbac**.

Table 4-45 AutopilotResourceTag

Parameter	Type	Description
key	String	Key. - Cannot be null. Max characters: 128. - Use letters, digits, and spaces in UTF-8 format. - Can contain the following special characters: **_.:/=+-@**. - Cannot start with **_sys_**.
value	String	Value. - Can be null but not the default. Max characters: 255. - Use letters, digits, and spaces in UTF-8 format. - Can contain the following special characters: **_.:/=+-@**.

Table 4-46 AutopilotClusterExtendParam

Parameter	Type	Description
enterpriseProjectId	String	ID of the enterprise project that a cluster belongs to **NOTE** - An enterprise project can be configured only after the enterprise project function is enabled.
upgradefrom	String	Records of how a cluster is upgraded to its current version

Table 4-47 AutopilotPackageConfiguration

Parameter	Type	Description
name	String	Component name
configurations	Array of **AutopilotConfigurationItem** objects	Component configuration items

Table 4-48 AutopilotConfigurationItem

Parameter	Type	Description
name	String	Component configuration item name
value	Object	Component configuration item value

Table 4-49 AutopilotClusterStatus

Parameter	Type	Description
phase	String	Cluster status. Options: ● **Available**: The cluster is running properly. ● **Unavailable**: The cluster is exhibiting unexpected behavior and needs to be manually deleted. ● **ScalingUp**: Nodes are being added to the cluster. ● **ScalingDown**: The cluster is being downsized to fewer nodes. ● **Creating**: The cluster is being created. ● **Deleting**: The cluster is being deleted. ● **Upgrading**: The cluster is being upgraded. ● **Resizing**: Cluster specifications are being changed. ● **ResizeFailed**: Cluster specification changing is abnormal. ● **RollingBack**: The cluster is being rolled back. ● **RollbackFailed**: The cluster rollback is abnormal. ● **Hibernating**: The cluster is being hibernated. ● **Hibernation**: The cluster is in hibernation. ● **Freezing**: The cluster is being frozen. ● **Frozen**: The cluster has been frozen. ● **UnFreezing**: The cluster is being unfrozen. ● **Awaking**: The cluster is being woken up from hibernation. ● **Empty**: The cluster does not have any resources. This field is discarded. ● **Error**: Resources in the cluster are abnormal. You can manually delete the cluster.

Parameter	Type	Description
jobID	String	ID of the task associated with the current cluster status. Options: ● ID of the associated task returned when creating a cluster. You can use it to obtain the auxiliary tasks for creating a cluster. ● ID of the associated task returned when a cluster fails to be deleted or is being deleted. If this parameter is not empty, you can use the task ID to obtain the auxiliary tasks for deleting a cluster. **NOTE** Tasks are short-lived. Do not use task information in scenarios such as cluster status determination.
reason	String	Why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
message	String	Detailed information about why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
endpoints	Array of **AutopilotClusterEndpoints** objects	Access address of kube-apiserver in a cluster
isLocked	Boolean	CBC resource locked
lockScene	String	Scenario where the CBC resource is locked
lockSource	String	Resource locked
lockSourceId	String	ID of a locked resource
deleteOption	Object	Status of the configuration to be deleted. This parameter is contained only in the response to the deletion request.
deleteStatus	Object	Information of the status to be deleted. This parameter is contained only in the response to the deletion request.

Table 4-50 AutopilotClusterEndpoints

Parameter	Type	Description
url	String	Access address of kube-apiserver in a cluster

Parameter	Type	Description
type	String	Type of the cluster access address ● **Internal**: address for internal network access ● **External**: address for external network access

Example Requests

None

Example Responses

Status code: 200

Information about the cluster is obtained.

```
{
  "kind" : "Cluster",
  "apiVersion" : "v3",
  "metadata" : {
    "name" : "autopilot-test-v1274",
    "uid" : "087dc72a-1ff6-11ef-af74-0255ac10010b",
    "alias" : "autopilot-test-v1274",
    "annotations" : {
      "enableAutopilot" : "true"
    },
    "labels" : {
      "FeatureGates" : "arpOptimization,elbv3,xGPU"
    },
    "creationTimestamp" : "2024-06-01 09:05:03.665134 +0000 UTC",
    "updateTimestamp" : "2024-06-04 12:54:27.803532 +0000 UTC"
  },
  "spec" : {
    "category" : "Turbo",
    "type" : "VirtualMachine",
    "flavor" : "cce.autopilot.cluster",
    "version" : "v1.27",
    "platformVersion" : "cce.6.0",
    "hostNetwork" : {
      "vpc" : "13cd773f-7f9f-4821-b9b8-dba5b351e1ec",
      "subnet" : "19e3960d-b9ae-4d2d-b3a4-92ff56ae0301"
    },
    "containerNetwork" : {
      "mode" : "eni"
    },
    "eniNetwork" : {
      "subnets" : [ {
        "subnetID" : "f061c486-a190-4e2e-993c-5bc3dc9d65a8"
      } ]
    },
    "serviceNetwork" : {
      "IPv4CIDR" : "10.247.0.0/16"
    },
    "authentication" : {
      "mode" : "rbac"
    },
    "billingMode" : 0,
    "kubernetesSvcIpRange" : "10.247.0.0/16",
    "kubeProxyMode" : "iptables",
    "az" : "cn-north-7c",
    "extendParam" : {
      "enterpriseProjectId" : "0",
      "upgradefrom" : ""
    }
  },
  "status" : {
    "phase" : "Available",
    "endpoints" : [ {
      "url" : "https://087dc72a-1ff6-11ef-af74-0255ac10010b.cluster.cce.cn-north-7.myhuaweicloud.com:5443",
      "type" : "Internal"
    } ]
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotClusterSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotClusterRequest request = new ShowAutopilotClusterRequest();
        request.withClusterId("{cluster_id}");
        try {
            ShowAutopilotClusterResponse response = client.showAutopilotCluster(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotClusterRequest()
        request.cluster_id = "{cluster_id}"
        response = client.show_autopilot_cluster(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()
    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotClusterRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.ShowAutopilotCluster(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Information about the cluster is obtained.

Error Codes

See **Error Codes**.

4.1.3 Obtaining Clusters in a Project

Function

This API is used to obtain details about all clusters in a project.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/clusters

Table 4-51 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A

Table 4-52 Query Parameters

Parameter	Mandatory	Type	Description
detail	No	String	Obtains details about a cluster. If this parameter is set to **true**, the add-on name (**addonTemplateName**), version (**version**), and status (**status**) from the list of installed add-ons in the cluster are obtained and added to the annotation.

Parameter	Mandatory	Type	Description
status	No	String	Cluster status. Options: - **Available**: The cluster is running properly. - **Unavailable**: The cluster is exhibiting unexpected behavior and needs to be manually deleted. - **ScalingUp**: Nodes are being added to the cluster. - **ScalingDown**: The cluster is being downsized to fewer nodes. - **Creating**: The cluster is being created. - **Deleting**: The cluster is being deleted. - **Upgrading**: The cluster is being upgraded. - **Resizing**: Cluster specifications are being changed. - **ResizeFailed**: Cluster specification changing is abnormal. - **RollingBack**: The cluster is being rolled back. - **RollbackFailed**: The cluster rollback is abnormal. - **Hibernating**: The cluster is being hibernated. - **Hibernation**: The cluster is in hibernation. - **Freezing**: The cluster is being frozen. - **Frozen**: The cluster has been frozen. - **UnFreezing**: The cluster is being unfrozen. - **Awaking**: The cluster is being woken up from hibernation. - **Empty**: The cluster does not have any resources. This field is discarded.

Parameter	Mandatory	Type	Description
			- **Error**: Resources in the cluster are abnormal. You can manually delete the cluster.
type	No	String	Cluster type. Options: - **VirtualMachine**: CCE cluster
version	No	String	Obtains the version of a cluster.

Request Parameters

Table 4-53 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: - application/json - application/json;charset=utf-8 - application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-54 Response body parameters

Parameter	Type	Description
kind	String	Api type
apiVersion	String	API version
items	Array of **AutopilotCluster** objects	A list of details for all clusters in the current project. You can find the corresponding clusters based on the value of **items.metadata.name**.

Table 4-55 AutopilotCluster

Parameter	Type	Description
kind	String	API type. The value is fixed at **Cluster** or **cluster** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AutopilotClusterMetadata** object	Basic information about a cluster. Metadata is a collection of attributes.

Parameter	Type	Description
spec	**AutopilotClusterSpec** object	Element type of the collection class. The main part of a cluster object to be managed is in **spec**. CCE creates or updates objects by defining or updating **spec**.
status	**AutopilotClusterStatus** object	Element type of the collection class, which is used to record the statuses of an object in the system, including the cluster status and the ID of the cluster creation job

Table 4-56 AutopilotClusterMetadata

Parameter	Type	Description
name	String	Cluster name. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed.
uid	String	Cluster ID, which uniquely identifies a resource. The value is automatically generated after the object is created. A custom value will not take effect. When you create a yearly/monthly cluster, no cluster ID will be returned in the response body.
alias	String	Alias of a cluster name displayed on the CCE console, and the name can be changed. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed. A cluster alias must be unique. In the request body for creating or updating a cluster, if the cluster alias is not specified or is left blank, the alias of the cluster is the same as the cluster name. In the response body for creating a cluster, if the cluster alias is not configured, the cluster alias will not be returned.

Parameter	Type	Description
annotations	Map<String,String>	Cluster annotations in the format of key-value pairs. `"annotations": { "key1" : "value1", "key2" : "value2" }` **NOTE** • Annotations are not used to label or select objects. The metadata in annotations may be small or large, structured or unstructured, and may include characters that are not allowed in labels. • This field is not stored in the database and is used only to specify the add-ons to be installed in the cluster.
labels	Map<String,String>	Cluster labels in the format of key-value pairs. **NOTE** The value of this field is automatically generated by the system and is used by the frontend to identify the features supported by a cluster during the upgrade. Customized values are invalid.
creationTimestamp	String	Time when a cluster was created
updateTimestamp	String	Time when a cluster was updated

Table 4-57 AutopilotClusterSpec

Parameter	Type	Description
category	String	Cluster type. Only Turbo is supported.
type	String	Master node architecture. • **VirtualMachine**: The master node is an x86 server.
flavor	String	Cluster specifications: **cce.autopilot.cluster**

Parameter	Type	Description
version	String	Version of a cluster, which mirrors the baseline version of the Kubernetes community. The latest version is recommended. You can create clusters of the latest three versions on the CCE console. To learn which cluster versions are available, log in to the CCE console, create a cluster, and check supported cluster versions. You can call APIs to create clusters of other versions. However, these cluster versions will be gradually terminated. For details about the support policy, see the CCE announcement. **NOTE** ● If not specified, a cluster of the latest version will be created.
platformVersion	String	CCE cluster platform version, which is an internal version under the cluster version (**version**). Platform versions are used to trace iterations in a major cluster version. They are unique within a major cluster version and recounted when the major cluster version changes. This parameter cannot be customized, and when you create a cluster, the latest corresponding platform version is selected automatically. The format of **platformVersion** is **cce.X.Y**. ● **X**: internal feature version, which indicates changes in features, patches, or OS support in the cluster version. The value starts from **1** and increases monotonically. ● **Y**: patch version of an internal feature version. It is used only for software package update after the feature version is released. No other modification is involved. The value starts from **0** and increases monotonically.
description	String	Cluster description, for example, which purpose the cluster is intended to serve. By default, this field is left blank. To modify cluster description after a cluster is created, call the **API for updating a specified cluster** or go to the cluster details page on the CCE console. Only UTF-8 encoding is supported.

Parameter	Type	Description
customSan	Array of strings	The custom SAN field in the API server certificate of a cluster. It complies with the format specifications defined by the SSL standard X509. It is not supported by Autopilot clusters. 1. Duplicate names are not allowed. 2. The format must comply with the IP address and domain name formats. Example: SAN 1: DNS Name=example.com SAN 2: DNS Name=www.example.com SAN 3: DNS Name=example.net SAN 4: IP Address=93.184.216.34
enableSnat	Boolean	Whether SNAT is configured for a cluster. This parameter is used and returned only by the Autopilot cluster creation API. After this function is enabled, the cluster can access the Internet through a NAT gateway. By default, the existing NAT gateway in the selected VPC is used. Otherwise, the system automatically creates a NAT gateway of the default specifications, binds an EIP to the NAT gateway, and configures SNAT rules.
enableSWRImageAccess	Boolean	Whether a cluster is interconnected with SWR. This parameter is used and returned only by the Autopilot cluster creation API. To ensure that your cluster nodes can pull images from SWR, the existing SWR and OBS endpoints in the selected VPC are used by default. If not, new SWR and OBS endpoints will be automatically created.
enableAutopilot	Boolean	Whether the cluster is an Autopilot cluster
ipv6enable	Boolean	Whether a cluster uses the IPv6 mode. This parameter is not supported by Autopilot clusters.
hostNetwork	**AutopilotHostNetwork** object	Node networking parameters, including VPC and subnet ID. This field is mandatory because nodes in a cluster communicate with each other using a VPC.
containerNetwork	**AutopilotContainerNetwork** object	Container networking parameters, including the container network model and container CIDR block
eniNetwork	**AutopilotEniNetwork** object	Cloud Native 2.0 network settings

Parameter	Type	Description
serviceNetwork	**AutopilotServiceNetwork** object	Service CIDR block, including IPv4 CIDR block
authentication	**AutopilotAuthentication** object	Configuration of the cluster authentication mode, which is not supported by Autopilot clusters
billingMode	Integer	Cluster billing mode - **0**: pay-per-use This parameter defaults to **pay-per-use**.
kubernetesSvcIpRange	String	Service CIDR block or the IP address range which the **kubernetes clusterIP** must fall within. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used. This parameter is being deprecated, so you can use **serviceNetwork** instead. The new field contains the IPv4 CIDR blocks.
clusterTags	Array of **AutopilotResourceTag** objects	Cluster resource tags
kubeProxyMode	String	Service forwarding mode. - **iptables**: Traditional kube-proxy uses iptables rules to implement Service load balancing. In this mode, too many iptables rules will be generated when many Services are deployed. In addition, non-incremental updates will cause latency and even tangible performance issues in the case of service traffic spikes. **NOTE** **iptables** is used by default.
az	String	AZ. This field is returned only for a query. For details about AZs supported by CCE, see **Regions and Endpoints**.
extendParam	**AutopilotClusterExtendParam** object	Extended field to decide whether a cluster will span across AZs or belong to a specified enterprise project, or whether a dedicated CCE cluster is to be created
configurationsOverride	Array of **AutopilotPackageConfiguration** objects	Overrides the default component configurations in a cluster. It is not supported in CCE Autopilot clusters.

Table 4-58 AutopilotHostNetwork

Parameter	Type	Description
vpc	String	ID of the VPC used to create a master node. Obtain the value using either of the following methods: - Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. - Method 2: Use the VPC API. For details, see **Querying VPCs**.
subnet	String	Network ID of the subnet used to create a master node. Obtain the value using either of the following methods: - Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. - Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-59 AutopilotContainerNetwork

Parameter	Type	Description
mode	String	Container network type - **eni***: specifies the Cloud Native 2.0 network model. This model has integrated cloud native elastic network interfaces (ENIs), uses VPC CIDR blocks to allocate container IP addresses, and supports ELB passthrough networking for high network performance. Use this model when creating a cluster.

Table 4-60 AutopilotEniNetwork

Parameter	Type	Description
subnets	Array of **AutopilotNetworkSubnet** objects	IPv4 subnet ID list of the subnet where an ENI resides. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the IPv4 subnet ID on the displayed page. ● Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-61 AutopilotNetworkSubnet

Parameter	Type	Description
subnetID	String	Specifies the IPv4 subnet ID of the subnet used to create control nodes and containers. (IPv6 is not supported.) To obtain the subnet ID, use either of the following methods: ● Method 1: Log in to the VPC console and click a subnet in the VPC. On the subnet details page, search for the IPv4 subnet ID. ● Method 2: Use the VPC API for obtaining subnets. For details, see **Querying Subnets**.

Table 4-62 AutopilotServiceNetwork

Parameter	Type	Description
IPv4CIDR	String	Value range of the Kubernetes clusterIP IPv4 CIDR block. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used.

Table 4-63 AutopilotAuthentication

Parameter	Type	Description
mode	String	Cluster authentication mode. The default value is **rbac**.

Table 4-64 AutopilotResourceTag

Parameter	Type	Description
key	String	Key. ● Cannot be null. Max characters: 128. ● Use letters, digits, and spaces in UTF-8 format. ● Can contain the following special characters: **_.:/=+-@**. ● Cannot start with **_sys_**.
value	String	Value. ● Can be null but not the default. Max characters: 255. ● Use letters, digits, and spaces in UTF-8 format. ● Can contain the following special characters: **_.:/=+-@**.

Table 4-65 AutopilotClusterExtendParam

Parameter	Type	Description
enterpriseProjectId	String	ID of the enterprise project that a cluster belongs to **NOTE** ● An enterprise project can be configured only after the enterprise project function is enabled.
upgradefrom	String	Records of how a cluster is upgraded to its current version

Table 4-66 AutopilotPackageConfiguration

Parameter	Type	Description
name	String	Component name
configurations	Array of **AutopilotConfigurationItem** objects	Component configuration items

Table 4-67 AutopilotConfigurationItem

Parameter	Type	Description
name	String	Component configuration item name
value	Object	Component configuration item value

Table 4-68 AutopilotClusterStatus

Parameter	Type	Description
phase	String	Cluster status. Options: ● **Available**: The cluster is running properly. ● **Unavailable**: The cluster is exhibiting unexpected behavior and needs to be manually deleted. ● **ScalingUp**: Nodes are being added to the cluster. ● **ScalingDown**: The cluster is being downsized to fewer nodes. ● **Creating**: The cluster is being created. ● **Deleting**: The cluster is being deleted. ● **Upgrading**: The cluster is being upgraded. ● **Resizing**: Cluster specifications are being changed. ● **ResizeFailed**: Cluster specification changing is abnormal. ● **RollingBack**: The cluster is being rolled back. ● **RollbackFailed**: The cluster rollback is abnormal. ● **Hibernating**: The cluster is being hibernated. ● **Hibernation**: The cluster is in hibernation. ● **Freezing**: The cluster is being frozen. ● **Frozen**: The cluster has been frozen. ● **UnFreezing**: The cluster is being unfrozen. ● **Awaking**: The cluster is being woken up from hibernation. ● **Empty**: The cluster does not have any resources. This field is discarded. ● **Error**: Resources in the cluster are abnormal. You can manually delete the cluster.

Parameter	Type	Description
jobID	String	ID of the task associated with the current cluster status. Options: ● ID of the associated task returned when creating a cluster. You can use it to obtain the auxiliary tasks for creating a cluster. ● ID of the associated task returned when a cluster fails to be deleted or is being deleted. If this parameter is not empty, you can use the task ID to obtain the auxiliary tasks for deleting a cluster. **NOTE** Tasks are short-lived. Do not use task information in scenarios such as cluster status determination.
reason	String	Why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
message	String	Detailed information about why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
endpoints	Array of **AutopilotClusterEndpoints** objects	Access address of kube-apiserver in a cluster
isLocked	Boolean	CBC resource locked
lockScene	String	Scenario where the CBC resource is locked
lockSource	String	Resource locked
lockSourceId	String	ID of a locked resource
deleteOption	Object	Status of the configuration to be deleted. This parameter is contained only in the response to the deletion request.
deleteStatus	Object	Information of the status to be deleted. This parameter is contained only in the response to the deletion request.

Table 4-69 AutopilotClusterEndpoints

Parameter	Type	Description
url	String	Access address of kube-apiserver in a cluster

Parameter	Type	Description
type	String	Type of the cluster access address ● **Internal**: address for internal network access ● **External**: address for external network access

Example Requests

None

Example Responses

Status code: 200

The cluster list is obtained.

```
{
  "kind" : "Cluster",
  "apiVersion" : "v3",
  "items" : [ {
    "kind" : "Cluster",
    "apiVersion" : "v3",
    "metadata" : {
      "name" : "test",
      "uid" : "de63df79-1de1-11ef-95a4-0255ac1007fa",
      "creationTimestamp" : "2024-05-29 17:35:40.770923 +0000 UTC",
      "updateTimestamp" : "2024-06-04 08:14:13.881756 +0000 UTC",
      "labels" : {
        "FeatureGates" : "arpOptimization,elbv3,xGPU"
      },
      "alias" : "s00648239-b003-v127"
    },
    "spec" : {
      "category" : "Turbo",
      "type" : "VirtualMachine",
      "flavor" : "cce.autopilot.cluster",
      "version" : "v1.27",
      "hostNetwork" : {
        "vpc" : "26958bf6-9ce3-4184-9e19-d793880a162b",
        "subnet" : "df93b82f-5196-43a9-a3f1-78deeab504eb"
      },
      "containerNetwork" : {
        "mode" : "eni"
      },
      "eniNetwork" : {
        "subnets" : [ {
          "subnetID" : "97205694-3537-45b6-9459-c98e9704574a"
        } ]
      },
      "serviceNetwork" : {
        "IPv4CIDR" : "10.247.0.0/16"
      },
      "authentication" : {
        "mode" : "rbac"
      },
      "billingMode" : 0,
      "kubernetesSvcIpRange" : "10.247.0.0/16",
      "kubeProxyMode" : "iptables",
      "az" : "cn-north-7c",
      "extendParam" : {
        "enterpriseProjectId" : "0",
        "upgradefrom" : ""
      }
    },
    "status" : {
      "phase" : "Available",
      "endpoints" : [ {
        "url" : "https://de63df79-1de1-11ef-95a4-0255ac1007fa.cluster.cce.cn-
north-7.myhuaweicloud.com:5443",
        "type" : "Internal"
      } ]
    }
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ListAutopilotClustersSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotClustersRequest request = new ListAutopilotClustersRequest();
        try {
            ListAutopilotClustersResponse response = client.listAutopilotClusters(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotClustersRequest()
        response = client.list_autopilot_clusters(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()
    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAutopilotClustersRequest{}
    response, err := client.ListAutopilotClusters(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The cluster list is obtained.

Error Codes

See **Error Codes**.

4.1.4 Updating a Cluster

Function

This API is used to update a cluster.

NOTE

The URL for cluster management is in the format of **https://Endpoint/uri**, where **uri** specifies the resource path for API access.

Calling Method

For details, see **Calling APIs**.

URI

PUT /autopilot/v3/projects/{project_id}/clusters/{cluster_id}

Table 4-70 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-71 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-72 Request body parameters

Parameter	Mandatory	Type	Description
spec	Yes	**AutopilotClusterInformationSpec** object	Detailed cluster parameters
metadata	No	**AutopilotClusterMetadataForUpdate** object	Basic cluster information, including name-related fields

Table 4-73 AutopilotClusterInformationSpec

Parameter	Mandatory	Type	Description
description	No	String	Description of a cluster. ● The value can be 0 to 200 characters and cannot contain the following special characters: ~$%^&*<>[]{}()'"#\ ● Only description of available clusters can be modified.
customSan	No	Array of strings	The custom SAN field in the API server certificate of a cluster. It complies with the format specifications defined by the SSL standard X509. It is not supported by Autopilot clusters. 1. Duplicate names are not allowed. 2. The format must comply with the IP address and domain name formats. Example: SAN 1: DNS Name=example.com SAN 2: DNS Name=www.example.com SAN 3: DNS Name=example.net SAN 4: IP Address=93.184.216.34
eniNetwork	No	**AutopilotEniNetworkUpdate** object	Cloud native 2.0 network settings, including the container subnet information of a cluster

Table 4-74 AutopilotEniNetworkUpdate

Parameter	Mandatory	Type	Description
subnets	No	Array of **AutopilotNetworkSubnet** objects	List of IPv4 subnet IDs Subnets can be added and existing subnets can be deleted.

Table 4-75 AutopilotNetworkSubnet

Parameter	Mandatory	Type	Description
subnetID	Yes	String	Specifies the IPv4 subnet ID of the subnet used to create control nodes and containers. (IPv6 is not supported.) To obtain the subnet ID, use either of the following methods: ● Method 1: Log in to the VPC console and click a subnet in the VPC. On the subnet details page, search for the IPv4 subnet ID. ● Method 2: Use the VPC API for obtaining subnets. For details, see **Querying Subnets**.

Table 4-76 AutopilotClusterMetadataForUpdate

Parameter	Mandatory	Type	Description
alias	No	String	Alias of a cluster name. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed. A cluster alias must be unique. If this parameter is left blank, the alias is not changed.

Response Parameters

Status code: 200

Table 4-77 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Cluster** or **cluster** and cannot be changed.

Parameter	Type	Description
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AutopilotClusterMetadata** object	Basic information about a cluster. Metadata is a collection of attributes.
spec	**AutopilotClusterSpec** object	Element type of the collection class. The main part of a cluster object to be managed is in **spec**. CCE creates or updates objects by defining or updating **spec**.
status	**AutopilotClusterStatus** object	Element type of the collection class, which is used to record the statuses of an object in the system, including the cluster status and the ID of the cluster creation job

Table 4-78 AutopilotClusterMetadata

Parameter	Type	Description
name	String	Cluster name. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed.
uid	String	Cluster ID, which uniquely identifies a resource. The value is automatically generated after the object is created. A custom value will not take effect. When you create a yearly/monthly cluster, no cluster ID will be returned in the response body.
alias	String	Alias of a cluster name displayed on the CCE console, and the name can be changed. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed. A cluster alias must be unique. In the request body for creating or updating a cluster, if the cluster alias is not specified or is left blank, the alias of the cluster is the same as the cluster name. In the response body for creating a cluster, if the cluster alias is not configured, the cluster alias will not be returned.

Parameter	Type	Description
annotations	Map<String,String>	Cluster annotations in the format of key-value pairs. `"annotations": { "key1" : "value1", "key2" : "value2" }` **NOTE** ● Annotations are not used to label or select objects. The metadata in annotations may be small or large, structured or unstructured, and may include characters that are not allowed in labels. ● This field is not stored in the database and is used only to specify the add-ons to be installed in the cluster.
labels	Map<String,String>	Cluster labels in the format of key-value pairs. **NOTE** The value of this field is automatically generated by the system and is used by the frontend to identify the features supported by a cluster during the upgrade. Customized values are invalid.
creationTimestamp	String	Time when a cluster was created
updateTimestamp	String	Time when a cluster was updated

Table 4-79 AutopilotClusterSpec

Parameter	Type	Description
category	String	Cluster type. Only Turbo is supported.
type	String	Master node architecture. ● **VirtualMachine**: The master node is an x86 server.
flavor	String	Cluster specifications: **cce.autopilot.cluster**

Parameter	Type	Description
version	String	Version of a cluster, which mirrors the baseline version of the Kubernetes community. The latest version is recommended. You can create clusters of the latest three versions on the CCE console. To learn which cluster versions are available, log in to the CCE console, create a cluster, and check supported cluster versions. You can call APIs to create clusters of other versions. However, these cluster versions will be gradually terminated. For details about the support policy, see the CCE announcement. **NOTE** ● If not specified, a cluster of the latest version will be created.
platformVersion	String	CCE cluster platform version, which is an internal version under the cluster version (**version**). Platform versions are used to trace iterations in a major cluster version. They are unique within a major cluster version and recounted when the major cluster version changes. This parameter cannot be customized, and when you create a cluster, the latest corresponding platform version is selected automatically. The format of **platformVersion** is **cce.X.Y**. ● **X**: internal feature version, which indicates changes in features, patches, or OS support in the cluster version. The value starts from **1** and increases monotonically. ● **Y**: patch version of an internal feature version. It is used only for software package update after the feature version is released. No other modification is involved. The value starts from **0** and increases monotonically.
description	String	Cluster description, for example, which purpose the cluster is intended to serve. By default, this field is left blank. To modify cluster description after a cluster is created, call the **API for updating a specified cluster** or go to the cluster details page on the CCE console. Only UTF-8 encoding is supported.

Parameter	Type	Description
customSan	Array of strings	The custom SAN field in the API server certificate of a cluster. It complies with the format specifications defined by the SSL standard X509. It is not supported by Autopilot clusters. 1. Duplicate names are not allowed. 2. The format must comply with the IP address and domain name formats. Example: SAN 1: DNS Name=example.com SAN 2: DNS Name=www.example.com SAN 3: DNS Name=example.net SAN 4: IP Address=93.184.216.34
enableSnat	Boolean	Whether SNAT is configured for a cluster. This parameter is used and returned only by the Autopilot cluster creation API. After this function is enabled, the cluster can access the Internet through a NAT gateway. By default, the existing NAT gateway in the selected VPC is used. Otherwise, the system automatically creates a NAT gateway of the default specifications, binds an EIP to the NAT gateway, and configures SNAT rules.
enableSWRImageAccess	Boolean	Whether a cluster is interconnected with SWR. This parameter is used and returned only by the Autopilot cluster creation API. To ensure that your cluster nodes can pull images from SWR, the existing SWR and OBS endpoints in the selected VPC are used by default. If not, new SWR and OBS endpoints will be automatically created.
enableAutopilot	Boolean	Whether the cluster is an Autopilot cluster
ipv6enable	Boolean	Whether a cluster uses the IPv6 mode. This parameter is not supported by Autopilot clusters.
hostNetwork	**AutopilotHostNetwork** object	Node networking parameters, including VPC and subnet ID. This field is mandatory because nodes in a cluster communicate with each other using a VPC.
containerNetwork	**AutopilotContainerNetwork** object	Container networking parameters, including the container network model and container CIDR block
eniNetwork	**AutopilotEniNetwork** object	Cloud Native 2.0 network settings

Parameter	Type	Description
serviceNetwork	**AutopilotServiceNetwork** object	Service CIDR block, including IPv4 CIDR block
authentication	**AutopilotAuthentication** object	Configuration of the cluster authentication mode, which is not supported by Autopilot clusters
billingMode	Integer	Cluster billing mode ● **0**: pay-per-use This parameter defaults to **pay-per-use**.
kubernetesSvcIpRange	String	Service CIDR block or the IP address range which the **kubernetes clusterIP** must fall within. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used. This parameter is being deprecated, so you can use **serviceNetwork** instead. The new field contains the IPv4 CIDR blocks.
clusterTags	Array of **AutopilotResourceTag** objects	Cluster resource tags
kubeProxyMode	String	Service forwarding mode. ● **iptables**: Traditional kube-proxy uses iptables rules to implement Service load balancing. In this mode, too many iptables rules will be generated when many Services are deployed. In addition, non-incremental updates will cause latency and even tangible performance issues in the case of service traffic spikes. **NOTE** **iptables** is used by default.
az	String	AZ. This field is returned only for a query. For details about AZs supported by CCE, see **Regions and Endpoints**.
extendParam	**AutopilotClusterExtendParam** object	Extended field to decide whether a cluster will span across AZs or belong to a specified enterprise project, or whether a dedicated CCE cluster is to be created
configurationsOverride	Array of **AutopilotPackageConfiguration** objects	Overrides the default component configurations in a cluster. It is not supported in CCE Autopilot clusters.

Table 4-80 AutopilotHostNetwork

Parameter	Type	Description
vpc	String	ID of the VPC used to create a master node. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. ● Method 2: Use the VPC API. For details, see **Querying VPCs**.
subnet	String	Network ID of the subnet used to create a master node. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. ● Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-81 AutopilotContainerNetwork

Parameter	Type	Description
mode	String	Container network type ● **eni***: specifies the Cloud Native 2.0 network model. This model has integrated cloud native elastic network interfaces (ENIs), uses VPC CIDR blocks to allocate container IP addresses, and supports ELB passthrough networking for high network performance. Use this model when creating a cluster.

Table 4-82 AutopilotEniNetwork

Parameter	Type	Description
subnets	Array of **AutopilotNetworkSubnet** objects	IPv4 subnet ID list of the subnet where an ENI resides. Obtain the value using either of the following methods: - Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the IPv4 subnet ID on the displayed page. - Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-83 AutopilotNetworkSubnet

Parameter	Type	Description
subnetID	String	Specifies the IPv4 subnet ID of the subnet used to create control nodes and containers. (IPv6 is not supported.) To obtain the subnet ID, use either of the following methods: - Method 1: Log in to the VPC console and click a subnet in the VPC. On the subnet details page, search for the IPv4 subnet ID. - Method 2: Use the VPC API for obtaining subnets. For details, see **Querying Subnets**.

Table 4-84 AutopilotServiceNetwork

Parameter	Type	Description
IPv4CIDR	String	Value range of the Kubernetes clusterIP IPv4 CIDR block. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used.

Table 4-85 AutopilotAuthentication

Parameter	Type	Description
mode	String	Cluster authentication mode. The default value is **rbac**.

Table 4-86 AutopilotResourceTag

Parameter	Type	Description
key	String	Key. - Cannot be null. Max characters: 128. - Use letters, digits, and spaces in UTF-8 format. - Can contain the following special characters: **_.:/=+-@**. - Cannot start with **_sys_**.
value	String	Value. - Can be null but not the default. Max characters: 255. - Use letters, digits, and spaces in UTF-8 format. - Can contain the following special characters: **_.:/=+-@**.

Table 4-87 AutopilotClusterExtendParam

Parameter	Type	Description
enterpriseProjectId	String	ID of the enterprise project that a cluster belongs to **NOTE** - An enterprise project can be configured only after the enterprise project function is enabled.
upgradefrom	String	Records of how a cluster is upgraded to its current version

Table 4-88 AutopilotPackageConfiguration

Parameter	Type	Description
name	String	Component name
configurations	Array of **AutopilotConfigurationItem** objects	Component configuration items

Table 4-89 AutopilotConfigurationItem

Parameter	Type	Description
name	String	Component configuration item name
value	Object	Component configuration item value

Table 4-90 AutopilotClusterStatus

Parameter	Type	Description
phase	String	Cluster status. Options: ● **Available**: The cluster is running properly. ● **Unavailable**: The cluster is exhibiting unexpected behavior and needs to be manually deleted. ● **ScalingUp**: Nodes are being added to the cluster. ● **ScalingDown**: The cluster is being downsized to fewer nodes. ● **Creating**: The cluster is being created. ● **Deleting**: The cluster is being deleted. ● **Upgrading**: The cluster is being upgraded. ● **Resizing**: Cluster specifications are being changed. ● **ResizeFailed**: Cluster specification changing is abnormal. ● **RollingBack**: The cluster is being rolled back. ● **RollbackFailed**: The cluster rollback is abnormal. ● **Hibernating**: The cluster is being hibernated. ● **Hibernation**: The cluster is in hibernation. ● **Freezing**: The cluster is being frozen. ● **Frozen**: The cluster has been frozen. ● **UnFreezing**: The cluster is being unfrozen. ● **Awaking**: The cluster is being woken up from hibernation. ● **Empty**: The cluster does not have any resources. This field is discarded. ● **Error**: Resources in the cluster are abnormal. You can manually delete the cluster.

Parameter	Type	Description
jobID	String	ID of the task associated with the current cluster status. Options: ● ID of the associated task returned when creating a cluster. You can use it to obtain the auxiliary tasks for creating a cluster. ● ID of the associated task returned when a cluster fails to be deleted or is being deleted. If this parameter is not empty, you can use the task ID to obtain the auxiliary tasks for deleting a cluster. **NOTE** Tasks are short-lived. Do not use task information in scenarios such as cluster status determination.
reason	String	Why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
message	String	Detailed information about why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
endpoints	Array of **AutopilotClusterEndpoints** objects	Access address of kube-apiserver in a cluster
isLocked	Boolean	CBC resource locked
lockScene	String	Scenario where the CBC resource is locked
lockSource	String	Resource locked
lockSourceId	String	ID of a locked resource
deleteOption	Object	Status of the configuration to be deleted. This parameter is contained only in the response to the deletion request.
deleteStatus	Object	Information of the status to be deleted. This parameter is contained only in the response to the deletion request.

Table 4-91 AutopilotClusterEndpoints

Parameter	Type	Description
url	String	Access address of kube-apiserver in a cluster

Parameter	Type	Description
type	String	Type of the cluster access address - **Internal**: address for internal network access - **External**: address for external network access

Example Requests

Update the description of a cluster.

```
{
  "spec" : {
    "description" : "new description"
  }
}
```

Example Responses

Status code: 200

The cluster is updated.

```
{
  "kind" : "Cluster",
  "apiVersion" : "v3",
  "metadata" : {
    "name" : "s00842745-128-3-r0",
    "uid" : "c82a7d44-1cc4-11ef-8460-0255ac101780",
    "creationTimestamp" : "2024-05-28 07:34:56.917029 +0000 UTC",
    "updateTimestamp" : "2024-06-04 13:12:35.749294 +0000 UTC",
    "labels" : {
      "FeatureGates" : "arpOptimization,elbv3,xGPU"
    },
    "annotations" : {
      "enableAutopilot" : "true",
      "feature:supportNodePoolScaleGroup" : "true"
    },
    "alias" : "s00842745-128-3-r0"
  },
  "spec" : {
    "category" : "Turbo",
    "type" : "VirtualMachine",
    "flavor" : "cce.autopilot.cluster",
    "version" : "v1.28",
    "platformVersion" : "cce.3.0",
    "description" : "new description",
    "hostNetwork" : {
      "vpc" : "f9122377-7b2e-49c9-ab9e-bf0bfdd807b4",
      "subnet" : "6b757878-c428-4e76-a7e9-5e3853778d5d"
    },
    "containerNetwork" : {
      "mode" : "eni"
    },
    "eniNetwork" : {
      "eniSubnetId" : "b04a4b46-9f99-44a1-9a98-de52e549e68b",
      "subnets" : [ {
        "subnetID" : "b04a4b46-9f99-44a1-9a98-de52e549e68b"
      } ]
    },
    "serviceNetwork" : {
      "IPv4CIDR" : "10.247.0.0/16"
    },
    "authentication" : {
      "mode" : "rbac"
    },
    "billingMode" : 0,
    "kubernetesSvcIpRange" : "10.247.0.0/16",
    "kubeProxyMode" : "iptables",
    "az" : "cn-north-7c",
    "extendParam" : {
      "enterpriseProjectId" : "5ebc44c1-617b-4d93-8d49-895b8a457a1f",
      "upgradefrom" : ""
    }
  },
  "status" : {
    "phase" : "Available",
    "endpoints" : [ {
      "url" : "https://c82a7d44-1cc4-11ef-8460-0255ac101780.cluster.cce.cn-
north-7.myhuaweicloud.com:5443",
      "type" : "Internal"
    } ]
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Update the description of a cluster.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class UpdateAutopilotClusterSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        UpdateAutopilotClusterRequest request = new UpdateAutopilotClusterRequest();
        request.withClusterId("{cluster_id}");
        AutopilotClusterInformation body = new AutopilotClusterInformation();
        AutopilotClusterInformationSpec specbody = new AutopilotClusterInformationSpec();
        specbody.withDescription("new description");
        body.withSpec(specbody);
        request.withBody(body);
        try {
            UpdateAutopilotClusterResponse response = client.updateAutopilotCluster(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Update the description of a cluster.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateAutopilotClusterRequest()
        request.cluster_id = "{cluster_id}"
        specbody = AutopilotClusterInformationSpec(
            description="new description"
        )
        request.body = AutopilotClusterInformation(
            spec=specbody
        )
        response = client.update_autopilot_cluster(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Update the description of a cluster.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateAutopilotClusterRequest{}
    request.ClusterId = "{cluster_id}"
    descriptionSpec:= "new description"
    specbody := &model.AutopilotClusterInformationSpec{
        Description: &descriptionSpec,
    }
    request.Body = &model.AutopilotClusterInformation{
        Spec: specbody,
    }
    response, err := client.UpdateAutopilotCluster(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The cluster is updated.

Error Codes

See **Error Codes**.

4.1.5 Deleting a Cluster

Function

This API is used to delete a cluster.

NOTE

The URL for cluster management is in the format of **https://Endpoint/uri**, where **uri** specifies the resource path for API access.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /autopilot/v3/projects/{project_id}/clusters/{cluster_id}

Table 4-92 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Table 4-93 Query Parameters

Parameter	Mandatory	Type	Description
delete_efs	No	String	Whether to delete an SFS Turbo volume. Options: ● **true** or **block** (The system starts to delete the object. If the deletion fails, subsequent processes are blocked.) ● **try** (The system starts to delete the object. If the deletion fails, no deletion retry is performed, and subsequent processes will proceed.) ● **false** or **skip** (The deletion is skipped. This is the default option.)

Parameter	Mandatory	Type	Description
delete_eni	No	String	Whether to delete an ENI port (native ENI). Options: ● **true** or **block**: The system starts to delete the object. If the deletion fails, subsequent processes are blocked. This is the default option. ● **try**: The system starts to delete the object. If the deletion fails, no deletion retry is performed, and subsequent processes will proceed. ● **false** or **skip**: The deletion is skipped.
delete_net	No	String	Whether to delete cluster Service or ingress resources, such as a load balancer. Options: ● **true** or **block**: The system starts to delete the object. If the deletion fails, subsequent processes are blocked. This is the default option. ● **try**: The system starts to delete the object. If the deletion fails, no deletion retry is performed, and subsequent processes will proceed. ● **false** or **skip**: The deletion is skipped.

Parameter	Mandatory	Type	Description
delete_obs	No	String	Whether to delete an OBS volume. Options: ● **true** or **block**: The system starts to delete the object. If the deletion fails, subsequent processes are blocked. ● **try**: The system starts to delete the object. If the deletion fails, no deletion retry is performed, and subsequent processes will proceed. ● **false** or **skip**: The deletion is skipped. This is the default option.
delete_sfs30	No	String	Whether to delete an SFS 3.0 volume. Options: ● **true** or **block**: The system starts to delete the object. If the deletion fails, subsequent processes are blocked. ● **try**: The system starts to delete the object. If the deletion fails, no deletion retry is performed, and subsequent processes will proceed. ● **false** or **skip**: The deletion is skipped. This is the default option.

Parameter	Mandatory	Type	Description
lts_reclaim_policy	No	String	Whether to delete an LTS resource, such as a log group or a log stream. Options: - **Delete_Log_Group**: The system starts to delete a log group. If the deletion fails, no deletion retry is performed, and subsequent processes will proceed. - **Delete_Master_Log_Stream**: The system starts to delete a master log stream. If the deletion fails, no deletion retry is performed, and subsequent processes will proceed. This is the default option. - **Retain**: The deletion is skipped.

Request Parameters

Table 4-94 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: - application/json - application/json;charset=utf-8 - application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-95 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Cluster** or **cluster** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AutopilotClusterMetadata** object	Basic information about a cluster. Metadata is a collection of attributes.
spec	**AutopilotClusterSpec** object	Element type of the collection class. The main part of a cluster object to be managed is in **spec**. CCE creates or updates objects by defining or updating **spec**.
status	**AutopilotClusterStatus** object	Element type of the collection class, which is used to record the statuses of an object in the system, including the cluster status and the ID of the cluster creation job

Table 4-96 AutopilotClusterMetadata

Parameter	Type	Description
name	String	Cluster name. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed.
uid	String	Cluster ID, which uniquely identifies a resource. The value is automatically generated after the object is created. A custom value will not take effect. When you create a yearly/monthly cluster, no cluster ID will be returned in the response body.
alias	String	Alias of a cluster name displayed on the CCE console, and the name can be changed. Enter 4 to 128 characters starting with a lowercase letter and not ending with a hyphen (-). Only lowercase letters, digits, and hyphens (-) are allowed. A cluster alias must be unique. In the request body for creating or updating a cluster, if the cluster alias is not specified or is left blank, the alias of the cluster is the same as the cluster name. In the response body for creating a cluster, if the cluster alias is not configured, the cluster alias will not be returned.

annotations	Map<String,String>	Cluster annotations in the format of key-value pairs.
		"annotations": {
		  "key1" : "value1",
		  "key2" : "value2"
		}
		NOTE
		● Annotations are not used to label or select objects. The metadata in annotations may be small or large, structured or unstructured, and may include characters that are not allowed in labels.
		● This field is not stored in the database and is used only to specify the add-ons to be installed in the cluster.

labels	Map<String,String>	Cluster labels in the format of key-value pairs. **NOTE** The value of this field is automatically generated by the system and is used by the frontend to identify the features supported by a cluster during the upgrade. Customized values are invalid.

Parameter	Type	Description
creationTimestamp	String	Time when a cluster was created
updateTimestamp	String	Time when a cluster was updated

Table 4-97 AutopilotClusterSpec

Parameter	Type	Description
category	String	Cluster type. Only Turbo is supported.
type	String	Master node architecture. ● **VirtualMachine**: The master node is an x86 server.
flavor	String	Cluster specifications: **cce.autopilot.cluster**
version	String	Version of a cluster, which mirrors the baseline version of the Kubernetes community. The latest version is recommended. You can create clusters of the latest three versions on the CCE console. To learn which cluster versions are available, log in to the CCE console, create a cluster, and check supported cluster versions. You can call APIs to create clusters of other versions. However, these cluster versions will be gradually terminated. For details about the support policy, see the CCE announcement. **NOTE** ● If not specified, a cluster of the latest version will be created.

Parameter	Type	Description
platformVersion	String	CCE cluster platform version, which is an internal version under the cluster version (**version**). Platform versions are used to trace iterations in a major cluster version. They are unique within a major cluster version and recounted when the major cluster version changes. This parameter cannot be customized, and when you create a cluster, the latest corresponding platform version is selected automatically. The format of **platformVersion** is **cce.X.Y**. ● **X**: internal feature version, which indicates changes in features, patches, or OS support in the cluster version. The value starts from **1** and increases monotonically. ● **Y**: patch version of an internal feature version. It is used only for software package update after the feature version is released. No other modification is involved. The value starts from **0** and increases monotonically.
description	String	Cluster description, for example, which purpose the cluster is intended to serve. By default, this field is left blank. To modify cluster description after a cluster is created, call the **API for updating a specified cluster** or go to the cluster details page on the CCE console. Only UTF-8 encoding is supported.

customSan	Array of strings	The custom SAN field in the API server certificate of a cluster. It complies with the format specifications defined by the SSL standard X509. It is not supported by Autopilot clusters.
		1. Duplicate names are not allowed.
		2. The format must comply with the IP address and domain name formats.
		Example:
		`SAN 1: DNS Name=example.com`
		`SAN 2: DNS Name=www.example.com`
		`SAN 3: DNS Name=example.net`
		`SAN 4: IP Address=93.184.216.34`

Parameter	Type	Description
enableSnat	Boolean	Whether SNAT is configured for a cluster. This parameter is used and returned only by the Autopilot cluster creation API. After this function is enabled, the cluster can access the Internet through a NAT gateway. By default, the existing NAT gateway in the selected VPC is used. Otherwise, the system automatically creates a NAT gateway of the default specifications, binds an EIP to the NAT gateway, and configures SNAT rules.
enableSWRImageAccess	Boolean	Whether a cluster is interconnected with SWR. This parameter is used and returned only by the Autopilot cluster creation API. To ensure that your cluster nodes can pull images from SWR, the existing SWR and OBS endpoints in the selected VPC are used by default. If not, new SWR and OBS endpoints will be automatically created.
enableAutopilot	Boolean	Whether the cluster is an Autopilot cluster
ipv6enable	Boolean	Whether a cluster uses the IPv6 mode. This parameter is not supported by Autopilot clusters.
hostNetwork	**AutopilotHostNetwork** object	Node networking parameters, including VPC and subnet ID. This field is mandatory because nodes in a cluster communicate with each other using a VPC.
containerNetwork	**AutopilotContainerNetwork** object	Container networking parameters, including the container network model and container CIDR block
eniNetwork	**AutopilotEniNetwork** object	Cloud Native 2.0 network settings
serviceNetwork	**AutopilotServiceNetwork** object	Service CIDR block, including IPv4 CIDR block
authentication	**AutopilotAuthentication** object	Configuration of the cluster authentication mode, which is not supported by Autopilot clusters
billingMode	Integer	Cluster billing mode ● **0**: pay-per-use This parameter defaults to **pay-per-use**.

Parameter	Type	Description
kubernetesSvcIpRange	String	Service CIDR block or the IP address range which the **kubernetes clusterIP** must fall within. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used. This parameter is being deprecated, so you can use **serviceNetwork** instead. The new field contains the IPv4 CIDR blocks.
clusterTags	Array of **AutopilotResourceTag** objects	Cluster resource tags
kubeProxyMode	String	Service forwarding mode. ● **iptables**: Traditional kube-proxy uses iptables rules to implement Service load balancing. In this mode, too many iptables rules will be generated when many Services are deployed. In addition, non-incremental updates will cause latency and even tangible performance issues in the case of service traffic spikes. **NOTE** **iptables** is used by default.
az	String	AZ. This field is returned only for a query. For details about AZs supported by CCE, see **Regions and Endpoints**.
extendParam	**AutopilotClusterExtendParam** object	Extended field to decide whether a cluster will span across AZs or belong to a specified enterprise project, or whether a dedicated CCE cluster is to be created
configurationsOverride	Array of **AutopilotPackageConfiguration** objects	Overrides the default component configurations in a cluster. It is not supported in CCE Autopilot clusters.

Table 4-98 AutopilotHostNetwork

Parameter	Type	Description
vpc	String	ID of the VPC used to create a master node. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. ● Method 2: Use the VPC API. For details, see **Querying VPCs**.
subnet	String	Network ID of the subnet used to create a master node. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. ● Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-99 AutopilotContainerNetwork

Parameter	Type	Description
mode	String	Container network type ● **eni***: specifies the Cloud Native 2.0 network model. This model has integrated cloud native elastic network interfaces (ENIs), uses VPC CIDR blocks to allocate container IP addresses, and supports ELB passthrough networking for high network performance. Use this model when creating a cluster.

Table 4-100 AutopilotEniNetwork

Parameter	Type	Description
subnets	Array of **AutopilotNetworkSubnet** objects	IPv4 subnet ID list of the subnet where an ENI resides. Obtain the value using either of the following methods: ● Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the IPv4 subnet ID on the displayed page. ● Method 2: Use the VPC API to obtain subnets. For details, see **Querying Subnets**.

Table 4-101 AutopilotNetworkSubnet

Parameter	Type	Description
subnetID	String	Specifies the IPv4 subnet ID of the subnet used to create control nodes and containers. (IPv6 is not supported.) To obtain the subnet ID, use either of the following methods: ● Method 1: Log in to the VPC console and click a subnet in the VPC. On the subnet details page, search for the IPv4 subnet ID. ● Method 2: Use the VPC API for obtaining subnets. For details, see **Querying Subnets**.

Table 4-102 AutopilotServiceNetwork

Parameter	Type	Description
IPv4CIDR	String	Value range of the Kubernetes clusterIP IPv4 CIDR block. If this parameter is not specified during cluster creation, the default value **10.247.0.0/16** is used.

Table 4-103 AutopilotAuthentication

Parameter	Type	Description
mode	String	Cluster authentication mode. The default value is **rbac**.

Table 4-104 AutopilotResourceTag

Parameter	Type	Description
key	String	Key. ● Cannot be null. Max characters: 128. ● Use letters, digits, and spaces in UTF-8 format. ● Can contain the following special characters: **_.:/=+-@**. ● Cannot start with **_sys_**.
value	String	Value. ● Can be null but not the default. Max characters: 255. ● Use letters, digits, and spaces in UTF-8 format. ● Can contain the following special characters: **_.:/=+-@**.

Table 4-105 AutopilotClusterExtendParam

Parameter	Type	Description
enterpriseProjectId	String	ID of the enterprise project that a cluster belongs to **NOTE** ● An enterprise project can be configured only after the enterprise project function is enabled.
upgradefrom	String	Records of how a cluster is upgraded to its current version

Table 4-106 AutopilotPackageConfiguration

Parameter	Type	Description
name	String	Component name
configurations	Array of **AutopilotConfigurationItem** objects	Component configuration items

Table 4-107 AutopilotConfigurationItem

Parameter	Type	Description
name	String	Component configuration item name
value	Object	Component configuration item value

Table 4-108 AutopilotClusterStatus

Parameter	Type	Description
phase	String	Cluster status. Options: ● **Available**: The cluster is running properly. ● **Unavailable**: The cluster is exhibiting unexpected behavior and needs to be manually deleted. ● **ScalingUp**: Nodes are being added to the cluster. ● **ScalingDown**: The cluster is being downsized to fewer nodes. ● **Creating**: The cluster is being created. ● **Deleting**: The cluster is being deleted. ● **Upgrading**: The cluster is being upgraded. ● **Resizing**: Cluster specifications are being changed. ● **ResizeFailed**: Cluster specification changing is abnormal. ● **RollingBack**: The cluster is being rolled back. ● **RollbackFailed**: The cluster rollback is abnormal. ● **Hibernating**: The cluster is being hibernated. ● **Hibernation**: The cluster is in hibernation. ● **Freezing**: The cluster is being frozen. ● **Frozen**: The cluster has been frozen. ● **UnFreezing**: The cluster is being unfrozen. ● **Awaking**: The cluster is being woken up from hibernation. ● **Empty**: The cluster does not have any resources. This field is discarded. ● **Error**: Resources in the cluster are abnormal. You can manually delete the cluster.

Parameter	Type	Description
jobID	String	ID of the task associated with the current cluster status. Options: ● ID of the associated task returned when creating a cluster. You can use it to obtain the auxiliary tasks for creating a cluster. ● ID of the associated task returned when a cluster fails to be deleted or is being deleted. If this parameter is not empty, you can use the task ID to obtain the auxiliary tasks for deleting a cluster. **NOTE** Tasks are short-lived. Do not use task information in scenarios such as cluster status determination.
reason	String	Why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
message	String	Detailed information about why a cluster changes to the current state. This parameter is returned if the cluster is not in the **Available** state.
endpoints	Array of **AutopilotClusterEndpoints** objects	Access address of kube-apiserver in a cluster
isLocked	Boolean	CBC resource locked
lockScene	String	Scenario where the CBC resource is locked
lockSource	String	Resource locked
lockSourceId	String	ID of a locked resource
deleteOption	Object	Status of the configuration to be deleted. This parameter is contained only in the response to the deletion request.
deleteStatus	Object	Information of the status to be deleted. This parameter is contained only in the response to the deletion request.

Table 4-109 AutopilotClusterEndpoints

Parameter	Type	Description
url	String	Access address of kube-apiserver in a cluster

Parameter	Type	Description
type	String	Type of the cluster access address ● **Internal**: address for internal network access ● **External**: address for external network access

Example Requests

None

Example Responses

Status code: 200

The job for deleting a cluster is delivered.

```
{
  "kind" : "Cluster",
  "apiVersion" : "v3",
  "metadata" : {
    "name" : "test-cluster",
    "uid" : "a736db34-2270-11ef-a160-0255ac100100",
    "creationTimestamp" : "2024-06-04 12:47:50.886502 +0000 UTC",
    "updateTimestamp" : "2024-06-04 13:24:08.809147153 +0000 UTC",
    "labels" : {
      "FeatureGates" : "arpOptimization,elbv3,xGPU"
    },
    "annotations" : {
      "enableAutopilot" : "true"
    },
    "alias" : "test-cluster"
  },
  "spec" : {
    "category" : "Turbo",
    "type" : "VirtualMachine",
    "flavor" : "cce.autopilot.cluster",
    "version" : "v1.28",
    "platformVersion" : "cce.4.0",
    "hostNetwork" : {
      "vpc" : "c6549063-d459-4ae1-9550-b5fec6741b0f",
      "subnet" : "3b18c2d5-b352-4f59-b421-c2d2d48a1333"
    },
    "containerNetwork" : {
      "mode" : "eni"
    },
    "eniNetwork" : {
      "subnets" : [ {
        "subnetID" : "186f9322-50c5-4e5a-91e3-47da86959afc"
      } ]
    },
    "serviceNetwork" : {
      "IPv4CIDR" : "172.16.0.0/16"
    },
    "authentication" : {
      "mode" : "rbac"
    },
    "billingMode" : 0,
    "kubernetesSvcIpRange" : "172.16.0.0/16",
    "kubeProxyMode" : "iptables",
    "az" : "cn-north-7c",
    "extendParam" : {
      "upgradefrom" : ""
    }
  },
  "status" : {
    "phase" : "Available",
    "jobID" : "ba0c981e-2275-11ef-b73b-0255ac100103",
    "endpoints" : [ {
      "url" : "https://a736db34-2270-11ef-a160-0255ac100100.cluster.cce.cn-north-7.myhuaweicloud.com:5443",
      "type" : "Internal"
    } ],
    "deleteOption" : {
      "delete_eni" : "delete-block",
      "delete_net" : "delete-block"
    },
    "deleteStatus" : {
      "previous_total" : 47,
      "current_total" : 53,
      "updated" : 47,
      "added" : 6,
      "deleted" : 0
    }
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class DeleteAutopilotClusterSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        DeleteAutopilotClusterRequest request = new DeleteAutopilotClusterRequest();
        request.withClusterId("{cluster_id}");
        try {
            DeleteAutopilotClusterResponse response = client.deleteAutopilotCluster(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteAutopilotClusterRequest()
        request.cluster_id = "{cluster_id}"
        response = client.delete_autopilot_cluster(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteAutopilotClusterRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.DeleteAutopilotCluster(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The job for deleting a cluster is delivered.

Error Codes

See **Error Codes**.

4.1.6 Obtaining a Cluster Certificate

Function

This API is used to obtain the certificate of a cluster.

Constraints

This API is applicable to clusters of v1.13 and later.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/clustercert

Table 4-110 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-111 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-112 Request body parameters

Parameter	Mandatory	Type	Description
duration	Yes	Integer	Validity period of the cluster certificate. The minimum value is 1 day and the maximum value is 5 years. Therefore, the value ranges from 1 to 1827. (The unit is day. The actual limit depends on the number of leap years in the five years. For example, if there is a leap year in the five years, the upper limit is 1826 days.) If this parameter is set to -1, the maximum value is 5 years.

Response Parameters

Status code: 200

Table 4-113 Response header parameters

Parameter	Type	Description
Port-ID	String	Port ID of the cluster master node

Table 4-114 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Config** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v1**.
preferences	Object	This field is not used currently and is left unspecified by default.
clusters	Array of **Clusters** objects	Cluster list
users	Array of **Users** objects	Certificate information and client key information of a specified user
contexts	Array of **Contexts** objects	Context list

Parameter	Type	Description
current-context	String	Current context. If **publicIp** (VM EIP) exists, the value is **external**. If **publicIp** does not exist, the value is **internal**.

Table 4-115 Clusters

Parameter	Type	Description
name	String	Cluster name. ● If **publicIp** does not exist (that is, no VM EIP exists), there is only one cluster in the cluster list, and the value of this parameter is **internalCluster**. ● If **publicIp** exists (that is, the EIP exists), there are at least two clusters in the cluster list, and the value of this parameter is **externalCluster**.
cluster	**ClusterCert** object	Cluster information

Table 4-116 ClusterCert

Parameter	Type	Description
server	String	Server IP address
certificate-authority-data	String	Certificate authorization data
insecure-skip-tls-verify	Boolean	Whether to skip the server certificate verification. If the cluster type is **externalCluster**, the value is **true**.

Table 4-117 Users

Parameter	Type	Description
name	String	The value is fixed at **user**.
user	**User** object	Certificate information and client key information of a specified user

Table 4-118 User

Parameter	Type	Description
client-certificate-data	String	Client certificate
client-key-data	String	PEM encoding data from the TLS client key file

Table 4-119 Contexts

Parameter	Type	Description
name	String	Context name. ● If **publicIp** does not exist (that is, no VM EIP exists), there is only one cluster in the cluster list, and the value of this parameter is **internal**. ● If **publicIp** exists (that is, the EIP exists), there are at least two clusters in the cluster list, and the value of this field for all extension contexts is **external**.
context	**Context** object	Context information

Table 4-120 Context

Parameter	Type	Description
cluster	String	Cluster context
user	String	User context

Example Requests

Apply for a cluster access certificate valid for 30 days.

```
{
  "duration" : 30
}
```

Example Responses

Status code: 200

The certificate of the cluster is obtained. For details about the certificate file format, see the Kubernetes v1.Config structure.

```
{
  "kind" : "Config",
  "apiVersion" : "v1",
  "preferences" : { },
  "clusters" : [ {
    "name" : "internalCluster",
    "cluster" : {
      "server" : "https://192.168.1.7:5443",
      "certificate-authority-data" : "Q2VydGlmaWNhdGU6******FTkQgQ0VSVElGSUNBVEUtLS0tLQo="
    }
  } ],
  "users" : [ {
    "name" : "user",
    "user" : {
      "client-certificate-data" : "LS0tLS1CRUdJTiBDR******QVRFLS0tLS0K",
      "client-key-data" : "LS0tLS1CRUdJTi******BLRVktLS0tLQo="
    }
  } ],
  "contexts" : [ {
    "name" : "internal",
    "context" : {
      "cluster" : "internalCluster",
      "user" : "user"
    }
  } ],
  "current-context" : "internal"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Apply for a cluster access certificate valid for 30 days.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class CreateAutopilotKubernetesClusterCertSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        CreateAutopilotKubernetesClusterCertRequest request = new
CreateAutopilotKubernetesClusterCertRequest();
        request.withClusterId("{cluster_id}");
        CertDuration body = new CertDuration();
        body.withDuration(30);
        request.withBody(body);
        try {
            CreateAutopilotKubernetesClusterCertResponse response =
client.createAutopilotKubernetesClusterCert(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Apply for a cluster access certificate valid for 30 days.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateAutopilotKubernetesClusterCertRequest()
        request.cluster_id = "{cluster_id}"
        request.body = CertDuration(
            duration=30
        )
        response = client.create_autopilot_kubernetes_cluster_cert(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Apply for a cluster access certificate valid for 30 days.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateAutopilotKubernetesClusterCertRequest{}
    request.ClusterId = "{cluster_id}"
    request.Body = &model.CertDuration{
        Duration: int32(30),
    }
    response, err := client.CreateAutopilotKubernetesClusterCert(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The certificate of the cluster is obtained. For details about the certificate file format, see the Kubernetes v1.Config structure.

Error Codes

See **Error Codes**.

4.1.7 Obtaining Job Information

Function

This API is used to obtain information about a job via the job ID returned after a query request is delivered.

NOTE

- The URL for cluster management is in the format of **https://Endpoint/uri**, where **uri** specifies the resource path for API access.
- You can call this API when:
  - Creating or deleting a cluster
  - Creating or deleting a node

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/jobs/{job_id}

Table 4-121 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
job_id	Yes	String	Job ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**.

Request Parameters

Table 4-122 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-123 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Job** and cannot be changed.

Parameter	Type	Description
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**JobMetadata** object	Job metadata
spec	**JobSpec** object	Detailed job parameters
status	**JobStatus** object	Job status

Table 4-124 JobSpec

Parameter	Type	Description
type	String	Job type. An example value is **CreateCluster**.
clusterUID	String	ID of the cluster where the job runs.
resourceID	String	ID of the resource on which the job is executed.
resourceName	String	Name of the resource on which the job is executed.
extendParam	Map<String,String>	Extended parameters
subJobs	Array of **Job** objects	Subjob list. ● The list contains details about all subjobs. ● Generally, a cluster/node creation job consists of multiple subjobs. The job is complete only after all subjobs are complete.

Table 4-125 Job

Parameter	Type	Description
kind	String	API type. The value is fixed at **Job** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**JobMetadata** object	Job metadata

Parameter	Type	Description
spec	**JobSpec** object	Detailed job parameters
status	**JobStatus** object	Job status

Table 4-126 JobMetadata

Parameter	Type	Description
uid	String	Job ID
creationTimestamp	String	Time when the job was created
updateTimestamp	String	Time when the job was updated

Table 4-127 JobStatus

Parameter	Type	Description
phase	String	Job status. Possible values: ● JobPhaseInitializing JobPhase = "Initializing" ● JobPhaseRunning JobPhase = "Running" ● JobPhaseFailed JobPhase = "Failed" ● JobPhaseSuccess JobPhase = "Success"
reason	String	Reason why the job is in the current state.

Example Requests

None

Example Responses

Status code: 200

The job information is obtained.

```
{
  "kind" : "Job",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "354331b2c-229a-11e8-9c75-0255ac100ceb",
    "creationTimestamp" : "2018-08-02 08:12:40.672772389 +0000 UTC",
    "updateTimestamp" : "2018-08-02 08:21:50.478108569 +0000 UTC"
  },
  "spec" : {
    "type" : "CreateCluster",
    "clusterUID" : "4d1ecb2c-229a-11e8-9c75-0255ac100ceb",
    "resourceID" : "6f4dcb2c-229a-11e8-9c75-0255ac100ceb",
    "resourceName" : "cluster-name",
    "extendParam" : {
      "serverID" : "bc467e3a-2338-11e8-825b-0255ac100c13"
    },
    "subJobs" : [ {
      "kind" : "Job",
      "apiVersion" : "v3",
      "metadata" : {
        "uid" : "fd474fab-9606-11e8-baa9-0255ac10215d",
        "creationTimestamp" : "2018-08-02 03:52:34.615819618 +0000 UTC",
        "updateTimestamp" : "2018-08-02 04:05:29.196243031 +0000 UTC"
      },
      "spec" : {
        "type" : "InstallMaster",
        "clusterUID" : "fcc72de0-9606-11e8-baa8-0255ac10215d",
        "resourceID" : "fd3b4ac0-9606-11e8-baa8-0255ac10215d",
        "extendParam" : {
          "serverID" : "fd3b4ac0-9606-11e8-baa8-0255ac10215d"
        }
      },
      "status" : {
        "phase" : "Success"
      }
    }, {
      "kind" : "Job",
      "apiVersion" : "v3",
      "metadata" : {
        "uid" : "fd474f82-9606-11e8-baa8-0255ac10215d",
        "creationTimestamp" : "2018-08-02 03:52:33.859150791 +0000 UTC",
        "updateTimestamp" : "2018-08-02 03:52:34.615655429 +0000 UTC"
      },
      "spec" : {
        "type" : "CreatePSMCert",
        "clusterUID" : "fcc72de0-9606-11e8-baa8-0255ac10215d"
      },
      "status" : {
        "phase" : "Success"
      }
    } ]
  },
  "status" : {
    "phase" : "Running",
    "reason" : ""
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotJobSolution {
    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotJobRequest request = new ShowAutopilotJobRequest();
        request.withJobId("{job_id}");
        try {
            ShowAutopilotJobResponse response = client.showAutopilotJob(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security 
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment 
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this 
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotJobRequest()
        request.job_id = "{job_id}"
        response = client.show_autopilot_job(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotJobRequest{}
    request.JobId = "{job_id}"
    response, err := client.ShowAutopilotJob(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The job information is obtained.

Error Codes

See **Error Codes**.

4.1.8 Binding/Unbinding Public API Server Address

Function

This API is used to bind or unbind the public API server address of the cluster by cluster ID.

NOTE

The URL for cluster management is in the format of **https://Endpoint/uri**, where **uri** specifies the resource path for API access.

Calling Method

For details, see **Calling APIs**.

URI

PUT /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/mastereip

Table 4-128 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-129 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-130 Request body parameters

Parameter	Mandatory	Type	Description
spec	Yes	**MasterEIPRequestSpec** object	Parameters in the request for binding or unbinding the public APIServer address of a cluster

Table 4-131 MasterEIPRequestSpec

Parameter	Mandatory	Type	Description
action	No	String	Binding or unbinding. Mandatory. ● Binding: The value is fixed at {"action":"bind"}. ● Unbinding: The value is fixed at {"action":"unbind"}.
spec	No	**spec** object	Configuration attributes of the elastic IP address to be bound
bandwidth	No	String	Bandwidth (This field has expired and is not recommended.)
elasticIp	No	String	ENI IP (This field has expired and is not recommended.)

Table 4-132 spec

Parameter	Mandatory	Type	Description
id	No	String	Specifies the ENI ID. This parameter is mandatory for binding an ENI and is invalid for unbinding an ENI.

Response Parameters

Status code: 200

Table 4-133 Response body parameters

Parameter	Type	Description
metadata	**Metadata** object	Basic information about the object. Metadata is a collection of attributes.
spec	**MasterEIPResponseSpec** object	Configuration of the bound public APIServer address of a cluster
status	**status** object	Status information

Table 4-134 Metadata

Parameter	Type	Description
uid	String	Unique ID.
name	String	Resource name
labels	Map<String,String>	Resource labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Resource annotations in the format of key-value pairs.
updateTimestamp	String	Update time.
creationTimestamp	String	Creation time.

Table 4-135 MasterEIPResponseSpec

Parameter	Type	Description
action	String	A binding operation
spec	**spec** object	Configuration attributes of the elastic IP address to be bound
elasticIp	String	EIP

Table 4-136 spec

Parameter	Type	Description
id	String	ENI ID
eip	**EipSpec** object	EIP details
IsDynamic	Boolean	Dynamic provisioning or not

Table 4-137 EipSpec

Parameter	Type	Description
bandwidth	**bandwidth** object	Bandwidth information

Table 4-138 bandwidth

Parameter	Type	Description
size	Integer	Bandwidth size
sharetype	String	Bandwidth type

Table 4-139 status

Parameter	Type	Description
privateEndpoint	String	Private IP for accessing the cluster (VIP in the case of an HA cluster)
publicEndpoint	String	Public IP for accessing the cluster

Example Requests

Bind the public API server address to a cluster.

```
{
  "spec" : {
    "action" : "bind",
    "spec" : {
      "id" : "a757a69e-f920-455a-b1ba-d7a22db0fd51"
    }
  }
}
```

Example Responses

Status code: 200

This indicates that the public API server address of the cluster is successfully bound. No response body is returned if the unbinding is successful.

```
{
  "metadata" : { },
  "spec" : {
    "action" : "bind",
    "spec" : {
      "id" : "a757a69e-f920-455a-b1ba-d7a22db0fd50",
      "eip" : {
        "bandwidth" : {
          "size" : 5,
          "sharetype" : "PER"
        }
      },
      "IsDynamic" : false
    },
    "elasticIp" : "8.8.8.8"
  },
  "status" : {
    "privateEndpoint" : "https://192.168.3.238:5443",
    "publicEndpoint" : "https://8.8.8.8:5443"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Bind the public API server address to a cluster.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class UpdateAutopilotClusterEipSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        UpdateAutopilotClusterEipRequest request = new UpdateAutopilotClusterEipRequest();
        request.withClusterId("{cluster_id}");
        MasterEIPRequest body = new MasterEIPRequest();
        MasterEIPRequestSpecSpec specSpec = new MasterEIPRequestSpecSpec();
        specSpec.withId("a757a69e-f920-455a-b1ba-d7a22db0fd51");
        MasterEIPRequestSpec specbody = new MasterEIPRequestSpec();
        specbody.withAction(MasterEIPRequestSpec.ActionEnum.fromValue("bind"))
            .withSpec(specSpec);
        body.withSpec(specbody);
        request.withBody(body);
        try {
            UpdateAutopilotClusterEipResponse response = client.updateAutopilotClusterEip(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Bind the public API server address to a cluster.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)
    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateAutopilotClusterEipRequest()
        request.cluster_id = "{cluster_id}"
        specSpec = MasterEIPRequestSpecSpec(
            id="a757a69e-f920-455a-b1ba-d7a22db0fd51"
        )
        specbody = MasterEIPRequestSpec(
            action="bind",
            spec=specSpec
        )
        request.body = MasterEIPRequest(
            spec=specbody
        )
        response = client.update_autopilot_cluster_eip(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Bind the public API server address to a cluster.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateAutopilotClusterEipRequest{}
    request.ClusterId = "{cluster_id}"
    idSpec:= "a757a69e-f920-455a-b1ba-d7a22db0fd51"
    specSpec := &model.MasterEipRequestSpecSpec{
        Id: &idSpec,
    }
    actionSpec:= model.GetMasterEipRequestSpecActionEnum().BIND
    specbody := &model.MasterEipRequestSpec{
        Action: &actionSpec,
        Spec: specSpec,
    }
    request.Body = &model.MasterEipRequest{
        Spec: specbody,
    }
    response, err := client.UpdateAutopilotClusterEip(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	This indicates that the public API server address of the cluster is successfully bound. No response body is returned if the unbinding is successful.

Error Codes

See **Error Codes**.

4.1.9 Obtaining Cluster Access Address

Function

This API is used to obtain the cluster access addresses by cluster ID, including the private IP and public IP.

NOTE

The URL for cluster management is in the format of **https://Endpoint/uri**, where **uri** specifies the resource path for API access.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/openapi

Table 4-140 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-141 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-142 Response body parameters

Parameter	Type	Description
metadata	**Metadata** object	Basic information about the object. Metadata is a collection of attributes.

Parameter	Type	Description
spec	**OpenAPISpec** object	Parameters for configuring the address for accessing the cluster
status	**status** object	Status information

Table 4-143 Metadata

Parameter	Type	Description
uid	String	Unique ID.
name	String	Resource name
labels	Map<String,String>	Resource labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Resource annotations in the format of key-value pairs.
updateTimestamp	String	Update time.
creationTimestamp	String	Creation time.

Table 4-144 OpenAPISpec

Parameter	Type	Description
spec	**spec** object	Address for accessing the cluster

Table 4-145 spec

Parameter	Type	Description
eip	**EipSpec** object	EIP details
IsDynamic	Boolean	Dynamic provisioning or not

Table 4-146 EipSpec

Parameter	Type	Description
bandwidth	**bandwidth** object	Bandwidth information

Table 4-147 bandwidth

Parameter	Type	Description
size	Integer	Bandwidth size
sharetype	String	Bandwidth type

Table 4-148 status

Parameter	Type	Description
privateEndpoint	String	Private IP for accessing the cluster (VIP in the case of an HA cluster)
publicEndpoint	String	Public IP for accessing the cluster

Example Requests

None

Example Responses

Status code: 200

The cluster access address is obtained.

```
{
  "metadata" : { },
  "spec" : {
    "spec" : {
      "eip" : {
        "bandwidth" : { }
      },
      "IsDynamic" : false
    }
  },
  "status" : {
    "privateEndpoint" : "https://192.168.3.238:5443",
    "publicEndpoint" : ""
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotClusterEndpointsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotClusterEndpointsRequest request = new ShowAutopilotClusterEndpointsRequest();
        request.withClusterId("{cluster_id}");
        try {
            ShowAutopilotClusterEndpointsResponse response = client.showAutopilotClusterEndpoints(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security 
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment 
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this 
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotClusterEndpointsRequest()
        request.cluster_id = "{cluster_id}"
        response = client.show_autopilot_cluster_endpoints(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotClusterEndpointsRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.ShowAutopilotClusterEndpoints(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The cluster access address is obtained.

Error Codes

See **Error Codes**.

4.2 Add-on Management for Autopilot Clusters

4.2.1 Installing an Add-on Instance

Function

This API is used to install an add-on instance using an add-on template.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/addons

Request Parameters

Table 4-149 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: • application/json • application/json;charset=utf-8 • application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-150 Request body parameters

Parameter	Mandatory	Type	Description
kind	Yes	String	API type. The value is fixed at **Addon** and cannot be changed. Any user-defined value is invalid.
apiVersion	Yes	String	API version. The value is fixed at **v3** and cannot be changed. Any user-defined value is invalid.
metadata	Yes	**AddonMetadata** object	Basic information about the object. Metadata is a collection of attributes.
spec	Yes	**InstanceRequestSpec** object	Detailed description of add-on installation or upgrade.

Table 4-151 AddonMetadata

Parameter	Mandatory	Type	Description
uid	No	String	Unique ID
name	No	String	Add-on name
alias	No	String	Add-on alias

Parameter	Mandatory	Type	Description
labels	No	Map<String,String>	Add-on labels in key-value pairs. This is a reserved field and does not take effect.
annotations	No	Map<String,String>	Add-on annotations in the format of key-value pairs. - For add-on installation, the value is fixed at **{"addon.install/type":"install"}**. - For add-on upgrade, the value is fixed at **{"addon.upgrade/type":"upgrade"}**.
updateTimestamp	No	String	Updated at
creationTimestamp	No	String	Created at

Table 4-152 InstanceRequestSpec

Parameter	Mandatory	Type	Description
version	No	String	Version of the add-on to install or upgrade, for example, **1.0.0**. - Installation: This parameter is optional. If not specified, the latest version supported by the cluster is used. - Upgrade: This parameter is mandatory. The version number must be specified.
clusterID	Yes	String	Cluster ID.

Parameter	Mandatory	Type	Description
values	Yes	Map<String,Object>	Add-on template installation parameters (varying depending on the add-on). During the add-on upgrade, you need to specify all the installation parameters. If the parameters are not specified, the default values in the add-on template are used. The current add-on installation parameters can be obtained through the API for querying add-on instances.
addonTemplateName	Yes	String	Name of the add-on template to be installed, for example, **coredns**.

Response Parameters

Status code: 201

Table 4-153 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Addon** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AddonMetadata** object	Basic information about the object. Metadata is a collection of attributes.
spec	**InstanceSpec** object	Detailed description of the add-on instance.
status	**AddonInstanceStatus** object	Add-on instance status.

Table 4-154 AddonMetadata

Parameter	Type	Description
uid	String	Unique ID
name	String	Add-on name

Parameter	Type	Description
alias	String	Add-on alias
labels	Map<String,String>	Add-on labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Add-on annotations in the format of key-value pairs. ● For add-on installation, the value is fixed at **{"addon.install/type":"install"}**. ● For add-on upgrade, the value is fixed at **{"addon.upgrade/type":"upgrade"}**.
updateTimestamp	String	Updated at
creationTimestamp	String	Created at

Table 4-155 InstanceSpec

Parameter	Type	Description
clusterID	String	Cluster ID.
version	String	Add-on template version, for example, **1.0.0**.
addonTemplateName	String	Add-on template name, for example, **coredns**.
addonTemplateType	String	Add-on template type.
addonTemplateLogo	String	URL for obtaining the add-on template logo.
addonTemplateLabels	Array of strings	Labels of the add-on template.
description	String	Add-on template description.
values	Map<String,Object>	Add-on template installation parameters (varying depending on the add-on). Set the parameters accordingly.

Table 4-156 AddonInstanceStatus

Parameter	Type	Description
status	String	Add-on instance status. Options: ● **running**: All of the add-on instances are running. This specifies that the add-on runs properly. ● **abnormal**: The add-on instances are abnormal and the add-on cannot be used. You can click the add-on name to view exceptions. ● **installing**: The add-on is being installed. ● **installFailed**: Installing the add-on failed. In this case, uninstall the add-on and then reinstall it. ● **upgrading**: The add-on is being upgraded. ● **upgradeFailed**: Upgrading the add-on failed. In this case, upgrade the add-on again or uninstall the add-on and reinstall it. ● **deleting**: The add-on is being deleted. ● **deleteFailed**: Deleting the add-on failed. In this case, uninstall the add-on again. ● **deleteSuccess**: Deleting the add-on succeeded. ● **available**: Only some instances of the add-on are running. This specifies that some functions of the add-on are available. ● **rollbacking**: The add-on is being rolled back. ● **rollbackFailed**: Rolling back the add-on failed. In this case, roll back the add-on again or uninstall the add-on and reinstall it. ● **unknown**: The add-on chart instance does not exist.
Reason	String	Cause of the add-on installation failure.
message	String	Installation error details.
targetVersions	Array of strings	Versions to which the current add-on version can be upgraded.
currentVersion	**Versions** object	Information about the current add-on version.
isRollbackable	Boolean	Whether the add-on version can be rolled back to the source version.

Parameter	Type	Description
previousVersion	String	The add-on version before upgrade or rollback

Table 4-157 Versions

Parameter	Type	Description
version	String	Add-on version.
input	Object	Add-on installation parameters.
stable	Boolean	Whether the add-on version is a stable release.
translate	Object	Translation information used by the GUI.
supportVersions	Array of **SupportVersions** objects	Cluster versions that support the add-on.
creationTimestamp	String	Creation time.
updateTimestamp	String	Update time.

Table 4-158 SupportVersions

Parameter	Type	Description
clusterType	String	Cluster type that supports the add-on.
clusterVersion	Array of strings	Cluster versions that support the add-on. The value is a regular expression.

Example Requests

Install CoreDNS 1.28.6 and set the number of add-on pods to 2.

```
{
  "kind" : "Addon",
  "apiVersion" : "v3",
  "metadata" : {
    "annotations" : {
      "addon.install/type" : "install"
    }
  },
  "spec" : {
    "clusterID" : "597f2d95-44ab-11ef-9e39-0255ac100115",
    "version" : "1.28.6",
    "addonTemplateName" : "coredns",
    "values" : {
      "basic" : {
```

```
      "cluster_ip" : "10.247.3.10",
      "image_version" : "1.28.6",
      "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
      "swr_user" : "autopilot-official",
      "rbac_enabled" : true,
      "cluster_version" : "v1.28"
    },
    "flavor" : {
      "category" : [ "Autopilot" ],
      "is_default" : true,
      "name" : "autopilot-flavor1",
      "replicas" : 2,
      "resources" : [ {
        "id" : "coredns",
        "name" : "coredns",
        "limitsCpu" : "1000m",
        "requestsCpu" : "1000m",
        "limitsMem" : "2048Mi",
        "requestsMem" : "2048Mi"
      } ]
    },
    "custom" : {
      "multiAZBalance" : false,
      "multiAZEnabled" : false,
      "node_match_expressions" : [ ],
      "parameterSyncStrategy" : "ensureConsistent",
      "servers" : [ {
        "plugins" : [ {
          "name" : "bind",
          "parameters" : "{$POD_IP}"
        }, {
          "configBlock" : "servfail 5s",
          "name" : "cache",
          "parameters" : 30
        }, {
          "name" : "errors"
        }, {
          "name" : "health",
          "parameters" : "{$POD_IP}:8080"
        }, {
          "name" : "ready",
          "parameters" : "{$POD_IP}:8081"
        }, {
          "configBlock" : "pods insecure\nfallthrough in-addr.arpa ip6.arpa",
          "name" : "kubernetes",
          "parameters" : "cluster.local in-addr.arpa ip6.arpa"
        }, {
          "name" : "loadbalance",
          "parameters" : "round_robin"
        }, {
          "name" : "prometheus",
          "parameters" : "{$POD_IP}:9153"
        }, {
          "configBlock" : "policy random",
          "name" : "forward",
          "parameters" : ". /etc/resolv.conf"
        }, {
          "name" : "reload"
        } ],
        "port" : 5353,
        "zones" : [ {
          "zone" : "."
        } ]
      } ],
      "stub_domains" : { },
      "tolerations" : [ {
        "key" : "node.kubernetes.io/not-ready",
        "operator" : "Exists",
        "effect" : "NoExecute",
          "tolerationSeconds" : 60
        }, {
          "key" : "node.kubernetes.io/unreachable",
          "operator" : "Exists",
          "effect" : "NoExecute",
          "tolerationSeconds" : 60
        } ],
        "upstream_nameservers" : [ ]
      }
    }
  }
}
```

Example Responses

Status code: 201

OK

```
{
  "kind" : "Addon",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "90b775e0-5774-4e1d-ab3b-516332ba047a",
    "name" : "coredns",
    "alias" : "coredns",
    "creationTimestamp" : "2024-07-18T04:04:21Z",
    "updateTimestamp" : "2024-07-18T04:04:21Z"
  },
  "spec" : {
    "clusterID" : "597f2d95-44ab-11ef-9e39-0255ac100115",
    "version" : "1.28.6",
    "addonTemplateName" : "coredns",
    "addonTemplateType" : "helm",
    "addonTemplateLogo" : "",
    "addonTemplateLabels" : [ "ContainerNetwork" ],
    "description" : "CoreDNS is a DNS server that chains plugins and provides Kubernetes DNS Services",
    "values" : {
      "basic" : {
        "cluster_ip" : "10.247.3.10",
        "cluster_version" : "v1.28",
        "image_version" : "1.28.6",
        "platform" : "linux-amd64",
        "rbac_enabled" : true,
        "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
        "swr_user" : "autopilot-official"
      },
      "custom" : {
        "multiAZBalance" : false,
        "multiAZEnabled" : false,
        "node_match_expressions" : [ ],
        "parameterSyncStrategy" : "ensureConsistent",
        "servers" : [ {
          "plugins" : [ {
            "name" : "bind",
            "parameters" : "{$POD_IP}"
          }, {
            "configBlock" : "servfail 5s",
            "name" : "cache",
            "parameters" : 30
          }, {
            "name" : "errors"
          }, {
            "name" : "health",
            "parameters" : "{$POD_IP}:8080"
          }, {
            "name" : "ready",
            "parameters" : "{$POD_IP}:8081"
          }, {
```

```
          "configBlock" : "pods insecure\nfallthrough in-addr.arpa ip6.arpa",
          "name" : "kubernetes",
          "parameters" : "cluster.local in-addr.arpa ip6.arpa"
        }, {
          "name" : "loadbalance",
          "parameters" : "round_robin"
        }, {
          "name" : "prometheus",
          "parameters" : "{$POD_IP}:9153"
        }, {
          "configBlock" : "policy random",
          "name" : "forward",
          "parameters" : ". /etc/resolv.conf"
        }, {
          "name" : "reload"
        } ],
        "port" : 5353,
        "zones" : [ {
          "zone" : "."
        } ]
      } ],
      "stub_domains" : { },
      "tolerations" : [ {
        "effect" : "NoExecute",
        "key" : "node.kubernetes.io/not-ready",
        "operator" : "Exists",
        "tolerationSeconds" : 60
      }, {
        "effect" : "NoExecute",
        "key" : "node.kubernetes.io/unreachable",
        "operator" : "Exists",
        "tolerationSeconds" : 60
      } ],
      "upstream_nameservers" : [ ]
    },
    "flavor" : {
      "category" : [ "Autopilot" ],
      "is_default" : true,
      "name" : "autopilot-flavor1",
      "replicas" : 2,
      "resources" : [ {
        "id" : "coredns",
        "limitsCpu" : "1000m",
        "limitsMem" : "2048Mi",
        "name" : "coredns",
        "requestsCpu" : "1000m",
        "requestsMem" : "2048Mi"
      } ]
    },
    "systemAutoInject" : {
      "cluster" : {
        "clusterID" : "597f2d95-44ab-11ef-9e39-0255ac100115",
        "clusterNetworkMode" : "eni",
        "clusterVersion" : "v1.28.5-r0"
      },
      "user" : {
        "projectID" : "47eb1d64cbeb45cfa01ae20af4f4b563"
      }
    }
  }
},
"status" : {
  "status" : "installing",
  "Reason" : "",
  "message" : "",
  "targetVersions" : null,
  "isRollbackable" : false,
  "currentVersion" : {
    "version" : "1.28.6",
    "input" : {
      "basic" : {
        "cluster_ip" : "10.247.3.10",
        "image_version" : "1.28.6",
        "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
        "swr_user" : "autopilot-official"
      },
      "parameters" : {
        "autopilot-flavor1" : {
          "category" : [ "Autopilot" ],
          "is_default" : true,
          "name" : "autopilot-flavor1",
          "replicas" : 2,
          "resources" : [ {
            "limitsCpu" : 1,
            "limitsMem" : "2Gi",
            "name" : "coredns",
            "requestsCpu" : 1,
            "requestsMem" : "2Gi"
          } ]
        },
        "custom" : {
          "multiAZBalance" : false,
          "multiAZEnabled" : false,
          "node_match_expressions" : [ ],
          "parameterSyncStrategy" : "ensureConsistent",
          "servers" : [ {
            "plugins" : [ {
              "name" : "bind",
              "parameters" : "{$POD_IP}"
            }, {
              "configBlock" : "servfail 5s",
              "name" : "cache",
              "parameters" : 30
            }, {
              "name" : "errors"
            }, {
              "name" : "health",
              "parameters" : "{$POD_IP}:8080"
            }, {
              "name" : "ready",
              "parameters" : "{$POD_IP}:8081"
            }, {
              "configBlock" : "pods insecure\nfallthrough in-addr.arpa ip6.arpa",
              "name" : "kubernetes",
              "parameters" : "cluster.local in-addr.arpa ip6.arpa"
            }, {
              "name" : "loadbalance",
              "parameters" : "round_robin"
            }, {
              "name" : "prometheus",
              "parameters" : "{$POD_IP}:9153"
            }, {
              "configBlock" : "policy random",
              "name" : "forward",
              "parameters" : ". /etc/resolv.conf"
            }, {
              "name" : "reload"
            } ],
            "port" : 5353,
            "zones" : [ {
              "zone" : "."
            } ]
          } ],
          "stub_domains" : { },
          "tolerations" : [ {
            "effect" : "NoExecute",
            "key" : "node.kubernetes.io/not-ready",
            "operator" : "Exists",
            "tolerationSeconds" : 60
          }, {
            "effect" : "NoExecute",
            "key" : "node.kubernetes.io/unreachable",
            "operator" : "Exists",
            "tolerationSeconds" : 60
          } ],
          "upstream_nameservers" : [ ]
        },
        "flavor1" : {
          "is_default" : true,
          "name" : 2500,
          "recommend_cluster_flavor_types" : [ "small" ],
          "replicas" : 2,
          "resources" : [ {
            "limitsCpu" : "500m",
            "limitsMem" : "512Mi",
            "name" : "coredns",
            "requestsCpu" : "500m",
            "requestsMem" : "512Mi"
          } ]
        },
        "flavor2" : {
          "name" : 5000,
          "recommend_cluster_flavor_types" : [ "medium" ],
          "replicas" : 2,
          "resources" : [ {
            "limitsCpu" : "1000m",
            "limitsMem" : "1024Mi",
            "name" : "coredns",
            "requestsCpu" : "1000m",
            "requestsMem" : "1024Mi"
          } ]
        },
        "flavor3" : {
          "name" : 10000,
          "recommend_cluster_flavor_types" : [ "large" ],
          "replicas" : 2,
          "resources" : [ {
            "limitsCpu" : "2000m",
            "limitsMem" : "2048Mi",
            "name" : "coredns",
            "requestsCpu" : "2000m",
            "requestsMem" : "2048Mi"
          } ]
        },
        "flavor4" : {
          "name" : 20000,
          "recommend_cluster_flavor_types" : [ "xlarge" ],
          "replicas" : 4,
          "resources" : [ {
            "limitsCpu" : "2000m",
            "limitsMem" : "2048Mi",
            "name" : "coredns",
            "requestsCpu" : "2000m",
            "requestsMem" : "2048Mi"
          } ]
        }
      }
    },
    "stable" : true,
    "translate" : {
      "en_US" : {
        "addon" : {
          "changeLog" : "Support autopilot cluster",
          "description" : "CoreDNS is a DNS server that chains plugins and provides Kubernetes DNS Services"
        },
        "description" : {
          "Parameters.custom.stub_domains" : "The target nameserver may itself be a Kubernetes service. For
```

```
instance, you can run your own copy of dnsmasq to export custom DNS names into the ClusterDNS
namespace, a JSON map using a DNS suffix key (for example, **\"acme.local\"**) and a value consisting of
a JSON array of DNS IPs.",
            "Parameters.custom.upstream_nameservers" : "If specified, then the values specified replace the
nameservers taken by default from the node's **/etc/resolv.conf**. Limits: A maximum of three upstream
nameservers can be specified. A JSON array of DNS IPs.",
            "Parameters.flavor1.description" : "Concurrent domain name resolution ability - External domain
name: 2500 qps, Internal domain name: 10000 qps",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Concurrent domain name resolution ability - External domain
name: 5000 qps, Internal domain name: 20000 qps",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Concurrent domain name resolution ability - External domain
name: 10000 qps, Internal domain name: 40000 qps",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Concurrent domain name resolution ability - External domain
name: 20000 qps, Internal domain name: 80000 qps",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "stub domain",
            "Parameters.custom.upstream_nameservers" : "upstream nameservers"
          }
        },
        "fr_FR" : {
          "addon" : {
            "changeLog" : "les spécifications du plugin peuvent être associées aux spécifications du cluster. le
fuseau horaire du plug-in est le même que celui du noeud",
            "description" : "Un serveur DNS qui enchaîne les plug-ins et fournit des services DNS Kubernetes."
          },
          "description" : {
            "Parameters.custom.stub_domains" : "Le serveur de noms cible peut lui-même être un service
Kubernetes. Par exemple, vous pouvez exécuter votre propre copie de dnsmasq pour exporter des noms
DNS personnalisés dans l'espace de noms ClusterDNS, une carte JSON à l'aide d'une clé de suffixe DNS (par
exemple, «acme.local») et une valeur constituée d'un tableau JSON d'adresses IP DNS.",
            "Parameters.custom.upstream_nameservers" : "Si spécifié, les valeurs spécifiées remplacent les
serveurs de noms pris par défaut dans le fichier /etc/resolv.conf du nœud. Limites: un maximum de trois
serveurs de noms en amont peuvent être spécifiés, un tableau JSON d'adresses IP DNS.",
            "Parameters.flavor1.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 2500 qps, Nom de domaine interne: 10000 qp",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 5000 qps, Nom de domaine interne: 20000 qp",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 10000 qps, Nom de domaine interne: 40000 qp",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 20000 qps, Nom de domaine interne: 80000 qp",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "domaine stub",
            "Parameters.custom.upstream_nameservers" : "serveurs de noms en amont"
          }
        },
        "zh_CN" : {
          "addon" : {
            "changeLog" : "Autopilot clusters are supported.",
            "description" : "CoreDNS is a DNS server that chains plug-ins and offers DNS resolution for
Kubernetes clusters."
          },
          "description" : {
            "Parameters.custom.stub_domains" : "A domain name server for a custom domain name in key-
value pair. The key is a suffix of DNS domain name, and the value is one or more DNS IP addresses, for
example, **acme.local -- 1.2.3.4,6.7.8.9**.",
            "Parameters.custom.upstream_nameservers" : "Resolves all domain names except intra-cluster
service domain names and custom domain names. The value can be one or more DNS IP addresses, for
example, **\"8.8.8.8\",\"8.8.4.4\"**.",
            "Parameters.flavor1.description" : "Concurrent domain name resolution capability - external 
domain name: 2500 qps, internal domain name: 10000 qps",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Concurrent domain name resolution capability - external 
domain name: 5000 qps, internal domain name: 20000 qps",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Concurrent domain name resolution capability - external 
domain name: 10000 qps, internal domain name: 40000 qps",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Concurrent domain name resolution capability - external 
domain name: 20000 qps, internal domain name: 80000 qps",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "Stub domain",
            "Parameters.custom.upstream_nameservers" : "Upstream DNS server"
          }
        }
      },
      "supportVersions" : null,
      "creationTimestamp" : "2024-02-19T11:33:46Z",
      "updateTimestamp" : "2024-02-21T01:24:05Z"
    }
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Install CoreDNS 1.28.6 and set the number of add-on pods to 2.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;

import java.util.Map;
import java.util.HashMap;

public class CreateAutopilotAddonInstanceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        CreateAutopilotAddonInstanceRequest request = new CreateAutopilotAddonInstanceRequest();
        InstanceRequest body = new InstanceRequest();
        Map<String, Object> listSpecValues = new HashMap<>();
        listSpecValues.put("basic", "{\"cluster_version\":\"v1.28\",\"rbac_enabled\":true,\"swr_user\":\"autopilot-
official\",\"image_version\":\"1.28.6\",\"cluster_ip\":\"10.247.3.10\",\"swr_addr\":\"swr.cn-
north-7.myhuaweicloud.com\"}");
        listSpecValues.put("flavor", "{\"replicas\":2,\"name\":\"autopilot-flavor1\",\"resources\":[{\"limitsCpu
\":\"1000m\",\"name\":\"coredns\",\"id\":\"coredns\",\"limitsMem\":\"2048Mi\",\"requestsMem\":\"2048Mi
\",\"requestsCpu\":\"1000m\"}],\"category\":[\"Autopilot\"],\"is_default\":true}");
        listSpecValues.put("custom", "{\"servers\":[{\"port\":5353,\"plugins\":[{\"name\":\"bind\",\"parameters
\":\"{$POD_IP}\"},{\"configBlock\":\"servfail 5s\",\"name\":\"cache\",\"parameters\":30},{\"name\":\"errors\"},
{\"name\":\"health\",\"parameters\":\"{$POD_IP}:8080\"},{\"name\":\"ready\",\"parameters
\":\"{$POD_IP}:8081\"},{\"configBlock\":\"pods insecure\nfallthrough in-addr.arpa ip6.arpa\",\"name
\":\"kubernetes\",\"parameters\":\"cluster.local in-addr.arpa ip6.arpa\"},{\"name\":\"loadbalance
\",\"parameters\":\"round_robin\"},{\"name\":\"prometheus\",\"parameters\":\"{$POD_IP}:9153\"},
{\"configBlock\":\"policy random\",\"name\":\"forward\",\"parameters\":\". /etc/resolv.conf\"},{\"name
\":\"reload\"}],\"zones\":[{\"zone\":\".\"}]}],\"tolerations\":[{\"effect\":\"NoExecute\",\"tolerationSeconds
\":60,\"key\":\"node.kubernetes.io/not-ready\",\"operator\":\"Exists\"},{\"effect\":\"NoExecute
\",\"tolerationSeconds\":60,\"key\":\"node.kubernetes.io/unreachable\",\"operator\":\"Exists
\"}],\"multiAZBalance\":false,\"node_match_expressions\":[],\"stub_domains\":{},\"multiAZEnabled
\":false,\"parameterSyncStrategy\":\"ensureConsistent\",\"upstream_nameservers\":[]}");
        InstanceRequestSpec specbody = new InstanceRequestSpec();
        specbody.withVersion("1.28.6")
            .withClusterID("597f2d95-44ab-11ef-9e39-0255ac100115")
            .withValues(listSpecValues)
            .withAddonTemplateName("coredns");
        Map<String, String> listMetadataAnnotations = new HashMap<>();
        listMetadataAnnotations.put("addon.install/type", "install");
        AddonMetadata metadatabody = new AddonMetadata();
        metadatabody.withAnnotations(listMetadataAnnotations);
        body.withSpec(specbody);
        body.withMetadata(metadatabody);
        body.withApiVersion("v3");
        body.withKind("Addon");
        request.withBody(body);
        try {
            CreateAutopilotAddonInstanceResponse response = client.createAutopilotAddonInstance(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Install CoreDNS 1.28.6 and set the number of add-on pods to 2.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
```

```
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateAutopilotAddonInstanceRequest()
        listValuesSpec = {
            "basic": "{\"cluster_version\":\"v1.28\",\"rbac_enabled\":true,\"swr_user\":\"autopilot-official
\",\"image_version\":\"1.28.6\",\"cluster_ip\":\"10.247.3.10\",\"swr_addr\":\"swr.cn-
north-7.myhuaweicloud.com\"}",
            "flavor": "{\"replicas\":2,\"name\":\"autopilot-flavor1\",\"resources\":[{\"limitsCpu\":\"1000m
\",\"name\":\"coredns\",\"id\":\"coredns\",\"limitsMem\":\"2048Mi\",\"requestsMem\":\"2048Mi
\",\"requestsCpu\":\"1000m\"}],\"category\":[\"Autopilot\"],\"is_default\":true}",
            "custom": "{\"servers\":[{\"port\":5353,\"plugins\":[{\"name\":\"bind\",\"parameters\":\"{$POD_IP}
\"},{\"configBlock\":\"servfail 5s\",\"name\":\"cache\",\"parameters\":30},{\"name\":\"errors\"},{\"name
\":\"health\",\"parameters\":\"{$POD_IP}:8080\"},{\"name\":\"ready\",\"parameters\":\"{$POD_IP}:8081\"},
{\"configBlock\":\"pods insecure\nfallthrough in-addr.arpa ip6.arpa\",\"name\":\"kubernetes\",\"parameters
\":\"cluster.local in-addr.arpa ip6.arpa\"},{\"name\":\"loadbalance\",\"parameters\":\"round_robin\"},{\"name
\":\"prometheus\",\"parameters\":\"{$POD_IP}:9153\"},{\"configBlock\":\"policy random\",\"name\":\"forward
\",\"parameters\":\". /etc/resolv.conf\"},{\"name\":\"reload\"}],\"zones\":[{\"zone\":\".\"}]}],\"tolerations\":
[{\"effect\":\"NoExecute\",\"tolerationSeconds\":60,\"key\":\"node.kubernetes.io/not-ready\",\"operator
\":\"Exists\"},{\"effect\":\"NoExecute\",\"tolerationSeconds\":60,\"key\":\"node.kubernetes.io/unreachable
\",\"operator\":\"Exists\"}],\"multiAZBalance\":false,\"node_match_expressions\":[],\"stub_domains\":
{},\"multiAZEnabled\":false,\"parameterSyncStrategy\":\"ensureConsistent\",\"upstream_nameservers\":[]}"
        }
        specbody = InstanceRequestSpec(
            version="1.28.6",
            cluster_id="597f2d95-44ab-11ef-9e39-0255ac100115",
            values=listValuesSpec,
            addon_template_name="coredns"
        )
        listAnnotationsMetadata = {
            "addon.install/type": "install"
        }
        metadatabody = AddonMetadata(
            annotations=listAnnotationsMetadata
        )
        request.body = InstanceRequest(
            spec=specbody,
            metadata=metadatabody,
            api_version="v3",
            kind="Addon"
        )
        response = client.create_autopilot_addon_instance(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Install CoreDNS 1.28.6 and set the number of add-on pods to 2.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateAutopilotAddonInstanceRequest{}
    var listValuesSpec = map[string]interface{}{
        "basic": "{\"cluster_version\":\"v1.28\",\"rbac_enabled\":true,\"swr_user\":\"autopilot-official
\",\"image_version\":\"1.28.6\",\"cluster_ip\":\"10.247.3.10\",\"swr_addr\":\"swr.cn-
north-7.myhuaweicloud.com\"}",
        "flavor": "{\"replicas\":2,\"name\":\"autopilot-flavor1\",\"resources\":[{\"limitsCpu\":\"1000m\",\"name
\":\"coredns\",\"id\":\"coredns\",\"limitsMem\":\"2048Mi\",\"requestsMem\":\"2048Mi\",\"requestsCpu
\":\"1000m\"}],\"category\":[\"Autopilot\"],\"is_default\":true}",
        "custom": "{\"servers\":[{\"port\":5353,\"plugins\":[{\"name\":\"bind\",\"parameters\":\"{$POD_IP}\"},
{\"configBlock\":\"servfail 5s\",\"name\":\"cache\",\"parameters\":30},{\"name\":\"errors\"},{\"name
\":\"health\",\"parameters\":\"{$POD_IP}:8080\"},{\"name\":\"ready\",\"parameters\":\"{$POD_IP}:8081\"},
{\"configBlock\":\"pods insecure\nfallthrough in-addr.arpa ip6.arpa\",\"name\":\"kubernetes\",\"parameters
\":\"cluster.local in-addr.arpa ip6.arpa\"},{\"name\":\"loadbalance\",\"parameters\":\"round_robin\"},{\"name
\":\"prometheus\",\"parameters\":\"{$POD_IP}:9153\"},{\"configBlock\":\"policy random\",\"name\":\"forward
\",\"parameters\":\". /etc/resolv.conf\"},{\"name\":\"reload\"}],\"zones\":[{\"zone\":\".\"}]}],\"tolerations\":
[{\"effect\":\"NoExecute\",\"tolerationSeconds\":60,\"key\":\"node.kubernetes.io/not-ready\",\"operator
\":\"Exists\"},{\"effect\":\"NoExecute\",\"tolerationSeconds\":60,\"key\":\"node.kubernetes.io/unreachable
\",\"operator\":\"Exists\"}],\"multiAZBalance\":false,\"node_match_expressions\":[],\"stub_domains\":
{},\"multiAZEnabled\":false,\"parameterSyncStrategy\":\"ensureConsistent\",\"upstream_nameservers\":[]}",
    }
    versionSpec:= "1.28.6"
    specbody := &model.InstanceRequestSpec{
        Version: &versionSpec,
        ClusterID: "597f2d95-44ab-11ef-9e39-0255ac100115",
        Values: listValuesSpec,
        AddonTemplateName: "coredns",
    }
    var listAnnotationsMetadata = map[string]string{
        "addon.install/type": "install",
    }
    metadatabody := &model.AddonMetadata{
        Annotations: listAnnotationsMetadata,
    }
    request.Body = &model.InstanceRequest{
        Spec: specbody,
        Metadata: metadatabody,
        ApiVersion: "v3",
        Kind: "Addon",
    }
    response, err := client.CreateAutopilotAddonInstance(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
201	OK

Error Codes

See **Error Codes**.

4.2.2 Listing Add-on Templates

Function

This API is used to obtain an add-on template.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/addontemplates

Table 4-159 Query Parameters

Parameter	Mandatory	Type	Description
addon_template_name	No	String	Add-on name or alias. If this parameter is not specified, all the add-ons will be obtained.

Request Parameters

Table 4-160 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-161 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Addon** and cannot be changed.

Parameter	Type	Description
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
items	Array of **AddonTemplate** objects	List of add-on templates.

Table 4-162 AddonTemplate

Parameter	Type	Description
kind	String	API type. The value is fixed at **Addon** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AddonMetadata** object	Basic information about the object. Metadata is a collection of attributes.
spec	**Templatespec** object	Detailed description of the add-on template.

Table 4-163 AddonMetadata

Parameter	Type	Description
uid	String	Unique ID
name	String	Add-on name
alias	String	Add-on alias
labels	Map<String,String>	Add-on labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Add-on annotations in the format of key-value pairs. ● For add-on installation, the value is fixed at **{"addon.install/type":"install"}**. ● For add-on upgrade, the value is fixed at **{"addon.upgrade/type":"upgrade"}**.
updateTimestamp	String	Updated at
creationTimestamp	String	Created at

Table 4-164 Templatespec

Parameter	Type	Description
type	String	Template type. The value is **helm** or **static**.
require	Boolean	Whether the add-on is mandatory.
labels	Array of strings	Group to which the template belongs.
logoURL	String	URL of the logo image.
readmeURL	String	Add-on details and usage description.
description	String	Description
versions	Array of **Versions** objects	Template version details.

Table 4-165 Versions

Parameter	Type	Description
version	String	Add-on version.
input	Object	Add-on installation parameters.
stable	Boolean	Whether the add-on version is a stable release.
translate	Object	Translation information used by the GUI.
supportVersions	Array of **SupportVersions** objects	Cluster versions that support the add-on.
creationTimestamp	String	Creation time.
updateTimestamp	String	Update time.

Table 4-166 SupportVersions

Parameter	Type	Description
clusterType	String	Cluster type that supports the add-on.
clusterVersion	Array of strings	Cluster versions that support the add-on. The value is a regular expression.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "kind" : "Addon",
  "apiVersion" : "v3",
  "items" : [ {
    "kind" : "Addon",
    "apiVersion" : "v3",
    "metadata" : {
      "uid" : "cie-collector",
      "name" : "cie-collector",
      "alias" : "kube-prometheus-stack",
      "creationTimestamp" : "2024-01-26T09:06:25Z",
      "updateTimestamp" : "2024-01-26T09:06:26Z"
    },
    "spec" : {
      "type" : "helm",
      "labels" : [ "CloudNativeObservability" ],
      "description" : "kube-prometheus-stack collects Kubernetes manifests, Prometheus rules combined with documentation and scripts to provide easy to operate end-to-end Kubernetes cluster monitoring with Prometheus using the Prometheus Operator.",
      "versions" : [ {
        "version" : "3.9.3",
        "input" : {
          "basic" : {
            "aom_url" : "100.79.29.98:8149",
            "region_id" : "cn-north-7",
            "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
            "swr_user" : "autopilot-official"
          },
          "parameters" : {
            "autopilot-flavor1" : {
              "category" : [ "Autopilot" ],
              "deploy_mode" : "server",
              "description" : "Recommanded when the number of containers in the cluster does not exceed 2000.",
              "name" : "Autopilot-Small(<=2000 containers)",
              "resources" : [ {
                "limitsCpu" : "500m",
                "limitsMem" : "1Gi",
                "name" : "prometheusOperator"
              }, {
                "limitsCpu" : "8",
                "limitsMem" : "32Gi",
                "name" : "prometheus"
              }, {
                "limitsCpu" : "1",
                "limitsMem" : "2Gi",
                "name" : "thanosSidecar"
              }, {
                "limitsCpu" : "4",
                "limitsMem" : "16Gi",
                "name" : "thanosQuery"
              }, {
                "limitsCpu" : "4",
                "limitsMem" : "16Gi",
                "name" : "adapter"
              }, {
                "limitsCpu" : "500m",
                "limitsMem" : "1Gi",
                "name" : "kubeStateMetrics"
              } ]
            },
            "autopilot-flavor2" : {
              "category" : [ "Autopilot" ],
              "deploy_mode" : "server",
              "description" : "Recommanded when the number of containers in the cluster does not exceed 
    5000.",
              "name" : "Autopilot-Medium(<=5000 containers)",
              "resources" : [ {
                "limitsCpu" : "500m",
                "limitsMem" : "1Gi",
                "name" : "prometheusOperator"
              }, {
                "limitsCpu" : "16",
                "limitsMem" : "64Gi",
                "name" : "prometheus"
              }, {
                "limitsCpu" : "2",
                "limitsMem" : "4Gi",
                "name" : "thanosSidecar"
              }, {
                "limitsCpu" : "8",
                "limitsMem" : "32Gi",
                "name" : "thanosQuery"
              }, {
                "limitsCpu" : "4",
                "limitsMem" : "32Gi",
                "name" : "adapter"
              }, {
                "limitsCpu" : "1",
                "limitsMem" : "2Gi",
                "name" : "kubeStateMetrics"
              } ]
            },
            "autopilot-flavor4" : {
              "category" : [ "Autopilot" ],
              "deploy_mode" : "server",
              "description" : "Custom configuration for this addon.",
              "name" : "custom-resources-autopilot-server",
              "resources" : [ {
                "limitsCpu" : "500m",
                "limitsMem" : "1Gi",
                "name" : "prometheusOperator"
              }, {
                "limitsCpu" : "16",
                "limitsMem" : "64Gi",
                "name" : "prometheus"
              }, {
                "limitsCpu" : "2",
                "limitsMem" : "4Gi",
                "name" : "thanosSidecar"
              }, {
                "limitsCpu" : "8",
                "limitsMem" : "32Gi",
                "name" : "thanosQuery"
              }, {
                "limitsCpu" : "4",
                "limitsMem" : "32Gi",
                "name" : "adapter"
              }, {
                "limitsCpu" : "1",
                "limitsMem" : "2Gi",
                "name" : "kubeStateMetrics"
              } ]
            },
            "autopilot-flavor5" : {
              "category" : [ "Autopilot" ],
              "deploy_mode" : "agent",
              "description" : "Recommanded flavor for agent mode when the number of containers in the cluster does not exceed 2000.",
              "is_default" : true,
              "name" : "Autopilot-Agent-Small(<=2000 containers)",
              "resources" : [ {
                "limitsCpu" : "1",
                "limitsMem" : "1Gi",
                "name" : "prometheusOperator",
                "requestsCpu" : "1",
                "requestsMem" : "1Gi"
              }, {
                "limitsCpu" : "1800m",
                "limitsMem" : "2900Mi",
                "name" : "prometheus",
                "requestsCpu" : "1800m",
                "requestsMem" : "2900Mi"
              }, {
                "limitsCpu" : "1",
                "limitsMem" : "1Gi",
                "name" : "kubeStateMetrics",
                "requestsCpu" : "1",
                "requestsMem" : "1Gi"
              }, {
                "limitsMem" : "500Mi",
                "name" : "nodeExporter",
                "requestsMem" : "100m"
              } ]
            },
            "autopilot-flavor6" : {
              "category" : [ "Autopilot" ],
              "deploy_mode" : "agent",
              "description" : "Recommanded flavor for agent mode when the number of containers in the cluster does not exceed 5000.",
              "name" : "Autopilot-Agent-Medium(<=5000 containers)",
              "resources" : [ {
                "limitsCpu" : "500m",
                "limitsMem" : "1Gi",
                "name" : "prometheusOperator"
              }, {
                "limitsCpu" : "4",
                "limitsMem" : "8Gi",
                "name" : "prometheus"
              }, {
                "limitsCpu" : "500m",
                "limitsMem" : "1Gi",
                "name" : "kubeStateMetrics"
              } ]
            },
            "autopilot-flavor8" : {
              "category" : [ "Autopilot" ],
              "deploy_mode" : "agent",
              "description" : "Custom flavor for agent mode",
              "name" : "custom-resources-autopilot-agent",
              "resources" : [ {
                "limitsCpu" : "500m",
                "limitsMem" : "1Gi",
                "name" : "prometheusOperator"
              }, {
                "limitsCpu" : "4",
                "limitsMem" : "8Gi",
                "name" : "prometheus"
              }, {
                "limitsCpu" : "500m",
                "limitsMem" : "1Gi",
                "name" : "kubeStateMetrics"
              } ]
            },
            "custom" : {
              "aom_app_key" : "",
              "aom_app_secret" : "",
              "aom_asm_app_key" : "",
              "aom_asm_app_secret" : "",
              "aom_asm_enable" : false,
              "aom_asm_insecure_skip_verify" : true,
              "aom_asm_instance_id" : "",
              "aom_asm_keep_regexp" : "istio.*",
              "aom_asm_project_id" : "",
              "aom_asm_remote_write_url" : "",
              "aom_auth_type" : "Bearer",
              "aom_enable" : false,
              "aom_insecure_skip_verify" : true,
              "aom_instance_id" : "",
              "aom_project_id" : "",
              "aom_region_id" : "",
              "aom_remote_read_url" : "",
              "aom_remote_write_url" : "",
              "appCode" : "",
              "appConfig" : {
                "adapter" : {
                  "nodeAffinity_key" : "",
                  "nodeAffinity_values" : "",
                  "tolerations_effect" : "NoSchedule",
                  "tolerations_key" : "",
                  "tolerations_operator" : "Exists"
                },
                "alertmanager" : {
                  "nodeAffinity_key" : "",
                  "nodeAffinity_values" : "",
                  "tolerations_effect" : "NoSchedule",
                  "tolerations_key" : "",
                  "tolerations_operator" : "Exists"
                },
                "kubeEventExporter" : {
                  "nodeAffinity_key" : "",
                  "nodeAffinity_values" : "",
                  "tolerations_effect" : "NoSchedule",
                  "tolerations_key" : "",
                  "tolerations_operator" : "Exists"
                },
                "kubeStateMetrics" : {
                  "nodeAffinity_key" : "",
                  "nodeAffinity_values" : "",
                  "tolerations_effect" : "NoSchedule",
                  "tolerations_key" : "",
                  "tolerations_operator" : "Exists"
                },
                "prometheusOperator" : {
                  "nodeAffinity_key" : "",
                  "nodeAffinity_values" : "",
                  "tolerations_effect" : "NoSchedule",
                  "tolerations_key" : "",
                  "tolerations_operator" : "Exists"
                },
                "prometheusServer" : {
                  "nodeAffinity_key" : "",
                  "nodeAffinity_values" : "",
                  "tolerations_effect" : "NoSchedule",
                  "tolerations_key" : "",
                  "tolerations_operator" : "Exists"
                },
                "thanosQuery" : {
                  "nodeAffinity_key" : "",
                  "nodeAffinity_values" : "",
                  "tolerations_effect" : "NoSchedule",
                  "tolerations_key" : "",
                  "tolerations_operator" : "Exists"
                }
              },
              "basic_auth_password_third" : "",
              "basic_auth_username_third" : "",
              "bearer_token" : "",
              "caCert" : "",
              "certFile" : "",
              "cieInstanceId" : "",
              "cie_url" : "",
              "cluster" : "",
              "clusterId" : "",
              "cluster_category" : "CCE",
              "crd_install" : true,
              "deploy_mode" : "agent",
              "emptydir" : {
                "enabled" : false,
                "sizeLimit" : "10G"
              },
              "enableGcrypto" : true,
              "enableRemote" : false,
              "enableRemoteWrite" : false,
              "enable_autopilot" : true,
              "enable_cpd" : true,
              "enable_custom_metrics" : true,
              "enable_grafana" : true,
              "enable_nodeAffinity" : false,
              "enable_tolerations" : false,
              "enablethird" : false,
              "grafana_pvc_exist" : false,
              "highAvailability" : false,
              "insecureSkipVerify" : false,
              "insecure_skip_verify_third" : false,
              "install_with_cluster" : false,
              "keyFile" : "",
              "ksm_shards" : 1,
              "lightweight" : true,
              "lightweight_sts" : true,
              "lightweight_sts_use_pvc" : false,
              "local_hpa" : false,
              "max_wal_time" : "30m",
              "min_wal_time" : "1m",
              "nodeAffinity_key" : "",
              "nodeAffinity_values" : "",
              "projectId" : "",
              "region" : "cn-north-7",
              "retention" : "1d",
              "scrapeInterval" : "15s",
              "scrape_insecure_skip_verify" : true,
              "shards" : 1,
              "storage_class" : "csi-disk-topology",
              "storage_size" : "10Gi",
              "storage_type" : "SAS",
              "subnetId" : "",
              "supportServerModeSharding" : false,
              "tolerations_effect" : "NoSchedule",
              "tolerations_key" : "",
              "tolerations_operator" : "Exists",
              "truncate_frequency" : "30m",
              "url_third" : ""
            }
          },
          "scenarios" : [ {
            "category" : [ "Autopilot" ],
            "custom" : {
              "cluster_category" : "Autopilot",
              "enableGcrypto" : false,
              "enable_cpd" : false,
              "storage_class" : "csi-disk"
            },
            "name" : "autopilot-config"
          } ]
```

```
        },
        "stable" : true,
        "translate" : {
          "en_US" : {
            "addon" : {
              "changeLog" : "The Autopilot cluster is supported.",
              "description" : "kube-prometheus-stack collects Kubernetes manifests, Grafana dashboards, and Prometheus rules combined with documentation and scripts to provide easy to operate end-to-end Kubernetes cluster monitoring with Prometheus using the Prometheus Operator. *Attention:kube-prometheus-stack is system monitoring component, When resources are insufficient, Kubernetes preferentially ensures pod scheduling."
            },
            "description" : {
              "Parameters.autopilot-flavor1.description" : "Recommanded when the number of containers in the cluster does not exceed 2000.",
              "Parameters.autopilot-flavor1.name" : "Small(<=2000 containers)",
              "Parameters.autopilot-flavor2.description" : "Recommanded when the number of containers in the cluster does not exceed 5000.",
              "Parameters.autopilot-flavor2.name" : "Medium(<=5000 containers)",
              "Parameters.autopilot-flavor3.description" : "Recommanded when the number of containers in the cluster exceeds 5000.",
              "Parameters.autopilot-flavor3.name" : "Large(>5000 containers)",
              "Parameters.autopilot-flavor4.description" : "Custom configuration for this addon.",
              "Parameters.autopilot-flavor4.name" : "Custom",
              "Parameters.autopilot-flavor5.description" : "Recommanded when the number of containers in the cluster does not exceed 2000.",
              "Parameters.autopilot-flavor5.name" : "Small(<=2000 containers)",
              "Parameters.autopilot-flavor6.description" : "Recommanded when the number of containers in the cluster does not exceed 5000.",
              "Parameters.autopilot-flavor6.name" : "Medium(<=5000 containers)",
              "Parameters.autopilot-flavor7.description" : "Recommanded when the number of containers in the cluster exceeds 5000.",
              "Parameters.autopilot-flavor7.name" : "Large(>5000 containers)",
              "Parameters.autopilot-flavor8.description" : "Custom configuration for this addon.",
              "Parameters.autopilot-flavor8.name" : "Custom",
              "Parameters.custom.deploy_mode" : "prometheus deploy mode",
              "Parameters.custom.highAvailability" : "high availability of prometheus and kube-event-exporter",
              "Parameters.custom.region" : "Availability region",
              "Parameters.custom.retention" : "Prometheus data retention period",
              "Parameters.custom.shards" : "Number of prometheus shards to distribute targets onto",
              "Parameters.custom.storage_size" : "Prometheus server data Persistent Volume size",
              "Parameters.custom.storage_type" : "Prometheus server data Persistent Volume Storage Class",
              "Parameters.custom.zone" : "Availability zone",
              "Parameters.flavor1.description" : "Just a demo for this addon. Recommanded when the number of containers in the cluster does not exceed 100.",
              "Parameters.flavor1.name" : "Demo(<=100 containers)",
              "Parameters.flavor2.description" : "Recommanded when the number of containers in the cluster does not exceed 2000.",
              "Parameters.flavor2.name" : "Small(<=2000 containers)",
              "Parameters.flavor3.description" : "Recommanded when the number of containers in the cluster does not exceed 5000.",
              "Parameters.flavor3.name" : "Medium(<=5000 containers)",
              "Parameters.flavor4.description" : "Recommanded when the number of containers in the cluster exceeds 5000.",
              "Parameters.flavor4.name" : "Large(>5000 containers)",
              "Parameters.flavor5.description" : "Custom configuration for this addon.",
              "Parameters.flavor5.name" : "custom-resources",
              "Parameters.flavor6.description" : "Default configuration for this addon.",
              "Parameters.flavor6.name" : "Default",
              "Parameters.flavor7.description" : "Custom configuration for this addon.",
              "Parameters.flavor7.name" : "Custom"
            },
            "key" : {
              "Parameters.custom.deploy_mode" : "prometheus deploy mode",
              "Parameters.custom.highAvailability" : "high availability",
              "Parameters.custom.region" : "availability region",
              "Parameters.custom.retention" : "data retention period",
              "Parameters.custom.storage_size" : "data Persistent Volume size",
              "Parameters.custom.storage_type" : "data Persistent Volume Storage Class",
              "Parameters.custom.zone" : "availability zone"
            }
          },
          "zh_CN" : {
            "addon" : {
              "changeLog" : "Autopilot clusters are supported.",
              "description" : "kube-prometheus-stack uses Prometheus-operator and Prometheus to provide
easy-to-use, end-to-end Kubernetes cluster monitoring capabilities. *Note: kube-prometheus-stack is a
system monitoring add-on. When cluster resources are insufficient, Kubernetes prioritizes the scheduling of
add-on pods."
            },
            "description" : {
              "Parameters.autopilot-flavor1.description" : "Use this specification when the number of containers
in a cluster does not exceed 2,000.",
              "Parameters.autopilot-flavor1.name" : "Small (≤ 2,000 containers)",
              "Parameters.autopilot-flavor2.description" : "Use this specification when the number of containers
in a cluster does not exceed 5,000.",
              "Parameters.autopilot-flavor2.name" : "Medium (≤ 5,000 containers)",
              "Parameters.autopilot-flavor3.description" : "Use this specification when the number of containers
in a cluster exceeds 5,000.",
              "Parameters.autopilot-flavor3.name" : "Large (> 5,000 containers)",
              "Parameters.autopilot-flavor4.description" : "Customize resource configurations.",
              "Parameters.autopilot-flavor4.name" : "Custom",
              "Parameters.autopilot-flavor5.description" : "Use this specification when the number of containers
in a cluster does not exceed 2,000.",
              "Parameters.autopilot-flavor5.name" : "Small (≤ 2,000 containers)",
              "Parameters.autopilot-flavor6.description" : "Use this specification when the number of containers
in a cluster does not exceed 5,000.",
              "Parameters.autopilot-flavor6.name" : "Medium (≤ 5,000 containers)",
              "Parameters.autopilot-flavor7.description" : "Use this specification when the number of containers
in a cluster exceeds 5,000.",
              "Parameters.autopilot-flavor7.name" : "Large (> 5,000 containers)",
              "Parameters.autopilot-flavor8.description" : "Customize resource configurations.",
              "Parameters.autopilot-flavor8.name" : "Custom",
              "Parameters.custom.deploy_mode" : "Prometheus deployment mode",
              "Parameters.custom.highAvailability" : "Deploy the Prometheus and Kubernetes event collection
and reporting services in HA mode. In this case, two available nodes are required to deploy instances with
two pods.",
              "Parameters.custom.region" : "AZ",
              "Parameters.custom.retention" : "Retention period of the Prometheus monitoring data",
              "Parameters.custom.shards" : "Number of Prometheus service shards. Each shard is assigned a
different collection target.",
              "Parameters.custom.storage_size" : "Persistent volume size of the Prometheus server",
              "Parameters.custom.storage_type" : "Persistent volume types available for storing the Prometheus
data",
              "Parameters.custom.zone" : "AZ",
              "Parameters.flavor1.description" : "This specification is suitable for experience and function
demonstration environments where Prometheus occupies few resources and has limited processing
capabilities. Use this specification when the number of containers in a cluster does not exceed 100.",
              "Parameters.flavor1.name" : "Demo (≤ 100 containers)",
              "Parameters.flavor2.description" : "Use this specification when the number of containers in a
cluster does not exceed 2,000.",
              "Parameters.flavor2.name" : "Small (≤ 2,000 containers)",
              "Parameters.flavor3.description" : "Use this specification when the number of containers in a
cluster does not exceed 5,000.",
              "Parameters.flavor3.name" : "Medium (≤ 5,000 containers)",
              "Parameters.flavor4.description" : "Use this specification when the number of containers in a
cluster exceeds 5,000.",
              "Parameters.flavor4.name" : "Large (> 5,000 containers)",
              "Parameters.flavor5.description" : "Customize resource configurations.",
              "Parameters.flavor5.name" : "Custom",
              "Parameters.flavor6.description" : "Configure the default resource settings.",
              "Parameters.flavor6.name" : "Default",
              "Parameters.flavor7.description" : "Customize resource configurations.",
              "Parameters.flavor7.name" : "Custom"
            },
            "key" : {
              "Parameters.custom.deploy_mode" : "Prometheus deployment mode",
              "Parameters.custom.highAvailability" : "HA",
              "Parameters.custom.region" : "AZ",
              "Parameters.custom.retention" : "Data retention period",
              "Parameters.custom.storage_size" : "Persistent volume size",
              "Parameters.custom.storage_type" : "Persistent volume type",
              "Parameters.custom.zone" : "AZ"
            }
          }
        },
        "supportVersions" : [ {
          "clusterType" : "VirtualMachine",
          "clusterVersion" : [ "v1.(27|28).*", "v1.(27|28).*" ],
          "category" : [ "Autopilot" ]
        } ],
        "creationTimestamp" : "2024-01-26T09:06:25Z",
        "updateTimestamp" : "2024-01-26T09:06:25Z"
      } ]
    }
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ListAutopilotAddonTemplatesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotAddonTemplatesRequest request = new ListAutopilotAddonTemplatesRequest();
        try {
            ListAutopilotAddonTemplatesResponse response = client.listAutopilotAddonTemplates(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotAddonTemplatesRequest()
        response = client.list_autopilot_addon_templates(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()
    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAutopilotAddonTemplatesRequest{}
    response, err := client.ListAutopilotAddonTemplates(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.2.3 Updating an Add-on Instance

Function

This API is used to update an add-on instance.

Calling Method

For details, see **Calling APIs**.

URI

PUT /autopilot/v3/addons/{id}

Table 4-167 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Add-on instance ID

Request Parameters

Table 4-168 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-169 Request body parameters

Parameter	Mandatory	Type	Description
kind	Yes	String	API type. The value is fixed at **Addon** and cannot be changed. Any user-defined value is invalid.

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	API version. The value is fixed at **v3** and cannot be changed. Any user-defined value is invalid.
metadata	Yes	**AddonMetadata** object	Basic information about the object. Metadata is a collection of attributes.
spec	Yes	**InstanceRequestSpec** object	Detailed description of add-on installation or upgrade.

Table 4-170 AddonMetadata

Parameter	Mandatory	Type	Description
uid	No	String	Unique ID
name	No	String	Add-on name
alias	No	String	Add-on alias
labels	No	Map<String,String>	Add-on labels in key-value pairs. This is a reserved field and does not take effect.
annotations	No	Map<String,String>	Add-on annotations in the format of key-value pairs. ● For add-on installation, the value is fixed at **{"addon.install/type":"install"}**. ● For add-on upgrade, the value is fixed at **{"addon.upgrade/type":"upgrade"}**.
updateTimestamp	No	String	Updated at
creationTimestamp	No	String	Created at

Table 4-171 InstanceRequestSpec

Parameter	Mandatory	Type	Description
version	No	String	Version of the add-on to install or upgrade, for example, **1.0.0**. ● Installation: This parameter is optional. If not specified, the latest version supported by the cluster is used. ● Upgrade: This parameter is mandatory. The version number must be specified.
clusterID	Yes	String	Cluster ID.
values	Yes	Map<String,Object>	Add-on template installation parameters (varying depending on the add-on). During the add-on upgrade, you need to specify all the installation parameters. If the parameters are not specified, the default values in the add-on template are used. The current add-on installation parameters can be obtained through the API for querying add-on instances.
addonTemplateName	Yes	String	Name of the add-on template to be installed, for example, **coredns**.

Response Parameters

Status code: 200

Table 4-172 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Addon** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AddonMetadata** object	Basic information about the object. Metadata is a collection of attributes.

Parameter	Type	Description
spec	**InstanceSpec** object	Detailed description of the add-on instance.
status	**AddonInstanceStatus** object	Add-on instance status.

Table 4-173 AddonMetadata

Parameter	Type	Description
uid	String	Unique ID
name	String	Add-on name
alias	String	Add-on alias
labels	Map<String,String>	Add-on labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Add-on annotations in the format of key-value pairs. ● For add-on installation, the value is fixed at **{"addon.install/type":"install"}**. ● For add-on upgrade, the value is fixed at **{"addon.upgrade/type":"upgrade"}**.
updateTimestamp	String	Updated at
creationTimestamp	String	Created at

Table 4-174 InstanceSpec

Parameter	Type	Description
clusterID	String	Cluster ID.
version	String	Add-on template version, for example, **1.0.0**.
addonTemplateName	String	Add-on template name, for example, **coredns**.
addonTemplateType	String	Add-on template type.
addonTemplateLogo	String	URL for obtaining the add-on template logo.

Parameter	Type	Description
addonTemplateLabels	Array of strings	Labels of the add-on template.
description	String	Add-on template description.
values	Map<String,Object>	Add-on template installation parameters (varying depending on the add-on). Set the parameters accordingly.

Table 4-175 AddonInstanceStatus

Parameter	Type	Description
status	String	Add-on instance status. Options: ● **running**: All of the add-on instances are running. This specifies that the add-on runs properly. ● **abnormal**: The add-on instances are abnormal and the add-on cannot be used. You can click the add-on name to view exceptions. ● **installing**: The add-on is being installed. ● **installFailed**: Installing the add-on failed. In this case, uninstall the add-on and then reinstall it. ● **upgrading**: The add-on is being upgraded. ● **upgradeFailed**: Upgrading the add-on failed. In this case, upgrade the add-on again or uninstall the add-on and reinstall it. ● **deleting**: The add-on is being deleted. ● **deleteFailed**: Deleting the add-on failed. In this case, uninstall the add-on again. ● **deleteSuccess**: Deleting the add-on succeeded. ● **available**: Only some instances of the add-on are running. This specifies that some functions of the add-on are available. ● **rollbacking**: The add-on is being rolled back. ● **rollbackFailed**: Rolling back the add-on failed. In this case, roll back the add-on again or uninstall the add-on and reinstall it. ● **unknown**: The add-on chart instance does not exist.
Reason	String	Cause of the add-on installation failure.
message	String	Installation error details.
targetVersions	Array of strings	Versions to which the current add-on version can be upgraded.
currentVersion	**Versions** object	Information about the current add-on version.
isRollbackable	Boolean	Whether the add-on version can be rolled back to the source version.

Parameter	Type	Description
previousVersion	String	The add-on version before upgrade or rollback

Table 4-176 Versions

Parameter	Type	Description
version	String	Add-on version.
input	Object	Add-on installation parameters.
stable	Boolean	Whether the add-on version is a stable release.
translate	Object	Translation information used by the GUI.
supportVersions	Array of **SupportVersions** objects	Cluster versions that support the add-on.
creationTimestamp	String	Creation time.
updateTimestamp	String	Update time.

Table 4-177 SupportVersions

Parameter	Type	Description
clusterType	String	Cluster type that supports the add-on.
clusterVersion	Array of strings	Cluster versions that support the add-on. The value is a regular expression.

Example Requests

Update the CoreDNS add-on to version 1.28.6.

```
{
  "kind" : "Addon",
  "apiVersion" : "v3",
  "metadata" : {
    "annotations" : {
      "addon.upgrade/type" : "upgrade"
    }
  },
  "spec" : {
    "clusterID" : "597f2d95-44ab-11ef-9e39-0255ac100115",
    "version" : "1.28.6",
    "addonTemplateName" : "coredns",
    "values" : {
      "basic" : {
```

```
      "cluster_ip" : "10.247.3.10",
      "image_version" : "1.28.6",
      "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
      "swr_user" : "autopilot-official",
      "rbac_enabled" : true,
      "cluster_version" : "v1.28"
    },
    "flavor" : {
      "category" : [ "Autopilot" ],
      "is_default" : true,
      "name" : "autopilot-flavor1",
      "replicas" : 2,
      "resources" : [ {
        "id" : "coredns",
        "name" : "coredns",
        "limitsCpu" : "2000m",
        "requestsCpu" : "2000m",
        "limitsMem" : "2048Mi",
        "requestsMem" : "2048Mi"
      } ]
    },
    "custom" : {
      "multiAZBalance" : false,
      "multiAZEnabled" : false,
      "node_match_expressions" : [ ],
      "parameterSyncStrategy" : "ensureConsistent",
      "servers" : [ {
        "plugins" : [ {
          "name" : "bind",
          "parameters" : "{$POD_IP}"
        }, {
          "configBlock" : "servfail 5s",
          "name" : "cache",
          "parameters" : 30
        }, {
          "name" : "errors"
        }, {
          "name" : "health",
          "parameters" : "{$POD_IP}:8080"
        }, {
          "name" : "ready",
          "parameters" : "{$POD_IP}:8081"
        }, {
          "configBlock" : "pods insecure\nfallthrough in-addr.arpa ip6.arpa",
          "name" : "kubernetes",
          "parameters" : "cluster.local in-addr.arpa ip6.arpa"
        }, {
          "name" : "loadbalance",
          "parameters" : "round_robin"
        }, {
          "name" : "prometheus",
          "parameters" : "{$POD_IP}:9153"
        }, {
          "configBlock" : "policy random",
          "name" : "forward",
          "parameters" : ". /etc/resolv.conf"
        }, {
          "name" : "reload"
        } ],
        "port" : 5353,
        "zones" : [ {
          "zone" : "."
        } ]
      } ],
      "stub_domains" : { },
      "tolerations" : [ {
        "key" : "node.kubernetes.io/not-ready",
        "operator" : "Exists",
        "effect" : "NoExecute",
          "tolerationSeconds" : 60
        }, {
          "key" : "node.kubernetes.io/unreachable",
          "operator" : "Exists",
          "effect" : "NoExecute",
          "tolerationSeconds" : 60
        } ],
        "upstream_nameservers" : [ ],
        "extraConfig" : { },
        "nodeSelector" : { }
      }
    }
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "kind" : "Addon",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "90b775e0-5774-4e1d-ab3b-516332ba047a",
    "name" : "coredns",
    "alias" : "coredns",
    "creationTimestamp" : "2024-07-18T04:04:21Z",
    "updateTimestamp" : "2024-07-18T04:04:21Z"
  },
  "spec" : {
    "clusterID" : "597f2d95-44ab-11ef-9e39-0255ac100115",
    "version" : "1.28.6",
    "addonTemplateName" : "coredns",
    "addonTemplateType" : "helm",
    "addonTemplateLogo" : "",
    "addonTemplateLabels" : [ "ContainerNetwork" ],
    "description" : "CoreDNS is a DNS server that chains plugins and provides Kubernetes DNS Services",
    "values" : {
      "basic" : {
        "cluster_ip" : "10.247.3.10",
        "cluster_version" : "v1.28",
        "image_version" : "1.28.6",
        "rbac_enabled" : true,
        "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
        "swr_user" : "autopilot-official"
      },
      "custom" : {
        "extraConfig" : { },
        "multiAZBalance" : false,
        "multiAZEnabled" : false,
        "nodeSelector" : { },
        "node_match_expressions" : [ ],
        "parameterSyncStrategy" : "ensureConsistent",
        "servers" : [ {
          "plugins" : [ {
            "name" : "bind",
            "parameters" : "{$POD_IP}"
          }, {
            "configBlock" : "servfail 5s",
            "name" : "cache",
            "parameters" : 30
          }, {
            "name" : "errors"
          }, {
            "name" : "health",
            "parameters" : "{$POD_IP}:8080"
          }, {
            "name" : "ready",
            "parameters" : "{$POD_IP}:8081"
          }, {
            "configBlock" : "pods insecure\nfallthrough in-addr.arpa ip6.arpa",
            "name" : "kubernetes",
            "parameters" : "cluster.local in-addr.arpa ip6.arpa"
          }, {
            "name" : "loadbalance",
            "parameters" : "round_robin"
          }, {
            "name" : "prometheus",
            "parameters" : "{$POD_IP}:9153"
          }, {
            "configBlock" : "policy random",
            "name" : "forward",
            "parameters" : ". /etc/resolv.conf"
          }, {
            "name" : "reload"
          } ],
          "port" : 5353,
          "zones" : [ {
            "zone" : "."
          } ]
        } ],
        "stub_domains" : { },
        "tolerations" : [ {
          "effect" : "NoExecute",
          "key" : "node.kubernetes.io/not-ready",
          "operator" : "Exists",
          "tolerationSeconds" : 60
        }, {
          "effect" : "NoExecute",
          "key" : "node.kubernetes.io/unreachable",
          "operator" : "Exists",
          "tolerationSeconds" : 60
        } ],
        "upstream_nameservers" : [ ]
      },
      "flavor" : {
        "category" : [ "Autopilot" ],
        "is_default" : true,
        "name" : "autopilot-flavor1",
        "replicas" : 2,
        "resources" : [ {
          "id" : "coredns",
          "limitsCpu" : "2000m",
          "limitsMem" : "2048Mi",
          "name" : "coredns",
          "requestsCpu" : "2000m",
          "requestsMem" : "2048Mi"
        } ]
      },
      "systemAutoInject" : {
        "cluster" : {
          "clusterID" : "597f2d95-44ab-11ef-9e39-0255ac100115",
          "clusterNetworkMode" : "eni",
          "clusterVersion" : "v1.28.5-r0"
        },
        "user" : {
          "projectID" : "47eb1d64cbeb45cfa01ae20af4f4b563"
        }
      }
    }
  },
  "status" : {
    "status" : "upgrading",
    "Reason" : "addon upgrading",
    "message" : "",
    "targetVersions" : null,
    "isRollbackable" : false,
    "currentVersion" : {
      "version" : "1.28.6",
      "input" : {
        "basic" : {
          "cluster_ip" : "10.247.3.10",
          "image_version" : "1.28.6",
          "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
          "swr_user" : "autopilot-official"
        },
        "parameters" : {
          "autopilot-flavor1" : {
            "category" : [ "Autopilot" ],
            "is_default" : true,
            "name" : "autopilot-flavor1",
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : 1,
              "limitsMem" : "2Gi",
              "name" : "coredns",
              "requestsCpu" : 1,
              "requestsMem" : "2Gi"
            } ]
          },
          "custom" : {
            "multiAZBalance" : false,
            "multiAZEnabled" : false,
            "node_match_expressions" : [ ],
            "parameterSyncStrategy" : "ensureConsistent",
            "servers" : [ {
              "plugins" : [ {
                "name" : "bind",
                "parameters" : "{$POD_IP}"
              }, {
                "configBlock" : "servfail 5s",
                "name" : "cache",
                "parameters" : 30
              }, {
                "name" : "errors"
              }, {
                "name" : "health",
                "parameters" : "{$POD_IP}:8080"
              }, {
                "name" : "ready",
                "parameters" : "{$POD_IP}:8081"
              }, {
                "configBlock" : "pods insecure\nfallthrough in-addr.arpa ip6.arpa",
                "name" : "kubernetes",
                "parameters" : "cluster.local in-addr.arpa ip6.arpa"
              }, {
                "name" : "loadbalance",
                "parameters" : "round_robin"
              }, {
                "name" : "prometheus",
                "parameters" : "{$POD_IP}:9153"
              }, {
                "configBlock" : "policy random",
                "name" : "forward",
                "parameters" : ". /etc/resolv.conf"
              }, {
                "name" : "reload"
              } ],
              "port" : 5353,
              "zones" : [ {
                "zone" : "."
              } ]
            } ],
            "stub_domains" : { },
            "tolerations" : [ {
              "effect" : "NoExecute",
              "key" : "node.kubernetes.io/not-ready",
              "operator" : "Exists",
              "tolerationSeconds" : 60
            }, {
              "effect" : "NoExecute",
              "key" : "node.kubernetes.io/unreachable",
              "operator" : "Exists",
              "tolerationSeconds" : 60
            } ],
            "upstream_nameservers" : [ ]
          },
          "flavor1" : {
            "is_default" : true,
            "name" : 2500,
            "recommend_cluster_flavor_types" : [ "small" ],
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "500m",
              "limitsMem" : "512Mi",
              "name" : "coredns",
              "requestsCpu" : "500m",
              "requestsMem" : "512Mi"
            } ]
          },
          "flavor2" : {
            "name" : 5000,
            "recommend_cluster_flavor_types" : [ "medium" ],
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "1000m",
              "limitsMem" : "1024Mi",
              "name" : "coredns",
              "requestsCpu" : "1000m",
              "requestsMem" : "1024Mi"
            } ]
          },
          "flavor3" : {
            "name" : 10000,
            "recommend_cluster_flavor_types" : [ "large" ],
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "2000m",
              "limitsMem" : "2048Mi",
              "name" : "coredns",
              "requestsCpu" : "2000m",
              "requestsMem" : "2048Mi"
            } ]
          },
          "flavor4" : {
            "name" : 20000,
            "recommend_cluster_flavor_types" : [ "xlarge" ],
            "replicas" : 4,
            "resources" : [ {
              "limitsCpu" : "2000m",
              "limitsMem" : "2048Mi",
              "name" : "coredns",
              "requestsCpu" : "2000m",
              "requestsMem" : "2048Mi"
            } ]
          }
        }
      },
      "stable" : true,
      "translate" : {
        "en_US" : {
          "addon" : {
            "changeLog" : "Support autopilot cluster",
            "description" : "CoreDNS is a DNS server that chains plugins and provides Kubernetes DNS Services"
          },
          "description" : {
            "Parameters.custom.stub_domains" : "The target nameserver may itself be a Kubernetes service. For instance, you can run your own copy of dnsmasq to export custom DNS names into the ClusterDNS namespace, a JSON map using a DNS suffix key (for example, **\"acme.local\"**) and a value consisting of a JSON array of DNS IPs.",
            "Parameters.custom.upstream_nameservers" : "If specified, then the values specified replace the nameservers taken by default from the node's **/etc/resolv.conf**. Limits: A maximum of three upstream nameservers can be specified. (A JSON array of DNS IPs.)",
            "Parameters.flavor1.description" : "Concurrent domain name resolution capability - external domain name: 2500 qps, internal domain name: 10000 qps",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Concurrent domain name resolution capability - external domain name: 5000 qps, internal domain name: 20000 qps",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Concurrent domain name resolution capability - external domain name: 10000 qps, internal domain name: 40000 qps",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Concurrent domain name resolution capability - external domain name: 20000 qps, internal domain name: 80000 qps",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "stub domain",
            "Parameters.custom.upstream_nameservers" : "upstream nameservers"
          }
        },
        "fr_FR" : {
          "addon" : {
            "changeLog" : "les spécifications du plugin peuvent être associées aux spécifications du cluster. le fuseau horaire du plug-in est le même que celui du noeud",
            "description" : "Un serveur DNS qui enchaîne les plug-ins et fournit des services DNS Kubernetes."
          },
          "description" : {
            "Parameters.custom.stub_domains" : "Le serveur de noms cible peut lui-même être un service Kubernetes. Par exemple, vous pouvez exécuter votre propre copie de dnsmasq pour exporter des noms DNS personnalisés dans l'espace de noms ClusterDNS, une carte JSON à l'aide d'une clé de suffixe DNS (par exemple, «acme.local») et une valeur constituée d'un tableau JSON d'adresses IP DNS.",
            "Parameters.custom.upstream_nameservers" : "Si spécifié, les valeurs spécifiées remplacent les serveurs de noms pris par défaut dans le fichier /etc/resolv.conf du nœud. Limites: un maximum de trois serveurs de noms en amont peuvent être spécifiés, un tableau JSON d'adresses IP DNS.",
            "Parameters.flavor1.description" : "Capacité de résolution de nom de domaine simultanée - Nom de domaine externe: 2500 qps, Nom de domaine interne: 10000 qp",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Capacité de résolution de nom de domaine simultanée - Nom de domaine externe: 5000 qps, Nom de domaine interne: 20000 qp",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Capacité de résolution de nom de domaine simultanée - Nom de domaine externe: 10000 qps, Nom de domaine interne: 40000 qp",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Capacité de résolution de nom de domaine simultanée - Nom de domaine externe: 20000 qps, Nom de domaine interne: 80000 qp",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "domaine stub",
            "Parameters.custom.upstream_nameservers" : "serveurs de noms en amont"
          }
        },
        "zh_CN" : {
          "addon" : {
            "changeLog" : "Autopilot clusters are supported.",
            "description" : "CoreDNS is a DNS server that chains plug-ins and offers DNS resolution for Kubernetes clusters."
          },
          "description" : {
            "Parameters.custom.stub_domains" : "A domain name server for a custom domain name in key-value pair. The key is a suffix of DNS domain name, and the value is one or more DNS IP addresses, for example, **acme.local -- 1.2.3.4,6.7.8.9**.",
            "Parameters.custom.upstream_nameservers" : "Resolves all domain names except intra-cluster service domain names and custom domain names. The value can be one or more DNS IP addresses, for example, **\"8.8.8.8\",\"8.8.4.4\"**.",
            "Parameters.flavor1.description" : "Concurrent domain name resolution capability - external domain name: 2500 qps, internal domain name: 10,000 qps",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Concurrent domain name resolution capability - external domain name: 5000 qps, internal domain name: 20000 qps",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Concurrent domain name resolution capability - external domain name: 10000 qps, internal domain name: 40000 qps",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Concurrent domain name resolution capability - external domain name: 20000 qps, internal domain name: 80000 qps",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "Stub domain",
            "Parameters.custom.upstream_nameservers" : "Upstream DNS server"
          }
        }
      },
      "supportVersions" : null,
      "creationTimestamp" : "2024-02-19T11:33:46Z",
      "updateTimestamp" : "2024-02-21T01:24:05Z"
    }
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Update the CoreDNS add-on to version 1.28.6.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;

import java.util.Map;
import java.util.HashMap;

public class UpdateAutopilotAddonInstanceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
```

```
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        UpdateAutopilotAddonInstanceRequest request = new UpdateAutopilotAddonInstanceRequest();
        request.withId("{id}");
        InstanceRequest body = new InstanceRequest();
        Map<String, Object> listSpecValues = new HashMap<>();
        listSpecValues.put("basic", "{\"cluster_version\":\"v1.28\",\"rbac_enabled\":true,\"swr_user\":\"autopilot-
official\",\"image_version\":\"1.28.6\",\"cluster_ip\":\"10.247.3.10\",\"swr_addr\":\"swr.cn-
north-7.myhuaweicloud.com\"}");
        listSpecValues.put("flavor", "{\"replicas\":2,\"name\":\"autopilot-flavor1\",\"resources\":[{\"limitsCpu
\":\"2000m\",\"name\":\"coredns\",\"id\":\"coredns\",\"limitsMem\":\"2048Mi\",\"requestsMem\":\"2048Mi
\",\"requestsCpu\":\"2000m\"}],\"category\":[\"Autopilot\"],\"is_default\":true}");
        listSpecValues.put("custom", "{\"extraConfig\":{},\"servers\":[{\"port\":5353,\"plugins\":[{\"name
\":\"bind\",\"parameters\":\"{$POD_IP}\"},{\"configBlock\":\"servfail 5s\",\"name\":\"cache\",\"parameters
\":30},{\"name\":\"errors\"},{\"name\":\"health\",\"parameters\":\"{$POD_IP}:8080\"},{\"name\":\"ready
\",\"parameters\":\"{$POD_IP}:8081\"},{\"configBlock\":\"pods insecure\nfallthrough in-addr.arpa ip6.arpa
\",\"name\":\"kubernetes\",\"parameters\":\"cluster.local in-addr.arpa ip6.arpa\"},{\"name\":\"loadbalance
\",\"parameters\":\"round_robin\"},{\"name\":\"prometheus\",\"parameters\":\"{$POD_IP}:9153\"},
{\"configBlock\":\"policy random\",\"name\":\"forward\",\"parameters\":\". /etc/resolv.conf\"},{\"name
\":\"reload\"}],\"zones\":[{\"zone\":\".\"}]}],\"tolerations\":[{\"effect\":\"NoExecute\",\"tolerationSeconds
\":60,\"key\":\"node.kubernetes.io/not-ready\",\"operator\":\"Exists\"},{\"effect\":\"NoExecute
\",\"tolerationSeconds\":60,\"key\":\"node.kubernetes.io/unreachable\",\"operator\":\"Exists
\"}],\"multiAZBalance\":false,\"node_match_expressions\":[],\"stub_domains\":{},\"multiAZEnabled
\":false,\"parameterSyncStrategy\":\"ensureConsistent\",\"upstream_nameservers\":[],\"nodeSelector\":{}}");
        InstanceRequestSpec specbody = new InstanceRequestSpec();
        specbody.withVersion("1.28.6")
            .withClusterID("597f2d95-44ab-11ef-9e39-0255ac100115")
            .withValues(listSpecValues)
            .withAddonTemplateName("coredns");
        Map<String, String> listMetadataAnnotations = new HashMap<>();
        listMetadataAnnotations.put("addon.upgrade/type", "upgrade");
        AddonMetadata metadatabody = new AddonMetadata();
        metadatabody.withAnnotations(listMetadataAnnotations);
        body.withSpec(specbody);
        body.withMetadata(metadatabody);
        body.withApiVersion("v3");
        body.withKind("Addon");
        request.withBody(body);
        try {
            UpdateAutopilotAddonInstanceResponse response = client.updateAutopilotAddonInstance(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Update the CoreDNS add-on to version 1.28.6.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateAutopilotAddonInstanceRequest()
        request.id = "{id}"
        listValuesSpec = {
            "basic": "{\"cluster_version\":\"v1.28\",\"rbac_enabled\":true,\"swr_user\":\"autopilot-official
\",\"image_version\":\"1.28.6\",\"cluster_ip\":\"10.247.3.10\",\"swr_addr\":\"swr.cn-
north-7.myhuaweicloud.com\"}",
            "flavor": "{\"replicas\":2,\"name\":\"autopilot-flavor1\",\"resources\":[{\"limitsCpu\":\"2000m
\",\"name\":\"coredns\",\"id\":\"coredns\",\"limitsMem\":\"2048Mi\",\"requestsMem\":\"2048Mi
\",\"requestsCpu\":\"2000m\"}],\"category\":[\"Autopilot\"],\"is_default\":true}",
            "custom": "{\"extraConfig\":{},\"servers\":[{\"port\":5353,\"plugins\":[{\"name\":\"bind
\",\"parameters\":\"{$POD_IP}\"},{\"configBlock\":\"servfail 5s\",\"name\":\"cache\",\"parameters\":30},
{\"name\":\"errors\"},{\"name\":\"health\",\"parameters\":\"{$POD_IP}:8080\"},{\"name\":\"ready
\",\"parameters\":\"{$POD_IP}:8081\"},{\"configBlock\":\"pods insecure\nfallthrough in-addr.arpa ip6.arpa
\",\"name\":\"kubernetes\",\"parameters\":\"cluster.local in-addr.arpa ip6.arpa\"},{\"name\":\"loadbalance
\",\"parameters\":\"round_robin\"},{\"name\":\"prometheus\",\"parameters\":\"{$POD_IP}:9153\"},
{\"configBlock\":\"policy random\",\"name\":\"forward\",\"parameters\":\". /etc/resolv.conf\"},{\"name
\":\"reload\"}],\"zones\":[{\"zone\":\".\"}]}],\"tolerations\":[{\"effect\":\"NoExecute\",\"tolerationSeconds
\":60,\"key\":\"node.kubernetes.io/not-ready\",\"operator\":\"Exists\"},{\"effect\":\"NoExecute
\",\"tolerationSeconds\":60,\"key\":\"node.kubernetes.io/unreachable\",\"operator\":\"Exists
\"}],\"multiAZBalance\":false,\"node_match_expressions\":[],\"stub_domains\":{},\"multiAZEnabled
\":false,\"parameterSyncStrategy\":\"ensureConsistent\",\"upstream_nameservers\":[],\"nodeSelector\":{}}"
        }
        specbody = InstanceRequestSpec(
            version="1.28.6",
            cluster_id="597f2d95-44ab-11ef-9e39-0255ac100115",
            values=listValuesSpec,
            addon_template_name="coredns"
        )
        listAnnotationsMetadata = {
            "addon.upgrade/type": "upgrade"
        }
        metadatabody = AddonMetadata(
            annotations=listAnnotationsMetadata
        )
        request.body = InstanceRequest(
            spec=specbody,
            metadata=metadatabody,
            api_version="v3",
            kind="Addon"
        )
        response = client.update_autopilot_addon_instance(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Update the CoreDNS add-on to version 1.28.6.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateAutopilotAddonInstanceRequest{}
    request.Id = "{id}"
    var listValuesSpec = map[string]interface{}{
        "basic": "{\"cluster_version\":\"v1.28\",\"rbac_enabled\":true,\"swr_user\":\"autopilot-official
\",\"image_version\":\"1.28.6\",\"cluster_ip\":\"10.247.3.10\",\"swr_addr\":\"swr.cn-
north-7.myhuaweicloud.com\"}",
        "flavor": "{\"replicas\":2,\"name\":\"autopilot-flavor1\",\"resources\":[{\"limitsCpu\":\"2000m\",\"name
\":\"coredns\",\"id\":\"coredns\",\"limitsMem\":\"2048Mi\",\"requestsMem\":\"2048Mi\",\"requestsCpu
\":\"2000m\"}],\"category\":[\"Autopilot\"],\"is_default\":true}",
        "custom": "{\"extraConfig\":{},\"servers\":[{\"port\":5353,\"plugins\":[{\"name\":\"bind\",\"parameters
\":\"{$POD_IP}\"},{\"configBlock\":\"servfail 5s\",\"name\":\"cache\",\"parameters\":30},{\"name\":\"errors\"},
{\"name\":\"health\",\"parameters\":\"{$POD_IP}:8080\"},{\"name\":\"ready\",\"parameters
\":\"{$POD_IP}:8081\"},{\"configBlock\":\"pods insecure\nfallthrough in-addr.arpa ip6.arpa\",\"name
\":\"kubernetes\",\"parameters\":\"cluster.local in-addr.arpa ip6.arpa\"},{\"name\":\"loadbalance
\",\"parameters\":\"round_robin\"},{\"name\":\"prometheus\",\"parameters\":\"{$POD_IP}:9153\"},
{\"configBlock\":\"policy random\",\"name\":\"forward\",\"parameters\":\". /etc/resolv.conf\"},{\"name
\":\"reload\"}],\"zones\":[{\"zone\":\".\"}]}],\"tolerations\":[{\"effect\":\"NoExecute\",\"tolerationSeconds
\":60,\"key\":\"node.kubernetes.io/not-ready\",\"operator\":\"Exists\"},{\"effect\":\"NoExecute
\",\"tolerationSeconds\":60,\"key\":\"node.kubernetes.io/unreachable\",\"operator\":\"Exists
\"}],\"multiAZBalance\":false,\"node_match_expressions\":[],\"stub_domains\":{},\"multiAZEnabled
\":false,\"parameterSyncStrategy\":\"ensureConsistent\",\"upstream_nameservers\":[],\"nodeSelector\":{}}",
    }
    versionSpec:= "1.28.6"
    specbody := &model.InstanceRequestSpec{
        Version: &versionSpec,
        ClusterID: "597f2d95-44ab-11ef-9e39-0255ac100115",
        Values: listValuesSpec,
        AddonTemplateName: "coredns",
    }
    var listAnnotationsMetadata = map[string]string{
        "addon.upgrade/type": "upgrade",
    }
    metadatabody := &model.AddonMetadata{
        Annotations: listAnnotationsMetadata,
    }
    request.Body = &model.InstanceRequest{
        Spec: specbody,
        Metadata: metadatabody,
        ApiVersion: "v3",
        Kind: "Addon",
    }
    response, err := client.UpdateAutopilotAddonInstance(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.2.4 Rolling Back an Add-on Instance

Function

This API is used to roll back the version of an add-on instance to the source version. Only when **status.isRollbackable** is set to **true**, and the add-on instance is in the **running**, **available**, **abnormal**, **upgradeFailed**, or **rollbackFailed** state, the version can be rolled back to the source version.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/addons/{id}/operation/rollback

Table 4-178 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Add-on instance ID

Request Parameters

Table 4-179 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-180 Request body parameters

Parameter	Mandatory	Type	Description
clusterID	Yes	String	Cluster ID

Response Parameters

Status code: 200

Table 4-181 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Addon** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AddonMetadata** object	Basic information about the object. Metadata is a collection of attributes.
spec	**InstanceSpec** object	Detailed description of the add-on instance.

Parameter	Type	Description
status	**AddonInstanceStatus** object	Add-on instance status.

Table 4-182 AddonMetadata

Parameter	Type	Description
uid	String	Unique ID
name	String	Add-on name
alias	String	Add-on alias
labels	Map<String,String>	Add-on labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Add-on annotations in the format of key-value pairs. ● For add-on installation, the value is fixed at **{"addon.install/type":"install"}**. ● For add-on upgrade, the value is fixed at **{"addon.upgrade/type":"upgrade"}**.
updateTimestamp	String	Updated at
creationTimestamp	String	Created at

Table 4-183 InstanceSpec

Parameter	Type	Description
clusterID	String	Cluster ID.
version	String	Add-on template version, for example, **1.0.0**.
addonTemplateName	String	Add-on template name, for example, **coredns**.
addonTemplateType	String	Add-on template type.
addonTemplateLogo	String	URL for obtaining the add-on template logo.
addonTemplateLabels	Array of strings	Labels of the add-on template.

Parameter	Type	Description
description	String	Add-on template description.
values	Map<String,Object>	Add-on template installation parameters (varying depending on the add-on). Set the parameters accordingly.

Table 4-184 AddonInstanceStatus

Parameter	Type	Description
status	String	Add-on instance status. Options: ● **running**: All of the add-on instances are running. This specifies that the add-on runs properly. ● **abnormal**: The add-on instances are abnormal and the add-on cannot be used. You can click the add-on name to view exceptions. ● **installing**: The add-on is being installed. ● **installFailed**: Installing the add-on failed. In this case, uninstall the add-on and then reinstall it. ● **upgrading**: The add-on is being upgraded. ● **upgradeFailed**: Upgrading the add-on failed. In this case, upgrade the add-on again or uninstall the add-on and reinstall it. ● **deleting**: The add-on is being deleted. ● **deleteFailed**: Deleting the add-on failed. In this case, uninstall the add-on again. ● **deleteSuccess**: Deleting the add-on succeeded. ● **available**: Only some instances of the add-on are running. This specifies that some functions of the add-on are available. ● **rollbacking**: The add-on is being rolled back. ● **rollbackFailed**: Rolling back the add-on failed. In this case, roll back the add-on again or uninstall the add-on and reinstall it. ● **unknown**: The add-on chart instance does not exist.
Reason	String	Cause of the add-on installation failure.

Parameter	Type	Description
message	String	Installation error details.
targetVersions	Array of strings	Versions to which the current add-on version can be upgraded.
currentVersion	**Versions** object	Information about the current add-on version.
isRollbackable	Boolean	Whether the add-on version can be rolled back to the source version.
previousVersion	String	The add-on version before upgrade or rollback

Table 4-185 Versions

Parameter	Type	Description
version	String	Add-on version.
input	Object	Add-on installation parameters.
stable	Boolean	Whether the add-on version is a stable release.
translate	Object	Translation information used by the GUI.
supportVersions	Array of **SupportVersions** objects	Cluster versions that support the add-on.
creationTimestamp	String	Creation time.
updateTimestamp	String	Update time.

Table 4-186 SupportVersions

Parameter	Type	Description
clusterType	String	Cluster type that supports the add-on.
clusterVersion	Array of strings	Cluster versions that support the add-on. The value is a regular expression.

Example Requests

```
{
  "clusterID" : "******"
}
```

Example Responses

Status code: 200

The add-on instance version is rolled back.

```
{
  "kind" : "Addon",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "4eba2678-330f-430b-aefc-821e1bbeff34",
    "name" : "coredns",
    "alias" : "coredns",
    "creationTimestamp" : "2024-07-18T03:03:17Z",
    "updateTimestamp" : "2024-07-18T03:04:44Z"
  },
  "spec" : {
    "clusterID" : "597f2d95-44ab-11ef-9e39-0255ac100115",
    "version" : "1.28.4",
    "addonTemplateName" : "coredns",
    "addonTemplateType" : "helm",
    "addonTemplateLogo" : "",
    "addonTemplateLabels" : [ "ContainerNetwork" ],
    "description" : "CoreDNS is a DNS server that chains plugins and provides Kubernetes DNS Services",
    "values" : {
      "basic" : {
        "cluster_ip" : "10.247.3.10",
        "cluster_version" : "v1.28",
        "image_version" : "1.28.4",
        "platform" : "linux-amd64",
        "rbac_enabled" : true,
        "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
        "swr_user" : "autopilot-official"
      },
      "custom" : {
        "extraConfig" : { },
        "multiAZBalance" : false,
        "multiAZEnabled" : false,
        "nodeSelector" : { },
        "node_match_expressions" : [ ],
        "parameterSyncStrategy" : "ensureConsistent",
        "servers" : [ {
          "plugins" : [ {
            "name" : "bind",
            "parameters" : "{$POD_IP}"
          }, {
            "configBlock" : "servfail 5s",
            "name" : "cache",
            "parameters" : 30
          }, {
            "name" : "errors"
          }, {
            "name" : "health",
            "parameters" : "{$POD_IP}:8080"
          }, {
            "name" : "ready",
            "parameters" : "{$POD_IP}:8081"
          }, {
            "configBlock" : "pods insecure\nfallthrough in-addr.arpa ip6.arpa",
            "name" : "kubernetes",
            "parameters" : "cluster.local in-addr.arpa ip6.arpa"
          }, {
            "name" : "loadbalance",
            "parameters" : "round_robin"
          }, {
            "name" : "prometheus",
            "parameters" : "{$POD_IP}:9153"
          }, {
            "configBlock" : "policy random",
            "name" : "forward",
            "parameters" : ". /etc/resolv.conf"
          }, {
            "name" : "reload"
          } ],
          "port" : 5353,
          "zones" : [ {
            "zone" : "."
          } ]
        } ],
        "stub_domains" : { },
        "tolerations" : [ {
          "effect" : "NoExecute",
          "key" : "node.kubernetes.io/not-ready",
          "operator" : "Exists",
          "tolerationSeconds" : 60
        }, {
          "effect" : "NoExecute",
          "key" : "node.kubernetes.io/unreachable",
          "operator" : "Exists",
          "tolerationSeconds" : 60
        } ],
        "upstream_nameservers" : [ ]
      },
      "flavor" : {
        "category" : [ "Autopilot" ],
        "is_default" : true,
        "name" : "autopilot-flavor1",
        "replicas" : 2,
        "resources" : [ {
          "id" : "coredns",
          "limitsCpu" : "1000m",
          "limitsMem" : "1024Mi",
          "name" : "coredns",
          "requestsCpu" : "1000m",
          "requestsMem" : "1024Mi"
        } ]
      },
      "image" : {
        "pullPolicy" : "Always"
      },
      "isClusterService" : true,
      "multiAZPreferred" : {
        "podAntiAffinity" : {
          "preferredDuringSchedulingIgnoredDuringExecution" : [ {
            "podAffinityTerm" : {
              "labelSelector" : {
                "matchExpressions" : [ {
                  "key" : "app",
                  "operator" : "In",
                  "values" : [ "coredns" ]
                } ]
              },
              "topologyKey" : "topology.kubernetes.io/zone"
            },
            "weight" : 100
          } ]
        }
      },
      "multiAZRequired" : {
        "podAntiAffinity" : {
          "requiredDuringSchedulingIgnoredDuringExecution" : [ {
            "labelSelector" : {
              "matchExpressions" : [ {
                "key" : "az-antiaffinity-app",
                "operator" : "In",
                "values" : [ "coredns" ]
              } ]
            },
            "topologyKey" : "topology.kubernetes.io/zone"
          } ]
        }
      },
      "nodeSelector" : { },
      "rbac" : {
        "create" : true,
        "serviceAccountName" : "default"
      },
      "service" : {
        "annotations" : {
          "prometheus.io/port" : "9153",
          "prometheus.io/scrape" : "true"
        },
        "clusterIP" : "10.247.3.10",
        "type" : "ClusterIP"
      },
      "systemAutoInject" : {
        "cluster" : {
          "clusterID" : "597f2d95-44ab-11ef-9e39-0255ac100115",
          "clusterNetworkMode" : "eni",
          "clusterVersion" : "v1.28.5-r0"
        },
        "user" : {
          "projectID" : "47eb1d64cbeb45cfa01ae20af4f4b563"
        }
      },
      "topologySpreadConstraints" : [ {
        "labelSelector" : {
          "matchLabels" : {
            "app" : "coredns"
          }
        },
        "maxSkew" : 1,
        "topologyKey" : "topology.kubernetes.io/zone",
        "whenUnsatisfiable" : "DoNotSchedule"
      } ],
      "zoneFiles" : [ ]
    }
  },
  "status" : {
    "status" : "rollbacking",
    "Reason" : "Rollback to 1",
    "message" : "",
    "targetVersions" : [ "1.28.6" ],
    "isRollbackable" : false,
    "previousVersion" : "1.28.6",
    "currentVersion" : {
      "version" : "1.28.4",
      "input" : {
        "basic" : {
          "cluster_ip" : "10.247.3.10",
          "image_version" : "1.28.4",
          "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
          "swr_user" : "autopilot-official"
        },
        "parameters" : {
          "autopilot-flavor1" : {
            "category" : [ "Autopilot" ],
            "is_default" : true,
            "name" : "autopilot-flavor1",
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : 1,
              "limitsMem" : "1Gi",
              "name" : "coredns",
              "requestsCpu" : 1,
              "requestsMem" : "1Gi"
            } ]
          },
          "custom" : {
            "multiAZBalance" : false,
            "multiAZEnabled" : false,
            "node_match_expressions" : [ ],
            "parameterSyncStrategy" : "ensureConsistent",
            "servers" : [ {
              "plugins" : [ {
                "name" : "bind",
                "parameters" : "{$POD_IP}"
              }, {
                "configBlock" : "servfail 5s",
                "name" : "cache",
                "parameters" : 30
              }, {
                "name" : "errors"
              }, {
                "name" : "health",
                "parameters" : "{$POD_IP}:8080"
              }, {
                "name" : "ready",
                "parameters" : "{$POD_IP}:8081"
              }, {
                "configBlock" : "pods insecure\nfallthrough in-addr.arpa ip6.arpa",
                "name" : "kubernetes",
                "parameters" : "cluster.local in-addr.arpa ip6.arpa"
              }, {
                "name" : "loadbalance",
                "parameters" : "round_robin"
              }, {
                "name" : "prometheus",
                "parameters" : "{$POD_IP}:9153"
              }, {
                "configBlock" : "policy random",
                "name" : "forward",
                "parameters" : ". /etc/resolv.conf"
              }, {
                "name" : "reload"
              } ],
              "port" : 5353,
              "zones" : [ {
                "zone" : "."
              } ]
            } ],
            "stub_domains" : { },
            "tolerations" : [ {
              "effect" : "NoExecute",
              "key" : "node.kubernetes.io/not-ready",
              "operator" : "Exists",
              "tolerationSeconds" : 60
            }, {
              "effect" : "NoExecute",
              "key" : "node.kubernetes.io/unreachable",
              "operator" : "Exists",
              "tolerationSeconds" : 60
            } ],
            "upstream_nameservers" : [ ]
          },
          "flavor1" : {
            "is_default" : true,
            "name" : 2500,
            "recommend_cluster_flavor_types" : [ "small" ],
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "500m",
              "limitsMem" : "512Mi",
              "name" : "coredns",
              "requestsCpu" : "500m",
              "requestsMem" : "512Mi"
            } ]
           },
           "flavor2" : {
            "name" : 5000,
            "recommend_cluster_flavor_types" : [ "medium" ],
            "replicas" : 2,
            "resources" : [ {
             "limitsCpu" : "1000m",
             "limitsMem" : "1024Mi",
             "name" : "coredns",
             "requestsCpu" : "1000m",
             "requestsMem" : "1024Mi"
            } ]
           },
           "flavor3" : {
            "name" : 10000,
            "recommend_cluster_flavor_types" : [ "large" ],
            "replicas" : 2,
            "resources" : [ {
             "limitsCpu" : "2000m",
             "limitsMem" : "2048Mi",
             "name" : "coredns",
             "requestsCpu" : "2000m",
             "requestsMem" : "2048Mi"
            } ]
           },
           "flavor4" : {
            "name" : 20000,
            "recommend_cluster_flavor_types" : [ "xlarge" ],
            "replicas" : 4,
            "resources" : [ {
             "limitsCpu" : "2000m",
             "limitsMem" : "2048Mi",
             "name" : "coredns",
             "requestsCpu" : "2000m",
             "requestsMem" : "2048Mi"
            } ]
           }
          }
         },
         "stable" : true,
         "translate" : {
          "en_US" : {
           "addon" : {
            "changeLog" : "plugin specifications can be associated with cluster specifications. The time zone of the plug-in is the same as that of the node",
            "description" : "CoreDNS is a DNS server that chains plugins and provides Kubernetes DNS Services"
           },
           "description" : {
            "Parameters.custom.stub_domains" : "The target nameserver may itself be a Kubernetes service. For instance, you can run your own copy of dnsmasq to export custom DNS names into the ClusterDNS namespace, a JSON map using a DNS suffix key (for example, **\"acme.local\"**) and a value consisting of a JSON array of DNS IPs.",
            "Parameters.custom.upstream_nameservers" : "If specified, then the values specified replace the nameservers taken by default from the node's **/etc/resolv.conf**. Limits: A maximum of three upstream nameservers can be specified. (A JSON array of DNS IPs.)",
            "Parameters.flavor1.description" : "Concurrent domain name resolution capability - external domain name: 2500 qps, internal domain name: 10000 qps",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Concurrent domain name resolution capability - external domain name: 5000 qps, internal domain name: 20000 qps",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Concurrent domain name resolution capability - external domain name: 10000 qps, internal domain name: 40000 qps",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Concurrent domain name resolution capability - external domain name: 20000 qps, internal domain name: 80000 qps",
            "Parameters.flavor4.name" : 20000
           },
          "key" : {
            "Parameters.custom.stub_domains" : "stub domain",
            "Parameters.custom.upstream_nameservers" : "upstream nameservers"
          }
        },
        "fr_FR" : {
          "addon" : {
            "changeLog" : "les spécifications du plugin peuvent être associées aux spécifications du cluster. le
fuseau horaire du plug-in est le même que celui du noeud",
            "description" : "Un serveur DNS qui enchaîne les plug-ins et fournit des services DNS Kubernetes."
          },
          "description" : {
            "Parameters.custom.stub_domains" : "Le serveur de noms cible peut lui-même être un service
Kubernetes. Par exemple, vous pouvez exécuter votre propre copie de dnsmasq pour exporter des noms
DNS personnalisés dans l'espace de noms ClusterDNS, une carte JSON à l'aide d'une clé de suffixe DNS (par
exemple, «acme.local») et une valeur constituée d'un tableau JSON d'adresses IP DNS.",
            "Parameters.custom.upstream_nameservers" : "Si spécifié, les valeurs spécifiées remplacent les
serveurs de noms pris par défaut dans le fichier /etc/resolv.conf du nœud. Limites: un maximum de trois
serveurs de noms en amont peuvent être spécifiés, un tableau JSON d'adresses IP DNS.",
            "Parameters.flavor1.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 2500 qps, Nom de domaine interne: 10000 qp",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 5000 qps, Nom de domaine interne: 20000 qp",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 10000 qps, Nom de domaine interne: 40000 qp",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 20000 qps, Nom de domaine interne: 80000 qp",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "domaine stub",
            "Parameters.custom.upstream_nameservers" : "serveurs de noms en amont"
          }
        },
        "zh_CN" : {
          "addon" : {
            "changeLog" : "Supports association between add-on specifications and cluster specifications. The
time zone of the add-on is the same as that of the node.",
            "description" : "CoreDNS is a DNS server that chains plug-ins and offers DNS resolution for
Kubernetes clusters."
          },
          "description" : {
            "Parameters.custom.stub_domains" : "A domain name server for a custom domain name in key-
value pair. The key is a suffix of DNS domain name, and the value is one or more DNS IP addresses, for
example, **acme.local -- 1.2.3.4,6.7.8.9**.",
            "Parameters.custom.upstream_nameservers" : "Resolves all domain names except intra-cluster
service domain names and custom domain names. The value can be one or more DNS IP addresses, for
example, **\"8.8.8.8\",\"8.8.4.4\"**.",
            "Parameters.flavor1.description" : "Concurrent domain name resolution capability - external
domain name: 2500 qps, internal domain name: 10,000 qps",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Concurrent domain name resolution capability - external
domain name: 5000 qps, internal domain name: 20000 qps",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Concurrent domain name resolution capability - external
domain name: 10000 qps, internal domain name: 40000 qps",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Concurrent domain name resolution capability - external
domain name: 20000 qps, internal domain name: 80000 qps",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "Stub domain",
            "Parameters.custom.upstream_nameservers" : "Upstream DNS server"
          }
        }
```

```
      },
      "supportVersions" : null,
      "creationTimestamp" : "2024-01-22T11:05:45Z",
      "updateTimestamp" : "2024-01-22T11:05:45Z"
    }
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class RollbackAutopilotAddonInstanceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        RollbackAutopilotAddonInstanceRequest request = new RollbackAutopilotAddonInstanceRequest();
        request.withId("{id}");
        AddonInstanceRollbackRequest body = new AddonInstanceRollbackRequest();
        body.withClusterID("******");
        request.withBody(body);
        try {
            RollbackAutopilotAddonInstanceResponse response = 
client.rollbackAutopilotAddonInstance(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = RollbackAutopilotAddonInstanceRequest()
        request.id = "{id}"
        request.body = AddonInstanceRollbackRequest(
            cluster_id="******"
        )
        response = client.rollback_autopilot_addon_instance(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.RollbackAutopilotAddonInstanceRequest{}
    request.Id = "{id}"
    request.Body = &model.AddonInstanceRollbackRequest{
        ClusterID: "******",
    }
    response, err := client.RollbackAutopilotAddonInstance(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The add-on instance version is rolled back.

Error Codes

See **Error Codes**.

4.2.5 Deleting an Add-on Instance

Function

This API is used to delete an add-on instance.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /autopilot/v3/addons/{id}

Table 4-187 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Add-on instance ID

Table 4-188 Query Parameters

Parameter	Mandatory	Type	Description
cluster_id	No	String	Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**.

Request Parameters

Table 4-189 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-190 Response body parameters

Parameter	Type	Description
-	String	

Example Requests

None

Example Responses

Status code: 200

OK

```
success
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class DeleteAutopilotAddonInstanceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        DeleteAutopilotAddonInstanceRequest request = new DeleteAutopilotAddonInstanceRequest();
        request.withId("{id}");
        try {
            DeleteAutopilotAddonInstanceResponse response = client.deleteAutopilotAddonInstance(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteAutopilotAddonInstanceRequest()
        request.id = "{id}"
        response = client.delete_autopilot_addon_instance(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteAutopilotAddonInstanceRequest{}
    request.Id = "{id}"
    response, err := client.DeleteAutopilotAddonInstance(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.2.6 Obtaining an Add-on Instance

Function

This API is used to obtain details about an add-on instance.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/addons/{id}

Table 4-191 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Add-on instance ID

Table 4-192 Query Parameters

Parameter	Mandatory	Type	Description
cluster_id	No	String	Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**.

Request Parameters

Table 4-193 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-194 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Addon** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AddonMetadata** object	Basic information about the object. Metadata is a collection of attributes.
spec	**InstanceSpec** object	Detailed description of the add-on instance.
status	**AddonInstanceStatus** object	Add-on instance status.

Table 4-195 AddonMetadata

Parameter	Type	Description
uid	String	Unique ID

Parameter	Type	Description
name	String	Add-on name
alias	String	Add-on alias
labels	Map<String,String>	Add-on labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Add-on annotations in the format of key-value pairs. ● For add-on installation, the value is fixed at **{"addon.install/type":"install"}**. ● For add-on upgrade, the value is fixed at **{"addon.upgrade/type":"upgrade"}**.
updateTimestamp	String	Updated at
creationTimestamp	String	Created at

Table 4-196 InstanceSpec

Parameter	Type	Description
clusterID	String	Cluster ID.
version	String	Add-on template version, for example, **1.0.0**.
addonTemplateName	String	Add-on template name, for example, **coredns**.
addonTemplateType	String	Add-on template type.
addonTemplateLogo	String	URL for obtaining the add-on template logo.
addonTemplateLabels	Array of strings	Labels of the add-on template.
description	String	Add-on template description.
values	Map<String,Object>	Add-on template installation parameters (varying depending on the add-on). Set the parameters accordingly.

Table 4-197 AddonInstanceStatus

Parameter	Type	Description
status	String	Add-on instance status. Options: - **running**: All of the add-on instances are running. This specifies that the add-on runs properly. - **abnormal**: The add-on instances are abnormal and the add-on cannot be used. You can click the add-on name to view exceptions. - **installing**: The add-on is being installed. - **installFailed**: Installing the add-on failed. In this case, uninstall the add-on and then reinstall it. - **upgrading**: The add-on is being upgraded. - **upgradeFailed**: Upgrading the add-on failed. In this case, upgrade the add-on again or uninstall the add-on and reinstall it. - **deleting**: The add-on is being deleted. - **deleteFailed**: Deleting the add-on failed. In this case, uninstall the add-on again. - **deleteSuccess**: Deleting the add-on succeeded. - **available**: Only some instances of the add-on are running. This specifies that some functions of the add-on are available. - **rollbacking**: The add-on is being rolled back. - **rollbackFailed**: Rolling back the add-on failed. In this case, roll back the add-on again or uninstall the add-on and reinstall it. - **unknown**: The add-on chart instance does not exist.
Reason	String	Cause of the add-on installation failure.
message	String	Installation error details.
targetVersions	Array of strings	Versions to which the current add-on version can be upgraded.
currentVersion	**Versions** object	Information about the current add-on version.
isRollbackable	Boolean	Whether the add-on version can be rolled back to the source version.

Parameter	Type	Description
previousVersion	String	The add-on version before upgrade or rollback

Table 4-198 Versions

Parameter	Type	Description
version	String	Add-on version.
input	Object	Add-on installation parameters.
stable	Boolean	Whether the add-on version is a stable release.
translate	Object	Translation information used by the GUI.
supportVersions	Array of **SupportVersions** objects	Cluster versions that support the add-on.
creationTimestamp	String	Creation time.
updateTimestamp	String	Update time.

Table 4-199 SupportVersions

Parameter	Type	Description
clusterType	String	Cluster type that supports the add-on.
clusterVersion	Array of strings	Cluster versions that support the add-on. The value is a regular expression.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "kind" : "Addon",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "90b775e0-5774-4e1d-ab3b-516332ba047a",
    "name" : "coredns",
    "alias" : "coredns",
    "creationTimestamp" : "2024-07-18T04:04:21Z",
    "updateTimestamp" : "2024-07-18T04:04:21Z"
  },
  "spec" : {
    "clusterID" : "597f2d95-44ab-11ef-9e39-0255ac100115",
    "version" : "1.28.6",
    "addonTemplateName" : "coredns",
    "addonTemplateType" : "helm",
    "addonTemplateLogo" : "",
    "addonTemplateLabels" : [ "ContainerNetwork" ],
    "description" : "CoreDNS is a DNS server that chains plugins and provides Kubernetes DNS Services",
    "values" : null
  },
  "status" : {
    "status" : "abnormal",
    "Reason" : "",
    "message" : "",
    "targetVersions" : null,
    "isRollbackable" : false,
    "currentVersion" : {
      "version" : "1.28.6",
      "input" : {
        "basic" : {
          "cluster_ip" : "10.247.3.10",
          "image_version" : "1.28.6",
          "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
          "swr_user" : "autopilot-official"
        },
        "parameters" : {
          "autopilot-flavor1" : {
            "category" : [ "Autopilot" ],
            "is_default" : true,
            "name" : "autopilot-flavor1",
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : 1,
              "limitsMem" : "2Gi",
              "name" : "coredns",
              "requestsCpu" : 1,
              "requestsMem" : "2Gi"
            } ]
          },
          "custom" : {
            "multiAZBalance" : false,
            "multiAZEnabled" : false,
            "node_match_expressions" : [ ],
            "parameterSyncStrategy" : "ensureConsistent",
            "servers" : [ {
              "plugins" : [ {
                "name" : "bind",
                "parameters" : "{$POD_IP}"
              }, {
                "configBlock" : "servfail 5s",
                "name" : "cache",
                "parameters" : 30
              }, {
                "name" : "errors"
              }, {
                "name" : "health",
                "parameters" : "{$POD_IP}:8080"
              }, {
                "name" : "ready",
                "parameters" : "{$POD_IP}:8081"
              }, {
                "configBlock" : "pods insecure\nfallthrough in-addr.arpa ip6.arpa",
                "name" : "kubernetes",
                "parameters" : "cluster.local in-addr.arpa ip6.arpa"
              }, {
                "name" : "loadbalance",
                "parameters" : "round_robin"
              }, {
                "name" : "prometheus",
                "parameters" : "{$POD_IP}:9153"
              }, {
                "configBlock" : "policy random",
                "name" : "forward",
                "parameters" : ". /etc/resolv.conf"
              }, {
                "name" : "reload"
              } ],
              "port" : 5353,
              "zones" : [ {
                "zone" : "."
              } ]
            } ],
            "stub_domains" : { },
            "tolerations" : [ {
              "effect" : "NoExecute",
              "key" : "node.kubernetes.io/not-ready",
              "operator" : "Exists",
              "tolerationSeconds" : 60
            }, {
              "effect" : "NoExecute",
              "key" : "node.kubernetes.io/unreachable",
              "operator" : "Exists",
              "tolerationSeconds" : 60
            } ],
            "upstream_nameservers" : [ ]
          },
          "flavor1" : {
            "is_default" : true,
            "name" : 2500,
            "recommend_cluster_flavor_types" : [ "small" ],
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "500m",
              "limitsMem" : "512Mi",
              "name" : "coredns",
              "requestsCpu" : "500m",
              "requestsMem" : "512Mi"
            } ]
          },
          "flavor2" : {
            "name" : 5000,
            "recommend_cluster_flavor_types" : [ "medium" ],
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "1000m",
              "limitsMem" : "1024Mi",
              "name" : "coredns",
              "requestsCpu" : "1000m",
              "requestsMem" : "1024Mi"
            } ]
          },
          "flavor3" : {
            "name" : 10000,
            "recommend_cluster_flavor_types" : [ "large" ],
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "2000m",
              "limitsMem" : "2048Mi",
              "name" : "coredns",
              "requestsCpu" : "2000m",
              "requestsMem" : "2048Mi"
            } ]
          },
          "flavor4" : {
            "name" : 20000,
            "recommend_cluster_flavor_types" : [ "xlarge" ],
            "replicas" : 4,
            "resources" : [ {
              "limitsCpu" : "2000m",
              "limitsMem" : "2048Mi",
              "name" : "coredns",
              "requestsCpu" : "2000m",
              "requestsMem" : "2048Mi"
            } ]
          }
        }
      },
      "stable" : true,
      "translate" : {
        "en_US" : {
          "addon" : {
            "changeLog" : "Support autopilot cluster",
            "description" : "CoreDNS is a DNS server that chains plugins and provides Kubernetes DNS Services"
          },
          "description" : {
            "Parameters.custom.stub_domains" : "The target nameserver may itself be a Kubernetes service. For
instance, you can run your own copy of dnsmasq to export custom DNS names into the ClusterDNS
namespace, a JSON map using a DNS suffix key (for example, **\"acme.local\"**) and a value consisting of
a JSON array of DNS IPs.",
            "Parameters.custom.upstream_nameservers" : "If specified, then the values specified replace the
nameservers taken by default from the node's **/etc/resolv.conf**. Limits: A maximum of three upstream
nameservers can be specified. (A JSON array of DNS IPs.)",
            "Parameters.flavor1.description" : "Concurrent domain name resolution capability - external
domain name: 2500 qps, internal domain name: 10000 qps",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Concurrent domain name resolution capability - external
domain name: 5000 qps, internal domain name: 20000 qps",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Concurrent domain name resolution capability - external
domain name: 10000 qps, internal domain name: 40000 qps",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Concurrent domain name resolution capability - external
domain name: 20000 qps, internal domain name: 80000 qps",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "stub domain",
            "Parameters.custom.upstream_nameservers" : "upstream nameservers"
          }
        },
        "fr_FR" : {
          "addon" : {
            "changeLog" : "les spécifications du plugin peuvent être associées aux spécifications du cluster. le
fuseau horaire du plug-in est le même que celui du noeud",
            "description" : "Un serveur DNS qui enchaîne les plug-ins et fournit des services DNS Kubernetes."
          },
          "description" : {
            "Parameters.custom.stub_domains" : "Le serveur de noms cible peut lui-même être un service
Kubernetes. Par exemple, vous pouvez exécuter votre propre copie de dnsmasq pour exporter des noms
DNS personnalisés dans l'espace de noms ClusterDNS, une carte JSON à l'aide d'une clé de suffixe DNS (par
exemple, «acme.local») et une valeur constituée d'un tableau JSON d'adresses IP DNS.",
            "Parameters.custom.upstream_nameservers" : "Si spécifié, les valeurs spécifiées remplacent les
serveurs de noms pris par défaut dans le fichier /etc/resolv.conf du nœud. Limites: un maximum de trois
serveurs de noms en amont peuvent être spécifiés, un tableau JSON d'adresses IP DNS.",
            "Parameters.flavor1.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 2500 qps, Nom de domaine interne: 10000 qp",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 5000 qps, Nom de domaine interne: 20000 qp",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
domaine externe: 10000 qps, Nom de domaine interne: 40000 qp",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Capacité de résolution de nom de domaine simultanée - Nom de
```

```
domaine externe: 20000 qps, Nom de domaine interne: 80000 qp",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "domaine stub",
            "Parameters.custom.upstream_nameservers" : "serveurs de noms en amont"
          }
        },
        "zh_CN" : {
          "addon" : {
            "changeLog" : "Autopilot clusters are supported.",
            "description" : "CoreDNS is a DNS server that chains plug-ins and offers DNS resolution for
Kubernetes clusters."
          },
          "description" : {
            "Parameters.custom.stub_domains" : "A domain name server for a custom domain name in key-
value pair. The key is a suffix of DNS domain name, and the value is one or more DNS IP addresses, for
example, **acme.local -- 1.2.3.4,6.7.8.9**.",
            "Parameters.custom.upstream_nameservers" : "Resolves all domain names except intra-cluster
service domain names and custom domain names. The value can be one or more DNS IP addresses, for
example, **\"8.8.8.8\",\"8.8.4.4\"**.",
            "Parameters.flavor1.description" : "Concurrent domain name resolution capability - external
domain name: 2500 qps, internal domain name: 10000 qps",
            "Parameters.flavor1.name" : 2500,
            "Parameters.flavor2.description" : "Concurrent domain name resolution capability - external
domain name: 5000 qps, internal domain name: 20000 qps",
            "Parameters.flavor2.name" : 5000,
            "Parameters.flavor3.description" : "Concurrent domain name resolution capability - external
domain name: 10000 qps, internal domain name: 40000 qps",
            "Parameters.flavor3.name" : 10000,
            "Parameters.flavor4.description" : "Concurrent domain name resolution capability - external
domain name: 20000 qps, internal domain name: 80000 qps",
            "Parameters.flavor4.name" : 20000
          },
          "key" : {
            "Parameters.custom.stub_domains" : "Stub domain",
            "Parameters.custom.upstream_nameservers" : "Upstream DNS server"
          }
        }
      },
      "supportVersions" : null,
      "creationTimestamp" : "2024-02-19T11:33:46Z",
      "updateTimestamp" : "2024-02-21T01:24:05Z"
    }
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotAddonInstanceSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotAddonInstanceRequest request = new ShowAutopilotAddonInstanceRequest();
        request.withId("{id}");
        try {
            ShowAutopilotAddonInstanceResponse response = client.showAutopilotAddonInstance(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotAddonInstanceRequest()
        request.id = "{id}"
        response = client.show_autopilot_addon_instance(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotAddonInstanceRequest{}
    request.Id = "{id}"
    response, err := client.ShowAutopilotAddonInstance(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.2.7 Listing Add-on Instances

Function

This API is used to obtain all add-on instances in a cluster.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/addons

Table 4-200 Query Parameters

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**.

Request Parameters

Table 4-201 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-202 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **Addon** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
items	Array of **AddonInstance** objects	Add-on instance list.

Table 4-203 AddonInstance

Parameter	Type	Description
kind	String	API type. The value is fixed at **Addon** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**AddonMetadata** object	Basic information about the object. Metadata is a collection of attributes.

Parameter	Type	Description
spec	**InstanceSpec** object	Detailed description of the add-on instance.
status	**AddonInstanceStatus** object	Add-on instance status.

Table 4-204 AddonMetadata

Parameter	Type	Description
uid	String	Unique ID
name	String	Add-on name
alias	String	Add-on alias
labels	Map<String,String>	Add-on labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Add-on annotations in the format of key-value pairs. ● For add-on installation, the value is fixed at **{"addon.install/type":"install"}**. ● For add-on upgrade, the value is fixed at **{"addon.upgrade/type":"upgrade"}**.
updateTimestamp	String	Updated at
creationTimestamp	String	Created at

Table 4-205 InstanceSpec

Parameter	Type	Description
clusterID	String	Cluster ID.
version	String	Add-on template version, for example, **1.0.0**.
addonTemplateName	String	Add-on template name, for example, **coredns**.
addonTemplateType	String	Add-on template type.
addonTemplateLogo	String	URL for obtaining the add-on template logo.

Parameter	Type	Description
addonTemplateLabels	Array of strings	Labels of the add-on template.
description	String	Add-on template description.
values	Map<String,Object>	Add-on template installation parameters (varying depending on the add-on). Set the parameters accordingly.

Table 4-206 AddonInstanceStatus

Parameter	Type	Description
status	String	Add-on instance status. Options: ● **running**: All of the add-on instances are running. This specifies that the add-on runs properly. ● **abnormal**: The add-on instances are abnormal and the add-on cannot be used. You can click the add-on name to view exceptions. ● **installing**: The add-on is being installed. ● **installFailed**: Installing the add-on failed. In this case, uninstall the add-on and then reinstall it. ● **upgrading**: The add-on is being upgraded. ● **upgradeFailed**: Upgrading the add-on failed. In this case, upgrade the add-on again or uninstall the add-on and reinstall it. ● **deleting**: The add-on is being deleted. ● **deleteFailed**: Deleting the add-on failed. In this case, uninstall the add-on again. ● **deleteSuccess**: Deleting the add-on succeeded. ● **available**: Only some instances of the add-on are running. This specifies that some functions of the add-on are available. ● **rollbacking**: The add-on is being rolled back. ● **rollbackFailed**: Rolling back the add-on failed. In this case, roll back the add-on again or uninstall the add-on and reinstall it. ● **unknown**: The add-on chart instance does not exist.
Reason	String	Cause of the add-on installation failure.
message	String	Installation error details.
targetVersions	Array of strings	Versions to which the current add-on version can be upgraded.
currentVersion	**Versions** object	Information about the current add-on version.
isRollbackable	Boolean	Whether the add-on version can be rolled back to the source version.

Parameter	Type	Description
previousVersion	String	The add-on version before upgrade or rollback

Table 4-207 Versions

Parameter	Type	Description
version	String	Add-on version.
input	Object	Add-on installation parameters.
stable	Boolean	Whether the add-on version is a stable release.
translate	Object	Translation information used by the GUI.
supportVersions	Array of **SupportVersions** objects	Cluster versions that support the add-on.
creationTimestamp	String	Creation time.
updateTimestamp	String	Update time.

Table 4-208 SupportVersions

Parameter	Type	Description
clusterType	String	Cluster type that supports the add-on.
clusterVersion	Array of strings	Cluster versions that support the add-on. The value is a regular expression.

Example Requests

None

Example Responses

Status code: 200

ok

```
{
  "kind" : "Addon",
  "apiVersion" : "v3",
  "items" : [ {
    "kind" : "Addon",
    "apiVersion" : "v3",
    "metadata" : {
```

```
    "uid" : "90b775e0-5774-4e1d-ab3b-516332ba047a",
    "name" : "coredns",
    "alias" : "coredns",
    "creationTimestamp" : "2024-07-18T04:04:21Z",
    "updateTimestamp" : "2024-07-18T04:04:21Z"
  },
  "spec" : {
    "clusterID" : "597f2d95-44ab-11ef-9e39-0255ac100115",
    "version" : "1.28.6",
    "addonTemplateName" : "coredns",
    "addonTemplateType" : "helm",
    "addonTemplateLogo" : "",
    "addonTemplateLabels" : [ "ContainerNetwork" ],
    "description" : "CoreDNS is a DNS server that chains plugins and provides Kubernetes DNS Services",
    "values" : null
  },
  "status" : {
    "status" : "installing",
    "Reason" : "",
    "message" : "",
    "targetVersions" : null,
    "isRollbackable" : false,
    "currentVersion" : {
      "version" : "1.28.6",
      "input" : {
        "basic" : {
          "cluster_ip" : "10.247.3.10",
          "image_version" : "1.28.6",
          "swr_addr" : "swr.cn-north-7.myhuaweicloud.com",
          "swr_user" : "autopilot-official"
        },
        "parameters" : {
          "autopilot-flavor1" : {
            "category" : [ "Autopilot" ],
            "is_default" : true,
            "name" : "autopilot-flavor1",
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : 1,
              "limitsMem" : "2Gi",
              "name" : "coredns",
              "requestsCpu" : 1,
              "requestsMem" : "2Gi"
            } ]
          },
          "custom" : {
            "multiAZBalance" : false,
            "multiAZEnabled" : false,
            "node_match_expressions" : [ ],
            "parameterSyncStrategy" : "ensureConsistent",
            "servers" : [ {
              "plugins" : [ {
                "name" : "bind",
                "parameters" : "{$POD_IP}"
              }, {
                "configBlock" : "servfail 5s",
                "name" : "cache",
                "parameters" : 30
              }, {
                "name" : "errors"
              }, {
                "name" : "health",
                "parameters" : "{$POD_IP}:8080"
              }, {
                "name" : "ready",
                "parameters" : "{$POD_IP}:8081"
              }, {
                "configBlock" : "pods insecure\nfallthrough in-addr.arpa ip6.arpa",
                "name" : "kubernetes",
                "parameters" : "cluster.local in-addr.arpa ip6.arpa"
              }, {
                "name" : "loadbalance",
                "parameters" : "round_robin"
              }, {
                "name" : "prometheus",
                "parameters" : "{$POD_IP}:9153"
              }, {
                "configBlock" : "policy random",
                "name" : "forward",
                "parameters" : ". /etc/resolv.conf"
              }, {
                "name" : "reload"
              } ],
              "port" : 5353,
              "zones" : [ {
                "zone" : "."
              } ]
            } ],
            "stub_domains" : { },
            "tolerations" : [ {
              "effect" : "NoExecute",
              "key" : "node.kubernetes.io/not-ready",
              "operator" : "Exists",
              "tolerationSeconds" : 60
            }, {
              "effect" : "NoExecute",
              "key" : "node.kubernetes.io/unreachable",
              "operator" : "Exists",
              "tolerationSeconds" : 60
            } ],
            "upstream_nameservers" : [ ]
          },
          "flavor1" : {
            "is_default" : true,
            "name" : 2500,
            "recommend_cluster_flavor_types" : [ "small" ],
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "500m",
              "limitsMem" : "512Mi",
              "name" : "coredns",
              "requestsCpu" : "500m",
              "requestsMem" : "512Mi"
            } ]
          },
          "flavor2" : {
            "name" : 5000,
            "recommend_cluster_flavor_types" : [ "medium" ],
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "1000m",
              "limitsMem" : "1024Mi",
              "name" : "coredns",
              "requestsCpu" : "1000m",
              "requestsMem" : "1024Mi"
            } ]
          },
          "flavor3" : {
            "name" : 10000,
            "recommend_cluster_flavor_types" : [ "large" ],
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "2000m",
              "limitsMem" : "2048Mi",
              "name" : "coredns",
              "requestsCpu" : "2000m",
              "requestsMem" : "2048Mi"
            } ]
```

```
            },
            "flavor4" : {
              "name" : 20000,
              "recommend_cluster_flavor_types" : [ "xlarge" ],
              "replicas" : 4,
              "resources" : [ {
                "limitsCpu" : "2000m",
                "limitsMem" : "2048Mi",
                "name" : "coredns",
                "requestsCpu" : "2000m",
                "requestsMem" : "2048Mi"
              } ]
            }
          }
        },
        "stable" : true,
        "translate" : {
          "en_US" : {
            "addon" : {
              "changeLog" : "Support autopilot cluster",
              "description" : "CoreDNS is a DNS server that chains plugins and provides Kubernetes DNS
Services"
            },
            "description" : {
              "Parameters.custom.stub_domains" : "The target nameserver may itself be a Kubernetes service.
For instance, you can run your own copy of dnsmasq to export custom DNS names into the ClusterDNS
namespace, a JSON map using a DNS suffix key (for example, **\"acme.local\"**) and a value consisting of
a JSON array of DNS IPs.",
              "Parameters.custom.upstream_nameservers" : "If specified, then the values specified replace the
nameservers taken by default from the node's **/etc/resolv.conf**. Limits: A maximum of three upstream
nameservers can be specified. (A JSON array of DNS IPs.)",
              "Parameters.flavor1.description" : "Concurrent domain name resolution capability - external
domain name: 2500 qps, internal domain name: 10000 qps",
              "Parameters.flavor1.name" : 2500,
              "Parameters.flavor2.description" : "Concurrent domain name resolution capability - external
domain name: 5000 qps, internal domain name: 20000 qps",
              "Parameters.flavor2.name" : 5000,
              "Parameters.flavor3.description" : "Concurrent domain name resolution capability - external
domain name: 10000 qps, internal domain name: 40000 qps",
              "Parameters.flavor3.name" : 10000,
              "Parameters.flavor4.description" : "Concurrent domain name resolution capability - external
domain name: 20000 qps, internal domain name: 80000 qps",
              "Parameters.flavor4.name" : 20000
            },
            "key" : {
              "Parameters.custom.stub_domains" : "stub domain",
              "Parameters.custom.upstream_nameservers" : "upstream nameservers"
            }
          },
          "fr_FR" : {
            "addon" : {
              "changeLog" : "les spécifications du plugin peuvent être associées aux spécifications du cluster. le
fuseau horaire du plug-in est le même que celui du noeud",
              "description" : "Un serveur DNS qui enchaîne les plug-ins et fournit des services DNS Kubernetes."
            },
            "description" : {
              "Parameters.custom.stub_domains" : "Le serveur de noms cible peut lui-même être un service
Kubernetes. Par exemple, vous pouvez exécuter votre propre copie de dnsmasq pour exporter des noms
DNS personnalisés dans l'espace de noms ClusterDNS, une carte JSON à l'aide d'une clé de suffixe DNS (par
exemple, «acme.local») et une valeur constituée d'un tableau JSON d'adresses IP DNS.",
              "Parameters.custom.upstream_nameservers" : "Si spécifié, les valeurs spécifiées remplacent les
serveurs de noms pris par défaut dans le fichier /etc/resolv.conf du nœud. Limites: un maximum de trois
serveurs de noms en amont peuvent être spécifiés, un tableau JSON d'adresses IP DNS.",
              "Parameters.flavor1.description" : "Capacité de résolution de nom de domaine simultanée - Nom
de domaine externe: 2500 qps, Nom de domaine interne: 10000 qp",
              "Parameters.flavor1.name" : 2500,
              "Parameters.flavor2.description" : "Capacité de résolution de nom de domaine simultanée - Nom
de domaine externe: 5000 qps, Nom de domaine interne: 20000 qp",
              "Parameters.flavor2.name" : 5000,
              "Parameters.flavor3.description" : "Capacité de résolution de nom de domaine simultanée - Nom de domaine externe: 10000 qps, Nom de domaine interne: 40000 qp",
              "Parameters.flavor3.name" : 10000,
              "Parameters.flavor4.description" : "Capacité de résolution de nom de domaine simultanée - Nom de domaine externe: 20000 qps, Nom de domaine interne: 80000 qp",
              "Parameters.flavor4.name" : 20000
            },
            "key" : {
              "Parameters.custom.stub_domains" : "domaine stub",
              "Parameters.custom.upstream_nameservers" : "serveurs de noms en amont"
            }
          },
          "zh_CN" : {
            "addon" : {
              "changeLog" : "Autopilot clusters are supported.",
              "description" : "CoreDNS is a DNS server that chains plug-ins and offers DNS resolution for Kubernetes clusters."
            },
            "description" : {
              "Parameters.custom.stub_domains" : "A domain name server for a custom domain name in key-value pair. The key is a suffix of DNS domain name, and the value is one or more DNS IP addresses, for example, **acme.local -- 1.2.3.4,6.7.8.9**.",
              "Parameters.custom.upstream_nameservers" : "Resolves all domain names except intra-cluster service domain names and custom domain names. The value can be one or more DNS IP addresses, for example, **\"8.8.8.8\",\"8.8.4.4\"**.",
              "Parameters.flavor1.description" : "Concurrent domain name resolution capability - external domain name: 2500 qps, internal domain name: 10000 qps",
              "Parameters.flavor1.name" : 2500,
              "Parameters.flavor2.description" : "Concurrent domain name resolution capability - external domain name: 5000 qps, internal domain name: 20000 qps",
              "Parameters.flavor2.name" : 5000,
              "Parameters.flavor3.description" : "Concurrent domain name resolution capability - external domain name: 10000 qps, internal domain name: 40000 qps",
              "Parameters.flavor3.name" : 10000,
              "Parameters.flavor4.description" : "Concurrent domain name resolution capability - external domain name: 20000 qps, internal domain name: 80000 qps",
              "Parameters.flavor4.name" : 20000
            },
            "key" : {
              "Parameters.custom.stub_domains" : "Stub domain",
              "Parameters.custom.upstream_nameservers" : "Upstream DNS server"
            }
          }
        },
        "supportVersions" : null,
        "creationTimestamp" : "2024-02-19T11:33:46Z",
        "updateTimestamp" : "2024-02-21T01:24:05Z"
      }
    }
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;
```

```
public class ListAutopilotAddonInstancesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotAddonInstancesRequest request = new ListAutopilotAddonInstancesRequest();
        try {
            ListAutopilotAddonInstancesResponse response = client.listAutopilotAddonInstances(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotAddonInstancesRequest()
        response = client.list_autopilot_addon_instances(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAutopilotAddonInstancesRequest{}
    response, err := client.ListAutopilotAddonInstances(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	ok

Error Codes

See **Error Codes**.

4.3 Autopilot Cluster Upgrade

4.3.1 Upgrading a Cluster

Function

This API is used to upgrade a cluster.

NOTE

- Cluster upgrade involves many operations on components. You are advised to upgrade your cluster on the CCE console, a more interactive and intuitive way to reduce operational risks.
- Cluster upgrade APIs are available only upon request.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/upgrade

Table 4-209 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-210 Request body parameters

Parameter	Mandatory	Type	Description
metadata	Yes	**UpgradeClusterRequestMetadata** object	**Details**: Cluster upgrade metadata information **Constraints**: None
spec	Yes	**AutopilotUpgradeSpec** object	**Details**: Upgrade configuration information. CCE upgrades a cluster based on **spec**. **Constraints**: None

Table 4-211 UpgradeClusterRequestMetadata

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	**Details**: API version **Constraints**: The value is fixed. **Options**: ● v3

Parameter	Mandatory	Type	Description
kind	Yes	String	**Details**: API type **Constraints**: The value is fixed. **Options**: - UpgradeTask

Table 4-212 AutopilotUpgradeSpec

Parameter	Mandatory	Type	Description
clusterUpgradeAction	No	**AutopilotClusterUpgradeAction** object	**Details**: Detailed configuration information about the cluster upgrade **Constraints**: None

Table 4-213 AutopilotClusterUpgradeAction

Parameter	Mandatory	Type	Description
addons	No	Array of **AutopilotUpgradeAddonConfig** objects	**Details**: Add-on configuration list. CCE upgrades add-ons based on the configuration during the cluster upgrade. **Constraints**: None
nodeOrder	No	Map<String,Array<**NodePriority**>>	**Details**: Upgrade sequence of nodes in a node pool. **key** indicates the node pool ID. The value for the default node pool is **DefaultPool**. **Constraints**: None

Parameter	Mandatory	Type	Description
nodePoolOrder	No	Map<String,Integer>	**Details**: Upgrade sequence of a node pool, in key-value pairs. **key** indicates the node pool ID. The value for the default node pool is **DefaultPool**. **value** indicates the node pool priority. The default value is **0**, which indicates the lowest priority. A larger value indicates a higher priority. **Constraints**: None
strategy	Yes	**UpgradeStrategy** object	**Details**: Cluster upgrade policy **Constraints**: None
targetVersion	Yes	String	**Details**: Target cluster version, for example, v1.23 **Constraints**: You can only upgrade a cluster to a later version. Do not enter a value that is equal to or earlier than the current cluster version. **Options**: Supported cluster versions

Table 4-214 AutopilotUpgradeAddonConfig

Parameter	Mandatory	Type	Description
addonTemplateName	Yes	String	**Details**: CCE add-on name **Constraints**: None **Options**: Names of the add-ons installed in the cluster.

Parameter	Mandatory	Type	Description
operation	Yes	String	**Details**: Action for upgrading an add-on **Constraints**: None **Options**: **patch**: specifies that the add-on version will be upgraded.
version	Yes	String	**Details**: Target add-on version **Constraints**: The target add-on version must match the target cluster version. **Options**: N/A
values	No	Map<String,Object>	**Details**: Add-on parameter list, in key-value pairs **Constraints**: None

Table 4-215 NodePriority

Parameter	Mandatory	Type	Description
nodeSelector	Yes	**NodeSelector** object	**Details**: Node label selector, which selects a batch of nodes **Constraints**: Only labels on the nodes are allowed.

Parameter	Mandatory	Type	Description
priority	Yes	Integer	**Details**: Priority of the current batch of nodes. A larger value indicates a higher priority. **Constraints**: None **Options**: Positive integers **Default value**: 0

Table 4-216 NodeSelector

Parameter	Mandatory	Type	Description
key	Yes	String	**Details**: Key **Constraints**: None **Options**: N/A
value	No	Array of strings	**Details**: Tag value list **Constraints**: None **Options**: N/A
operator	Yes	String	**Details**: Logical operators of labels **Constraints**: None **Options**: ● in ● notin ● exists ● ! ● gt ● lt

Table 4-217 UpgradeStrategy

Parameter	Mandatory	Type	Description
type	Yes	String	**Details**: Upgrade policy type **Constraints**: None **Options**: - **inPlaceRollingUpdate**: in-place upgrade
inPlaceRollingUpdate	No	**InPlaceRollingUpdate** object	**Details**: Detailed configuration of an in-place upgrade policy **Constraints**: This parameter is mandatory when the in-place upgrade policy type is specified.

Table 4-218 InPlaceRollingUpdate

Parameter	Mandatory	Type	Description
userDefinedStep	No	Integer	**Details**: Maximum number of nodes to be upgraded in a batch. Node pools will be upgraded in sequence. Nodes in node pools will be upgraded in batches. One node is upgraded in the first batch, two nodes in the second batch, and the number of nodes to be upgraded in each subsequent batch increases by a power of 2 until the maximum number of nodes to be upgraded in each batch is reached. The next cluster is upgraded after the previous one is upgraded. **Constraints**: None **Options**: 1 to 60 **Default value**: 20

Parameter	Mandatory	Type	Description
scope	No	String	**Details**: Scope of the node upgrade batch **Constraints**: None **Options**: **Cluster**: If the scope is set to a cluster, the upgrade batch will remain unchanged throughout the entire upgrade process. **NodePool**: If the scope is set to node pools, the upgrade batch will be reset for each individual node pool. **Default value**: **Cluster**

Response Parameters

Status code: 200

Table 4-219 Response body parameters

Parameter	Type	Description
metadata	**UpgradeClusterResponseMetadata** object	Upgrade task metadata
spec	**UpgradeResponseSpec** object	Upgrade settings

Table 4-220 UpgradeCluserResponseMetadata

Parameter	Type	Description
uid	String	Upgrade task ID. You can obtain the progress by calling the API for obtaining cluster upgrade task details.

Table 4-221 UpgradeResponseSpec

Parameter	Type	Description
clusterUpgradeAction	**ClusterUpgradeResponseAction** object	Cluster upgrade settings

Table 4-222 ClusterUpgradeResponseAction

Parameter	Type	Description
version	String	Current cluster version
targetVersion	String	Target cluster version, for example, v1.23.
targetPlatformVersion	String	Platform version of the target cluster, which is an internal version of the cluster version and cannot be specified.
strategy	**UpgradeStrategyResponse** object	Upgrade policies
config	Object	Cluster configuration specified during an upgrade

Table 4-223 UpgradeStrategyResponse

Parameter	Type	Description
type	String	Upgrade policy type
inPlaceRollingUpdate	**InPlaceRollingUpdateResponse** object	Detailed configuration of an in-place upgrade policy

Table 4-224 InPlaceRollingUpdateResponse

Parameter	Type	Description
userDefinedStep	Integer	Maximum number of nodes to be upgraded in a batch
scope	String	Scope of the node upgrade batch

Example Requests

Upgrade the cluster to v1.28 and set the node upgrade step to 20.

```
POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/upgrade

{
  "metadata" : {
    "apiVersion" : "v3",
    "kind" : "UpgradeTask"
  },
  "spec" : {
    "clusterUpgradeAction" : {
      "strategy" : {
        "type" : "inPlaceRollingUpdate",
        "inPlaceRollingUpdate" : {
          "userDefinedStep" : 20
        }
      },
      "targetVersion" : "v1.23"
    }
  }
}
```

Example Responses

Status code: 200

Cluster upgrade requested.

```
{
  "metadata" : {
    "uid" : "976a33e2-f545-11ed-87af-0255ac1002c2"
  },
  "spec" : {
    "clusterUpgradeAction" : {
      "version" : "v1.19.16-r20",
      "targetVersion" : "v1.23.8-r0",
      "targetPlatformVersion" : "cce.10",
      "strategy" : {
        "type" : "inPlaceRollingUpdate",
        "inPlaceRollingUpdate" : {
          "userDefinedStep" : 20
        }
      },
      "config" : { }
    }
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Upgrade the cluster to v1.28 and set the node upgrade step to 20.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;
```

```
public class UpgradeAutopilotClusterSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        UpgradeAutopilotClusterRequest request = new UpgradeAutopilotClusterRequest();
        request.withClusterId("{cluster_id}");
        UpgradeClusterRequestBody body = new UpgradeClusterRequestBody();
        InPlaceRollingUpdate inPlaceRollingUpdateStrategy = new InPlaceRollingUpdate();
        inPlaceRollingUpdateStrategy.withUserDefinedStep(20);
        UpgradeStrategy strategyClusterUpgradeAction = new UpgradeStrategy();
        strategyClusterUpgradeAction.withType("inPlaceRollingUpdate")
            .withInPlaceRollingUpdate(inPlaceRollingUpdateStrategy);
        ClusterUpgradeAction clusterUpgradeActionSpec = new ClusterUpgradeAction();
        clusterUpgradeActionSpec.withStrategy(strategyClusterUpgradeAction)
            .withTargetVersion("v1.23");
        UpgradeSpec specbody = new UpgradeSpec();
        specbody.withClusterUpgradeAction(clusterUpgradeActionSpec);
        UpgradeClusterRequestMetadata metadatabody = new UpgradeClusterRequestMetadata();
        metadatabody.withApiVersion("v3")
            .withKind("UpgradeTask");
        body.withSpec(specbody);
        body.withMetadata(metadatabody);
        request.withBody(body);
        try {
            UpgradeAutopilotClusterResponse response = client.upgradeAutopilotCluster(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Upgrade the cluster to v1.28 and set the node upgrade step to 20.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *
```

```
if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpgradeAutopilotClusterRequest()
        request.cluster_id = "{cluster_id}"
        inPlaceRollingUpdateStrategy = InPlaceRollingUpdate(
            user_defined_step=20
        )
        strategyClusterUpgradeAction = UpgradeStrategy(
            type="inPlaceRollingUpdate",
            in_place_rolling_update=inPlaceRollingUpdateStrategy
        )
        clusterUpgradeActionSpec = ClusterUpgradeAction(
            strategy=strategyClusterUpgradeAction,
            target_version="v1.23"
        )
        specbody = UpgradeSpec(
            cluster_upgrade_action=clusterUpgradeActionSpec
        )
        metadatabody = UpgradeClusterRequestMetadata(
            api_version="v3",
            kind="UpgradeTask"
        )
        request.body = UpgradeClusterRequestBody(
            spec=specbody,
            metadata=metadatabody
        )
        response = client.upgrade_autopilot_cluster(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Upgrade the cluster to v1.28 and set the node upgrade step to 20.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpgradeAutopilotClusterRequest{}
    request.ClusterId = "{cluster_id}"
    userDefinedStepInPlaceRollingUpdate:= int32(20)
    inPlaceRollingUpdateStrategy := &model.InPlaceRollingUpdate{
        UserDefinedStep: &userDefinedStepInPlaceRollingUpdate,
    }
    strategyClusterUpgradeAction := &model.UpgradeStrategy{
        Type: "inPlaceRollingUpdate",
        InPlaceRollingUpdate: inPlaceRollingUpdateStrategy,
    }
    clusterUpgradeActionSpec := &model.ClusterUpgradeAction{
        Strategy: strategyClusterUpgradeAction,
        TargetVersion: "v1.23",
    }
    specbody := &model.UpgradeSpec{
        ClusterUpgradeAction: clusterUpgradeActionSpec,
    }
    metadatabody := &model.UpgradeClusterRequestMetadata{
        ApiVersion: "v3",
        Kind: "UpgradeTask",
    }
    request.Body = &model.UpgradeClusterRequestBody{
        Spec: specbody,
        Metadata: metadatabody,
    }
    response, err := client.UpgradeAutopilotCluster(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Cluster upgrade requested.

Error Codes

See **Error Codes**.

4.3.2 Obtaining Cluster Upgrade Task Details

Function

This API is used to obtain details about an upgrade task of a cluster. The task ID is obtained from the **uid** field in the response body after the cluster upgrade API is called.

NOTE

- Cluster upgrade involves many operations on components. You are advised to upgrade your cluster on the CCE console, a more interactive and intuitive way to reduce operational risks.
- Cluster upgrade APIs are available only upon request.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/upgrade/tasks/{task_id}

Table 4-225 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A
task_id	Yes	String	**Details**: Upgrade task ID, obtained from the **uid** field in the response body after the cluster upgrade API is called. **Constraints**: None **Options**: Upgrade task IDs **Default value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-226 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. Defaults to **v3**.
kind	String	Resource type. Defaults to **UpgradeTask**.
metadata	**UpgradeTask Metadata** object	Upgrade task metadata.

Parameter	Type	Description
spec	**UpgradeTaskSpec** object	Upgrade task information.
status	**UpgradeTaskStatus** object	Upgrade task status.

Table 4-227 UpgradeTaskMetadata

Parameter	Type	Description
uid	String	Upgrade task ID.
creationTimestamp	String	Time when a task was created.
updateTimestamp	String	Time when a task is updated.

Table 4-228 UpgradeTaskSpec

Parameter	Type	Description
version	String	Source cluster version.
targetVersion	String	Target cluster version to upgrade to.
items	Object	Additional information about the upgrade task.

Table 4-229 UpgradeTaskStatus

Parameter	Type	Description
phase	String	Indicates the status of the upgrade task. Init: initializing **NOTE** Queuing: waiting ● **Running**: The driver is running. **NOTE** Pause: paused ● **Success**: successful. **NOTE** Failed: failed
progress	String	Upgrade task progress.
completionTime	String	End time of the upgrade task.

Example Requests

None

Example Responses

Status code: 200

The cluster upgrade task details are obtained.

```
{
  "kind" : "UpgradeTask",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx",
    "creationTimestamp" : "2022-12-16 13:40:20.75671 +0800 CST",
    "updateTimestamp" : "2022-12-16 13:40:20.756712 +0800 CST"
  },
  "spec" : {
    "version" : "v1.19.16-r4",
    "targetVersion" : "v1.23.5-r0"
  },
  "status" : {
    "phase" : "Init",
    "progress" : "0.00",
    "completionTime" : "2022-12-16 13:40:20.756712 +0800 CST"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotUpgradeClusterTaskSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);
        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotUpgradeClusterTaskRequest request = new ShowAutopilotUpgradeClusterTaskRequest();
        request.withClusterId("{cluster_id}");
        request.withTaskId("{task_id}");
        try {
            ShowAutopilotUpgradeClusterTaskResponse response = 
client.showAutopilotUpgradeClusterTask(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security 
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment 
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this 
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotUpgradeClusterTaskRequest()
        request.cluster_id = "{cluster_id}"
        request.task_id = "{task_id}"
        response = client.show_autopilot_upgrade_cluster_task(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main
```

```
import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotUpgradeClusterTaskRequest{}
    request.ClusterId = "{cluster_id}"
    request.TaskId = "{task_id}"
    response, err := client.ShowAutopilotUpgradeClusterTask(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The cluster upgrade task details are obtained.

Error Codes

See **Error Codes**.

4.3.3 Retrying a Cluster Upgrade Task

Function

This API is used to execute the failed cluster upgrade task again.

NOTE

- Cluster upgrade involves many operations on components. You are advised to upgrade your cluster on the CCE console, a more interactive and intuitive way to reduce operational risks.
- Cluster upgrade APIs are available only upon request.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/upgrade/retry

Table 4-230 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

None

Response Parameters

None

Example Requests

None

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class RetryAutopilotUpgradeClusterTaskSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        RetryAutopilotUpgradeClusterTaskRequest request = new RetryAutopilotUpgradeClusterTaskRequest();
        request.withClusterId("{cluster_id}");
        try {
            RetryAutopilotUpgradeClusterTaskResponse response =
client.retryAutopilotUpgradeClusterTask(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = RetryAutopilotUpgradeClusterTaskRequest()
        request.cluster_id = "{cluster_id}"
        response = client.retry_autopilot_upgrade_cluster_task(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.RetryAutopilotUpgradeClusterTaskRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.RetryAutopilotUpgradeClusterTask(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The cluster upgrade retry task is delivered.

Error Codes

See **Error Codes**.

4.3.4 Obtaining a List of Cluster Upgrade Task Details

Function

This API is used to obtain a list of cluster upgrade task details.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/upgrade/tasks

Table 4-231 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-232 Response body parameters

Parameter	Type	Description
apiVersion	String	API version, which defaults to **v3**
kind	String	Resource type
metadata	**UpgradeTaskMetadata** object	Metadata

Parameter	Type	Description
items	Array of **UpgradeTaskResponseBody** objects	Cluster upgrade tasks

Table 4-233 UpgradeTaskResponseBody

Parameter	Type	Description
apiVersion	String	API version. Defaults to **v3**.
kind	String	Resource type. Defaults to **UpgradeTask**.
metadata	**UpgradeTaskMetadata** object	Upgrade task metadata.
spec	**UpgradeTaskSpec** object	Upgrade task information.
status	**UpgradeTaskStatus** object	Upgrade task status.

Table 4-234 UpgradeTaskMetadata

Parameter	Type	Description
uid	String	Upgrade task ID.
creationTimestamp	String	Time when a task was created.
updateTimestamp	String	Time when a task is updated.

Table 4-235 UpgradeTaskSpec

Parameter	Type	Description
version	String	Source cluster version.
targetVersion	String	Target cluster version to upgrade to.
items	Object	Additional information about the upgrade task.

Table 4-236 UpgradeTaskStatus

Parameter	Type	Description
phase	String	Indicates the status of the upgrade task. Init: initializing **NOTE** Queuing: waiting ● **Running**: The driver is running. **NOTE** Pause: paused ● **Success**: successful. **NOTE** Failed: failed
progress	String	Upgrade task progress.
completionTime	String	End time of the upgrade task.

Example Requests

None

Example Responses

Status code: 200

The list of cluster upgrade task details is obtained.

```
{
  "kind" : "List",
  "apiVersion" : "v3",
  "metadata" : { },
  "items" : [ {
    "kind" : "UpgradeTask",
    "apiVersion" : "v3",
    "metadata" : {
      "uid" : "f40cafed-7bf1-4c3b-b619-80113b4bbb18",
      "creationTimestamp" : "2023-11-24 16:41:12.09236 +0800 CST",
      "updateTimestamp" : "2023-11-24 16:44:05.634206 +0800 CST"
    },
    "spec" : {
      "version" : "v1.17.17-r0",
      "targetVersion" : "v1.19.16-r80"
    },
    "status" : {
      "phase" : "Success",
      "completionTime" : "2023-11-24 16:44:05.634206 +0800 CST"
    }
  }, {
    "kind" : "UpgradeTask",
    "apiVersion" : "v3",
    "metadata" : {
      "uid" : "91755b96-5fd8-4a6a-bda1-983de9055996",
      "creationTimestamp" : "2023-11-24 19:54:35.194306 +0800 CST",
      "updateTimestamp" : "2023-11-24 20:14:35.194306 +0800 CST"
    },
    "spec" : {
      "version" : "v1.19.16-r80",
      "targetVersion" : "v1.23.8-r10"
    },
    "status" : {
      "phase" : "Success",
      "completionTime" : "2023-11-24 20:14:35.194306 +0800 CST"
    }
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ListAutopilotUpgradeClusterTasksSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotUpgradeClusterTasksRequest request = new ListAutopilotUpgradeClusterTasksRequest();
        request.withClusterId("{cluster_id}");
        try {
            ListAutopilotUpgradeClusterTasksResponse response =
client.listAutopilotUpgradeClusterTasks(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotUpgradeClusterTasksRequest()
        request.cluster_id = "{cluster_id}"
        response = client.list_autopilot_upgrade_cluster_tasks(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAutopilotUpgradeClusterTasksRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.ListAutopilotUpgradeClusterTasks(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The list of cluster upgrade task details is obtained.

Error Codes

See **Error Codes**.

4.3.5 Performing a Pre-upgrade Check for a Cluster

Function

This API is used to perform a pre-upgrade check for a cluster.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/precheck

Table 4-237 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-238 Request body parameters

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	**Details**: API version **Constraints**: The value is fixed. **Options**: ● v3

Parameter	Mandatory	Type	Description
kind	Yes	String	**Details**: API type **Constraints**: The value is fixed. **Options**: - PreCheckTask
spec	Yes	**PrecheckSpec** object	**Details**: **spec** is an element type of the collection class. The main body of the configuration that needs to be checked before an upgrade is provided in **spec**. CCE checks the configuration based on **spec**. **Constraints**: None

Table 4-239 PrecheckSpec

Parameter	Mandatory	Type	Description
clusterID	Yes	String	**Details**: Cluster ID **Constraints**: None **Options**: N/A
clusterVersion	Yes	String	**Details**: Cluster version. The value is the patch version of the current cluster. You can log in to the console and view the version on the **Overview** page. **Constraints**: None **Options**: N/A

Parameter	Mandatory	Type	Description
targetVersion	Yes	String	**Details**: Target version. If you enter a major version, the latest patch version is automatically selected. **Constraints**: None **Options**: Available cluster versions later than the current cluster version
skippedCheckItemList	No	Array of **skippedCheckItemList** objects	**Details**: Skipped check items **Constraints**: None **Options**: N/A

Table 4-240 skippedCheckItemList

Parameter	Mandatory	Type	Description
name	No	String	**Details**: Name of the skipped checked item **Constraints**: None **Options**: N/A
resourceSelector	No	**resourceSelector** object	**Details**: Resource tag selector **Constraints**: This parameter is available only for node check, but not for cluster check or add-on check. **Options**: N/A

Table 4-241 resourceSelector

Parameter	Mandatory	Type	Description
key	Yes	String	**Details**: Tag key **Constraints**: None **Options**: ● **node.uid**: node UID
values	No	Array of strings	**Details**: Tag value list **Constraints**: None **Options**: N/A
operator	Yes	String	**Details**: Logical operators of labels **Constraints**: None **Options**: ● In

Response Parameters

Status code: 200

Table 4-242 Response body parameters

Parameter	Type	Description
apiVersion	String	API version
kind	String	Resource type
metadata	**PrecheckClusterResponseMetadata** object	Pre-upgrade check metadata
spec	**PrecheckClusterResponseSpec** object	**spec** is an element type of the collection class. The main body of the configuration that needs to be checked before an upgrade is provided in **spec**. CCE checks the configuration based on the spec description.

Parameter	Type	Description
status	**PrecheckStatus** object	Pre-upgrade check status of a cluster

Table 4-243 PrecheckCluserResponseMetadata

Parameter	Type	Description
uid	String	Check the task ID.

Table 4-244 PrecheckCluserResponseSpec

Parameter	Type	Description
clusterID	String	Cluster ID
clusterVersion	String	Current cluster version
targetVersion	String	Target version
skippedCheckItemList	Array of **skippedCheckItemListResponse** objects	Skipped check items

Table 4-245 skippedCheckItemListResponse

Parameter	Type	Description
name	String	Name of the item that is skipped to be checked
resourceSelector	**resourceSelectorResponse** object	Resource tag selector. This parameter is available only for node check, but not for cluster check or add-on check.

Table 4-246 resourceSelectorResponse

Parameter	Type	Description
key	String	Tag key
values	Array of strings	Tag value list
operator	String	Tag value

Table 4-247 PrecheckStatus

Parameter	Type	Description
phase	String	Status. Options: - **Init**: initializing - **Running** - **Success** - **Failed** - **Error**
expireTimeStamp	String	Check result expiration time
message	String	Information, which typically indicates the log for execution errors
clusterCheckStatus	**clusterCheckStatus** object	Status of a cluster restrictions check
addonCheckStatus	**addonCheckStatus** object	Status of an add-on check
nodeCheckStatus	**nodeCheckStatus** object	Node check status

Table 4-248 clusterCheckStatus

Parameter	Type	Description
phase	String	Status. Options: - **Init**: initializing - **Running** - **Success** - **Failed**
itemsStatus	Array of **PreCheckItemStatus** objects	Compliance set by check item

Table 4-249 addonCheckStatus

Parameter	Type	Description
phase	String	Status. Options: - **Init**: initializing - **Running** - **Success** - **Failed**
itemsStatus	Array of **PreCheckItemStatus** objects	Compliance set by check item

Table 4-250 nodeCheckStatus

Parameter	Type	Description
phase	String	Status. Options: - **Init**: initializing - **Running** - **Success** - **Failed**
nodeStageStatus	Array of **NodeStageStatus** objects	Node check status

Table 4-251 NodeStageStatus

Parameter	Type	Description
nodeInfo	**NodeInfo** object	Node information
itemsStatus	Array of **PreCheckItemStatus** objects	Compliance set by check item

Table 4-252 NodeInfo

Parameter	Type	Description
uid	String	Node UID

Parameter	Type	Description
name	String	Node name
status	String	Status
nodeType	String	Node type

Table 4-253 PreCheckItemStatus

Parameter	Type	Description
name	String	Check item
kind	String	Check item type. Options: ● **Exception**: exceptions that need to be resolved by you ● **Risk**: risks that can be skipped after you confirm them
group	String	Check item group. Options: ● **LimitCheck**: cluster limit check ● **MasterCheck**: master node check ● **NodeCheck**: worker node check ● **AddonCheck**: add-on check ● **ExecuteException**: process error check
level	String	Check item severity. Options: ● **Info**: information ● **Warning** ● **Fatal**: critical
phase	String	Status. Options: ● **Init**: initializing ● **Running** ● **Success** ● **Failed**
message	String	Information
riskSource	**riskSource** object	Risk item
errorCodes	Array of strings	Error code set

Table 4-254 riskSource

Parameter	Type	Description
configurationRisks	Array of **configurationRisks** objects	Configuration risk
deprecatedAPIRisks	Array of **deprecatedAPIRisks** objects	Deprecated API risk
nodeRisks	Array of **nodeRisks** objects	Node risk
addonRisks	Array of **addonRisks** objects	Add-on risk

Table 4-255 configurationRisks

Parameter	Type	Description
package	String	Component
sourceFile	String	How to Obtain
nodeMsg	String	Node information
field	String	Parameter Value
operation	String	Change an operation type.
originalValue	String	Original Value
value	String	Current Value

Table 4-256 deprecatedAPIRisks

Parameter	Type	Description
url	String	Request path, for example, **/apis/policy/v1beta1/podsecuritypolicies**
userAgent	String	Client information

Table 4-257 nodeRisks

Parameter	Type	Description
NodeID	String	Worker node ID

Table 4-258 addonRisks

Parameter	Type	Description
addonTemplateName	String	Name of the add-on template
alias	String	Add-on alias

Example Requests

Perform a pre-upgrade check for a cluster.

```
POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/precheck

{
  "kind" : "PreCheckTask",
  "apiVersion" : "v3",
  "spec" : {
    "clusterID" : "8978deaa-1743-11ee-8e46-0255ac10004c",
    "clusterVersion" : "v1.15.11-r1",
    "targetVersion" : "v1.19.16-r80",
    "skippedCheckItemList" : [ ]
  }
}
```

Example Responses

Status code: 200

Cluster pre-upgrade check succeeded.

```
{
  "kind" : "PreCheckTask",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "9991b45e-a2be-4b49-aca4-50a25fa6f81e"
  },
  "spec" : {
    "clusterID" : "8978deaa-1743-11ee-8e46-0255ac10004c",
    "clusterVersion" : "v1.15.11-r1",
    "targetVersion" : "v1.19.16-r80"
  },
  "status" : {
    "phase" : "Init",
    "clusterCheckStatus" : {
      "phase" : "Init"
    },
    "addonCheckStatus" : {
      "phase" : "Init"
    },
    "nodeCheckStatus" : {
      "phase" : "Init"
    }
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Perform a pre-upgrade check for a cluster.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;

import java.util.List;
import java.util.ArrayList;

public class CreateAutopilotPreCheckSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        CreateAutopilotPreCheckRequest request = new CreateAutopilotPreCheckRequest();
        request.withClusterId("{cluster_id}");
        PrecheckClusterRequestBody body = new PrecheckClusterRequestBody();
        PrecheckSpec specbody = new PrecheckSpec();
        specbody.withClusterID("8978deaa-1743-11ee-8e46-0255ac10004c")
            .withClusterVersion("v1.15.11-r1")
            .withTargetVersion("v1.19.16-r80");
        body.withSpec(specbody);
        body.withKind("PreCheckTask");
        body.withApiVersion("v3");
        request.withBody(body);
        try {
            CreateAutopilotPreCheckResponse response = client.createAutopilotPreCheck(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Perform a pre-upgrade check for a cluster.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateAutopilotPreCheckRequest()
        request.cluster_id = "{cluster_id}"
        specbody = PrecheckSpec(
            cluster_id="8978deaa-1743-11ee-8e46-0255ac10004c",
            cluster_version="v1.15.11-r1",
            target_version="v1.19.16-r80"
        )
        request.body = PrecheckClusterRequestBody(
            spec=specbody,
            kind="PreCheckTask",
            api_version="v3"
        )
        response = client.create_autopilot_pre_check(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Perform a pre-upgrade check for a cluster.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateAutopilotPreCheckRequest{}
    request.ClusterId = "{cluster_id}"
    clusterIDSpec:= "8978deaa-1743-11ee-8e46-0255ac10004c"
    clusterVersionSpec:= "v1.15.11-r1"
    targetVersionSpec:= "v1.19.16-r80"
    specbody := &model.PrecheckSpec{
        ClusterID: &clusterIDSpec,
        ClusterVersion: &clusterVersionSpec,
        TargetVersion: &targetVersionSpec,
    }
    request.Body = &model.PrecheckClusterRequestBody{
        Spec: specbody,
        Kind: "PreCheckTask",
        ApiVersion: "v3",
    }
    response, err := client.CreateAutopilotPreCheck(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Cluster pre-upgrade check succeeded.

Error Codes

See **Error Codes**.

4.3.6 Obtaining Details About a Pre-upgrade Check Task of a Cluster

Function

This API is used to obtain details about a pre-upgrade check task of a cluster. The task ID is obtained from the **uid** field in the response body after the cluster check API is called.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/precheck/tasks/{task_id}

Table 4-259 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Parameter	Mandatory	Type	Description
task_id	Yes	String	**Details**: Upgrade task ID, obtained from the **uid** field in the response body after the cluster upgrade API is called. **Constraints**: None **Options**: Upgrade task IDs **Default value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-260 Response body parameters

Parameter	Type	Description
apiVersion	String	API version, which defaults to **v3**
kind	String	Resource type, which defaults to **PreCheckTask**
metadata	**PrecheckTaskMetadata** object	Metadata of a pre-upgrade check task
spec	**PrecheckClusterResponseSpec** object	Information of a pre-upgrade check task
status	**PrecheckStatus** object	Status of a pre-upgrade check task

Table 4-261 PrecheckTaskMetadata

Parameter	Type	Description
uid	String	Task ID

Parameter	Type	Description
creationTimestamp	String	Time when the task was created
updateTimestamp	String	Time when the task was updated

Table 4-262 PrecheckCluserResponseSpec

Parameter	Type	Description
clusterID	String	Cluster ID
clusterVersion	String	Current cluster version
targetVersion	String	Target version
skippedCheckItemList	Array of **skippedCheckItemListResponse** objects	Skipped check items

Table 4-263 skippedCheckItemListResponse

Parameter	Type	Description
name	String	Name of the item that is skipped to be checked
resourceSelector	**resourceSelectorResponse** object	Resource tag selector. This parameter is available only for node check, but not for cluster check or add-on check.

Table 4-264 resourceSelectorResponse

Parameter	Type	Description
key	String	Tag key
values	Array of strings	Tag value list
operator	String	Tag value

Table 4-265 PrecheckStatus

Parameter	Type	Description
phase	String	Status. Options: - **Init**: initializing - **Running** - **Success** - **Failed** - **Error**
expireTimeStamp	String	Check result expiration time
message	String	Information, which typically indicates the log for execution errors
clusterCheckStatus	**clusterCheckStatus** object	Status of a cluster restrictions check
addonCheckStatus	**addonCheckStatus** object	Status of an add-on check
nodeCheckStatus	**nodeCheckStatus** object	Node check status

Table 4-266 clusterCheckStatus

Parameter	Type	Description
phase	String	Status. Options: - **Init**: initializing - **Running** - **Success** - **Failed**
itemsStatus	Array of **PreCheckItemStatus** objects	Compliance set by check item

Table 4-267 addonCheckStatus

Parameter	Type	Description
phase	String	Status. Options: - **Init**: initializing - **Running** - **Success** - **Failed**
itemsStatus	Array of **PreCheckItemStatus** objects	Compliance set by check item

Table 4-268 nodeCheckStatus

Parameter	Type	Description
phase	String	Status. Options: - **Init**: initializing - **Running** - **Success** - **Failed**
nodeStageStatus	Array of **NodeStageStatus** objects	Node check status

Table 4-269 NodeStageStatus

Parameter	Type	Description
nodeInfo	**NodeInfo** object	Node information
itemsStatus	Array of **PreCheckItemStatus** objects	Compliance set by check item

Table 4-270 NodeInfo

Parameter	Type	Description
uid	String	Node UID

Parameter	Type	Description
name	String	Node name
status	String	Status
nodeType	String	Node type

Table 4-271 PreCheckItemStatus

Parameter	Type	Description
name	String	Check item
kind	String	Check item type. Options: - **Exception**: exceptions that need to be resolved by you - **Risk**: risks that can be skipped after you confirm them
group	String	Check item group. Options: - **LimitCheck**: cluster limit check - **MasterCheck**: master node check - **NodeCheck**: worker node check - **AddonCheck**: add-on check - **ExecuteException**: process error check
level	String	Check item severity. Options: - **Info**: information - **Warning** - **Fatal**: critical
phase	String	Status. Options: - **Init**: initializing - **Running** - **Success** - **Failed**
message	String	Information
riskSource	**riskSource** object	Risk item
errorCodes	Array of strings	Error code set

Table 4-272 riskSource

Parameter	Type	Description
configurationRisks	Array of **configurationRisks** objects	Configuration risk
deprecatedAPIRisks	Array of **deprecatedAPIRisks** objects	Deprecated API risk
nodeRisks	Array of **nodeRisks** objects	Node risk
addonRisks	Array of **addonRisks** objects	Add-on risk

Table 4-273 configurationRisks

Parameter	Type	Description
package	String	Component
sourceFile	String	How to Obtain
nodeMsg	String	Node information
field	String	Parameter Value
operation	String	Change an operation type.
originalValue	String	Original Value
value	String	Current Value

Table 4-274 deprecatedAPIRisks

Parameter	Type	Description
url	String	Request path, for example, **/apis/policy/v1beta1/podsecuritypolicies**
userAgent	String	Client information

Table 4-275 nodeRisks

Parameter	Type	Description
NodeID	String	Worker node ID

Table 4-276 addonRisks

Parameter	Type	Description
addonTemplateName	String	Name of the add-on template
alias	String	Add-on alias

Example Requests

None

Example Responses

Status code: 200

The details about a pre-upgrade check task of a cluster are obtained.

```
{
  "kind" : "PreCheckTask",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "f61e008c-1600-41c0-9bde-121de5a30660",
    "creationTimestamp" : "2023-11-25 07:20:04.592972 +0000 UTC",
    "updateTimestamp" : "2023-11-25 07:21:05.518966 +0000 UTC"
  },
  "spec" : {
    "clusterVersion" : "v1.19.16-r4",
    "targetVersion" : "v1.23.5-r0"
  },
  "status" : {
    "phase" : "Success",
    "expireTimeStamp" : "2023-11-25 08:21:05.518966 +0000 UTC",
    "clusterCheckStatus" : {
      "phase" : "Success",
      "itemsStatus" : [ {
        "name" : "DeprecatedApiCheck",
        "kind" : "Risk",
        "group" : "LimitCheck",
        "level" : "Info",
        "phase" : "Success",
        "message" : "check item succeed",
        "riskSource" : { }
      }, {
        "name" : "NodeContainerdPodRestartRisk",
        "kind" : "Risk",
        "group" : "LimitCheck",
        "level" : "Warning",
        "phase" : "Success",
        "message" : "check item succeed",
        "riskSource" : { }
      }, {
        "name" : "ResiduePackageVersion",
        "kind" : "Exception",
        "group" : "LimitCheck",
        "level" : "Fatal",
        "phase" : "Success",
        "message" : "check item succeed",
        "riskSource" : { }
      } ]
    },
    "addonCheckStatus" : {
      "phase" : "Success",
      "itemsStatus" : [ {
        "name" : "AddonLimit",
        "kind" : "Exception",
        "group" : "AddonCheck",
        "level" : "Warning",
        "phase" : "Success",
        "message" : "check item succeed",
        "riskSource" : { }
      }, {
        "name" : "CoreDNSConfLimit",
        "kind" : "Exception",
        "group" : "AddonCheck",
        "level" : "Fatal",
        "phase" : "Success",
        "message" : "check item succeed",
        "riskSource" : { }
      } ]
    },
    "nodeCheckStatus" : {
      "phase" : "Success"
    }
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotPreCheckSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);
        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotPreCheckRequest request = new ShowAutopilotPreCheckRequest();
        request.withClusterId("{cluster_id}");
        request.withTaskId("{task_id}");
        try {
            ShowAutopilotPreCheckResponse response = client.showAutopilotPreCheck(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotPreCheckRequest()
        request.cluster_id = "{cluster_id}"
        request.task_id = "{task_id}"
        response = client.show_autopilot_pre_check(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotPreCheckRequest{}
    request.ClusterId = "{cluster_id}"
    request.TaskId = "{task_id}"
    response, err := client.ShowAutopilotPreCheck(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The details about a pre-upgrade check task of a cluster are obtained.

Error Codes

See **Error Codes**.

4.3.7 Obtaining a List of Pre-upgrade Check Tasks of a Cluster

Function

This API is used to obtain a list of pre-upgrade check tasks of a cluster.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/precheck/tasks

Table 4-277 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-278 Response body parameters

Parameter	Type	Description
apiVersion	String	API version, which defaults to **v3**
kind	String	Type
metadata	**Metadata** object	Basic information about the object. Metadata is a collection of attributes.
items	Array of **PrecheckClusterTask** objects	Cluster check tasks

Table 4-279 Metadata

Parameter	Type	Description
uid	String	Unique ID.
name	String	Resource name
labels	Map<String,String>	Resource labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Resource annotations in the format of key-value pairs.
updateTimestamp	String	Update time.
creationTimestamp	String	Creation time.

Table 4-280 PrecheckClusterTask

Parameter	Type	Description
apiVersion	String	API version, which defaults to **v3**
kind	String	Resource type, which defaults to **PreCheckTask**
metadata	**PrecheckTaskMetadata** object	Metadata of a pre-upgrade check task

Parameter	Type	Description
spec	**PrecheckClusterResponseSpec** object	Information of a pre-upgrade check task
status	**PrecheckStatus** object	Status of a pre-upgrade check task

Table 4-281 PrecheckTaskMetadata

Parameter	Type	Description
uid	String	Task ID
creationTimestamp	String	Time when the task was created
updateTimestamp	String	Time when the task was updated

Table 4-282 PrecheckCluserResponseSpec

Parameter	Type	Description
clusterID	String	Cluster ID
clusterVersion	String	Current cluster version
targetVersion	String	Target version
skippedCheckItemList	Array of **skippedCheckItemListResponse** objects	Skipped check items

Table 4-283 skippedCheckItemListResponse

Parameter	Type	Description
name	String	Name of the item that is skipped to be checked
resourceSelector	**resourceSelectorResponse** object	Resource tag selector. This parameter is available only for node check, but not for cluster check or add-on check.

Table 4-284 resourceSelectorResponse

Parameter	Type	Description
key	String	Tag key
values	Array of strings	Tag value list
operator	String	Tag value

Table 4-285 PrecheckStatus

Parameter	Type	Description
phase	String	Status. Options: ● **Init**: initializing ● **Running** ● **Success** ● **Failed** ● **Error**
expireTimeStamp	String	Check result expiration time
message	String	Information, which typically indicates the log for execution errors
clusterCheckStatus	**clusterCheckStatus** object	Status of a cluster restrictions check
addonCheckStatus	**addonCheckStatus** object	Status of an add-on check
nodeCheckStatus	**nodeCheckStatus** object	Node check status

Table 4-286 clusterCheckStatus

Parameter	Type	Description
phase	String	Status. Options: ● **Init**: initializing ● **Running** ● **Success** ● **Failed**

Parameter	Type	Description
itemsStatus	Array of **PreCheckItemStatus** objects	Compliance set by check item

Table 4-287 addonCheckStatus

Parameter	Type	Description
phase	String	Status. Options: ● **Init**: initializing ● **Running** ● **Success** ● **Failed**
itemsStatus	Array of **PreCheckItemStatus** objects	Compliance set by check item

Table 4-288 nodeCheckStatus

Parameter	Type	Description
phase	String	Status. Options: ● **Init**: initializing ● **Running** ● **Success** ● **Failed**
nodeStageStatus	Array of **NodeStageStatus** objects	Node check status

Table 4-289 NodeStageStatus

Parameter	Type	Description
nodeInfo	**NodeInfo** object	Node information

Parameter	Type	Description
itemsStatus	Array of **PreCheckItemStatus** objects	Compliance set by check item

Table 4-290 NodeInfo

Parameter	Type	Description
uid	String	Node UID
name	String	Node name
status	String	Status
nodeType	String	Node type

Table 4-291 PreCheckItemStatus

Parameter	Type	Description
name	String	Check item
kind	String	Check item type. Options: ● **Exception**: exceptions that need to be resolved by you ● **Risk**: risks that can be skipped after you confirm them
group	String	Check item group. Options: ● **LimitCheck**: cluster limit check ● **MasterCheck**: master node check ● **NodeCheck**: worker node check ● **AddonCheck**: add-on check ● **ExecuteException**: process error check
level	String	Check item severity. Options: ● **Info**: information ● **Warning** ● **Fatal**: critical

Parameter	Type	Description
phase	String	Status. Options: - **Init**: initializing - **Running** - **Success** - **Failed**
message	String	Information
riskSource	**riskSource** object	Risk item
errorCodes	Array of strings	Error code set

Table 4-292 riskSource

Parameter	Type	Description
configurationRisks	Array of **configurationRisks** objects	Configuration risk
deprecatedAPIRisks	Array of **deprecatedAPIRisks** objects	Deprecated API risk
nodeRisks	Array of **nodeRisks** objects	Node risk
addonRisks	Array of **addonRisks** objects	Add-on risk

Table 4-293 configurationRisks

Parameter	Type	Description
package	String	Component
sourceFile	String	How to Obtain
nodeMsg	String	Node information
field	String	Parameter Value
operation	String	Change an operation type.

Parameter	Type	Description
originalValue	String	Original Value
value	String	Current Value

Table 4-294 deprecatedAPIRisks

Parameter	Type	Description
url	String	Request path, for example, **/apis/policy/v1beta1/podsecuritypolicies**
userAgent	String	Client information

Table 4-295 nodeRisks

Parameter	Type	Description
NodeID	String	Worker node ID

Table 4-296 addonRisks

Parameter	Type	Description
addonTemplateName	String	Name of the add-on template
alias	String	Add-on alias

Example Requests

None

Example Responses

Status code: 200

The list of pre-upgrade check tasks of a cluster is obtained.

```
{
  "kind" : "List",
  "apiVersion" : "v3",
  "metadata" : { },
  "items" : [ {
    "kind" : "PreCheckTask",
    "apiVersion" : "v3",
    "metadata" : {
      "uid" : "10b52d23-080a-4b7d-bf83-64b4687ca786",
      "creationTimestamp" : "2023-12-16 07:07:11.099111 +0000 UTC",
      "updateTimestamp" : "2023-12-16 07:09:10.425622 +0000 UTC"
    },
    "spec" : {
      "clusterVersion" : "v1.23.5-r0",
      "targetVersion" : "v1.23.11-r0"
    },
    "status" : {
      "phase" : "Failed",
      "clusterCheckStatus" : {
        "phase" : "Success",
        "itemsStatus" : [ {
          "name" : "DeprecatedApiCheck",
          "kind" : "Risk",
          "group" : "LimitCheck",
          "level" : "Info",
          "phase" : "Success",
          "message" : "check item succeed",
          "riskSource" : { }
        }, {
          "name" : "BlackLimit",
          "kind" : "Exception",
          "group" : "LimitCheck",
          "level" : "Fatal",
          "phase" : "Success",
          "message" : "check item succeed",
          "riskSource" : { }
        }, {
          "name" : "MasterSSH",
          "kind" : "Exception",
          "group" : "LimitCheck",
          "level" : "Fatal",
          "phase" : "Success",
          "message" : "check item succeed",
          "riskSource" : { }
        }, {
          "name" : "ReleaseLimit",
          "kind" : "Exception",
          "group" : "LimitCheck",
          "level" : "Warning",
          "phase" : "Success",
          "message" : "check item succeed",
          "riskSource" : { }
        }, {
          "name" : "ClusterNoArm",
          "kind" : "Exception",
          "group" : "LimitCheck",
          "level" : "Warning",
          "phase" : "Success",
          "message" : "check item succeed",
          "riskSource" : { }
        } ]
      },
      "addonCheckStatus" : {
        "phase" : "Failed",
        "itemsStatus" : [ {
          "name" : "AddonLimit",
          "kind" : "Exception",
          "group" : "AddonCheck",
          "level" : "Warning",
          "phase" : "Failed",
          "message" : "addon [ CoreDNS ] status is abnormal, check and try again",
          "riskSource" : {
            "addonRisks" : [ {
              "addonTemplateName" : "coredns",
              "alias" : "CoreDNS"
            } ]
          }
        }, {
          "name" : "CoreDNSConfLimit",
          "kind" : "Exception",
          "group" : "AddonCheck",
          "level" : "Fatal",
          "phase" : "Success",
          "message" : "check item succeed",
          "riskSource" : { }
        }, {
          "name" : "EverestLimitHungVersion",
          "kind" : "Risk",
          "group" : "AddonCheck",
          "level" : "Fatal",
          "phase" : "Success",
          "message" : "check item succeed",
          "riskSource" : { }
        } ]
      },
      "nodeCheckStatus" : {
        "phase" : "Success"
      }
    }
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```java
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ListAutopilotPreCheckTasksSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotPreCheckTasksRequest request = new ListAutopilotPreCheckTasksRequest();
        request.withClusterId("{cluster_id}");
        try {
            ListAutopilotPreCheckTasksResponse response = client.listAutopilotPreCheckTasks(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotPreCheckTasksRequest()
        request.cluster_id = "{cluster_id}"
        response = client.list_autopilot_pre_check_tasks(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAutopilotPreCheckTasksRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.ListAutopilotPreCheckTasks(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The list of pre-upgrade check tasks of a cluster is obtained.

Error Codes

See **Error Codes**.

4.3.8 Performing a Post-upgrade Check for a Cluster

Function

This API is used to perform a post-upgrade check for a cluster, which is used by the customer to check the cluster status after an upgrade and provide feedback after services are restored. Use this API with the console.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/postcheck

Table 4-297 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-298 Request body parameters

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	**Details**: API version **Constraints**: The value is fixed. **Options**: ● v3

Parameter	Mandatory	Type	Description
kind	Yes	String	**Details**: API type **Constraints**: The value is fixed. **Options**: - PostCheckTask
spec	Yes	**PostcheckResponseSpec** object	**spec** indicates the configuration confirmed after an upgrade.

Table 4-299 PostcheckResponseSpec

Parameter	Mandatory	Type	Description
clusterID	No	String	Cluster ID
clusterVersion	No	String	Source cluster version
targetVersion	No	String	Current cluster version

Response Parameters

Status code: 200

Table 4-300 Response body parameters

Parameter	Type	Description
apiVersion	String	API version
kind	String	Resource type
metadata	**PostcheckCluserResponseMetadata** object	Post-upgrade check metadata
spec	**PostcheckSpec** object	Configuration confirmed after a cluster upgrade
status	**status** object	Status confirmed after a cluster upgrade

Table 4-301 PostcheckCluserResponseMetadata

Parameter	Type	Description
uid	String	Task ID

Table 4-302 PostcheckSpec

Parameter	Type	Description
clusterID	String	**Details**: Cluster ID **Constraints**: None **Options**: N/A
clusterVersion	String	**Details**: Source cluster version **Constraints**: None **Options**: N/A
targetVersion	String	**Details**: Current cluster version **Constraints**: None **Options**: Supported cluster versions

Table 4-303 status

Parameter	Type	Description
phase	String	Status. Options: ● **Success** ● **Failed** ● **Error**

Example Requests

Perform a post-upgrade check for a cluster.

```
POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/postcheck

{
  "kind" : "PostCheckTask",
  "apiVersion" : "v3",
  "spec" : {
    "clusterID" : "8978deaa-1743-11ee-8e46-0255ac10004c",
    "clusterVersion" : "v1.15.11-r1",
    "targetVersion" : "v1.19.16-r80"
  }
}
```

Example Responses

Status code: 200

Cluster post-upgrade check succeeded.

```
{
  "kind" : "PostCheckTask",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "e99fedf8-348c-4084-b0fd-81bf187df4e0"
  },
  "spec" : {
    "clusterID" : "8978deaa-1743-11ee-8e46-0255ac10004c",
    "clusterVersion" : "v1.15.11-r1",
    "targetVersion" : "v1.19.16-r80"
  },
  "status" : {
    "phase" : "Success"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Perform a post-upgrade check for a cluster.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class CreateAutopilotPostCheckSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";
        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        CreateAutopilotPostCheckRequest request = new CreateAutopilotPostCheckRequest();
        request.withClusterId("{cluster_id}");
        PostcheckClusterRequestBody body = new PostcheckClusterRequestBody();
        PostcheckSpec specbody = new PostcheckSpec();
        specbody.withClusterID("8978deaa-1743-11ee-8e46-0255ac10004c")
            .withClusterVersion("v1.15.11-r1")
            .withTargetVersion("v1.19.16-r80");
        body.withSpec(specbody);
        body.withKind("PostCheckTask");
        body.withApiVersion("v3");
        request.withBody(body);
        try {
            CreateAutopilotPostCheckResponse response = client.createAutopilotPostCheck(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Perform a post-upgrade check for a cluster.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateAutopilotPostCheckRequest()
        request.cluster_id = "{cluster_id}"
        specbody = PostcheckSpec(
            cluster_id="8978deaa-1743-11ee-8e46-0255ac10004c",
            cluster_version="v1.15.11-r1",
            target_version="v1.19.16-r80"
        )
        request.body = PostcheckClusterRequestBody(
            spec=specbody,
            kind="PostCheckTask",
            api_version="v3"
        )
        response = client.create_autopilot_post_check(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Perform a post-upgrade check for a cluster.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateAutopilotPostCheckRequest{}
    request.ClusterId = "{cluster_id}"
    clusterIDSpec:= "8978deaa-1743-11ee-8e46-0255ac10004c"
    clusterVersionSpec:= "v1.15.11-r1"
    targetVersionSpec:= "v1.19.16-r80"
    specbody := &model.PostcheckSpec{
        ClusterID: &clusterIDSpec,
        ClusterVersion: &clusterVersionSpec,
        TargetVersion: &targetVersionSpec,
    }
    request.Body = &model.PostcheckClusterRequestBody{
        Spec: specbody,
        Kind: "PostCheckTask",
        ApiVersion: "v3",
    }
    response, err := client.CreateAutopilotPostCheck(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Cluster post-upgrade check succeeded.

Error Codes

See **Error Codes**.

4.3.9 Backing Up a Cluster

Function

This API is used to back up a cluster.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3.1/projects/{project_id}/clusters/{cluster_id}/operation/snapshot

Table 4-304 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-305 Response body parameters

Parameter	Type	Description
uid	String	Task ID
metadata	**SnapshotClusterResponseMetadata** object	Backup metadata

Table 4-306 SnapshotCluserResponseMetadata

Parameter	Type	Description
apiVersion	String	API version, which defaults to **v3.1**
kind	String	Task type

Example Requests

Back up a cluster before the cluster upgrade.

```
POST /autopilot/v3.1/projects/{project_id}/clusters/{cluster_id}/operation/snapshot
```

Example Responses

Status code: 200

The cluster backup task is created.

```
{
  "uid" : "15376f1b-daa6-4e2d-96a6-e9d5d7caeaa2",
  "metadata" : {
    "kind" : "Snapshot",
    "apiVersion" : "v3.1"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class CreateAutopilotClusterMasterSnapshotSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);
        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        CreateAutopilotClusterMasterSnapshotRequest request = new 
CreateAutopilotClusterMasterSnapshotRequest();
        request.withClusterId("{cluster_id}");
        try {
            CreateAutopilotClusterMasterSnapshotResponse response = 
client.createAutopilotClusterMasterSnapshot(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security 
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment 
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this 
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateAutopilotClusterMasterSnapshotRequest()
        request.cluster_id = "{cluster_id}"
        response = client.create_autopilot_cluster_master_snapshot(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateAutopilotClusterMasterSnapshotRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.CreateAutopilotClusterMasterSnapshot(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The cluster backup task is created.

Error Codes

See **Error Codes**.

4.3.10 Obtaining a List of Cluster Backup Task Details

Function

This API is used to obtain a list of cluster backup task details.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3.1/projects/{project_id}/clusters/{cluster_id}/operation/snapshot/tasks

Table 4-307 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-308 Response body parameters

Parameter	Type	Description
apiVersion	String	API version, which defaults to **v3.1**
kind	String	Task type
metadata	**SnapshotTaskMetadata** object	Backup metadata
items	Array of **SnapshotTask** objects	Backup tasks
status	**SnapshotTaskStatus** object	Backup task status

Table 4-309 SnapshotTask

Parameter	Type	Description
kind	String	Task type
apiVersion	String	API version
metadata	**SnapshotTaskMetadata** object	Backup metadata
spec	**SnapshotSpec** object	Backing Up Task Configurations (To Be Deprecated)
status	**SnapshotStatus** object	Backup task status

Table 4-310 SnapshotTaskMetadata

Parameter	Type	Description
uid	String	Task ID
creationTimestamp	String	Time when the task was created
updateTimestamp	String	Time when the task was updated

Table 4-311 SnapshotSpec

Parameter	Type	Description
items	Array of **SnapshotSpecItems** objects	Backup task details

Table 4-312 SnapshotSpecItems

Parameter	Type	Description
id	String	Subtask ID
type	String	Subtask type
status	String	Status
creationTimestamp	String	Time when the task was created
updateTimestamp	String	Time when the task was updated
message	String	Information

Table 4-313 SnapshotStatus

Parameter	Type	Description
phase	String	Task status
progress	String	Task progress
completionTime	String	Completion time

Table 4-314 SnapshotTaskStatus

Parameter	Type	Description
latestBackupTime	String	Time of the latest backup

Example Requests

None

Example Responses

Status code: 200

The list of cluster backup task details is obtained.

```
{
  "kind" : "List",
  "apiVersion" : "v3.1",
  "metadata" : { },
  "items" : [ {
    "kind" : "SnapshotTask",
    "apiVersion" : "v3.1",
    "metadata" : {
      "uid" : "87d326f9-46b0-486e-a4ba-1f82ec9315ed",
      "creationTimestamp" : "2023-11-25 17:03:46.739012 +0800 CST",
      "updateTimestamp" : "2023-11-25 17:03:46.739027 +0800 CST"
    },
    "spec" : { },
    "status" : {
      "phase" : "Running",
      "progress" : "67",
      "completionTime" : "2023-11-25 17:03:46.739027 +0800 CST"
    }
  } ],
  "status" : {
    "latestBackupTime" : "2023-11-25 17:03:47.980844 +0800 CST"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ListAutopilotClusterMasterSnapshotTasksSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotClusterMasterSnapshotTasksRequest request = new
ListAutopilotClusterMasterSnapshotTasksRequest();
        request.withClusterId("{cluster_id}");
        try {
            ListAutopilotClusterMasterSnapshotTasksResponse response =
client.listAutopilotClusterMasterSnapshotTasks(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotClusterMasterSnapshotTasksRequest()
        request.cluster_id = "{cluster_id}"
        response = client.list_autopilot_cluster_master_snapshot_tasks(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAutopilotClusterMasterSnapshotTasksRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.ListAutopilotClusterMasterSnapshotTasks(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The list of cluster backup task details is obtained.

Error Codes

See **Error Codes**.

4.3.11 Obtaining the Cluster Upgrade Information

Function

This API is used to obtain the cluster upgrade information.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/upgradeinfo

Table 4-315 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-316 Response body parameters

Parameter	Type	Description
kind	String	Type
apiVersion	String	API version
metadata	**Metadata** object	Basic information about the object. Metadata is a collection of attributes.
spec	**UpgradeInfoSpec** object	Upgrade settings
status	**UpgradeInfoStatus** object	Upgrade status

Table 4-317 Metadata

Parameter	Type	Description
uid	String	Unique ID.
name	String	Resource name
labels	Map<String,String>	Resource labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Resource annotations in the format of key-value pairs.
updateTimestamp	String	Update time.
creationTimestamp	String	Creation time.

Table 4-318 UpgradeInfoSpec

Parameter	Type	Description
lastUpgradeInfo	**UpgradeInfoStatus** object	Last cluster upgrade
versionInfo	**UpgradeVersionInfo** object	Version
upgradeFeatureGates	**UpgradeFeatureGates** object	Cluster upgrade feature gates

Table 4-319 UpgradeVersionInfo

Parameter	Type	Description
release	String	Official version, for example, v1.19.10
patch	String	Patch version, for example, r0
suggestPatch	String	Recommended target patch version, for example, r0
targetVersions	Array of strings	Target versions for the upgrade

Table 4-320 UpgradeFeatureGates

Parameter	Type	Description
supportUpgradePageV4	Boolean	Whether the cluster upgrade console supports v4. This field is used by the CCE console.

Table 4-321 UpgradeInfoStatus

Parameter	Type	Description
phase	String	Status of the upgrade task ● **Init**: initializing ● **Running** ● **Pause** ● **Success** ● **Failed**
progress	String	Upgrade task progress
completionTime	String	End time of the upgrade task

Example Requests

None

Example Responses

Status code: 200

The cluster upgrade information is obtained.

```
{
  "kind" : "UpgradeInfo",
  "apiVersion" : "v3",
  "metadata" : { },
  "spec" : {
    "lastUpgradeInfo" : {
      "phase" : "Success",
      "completionTime" : "2023-11-25 11:18:54.478926 +0800 CST"
    },
    "versionInfo" : {
      "release" : "v1.27.2",
      "patch" : "r0",
      "suggestPatch" : "r0",
      "targetVersions" : [ "v1.27.3-r0" ]
    },
    "upgradeFeatureGates" : {
      "supportUpgradePageV4" : true
    }
  },
  "status" : {
    "phase" : "Success",
    "completionTime" : "2023-11-25 11:18:54.478926 +0800 CST"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotClusterUpgradeInfoSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotClusterUpgradeInfoRequest request = new ShowAutopilotClusterUpgradeInfoRequest();
        request.withClusterId("{cluster_id}");
        try {
            ShowAutopilotClusterUpgradeInfoResponse response =
client.showAutopilotClusterUpgradeInfo(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotClusterUpgradeInfoRequest()
        request.cluster_id = "{cluster_id}"
        response = client.show_autopilot_cluster_upgrade_info(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotClusterUpgradeInfoRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.ShowAutopilotClusterUpgradeInfo(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The cluster upgrade information is obtained.

Error Codes

See **Error Codes**.

4.3.12 Obtaining a Cluster Upgrade Path

Function

This API is used to obtain the cluster upgrade path.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/clusterupgradepaths

Request Parameters

Table 4-322 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-323 Response body parameters

Parameter	Type	Description
apiVersion	String	API version
kind	String	Resource type

Parameter	Type	Description
metadata	**Metadata** object	Basic information about the object. Metadata is a collection of attributes.
upgradePaths	Array of **UpgradePath** objects	Upgrade paths

Table 4-324 Metadata

Parameter	Type	Description
uid	String	Unique ID.
name	String	Resource name
labels	Map<String,String>	Resource labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Resource annotations in the format of key-value pairs.
updateTimestamp	String	Update time.
creationTimestamp	String	Creation time.

Table 4-325 UpgradePath

Parameter	Type	Description
version	String	Cluster version. For example, v1.19.16-r20 for clusters of v1.19 or earlier, and v1.21 for clusters of v1.21 or later. For details, see CCE Cluster Versions.

Parameter	Type	Description
platformVersion	String	CCE cluster platform version, which is an internal version under the cluster version (**version**). Platform versions are used to trace iterations in a major cluster version. They are unique within a major cluster version and recounted when the major cluster version changes.The format of **platformVersion** is **cce.X.Y**.- **X**: an internal feature version. When features or OSs in a cluster version are modified or patches are released in the cluster, the value of this parameter increases monotonically from 1.- **Y**: a patch version of an internal feature version. This parameter is only used for updating a software package for a released feature version. The value of this parameter increases monotonically from 0.
targetVersions	Array of strings	Target versions that can be upgraded

Example Requests

None

Example Responses

Status code: 200

The cluster upgrade path is obtained.

```
{
  "kind" : "ClusterUpgradePaths",
  "apiVersion" : "v3",
  "metadata" : { },
  "upgradePaths" : [ {
    "version" : "v1.25",
    "platformVersion" : "cce.5.0",
    "targetVersions" : [ "v1.25.6-r0", "v1.27.3-r0" ]
  }, {
    "version" : "v1.25",
    "platformVersion" : "cce.4.0",
    "targetVersions" : [ "v1.25.6-r0", "v1.27.3-r0" ]
  }, {
    "version" : "v1.23",
    "platformVersion" : "cce.10.0",
    "targetVersions" : [ "v1.23.11-r0", "v1.25.6-r0", "v1.27.3-r0" ]
  }, {
    "version" : "v1.23",
    "platformVersion" : "cce.9.0",
    "targetVersions" : [ "v1.23.11-r0", "v1.25.6-r0", "v1.27.3-r0" ]
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ListAutopilotClusterUpgradePathsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotClusterUpgradePathsRequest request = new ListAutopilotClusterUpgradePathsRequest();
        try {
            ListAutopilotClusterUpgradePathsResponse response =
client.listAutopilotClusterUpgradePaths(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotClusterUpgradePathsRequest()
        response = client.list_autopilot_cluster_upgrade_paths(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAutopilotClusterUpgradePathsRequest{}
    response, err := client.ListAutopilotClusterUpgradePaths(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The cluster upgrade path is obtained.

Error Codes

See **Error Codes**.

4.3.13 Obtaining the Configuration of Cluster Upgrade Feature Gates

Function

This API is used to obtain the configuration of cluster upgrade feature gates.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/clusterupgradefeaturegates

Request Parameters

Table 4-326 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: • application/json • application/json;charset=utf-8 • application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-327 Response body parameters

Parameter	Type	Description
apiVersion	String	API version
kind	String	Resource type
metadata	**Metadata** object	Basic information about the object. Metadata is a collection of attributes.
upgradeFeatureGates	Map<String,String>	Feature gates information, which is in the format of a key-value pair. ● **Key**: can be **DisplayPreCheckDetail** (displaying details about all cluster check items before an upgrade), **EvsSnapshot** (using EVS snapshots to back up clusters), **LabelForSkippedNode** (labeling the nodes skipped during a cluster upgrade), or **UpgradeStrategy** (specifying cluster upgrade policies) ● **Value**: can be **Support**, **Disable**, or **Default**, which is determined using default CCE rules.

Table 4-328 Metadata

Parameter	Type	Description
uid	String	Unique ID.
name	String	Resource name
labels	Map<String,String>	Resource labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Resource annotations in the format of key-value pairs.
updateTimestamp	String	Update time.
creationTimestamp	String	Creation time.

Example Requests

None

Example Responses

Status code: 200

The cluster upgrade path is obtained.

```
{
  "kind" : "ClusterUpgradeFeatureGates",
  "apiVersion" : "v3",
  "metadata" : { },
  "upgradeFeatureGates" : {
    "DisplayPreCheckDetail" : "Support",
    "EvsSnapshot" : "Support",
    "LabelForSkippedNode" : "Support",
    "UpgradeStrategy" : "Support"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;
```

```
public class ListAutopilotClusterUpgradeFeatureGatesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotClusterUpgradeFeatureGatesRequest request = new 
ListAutopilotClusterUpgradeFeatureGatesRequest();
        try {
            ListAutopilotClusterUpgradeFeatureGatesResponse response = 
client.listAutopilotClusterUpgradeFeatureGates(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security 
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment 
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this 
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotClusterUpgradeFeatureGatesRequest()
        response = client.list_autopilot_cluster_upgrade_feature_gates(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAutopilotClusterUpgradeFeatureGatesRequest{}
    response, err := client.ListAutopilotClusterUpgradeFeatureGates(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The cluster upgrade path is obtained.

Error Codes

See **Error Codes**.

4.3.14 Enabling the Cluster Upgrade Process Booting Task

Function

This API is used to create a cluster upgrade booting task. After the booting task is created by calling this API, start the check through the cluster pre-upgrade check.

The upgrade process task is used to control the execution process of the cluster upgrade task. The execution process is as follows: Pre-upgrade check -> Cluster upgrade -> Post-upgrade check.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/upgradeworkflows

Table 4-329 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-330 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: • application/json • application/json;charset=utf-8 • application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-331 Request body parameters

Parameter	Mandatory	Type	Description
kind	Yes	String	**Details**: API type **Constraints**: The value is fixed. **Options**: • WorkFlowTask

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	**Details**: API version **Constraints**: The value is fixed. **Options**: ● v3
spec	Yes	**WorkFlowSpec** object	**Details**: Element type of the collection class. The main body of the cluster upgrade process is provided in **spec**. CCE creates or updates objects by defining or updating **spec**. **Constraints**: None

Table 4-332 WorkFlowSpec

Parameter	Mandatory	Type	Description
clusterID	Yes	String	**Details**: Cluster ID **Constraints**: None **Options**: N/A
clusterVersion	No	String	**Details**: Current cluster version **Constraints**: None **Options**: N/A
targetVersion	Yes	String	**Details**: Target cluster version **Constraints**: None **Options**: N/A

Response Parameters

Status code: 201

Table 4-333 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **WorkFlowTask** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**Metadata** object	Upgrade process metadata
spec	**WorkFlowResponseSpec** object	Element type of the collection class. The main body of the cluster upgrade process is provided in **spec**. CCE creates or updates objects by defining or updating **spec**.
status	**WorkFlowStatus** object	Element type of the collection class, which is used to record the current status of the cluster upgrade process, including the execution status of each process in the cluster upgrade process.

Table 4-334 Metadata

Parameter	Type	Description
uid	String	Unique ID.
name	String	Resource name
labels	Map<String,String>	Resource labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Resource annotations in the format of key-value pairs.
updateTimestamp	String	Update time.
creationTimestamp	String	Creation time.

Table 4-335 WorkFlowResponseSpec

Parameter	Type	Description
clusterID	String	Cluster ID

Parameter	Type	Description
clusterVersion	String	Current cluster version
targetVersion	String	Target cluster version

Table 4-336 WorkFlowStatus

Parameter	Type	Description
phase	String	Execution status of the cluster upgrade process. Options: **Init**: No task is running in the upgrade process. **Running**: Some tasks in the upgrade process are being executed. **Pending**: A task in the upgrade process fails to be executed. **Success**: All tasks in the upgrade process have been executed. **Cancel**: The upgrade process has been canceled.
pointStatuses	Array of **PointStatus** objects	Execution status of each task in the upgrade process
lineStatuses	Array of **LineStatus** objects	Task execution path of the upgrade process

Table 4-337 PointStatus

Parameter	Type	Description
taskType	String	Cluster upgrade task type. Options: **Cluster**: a cluster upgrade task **PreCheck**: a cluster pre-upgrade check task **Rollback**: a cluster rollback task **Snapshot**: a cluster upgrade snapshot task **PostCheck**: a cluster post-upgrade check task
taskID	String	Upgrade task ID

Parameter	Type	Description
status	String	Cluster upgrade status. Options: **Init**: The task is in the initial state. **Queuing**: The task is in the execution queue. **Running**: The task is being executed. **Success**: The task has been executed. **Failed**: Executing the task failed.
startTimeStamp	String	Start time of the upgrade task
endTimeStamp	String	End time of the upgrade task
expireTimeStamp	String	Expiration time of the upgrade task (only for pre-upgrade check tasks)

Table 4-338 LineStatus

Parameter	Type	Description
startPoint	**Point** object	Path startpoint
endPoint	**Point** object	Path endpoint
critical	String	Whether it is a key path. An upgrade can be canceled only after the key path is executed.

Table 4-339 Point

Parameter	Type	Description
taskType	String	Cluster upgrade task type

Example Requests

Enable the process of upgrading a cluster to v1.28.

```
POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/upgradeworkflows

{
  "kind" : "WorkFlowTask",
  "apiVersion" : "v3",
  "spec" : {
    "targetVersion" : "v1.23"
  }
}
```

Example Responses

Status code: 201

The upgrade process is created in the cluster.

```
{
  "kind" : "WorkFlowTask",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "5ddfddfe-87db-11ec-b5e5-0255ac111914"
  },
  "spec" : {
    "clusterID" : "b4b9e60f-8aa2-11ee-af09-0255ac10004f",
    "clusterVersion" : "v1.17.17-r0",
    "targetVersion" : "v1.19.16-r80"
  },
  "status" : {
    "pointStatuses" : [ {
      "taskType" : "PreCheck"
    }, {
      "taskType" : "Snapshot"
    }, {
      "taskType" : "Cluster"
    }, {
      "taskType" : "PostCheck"
    } ],
    "lineStatuses" : [ {
      "startPoint" : {
        "taskType" : "PreCheck"
      },
      "endPoint" : {
        "taskType" : "Cluster"
      }
    }, {
      "startPoint" : {
        "taskType" : "Cluster"
      },
      "endPoint" : {
        "taskType" : "PostCheck"
      }
    } ]
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Enable the process of upgrading a cluster to v1.28.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class CreateAutopilotUpgradeWorkFlowSolution {
    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        CreateAutopilotUpgradeWorkFlowRequest request = new CreateAutopilotUpgradeWorkFlowRequest();
        request.withClusterId("{cluster_id}");
        CreateUpgradeWorkFlowRequestBody body = new CreateUpgradeWorkFlowRequestBody();
        WorkFlowSpec specbody = new WorkFlowSpec();
        specbody.withTargetVersion("v1.23");
        body.withSpec(specbody);
        body.withApiVersion("v3");
        body.withKind("WorkFlowTask");
        request.withBody(body);
        try {
            CreateAutopilotUpgradeWorkFlowResponse response = 
client.createAutopilotUpgradeWorkFlow(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Enable the process of upgrading a cluster to v1.28.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security 
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment 
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this 
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)
    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateAutopilotUpgradeWorkFlowRequest()
        request.cluster_id = "{cluster_id}"
        specbody = WorkFlowSpec(
            target_version="v1.23"
        )
        request.body = CreateUpgradeWorkFlowRequestBody(
            spec=specbody,
            api_version="v3",
            kind="WorkFlowTask"
        )
        response = client.create_autopilot_upgrade_work_flow(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Enable the process of upgrading a cluster to v1.28.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateAutopilotUpgradeWorkFlowRequest{}
    request.ClusterId = "{cluster_id}"
    specbody := &model.WorkFlowSpec{
        TargetVersion: "v1.23",
    }
    request.Body = &model.CreateUpgradeWorkFlowRequestBody{
        Spec: specbody,
        ApiVersion: "v3",
        Kind: "WorkFlowTask",
    }
    response, err := client.CreateAutopilotUpgradeWorkFlow(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
201	The upgrade process is created in the cluster.

Error Codes

See **Error Codes**.

4.3.15 Obtaining a List of Upgrade Workflows

Function

This API is used to obtain a list of historical cluster upgrade booting tasks.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/upgradeworkflows

Table 4-340 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-341 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-342 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **List** and cannot be changed.

Parameter	Type	Description
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
items	**UpgradeWorkFlow** object	Upgrade workflow list

Table 4-343 UpgradeWorkFlow

Parameter	Type	Description
kind	String	API type. The value is fixed at **WorkFlowTask** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**Metadata** object	Upgrade process metadata
spec	**WorkFlowResponseSpec** object	Element type of the collection class. The main body of the cluster upgrade process is provided in **spec**. CCE creates or updates objects by defining or updating **spec**.
status	**WorkFlowStatus** object	Element type of the collection class, which is used to record the current status of the cluster upgrade process, including the execution status of each process in the cluster upgrade process.

Table 4-344 Metadata

Parameter	Type	Description
uid	String	Unique ID.
name	String	Resource name
labels	Map<String,String>	Resource labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Resource annotations in the format of key-value pairs.
updateTimestamp	String	Update time.
creationTimestamp	String	Creation time.

Table 4-345 WorkFlowResponseSpec

Parameter	Type	Description
clusterID	String	Cluster ID
clusterVersion	String	Current cluster version
targetVersion	String	Target cluster version

Table 4-346 WorkFlowStatus

Parameter	Type	Description
phase	String	Execution status of the cluster upgrade process. Options: **Init**: No task is running in the upgrade process. **Running**: Some tasks in the upgrade process are being executed. **Pending**: A task in the upgrade process fails to be executed. **Success**: All tasks in the upgrade process have been executed. **Cancel**: The upgrade process has been canceled.
pointStatuses	Array of **PointStatus** objects	Execution status of each task in the upgrade process
lineStatuses	Array of **LineStatus** objects	Task execution path of the upgrade process

Table 4-347 PointStatus

Parameter	Type	Description
taskType	String	Cluster upgrade task type. Options: **Cluster**: a cluster upgrade task **PreCheck**: a cluster pre-upgrade check task **Rollback**: a cluster rollback task **Snapshot**: a cluster upgrade snapshot task **PostCheck**: a cluster post-upgrade check task
taskID	String	Upgrade task ID

Parameter	Type	Description
status	String	Cluster upgrade status. Options: **Init**: The task is in the initial state. **Queuing**: The task is in the execution queue. **Running**: The task is being executed. **Success**: The task has been executed. **Failed**: Executing the task failed.
startTimeStamp	String	Start time of the upgrade task
endTimeStamp	String	End time of the upgrade task
expireTimeStamp	String	Expiration time of the upgrade task (only for pre-upgrade check tasks)

Table 4-348 LineStatus

Parameter	Type	Description
startPoint	**Point** object	Path startpoint
endPoint	**Point** object	Path endpoint
critical	String	Whether it is a key path. An upgrade can be canceled only after the key path is executed.

Table 4-349 Point

Parameter	Type	Description
taskType	String	Cluster upgrade task type

Example Requests

None

Example Responses

Status code: 200

The list of historical cluster upgrade booting tasks is obtained.

```
{
  "apiVersion" : "v3",
  "kind" : "List",
  "items" : {
    "kind" : "WorkFlowTask",
    "apiVersion" : "v3",
    "metadata" : {
      "uid" : "730f5577-38ef-448c-b4a7-c6878fbefdda",
      "creationTimestamp" : "2023-11-24 08:39:15.894417 +0000 UTC",
      "updateTimestamp" : "2023-11-25 02:57:25.718567 +0000 UTC"
    },
    "spec" : {
      "clusterID" : "b4b9e60f-8aa2-11ee-af09-0255ac10004f",
      "clusterVersion" : "v1.17.17-r0",
      "targetVersion" : "v1.19.16-r80"
    },
    "status" : {
      "phase" : "Cancel",
      "pointStatuses" : [ {
        "taskType" : "PreCheck"
      }, {
        "taskType" : "Snapshot"
      }, {
        "taskType" : "Cluster"
      }, {
        "taskType" : "PostCheck"
      } ],
      "lineStatuses" : [ {
        "startPoint" : {
          "taskType" : "PreCheck"
        },
        "endPoint" : {
          "taskType" : "Cluster"
        }
      }, {
        "startPoint" : {
          "taskType" : "Cluster"
        },
        "endPoint" : {
          "taskType" : "PostCheck"
        }
      } ]
    }
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ListAutopilotUpgradeWorkFlowsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotUpgradeWorkFlowsRequest request = new ListAutopilotUpgradeWorkFlowsRequest();
        request.withClusterId("{cluster_id}");
        try {
            ListAutopilotUpgradeWorkFlowsResponse response =
client.listAutopilotUpgradeWorkFlows(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotUpgradeWorkFlowsRequest()
        request.cluster_id = "{cluster_id}"
        response = client.list_autopilot_upgrade_work_flows(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAutopilotUpgradeWorkFlowsRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.ListAutopilotUpgradeWorkFlows(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The list of historical cluster upgrade booting tasks is obtained.

Error Codes

See **Error Codes**.

4.3.16 Obtaining Details About a Specified Cluster Upgrade Booting Task

Function

This API is used to obtain details about an upgrade booting task based on the task ID.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/upgradeworkflows/{upgrade_workflow_id}

Table 4-350 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Parameter	Mandatory	Type	Description
upgrade_workflow_id	Yes	String	Booting process ID of a cluster upgrade task. For details about how to obtain the ID, see **Obtaining API URI Parameters**.

Request Parameters

Table 4-351 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-352 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **WorkFlowTask** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**Metadata** object	Upgrade process metadata
spec	**WorkFlowResponseSpec** object	Element type of the collection class. The main body of the cluster upgrade process is provided in **spec**. CCE creates or updates objects by defining or updating **spec**.
status	**WorkFlowStatus** object	Element type of the collection class, which is used to record the current status of the cluster upgrade process, including the execution status of each process in the cluster upgrade process.

Table 4-353 Metadata

Parameter	Type	Description
uid	String	Unique ID.
name	String	Resource name
labels	Map<String,String>	Resource labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Resource annotations in the format of key-value pairs.
updateTimestamp	String	Update time.
creationTimestamp	String	Creation time.

Table 4-354 WorkFlowResponseSpec

Parameter	Type	Description
clusterID	String	Cluster ID

Parameter	Type	Description
clusterVersion	String	Current cluster version
targetVersion	String	Target cluster version

Table 4-355 WorkFlowStatus

Parameter	Type	Description
phase	String	Execution status of the cluster upgrade process. Options: **Init**: No task is running in the upgrade process. **Running**: Some tasks in the upgrade process are being executed. **Pending**: A task in the upgrade process fails to be executed. **Success**: All tasks in the upgrade process have been executed. **Cancel**: The upgrade process has been canceled.
pointStatuses	Array of **PointStatus** objects	Execution status of each task in the upgrade process
lineStatuses	Array of **LineStatus** objects	Task execution path of the upgrade process

Table 4-356 PointStatus

Parameter	Type	Description
taskType	String	Cluster upgrade task type. Options: **Cluster**: a cluster upgrade task **PreCheck**: a cluster pre-upgrade check task **Rollback**: a cluster rollback task **Snapshot**: a cluster upgrade snapshot task **PostCheck**: a cluster post-upgrade check task
taskID	String	Upgrade task ID

Parameter	Type	Description
status	String	Cluster upgrade status. Options: **Init**: The task is in the initial state. **Queuing**: The task is in the execution queue. **Running**: The task is being executed. **Success**: The task has been executed. **Failed**: Executing the task failed.
startTimeStamp	String	Start time of the upgrade task
endTimeStamp	String	End time of the upgrade task
expireTimeStamp	String	Expiration time of the upgrade task (only for pre-upgrade check tasks)

Table 4-357 LineStatus

Parameter	Type	Description
startPoint	**Point** object	Path startpoint
endPoint	**Point** object	Path endpoint
critical	String	Whether it is a key path. An upgrade can be canceled only after the key path is executed.

Table 4-358 Point

Parameter	Type	Description
taskType	String	Cluster upgrade task type

Example Requests

None

Example Responses

Status code: 200

Details about the specified cluster upgrade booting task are obtained.

```
{
  "kind" : "WorkFlowTask",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "c271e39e-1a6e-4d3d-8fa8-2a36329c68d1",
    "creationTimestamp" : "2023-11-25 06:32:34.923248 +0000 UTC",
    "updateTimestamp" : "2023-11-25 07:49:30.281911 +0000 UTC"
  },
  "spec" : {
    "clusterID" : "b4b9e60f-8aa2-11ee-af09-0255ac10004f",
    "clusterVersion" : "v1.17.17-r0",
    "targetVersion" : "v1.19.16-r80"
  },
  "status" : {
    "phase" : "Pending",
    "pointStatuses" : [ {
      "taskType" : "PreCheck",
      "taskID" : "f61e008c-1600-41c0-9bde-121de5a30660",
      "status" : "Success",
      "startTimeStamp" : "2023-11-25 07:20:04.592972 +0000 UTC",
      "endTimeStamp" : "2023-11-25 07:21:05.518966 +0000 UTC",
      "expireTimeStamp" : "2023-11-25 08:21:05.518966 +0000 UTC"
    }, {
      "taskType" : "Snapshot"
    }, {
      "taskType" : "Cluster",
      "taskID" : "6d799ff6-3afe-4242-80b4-6f0a0fa746cb",
      "status" : "Failed",
      "startTimeStamp" : "2023-11-25 07:49:30.283459 +0000 UTC",
      "endTimeStamp" : "2023-11-25 07:58:35.507243 +0000 UTC"
    }, {
      "taskType" : "PostCheck"
    } ],
    "lineStatuses" : [ {
      "startPoint" : {
        "taskType" : "PreCheck"
      },
      "endPoint" : {
        "taskType" : "Cluster"
      }
    }, {
      "startPoint" : {
        "taskType" : "Cluster"
      },
      "endPoint" : {
        "taskType" : "PostCheck"
      }
    } ]
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotUpgradeWorkFlowSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotUpgradeWorkFlowRequest request = new ShowAutopilotUpgradeWorkFlowRequest();
        request.withClusterId("{cluster_id}");
        request.withUpgradeWorkflowId("{upgrade_workflow_id}");
        try {
            ShowAutopilotUpgradeWorkFlowResponse response =
client.showAutopilotUpgradeWorkFlow(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotUpgradeWorkFlowRequest()
        request.cluster_id = "{cluster_id}"
        request.upgrade_workflow_id = "{upgrade_workflow_id}"
        response = client.show_autopilot_upgrade_work_flow(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotUpgradeWorkFlowRequest{}
    request.ClusterId = "{cluster_id}"
    request.UpgradeWorkflowId = "{upgrade_workflow_id}"
    response, err := client.ShowAutopilotUpgradeWorkFlow(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	Details about the specified cluster upgrade booting task are obtained.

Error Codes

See **Error Codes**.

4.3.17 Updating the Status of a Specified Cluster Upgrade Booting Task

Function

This API is used to update the status of a specified cluster upgrade booting task. This API applies only to the upgrade cancellation process.

When this API is called, the status of the upgrade process booting task cannot be **running**, **success**, or **cancel**, and the status of the upgrade subtask cannot be **running**, **init**, **pause**, or **queue**.

Calling Method

For details, see **Calling APIs**.

URI

PATCH /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/operation/upgradeworkflows/{upgrade_workflow_id}

Table 4-359 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A
upgrade_workflow_id	Yes	String	Booting process ID of a cluster upgrade task. For details about how to obtain the ID, see **Obtaining API URI Parameters**.

Request Parameters

Table 4-360 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-361 Request body parameters

Parameter	Mandatory	Type	Description
status	No	**status** object	**Details**: Updated workflow status (Only **Cancel** is supported.) **Constraints**: None

Table 4-362 status

Parameter	Mandatory	Type	Description
phase	No	String	**Details**: Execution status of the cluster upgrade process **Constraints**: None **Options**: ● **Cancel**: The upgrade is canceled.

Response Parameters

Status code: 200

Table 4-363 Response body parameters

Parameter	Type	Description
kind	String	API type. The value is fixed at **WorkFlowTask** and cannot be changed.
apiVersion	String	API version. The value is fixed at **v3** and cannot be changed.
metadata	**Metadata** object	Upgrade process metadata
spec	**WorkFlowResponseSpec** object	Element type of the collection class. The main body of the cluster upgrade process is provided in **spec**. CCE creates or updates objects by defining or updating **spec**.
status	**WorkFlowStatus** object	Element type of the collection class, which is used to record the current status of the cluster upgrade process, including the execution status of each process in the cluster upgrade process.

Table 4-364 Metadata

Parameter	Type	Description
uid	String	Unique ID.
name	String	Resource name
labels	Map<String,String>	Resource labels in key-value pairs. This is a reserved field and does not take effect.
annotations	Map<String,String>	Resource annotations in the format of key-value pairs.
updateTimestamp	String	Update time.
creationTimestamp	String	Creation time.

Table 4-365 WorkFlowResponseSpec

Parameter	Type	Description
clusterID	String	Cluster ID
clusterVersion	String	Current cluster version
targetVersion	String	Target cluster version

Table 4-366 WorkFlowStatus

Parameter	Type	Description
phase	String	Execution status of the cluster upgrade process. Options: **Init**: No task is running in the upgrade process. **Running**: Some tasks in the upgrade process are being executed. **Pending**: A task in the upgrade process fails to be executed. **Success**: All tasks in the upgrade process have been executed. **Cancel**: The upgrade process has been canceled.
pointStatuses	Array of **PointStatus** objects	Execution status of each task in the upgrade process
lineStatuses	Array of **LineStatus** objects	Task execution path of the upgrade process

Table 4-367 PointStatus

Parameter	Type	Description
taskType	String	Cluster upgrade task type. Options: **Cluster**: a cluster upgrade task **PreCheck**: a cluster pre-upgrade check task **Rollback**: a cluster rollback task **Snapshot**: a cluster upgrade snapshot task **PostCheck**: a cluster post-upgrade check task
taskID	String	Upgrade task ID
status	String	Cluster upgrade status. Options: **Init**: The task is in the initial state. **Queuing**: The task is in the execution queue. **Running**: The task is being executed. **Success**: The task has been executed. **Failed**: Executing the task failed.
startTimeStamp	String	Start time of the upgrade task
endTimeStamp	String	End time of the upgrade task

Parameter	Type	Description
expireTimeStamp	String	Expiration time of the upgrade task (only for pre-upgrade check tasks)

Table 4-368 LineStatus

Parameter	Type	Description
startPoint	**Point** object	Path startpoint
endPoint	**Point** object	Path endpoint
critical	String	Whether it is a key path. An upgrade can be canceled only after the key path is executed.

Table 4-369 Point

Parameter	Type	Description
taskType	String	Cluster upgrade task type

Example Requests

Cancel the upgrade process.

```
PATCH /autopilot/v3/projects/47eb1d64cbeb45cfa01ae20af4f4b563/clusters/
f9960c6b-8e60-11ee-9754-0255ac100b05/operation/upgradeworkflows/
d0b7e319-8172-424c-86ea-543cd23f9756

{
  "status" : {
    "phase" : "Cancel"
  }
}
```

Example Responses

Status code: 200

The status of the cluster upgrade booting task is updated.

```
{
  "kind" : "WorkFlowTask",
  "apiVersion" : "v3",
  "metadata" : {
    "uid" : "c271e39e-1a6e-4d3d-8fa8-2a36329c68d1",
    "creationTimestamp" : "2023-11-25 06:32:34.923248 +0000 UTC",
    "updateTimestamp" : "2023-11-25 07:49:30.281911 +0000 UTC"
  },
  "spec" : {
    "clusterID" : "b4b9e60f-8aa2-11ee-af09-0255ac10004f",
    "clusterVersion" : "v1.17.17-r0",
    "targetVersion" : "v1.19.16-r80"
  },
  "status" : {
    "phase" : "Cancel",
    "pointStatuses" : [ {
      "taskType" : "PreCheck",
      "taskID" : "f61e008c-1600-41c0-9bde-121de5a30660",
      "status" : "Success",
      "startTimeStamp" : "2023-11-25 07:20:04.592972 +0000 UTC",
      "endTimeStamp" : "2023-11-25 07:21:05.518966 +0000 UTC",
      "expireTimeStamp" : "2023-11-25 08:21:05.518966 +0000 UTC"
    }, {
      "taskType" : "Snapshot"
    }, {
      "taskType" : "Cluster",
      "taskID" : "6d799ff6-3afe-4242-80b4-6f0a0fa746cb",
      "status" : "Failed",
      "startTimeStamp" : "2023-11-25 07:49:30.283459 +0000 UTC",
      "endTimeStamp" : "2023-11-25 07:58:35.507243 +0000 UTC"
    }, {
      "taskType" : "PostCheck"
    } ],
    "lineStatuses" : [ {
      "startPoint" : {
        "taskType" : "PreCheck"
      },
      "endPoint" : {
        "taskType" : "Cluster"
      }
    }, {
      "startPoint" : {
        "taskType" : "Cluster"
      },
      "endPoint" : {
        "taskType" : "PostCheck"
      }
    } ]
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Cancel the upgrade process.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class UpgradeAutopilotWorkFlowUpdateSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        UpgradeAutopilotWorkFlowUpdateRequest request = new 
UpgradeAutopilotWorkFlowUpdateRequest();
        request.withClusterId("{cluster_id}");
        request.withUpgradeWorkflowId("{upgrade_workflow_id}");
        UpgradeWorkFlowUpdateRequestBody body = new UpgradeWorkFlowUpdateRequestBody();
        UpgradeWorkFlowUpdateRequestBodyStatus statusbody = new 
UpgradeWorkFlowUpdateRequestBodyStatus();
        statusbody.withPhase(UpgradeWorkFlowUpdateRequestBodyStatus.PhaseEnum.fromValue("Cancel"));
        body.withStatus(statusbody);
        request.withBody(body);
        try {
            UpgradeAutopilotWorkFlowUpdateResponse response = 
client.upgradeAutopilotWorkFlowUpdate(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Cancel the upgrade process.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security 
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment 
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this 
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()
    try:
        request = UpgradeAutopilotWorkFlowUpdateRequest()
        request.cluster_id = "{cluster_id}"
        request.upgrade_workflow_id = "{upgrade_workflow_id}"
        statusbody = UpgradeWorkFlowUpdateRequestBodyStatus(
            phase="Cancel"
        )
        request.body = UpgradeWorkFlowUpdateRequestBody(
            status=statusbody
        )
        response = client.upgrade_autopilot_work_flow_update(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Cancel the upgrade process.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpgradeAutopilotWorkFlowUpdateRequest{}
    request.ClusterId = "{cluster_id}"
    request.UpgradeWorkflowId = "{upgrade_workflow_id}"
    phaseStatus:= model.GetUpgradeWorkFlowUpdateRequestBodyStatusPhaseEnum().CANCEL
    statusbody := &model.UpgradeWorkFlowUpdateRequestBodyStatus{
        Phase: &phaseStatus,
    }
    request.Body = &model.UpgradeWorkFlowUpdateRequestBody{
        Status: statusbody,
    }
    response, err := client.UpgradeAutopilotWorkFlowUpdate(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
```

```
  }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The status of the cluster upgrade booting task is updated.

Error Codes

See **Error Codes**.

4.4 Quota Management for Autopilot Clusters

4.4.1 Obtaining CCE Resource Quotas

Function

This API is used to get CCE resource quotas.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v3/projects/{project_id}/quotas

Table 4-370 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A

Request Parameters

Table 4-371 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: • application/json • application/json;charset=utf-8 • application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-372 Response body parameters

Parameter	Type	Description
quotas	Array of **QuotaResource** objects	Resources

Table 4-373 QuotaResource

Parameter	Type	Description
quotaKey	String	**Details**: Resource type **Constraints**: None **Options**: ● **cluster**: cluster quota **Default value**: N/A
quotaLimit	Integer	Quota

Parameter	Type	Description
used	Integer	Number of created resources
unit	String	Unit
regionId	String	Region ID. This parameter is not returned if not involved.
availabilityZoneId	String	AZ ID. This parameter is not returned if not involved.

Example Requests

None

Example Responses

Status code: 200

The resource quotas are obtained.

```
{
  "quotas" : [ {
    "quotaKey" : "autopilot_cluster",
    "quotaLimit" : 20,
    "used" : 13,
    "unit" : "count",
    "regionId" : "cn-north-7"
  } ]
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotQuotasSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";
        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotQuotasRequest request = new ShowAutopilotQuotasRequest();
        try {
            ShowAutopilotQuotasResponse response = client.showAutopilotQuotas(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotQuotasRequest()
        response = client.show_autopilot_quotas(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main
```

```
import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotQuotasRequest{}
    response, err := client.ShowAutopilotQuotas(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The resource quotas are obtained.

Error Codes

See **Error Codes**.

4.5 Tag Management for Autopilot Clusters

4.5.1 Adding Resource Tags to a Cluster in Batches

Function

This API is used to add resource tags to a cluster in batches.

NOTE

- Each cluster supports a maximum of 20 resource tags.
- This API is idempotent. If the to-be-added tag has the same key and value as an existing tag, the tag will be added. If the to-be-added tag has the same key but different value as an existing tag, the tag will overwrite the existing one.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/tags/create

Table 4-374 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-375 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-376 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of **ResourceTag** objects	List of cluster resource tags to be created. Each cluster supports a maximum of 20 resource tags.

Table 4-377 ResourceTag

Parameter	Mandatory	Type	Description
key	No	String	**Details**: Key **Constraints**: None **Options**: ● The value cannot be empty and cannot start or end with spaces. A maximum of 128 characters are supported. ● Letters, digits, and spaces in UTF-8 format are supported. ● The value can contain the following special characters: _.:=+-@ ● The value cannot start with **_sys_**. **Default value**: N/A
value	No	String	**Details**: Value **Constraints**: None **Options**: ● The value can be null but not the default. Max characters: 255 ● Letters, digits, and spaces in UTF-8 format are supported. ● The value can contain the following special characters: _.:/=+-@ **Default value**: N/A

Response Parameters

None

Example Requests

Add resource tags to a cluster in batches.

```
POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/tags/create

{
  "tags" : [ {
    "key" : "key1",
    "value" : "value1"
  }, {
    "key" : "key2",
    "value" : "value3"
  } ]
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Add resource tags to a cluster in batches.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;

import java.util.List;
import java.util.ArrayList;

public class BatchCreateAutopilotClusterTagsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        BatchCreateAutopilotClusterTagsRequest request = new BatchCreateAutopilotClusterTagsRequest();
        request.withClusterId("{cluster_id}");
        BatchCreateClusterTagsRequestBody body = new BatchCreateClusterTagsRequestBody();
        List<ResourceTag> listbodyTags = new ArrayList<>();
        listbodyTags.add(
            new ResourceTag()
                .withKey("key1")
                .withValue("value1")
        );
        listbodyTags.add(
            new ResourceTag()
                .withKey("key2")
                .withValue("value3")
        );
        body.withTags(listbodyTags);
        request.withBody(body);
        try {
            BatchCreateAutopilotClusterTagsResponse response = 
client.batchCreateAutopilotClusterTags(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Add resource tags to a cluster in batches.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security 
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment 
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this 
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = BatchCreateAutopilotClusterTagsRequest()
        request.cluster_id = "{cluster_id}"
        listTagsbody = [
            ResourceTag(
                key="key1",
                value="value1"
            ),
            ResourceTag(
                key="key2",
                value="value3"
            )
        ]
        request.body = BatchCreateClusterTagsRequestBody(
            tags=listTagsbody
        )
        response = client.batch_create_autopilot_cluster_tags(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Add resource tags to a cluster in batches.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security 
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment 
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this 
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.BatchCreateAutopilotClusterTagsRequest{}
    request.ClusterId = "{cluster_id}"
    keyTags:= "key1"
    valueTags:= "value1"
    keyTags1:= "key2"
    valueTags1:= "value3"
    var listTagsbody = []model.ResourceTag{
        {
            Key: &keyTags,
            Value: &valueTags,
        },
        {
            Key: &keyTags1,
            Value: &valueTags1,
        },
    }
    request.Body = &model.BatchCreateClusterTagsRequestBody{
        Tags: listTagsbody,
    }
    response, err := client.BatchCreateAutopilotClusterTags(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	No Content

Error Codes

See **Error Codes**.

4.5.2 Deleting Resource Tags from a Cluster in Batches

Function

This API is used to delete resource tags from a cluster in batches.

NOTE

- This API is idempotent. If the key of the to-be-deleted tag does not exist, the tag will be deleted.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/tags/delete

Table 4-378 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-379 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-380 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of **ResourceDeleteTag** objects	List of cluster resource tags to be deleted

Table 4-381 ResourceDeleteTag

Parameter	Mandatory	Type	Description
key	No	String	The key value of the resource tag ● It cannot be null. It can contain a maximum of 128 characters. ● It can contain Chinese characters, letters, digits, and spaces in UTF-8 format. ● It can contain the following special characters: **_.:/=+-@**. ● It cannot start with **_sys_**.

Response Parameters

None

Example Requests

Delete resource tags from a cluster in batches.

```
POST /autopilot/v3/projects/{project_id}/clusters/{cluster_id}/tags/delete

{
  "tags" : [ {
    "key" : "key1"
  }, {
    "key" : "key2"
  } ]
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

Delete resource tags from a cluster in batches.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;

import java.util.List;
import java.util.ArrayList;

public class BatchDeleteAutopilotClusterTagsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        BatchDeleteAutopilotClusterTagsRequest request = new BatchDeleteAutopilotClusterTagsRequest();
        request.withClusterId("{cluster_id}");
        BatchDeleteClusterTagsRequestBody body = new BatchDeleteClusterTagsRequestBody();
        List<ResourceDeleteTag> listbodyTags = new ArrayList<>();
        listbodyTags.add(
            new ResourceDeleteTag()
                .withKey("key1")
        );
        listbodyTags.add(
            new ResourceDeleteTag()
                .withKey("key2")
        );
        body.withTags(listbodyTags);
        request.withBody(body);
        try {
            BatchDeleteAutopilotClusterTagsResponse response =
client.batchDeleteAutopilotClusterTags(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Delete resource tags from a cluster in batches.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = BatchDeleteAutopilotClusterTagsRequest()
        request.cluster_id = "{cluster_id}"
        listTagsbody = [
            ResourceDeleteTag(
                key="key1"
            ),
            ResourceDeleteTag(
                key="key2"
            )
        ]
        request.body = BatchDeleteClusterTagsRequestBody(
            tags=listTagsbody
        )
        response = client.batch_delete_autopilot_cluster_tags(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Delete resource tags from a cluster in batches.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.BatchDeleteAutopilotClusterTagsRequest{}
    request.ClusterId = "{cluster_id}"
    keyTags:= "key1"
    keyTags1:= "key2"
    var listTagsbody = []model.ResourceDeleteTag{
        {
            Key: &keyTags,
        },
        {
            Key: &keyTags1,
        },
    }
    request.Body = &model.BatchDeleteClusterTagsRequestBody{
        Tags: listTagsbody,
    }
    response, err := client.BatchDeleteAutopilotClusterTags(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	No Content

Error Codes

See **Error Codes**.

4.6 Chart Management for Autopilot Clusters

4.6.1 Uploading a Chart

Function

This API is used to upload a chart.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/v2/charts

Request Parameters

Table 4-382 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: • application/json • application/json;charset=utf-8 • application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-383 FormData parameters

Parameter	Mandatory	Type	Description
parameters	No	String	Configuration parameters for uploading a chart. The following shows an example: **"{"override":true,"skip_lint": true,"source":"package"}"** ● **skip_lint**: indicates whether to verify the uploaded chart. ● **override**: indicates whether to override an existing chart. ● **visible**: indicates whether the chart is visible.
content	Yes	File	Chart package file

Response Parameters

Status code: 201

Table 4-384 Response body parameters

Parameter	Type	Description
id	String	Chart ID
name	String	Chart name
values	String	Chart value
translate	String	Chart translation resources
instruction	String	Chart description
version	String	Chart version
description	String	Chart description
source	String	Chart source
icon_url	String	URL to chart icons
public	Boolean	Whether the chart is public
chart_url	String	URL to the chart
create_at	String	Created at
update_at	String	Updated at

Example Requests

```
POST /autopilot/v2/charts

{
  "parameters" : "{\"override\":true,\"skip_lint\":true,\"source\":\"package\"}",
  "content" : "chart-file.tgz"
}
```

Example Responses

Status code: 201

Created

```
{
  "id" : "e99a7e86-afdd-11eb-aca3-0255ac100b0e",
  "name" : "neo4j",
  "values" : "{\"acceptLicenseAgreement\":\"no\",\"affinity\":{},\"authEnabled\":true,\"clusterDomain
\":\"cluster.local\",\"core\":{\"initContainers\":[],\"numberOfServers\":3,\"persistentVolume\":{\"enabled
\":true,\"mountPath\":\"/data\",\"size\":\"10Gi\"},\"sidecarContainers\":[]},\"defaultDatabase\":\"neo4j
\",\"image\":\"neo4j\",\"imagePullPolicy\":\"IfNotPresent\",\"imageTag\":\"4.0.3-enterprise\",\"name
\":\"neo4j\",\"nodeSelector\":{},\"podDisruptionBudget\":{},\"readReplica\":{\"autoscaling\":{\"enabled
\":false,\"maxReplicas\":3,\"minReplicas\":1,\"targetAverageUtilization\":70},\"initContainers\":
[],\"numberOfServers\":0,\"resources\":{},\"sidecarContainers\":[]},\"resources\":{},\"testImage
\":\"markhneedham/k8s-kubectl\",\"testImageTag\":\"master\",\"tolerations\":[],\"useAPOC\":\"true\"}",
  "translate" : "",
  "instruction" : "README.md",
  "version" : "3.0.1",
  "description" : "DEPRECATED Neo4j is the world's leading graph database",
  "source" : "",
  "icon_url" : "https://info.neo4j.com/rs/773-GON-065/images/neo4j_logo.png",
  "public" : false,
  "chart_url" : "neo4j-3.0.1.tgz",
  "create_at" : "2021-05-08T08:53:13Z",
  "update_at" : "2021-05-08T08:53:13Z"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class UploadAutopilotChartSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        UploadAutopilotChartRequest request = new UploadAutopilotChartRequest();
        UploadAutopilotChartRequestBody bodybody = new UploadAutopilotChartRequestBody();
        bodybody.withParameters("{"override":true,"skip_lint":true,"source":"package"}")
            .withContent("chart-file.tgz");
        body.withBody(bodybody);
        request.withBody(listbodyBody);
        try {
            UploadAutopilotChartResponse response = client.uploadAutopilotChart(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UploadAutopilotChartRequest()
        bodybody = UploadAutopilotChartRequestBody(
            parameters="{"override":true,"skip_lint":true,"source":"package"}",
            content="chart-file.tgz"
        )
        request.body = listBodybody
        response = client.upload_autopilot_chart(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UploadAutopilotChartRequest{}
    parametersBody:= "{"override":true,"skip_lint":true,"source":"package"}"
    bodybody := &model.UploadAutopilotChartRequestBody{
        Parameters: &parametersBody,
        Content: "chart-file.tgz",
    }
    request.Body = listBodybody
    response, err := client.UploadAutopilotChart(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
201	Created

Error Codes

See **Error Codes**.

4.6.2 Obtaining a Chart List

Function

This API is used to obtain a chart list.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v2/charts

Request Parameters

Table 4-385 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-386 Response body parameters

Parameter	Type	Description
[items]	Array of **ChartResp** objects	Chart list

Table 4-387 ChartResp

Parameter	Type	Description
id	String	Chart ID
name	String	Chart name
values	String	Chart value
translate	String	Chart translation resources
instruction	String	Chart description
version	String	Chart version
description	String	Chart description
source	String	Chart source

Parameter	Type	Description
icon_url	String	URL to chart icons
public	Boolean	Whether the chart is public
chart_url	String	URL to the chart
create_at	String	Created at
update_at	String	Updated at

Example Requests

None

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ListAutopilotChartsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotChartsRequest request = new ListAutopilotChartsRequest();
        try {
            ListAutopilotChartsResponse response = client.listAutopilotCharts(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotChartsRequest()
        response = client.list_autopilot_charts(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListAutopilotChartsRequest{}
    response, err := client.ListAutopilotCharts(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.3 Obtaining a Release List

Function

This API is used to obtain a release list.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/cam/v3/clusters/{cluster_id}/releases

Table 4-388 Path Parameters

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Table 4-389 Query Parameters

Parameter	Mandatory	Type	Description
chart_id	No	String	Chart ID
namespace	No	String	Namespace to which a chart belongs

Request Parameters

Table 4-390 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-391 Response body parameters

Parameter	Type	Description
[items]	Array<Array< **ReleaseResp**> >	OK

Table 4-392 ReleaseResp

Parameter	Type	Description
chart_name	String	Chart name
chart_public	Boolean	Whether the chart is public
chart_version	String	Chart version
cluster_id	String	Cluster ID
cluster_name	String	Current name
create_at	String	Created at
description	String	Release description
name	String	Release name

Parameter	Type	Description
namespace	String	Namespace to which a chart release belongs
parameters	String	Release parameters
resources	String	Resources required by the release
status	String	Release status. ● **DEPLOYED**: The release is normal. ● **DELETED**: The release has been deleted. ● **FAILED**: The release fails to be deployed. ● **DELETING**: The release is being deleted. ● **PENDING_INSTALL**: The release is waiting to be installed. ● **PENDING_UPGRADE**: The release is waiting to be upgraded. ● **PENDING_ROLLBACK**: The release is waiting for rollback. ● **UNKNOWN**: The release status is unknown, indicating that the release is abnormal. You can manually delete the release and reinstall it.
status_description	String	Release status description
update_at	String	Updated at
values	String	Release value
version	Integer	Release version

Example Requests

None

Example Responses

Status code: 200

OK

```
[ {
  "chart_name" : "magento-mysql",
  "chart_public" : false,
  "chart_version" : "1.0.0",
  "cluster_id" : "a870253f-5dc7-11ee-bf71-0255ac100b03",
  "cluster_name" : "sfs-turbo-test",
  "create_at" : "2023-11-14T20:30:57+08:00",
  "description" : "Initial install underway",
  "name" : "testwww",
  "namespace" : "monitoring",
  "parameters" : "",
  "resources" : "",
  "status" : "PENDING_INSTALL",
  "status_description" : "Initial install underway",
  "update_at" : "2023-11-14T20:30:57+08:00",
  "values" : "{\"basic\":{\"admin_password\":\"******\",\"admin_username\":\"username\",\"app_name
\":\"magento\",\"mysql_database\":\"magento\",\"mysql_name\":\"mysql\",\"mysql_password\":\"******
\",\"mysql_port\":3306,\"mysql_root_password\":\"******\",\"mysql_user\":\"magento\",\"storage_class\":\"csi-
nas\",\"storage_mode\":\"ReadWriteMany\",\"storage_size\":\"10G\"},\"global\":{\"magento_EIP
\":\"100.100.100.100\",\"magento_EPORT\":32080,\"namespace\":\"default\"},\"image\":{\"magento_image
\":\"example.com/everest/magento:latest\",\"mysql_image\":\"example.com/everest/mysql:5.7.14\"}}",
  "version" : 1
} ]
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ListAutopilotReleasesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ListAutopilotReleasesRequest request = new ListAutopilotReleasesRequest();
        request.withClusterId("{cluster_id}");
        try {
            ListAutopilotReleasesResponse response = client.listAutopilotReleases(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListAutopilotReleasesRequest()
        request.cluster_id = "{cluster_id}"
        response = client.list_autopilot_releases(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())
    request := &model.ListAutopilotReleasesRequest{}
    request.ClusterId = "{cluster_id}"
    response, err := client.ListAutopilotReleases(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.4 Creating a Release

Function

This API is used to create a release.

Calling Method

For details, see **Calling APIs**.

URI

POST /autopilot/cam/v3/clusters/{cluster_id}/releases

Table 4-393 Path Parameters

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-394 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: • application/json • application/json;charset=utf-8 • application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-395 Request body parameters

Parameter	Mandatory	Type	Description
chart_id	Yes	String	Chart ID
description	No	String	Release description
name	Yes	String	Release name
namespace	Yes	String	Namespace to which a chart release belongs
version	Yes	String	Release version
parameters	No	**ReleaseReqBodyParams** object	Release parameters
values	Yes	**values** object	Release value

Table 4-396 ReleaseReqBodyParams

Parameter	Mandatory	Type	Description
dry_run	No	Boolean	After this function is enabled, only chart parameters are verified, and installation is not performed.

Parameter	Mandatory	Type	Description
name_template	No	String	Release name template
no_hooks	No	Boolean	Whether to disable hooks during installation
replace	No	Boolean	Whether to replace the release with the same name
recreate	No	Boolean	Whether to rebuild the release
reset_values	No	Boolean	Whether to reset values during an update
release_version	No	Integer	Version of the rollback release
include_hooks	No	Boolean	Enable hooks during an update or deletion.

Table 4-397 values

Parameter	Mandatory	Type	Description
imagePullPolicy	No	String	Image pull policy
imageTag	No	String	Image tag

Response Parameters

Status code: 201

Table 4-398 Response body parameters

Parameter	Type	Description
chart_name	String	Chart name
chart_public	Boolean	Whether the chart is public
chart_version	String	Chart version
cluster_id	String	Cluster ID
cluster_name	String	Current name
create_at	String	Created at
description	String	Release description

Parameter	Type	Description
name	String	Release name
namespace	String	Namespace to which a chart release belongs
parameters	String	Release parameters
resources	String	Resources required by the release
status	String	Release status. ● **DEPLOYED**: The release is normal. ● **DELETED**: The release has been deleted. ● **FAILED**: The release fails to be deployed. ● **DELETING**: The release is being deleted. ● **PENDING_INSTALL**: The release is waiting to be installed. ● **PENDING_UPGRADE**: The release is waiting to be upgraded. ● **PENDING_ROLLBACK**: The release is waiting for rollback. ● **UNKNOWN**: The release status is unknown, indicating that the release is abnormal. You can manually delete the release and reinstall it.
status_description	String	Release status description
update_at	String	Updated at
values	String	Release value
version	Integer	Release version

Example Requests

```
POST /autopilot/cam/v3/clusters/{cluster_id}/releases

{
  "name" : "koi-neo4j",
  "project_id" : "0abdd2dce980d4162f8ac006608ee02d",
  "cluster_id" : "7378a198-a3fe-11eb-ad37-0255ac100b07",
  "namespace" : "default",
  "chart_id" : "e99a7e86-afdd-11eb-aca3-0255ac100b0e",
  "description" : "",
  "version" : "3.0.1",
  "values" : {
    "acceptLicenseAgreement" : "no",
    "affinity" : { },
    "authEnabled" : true,
    "clusterDomain" : "cluster.local",
    "core" : {
      "initContainers" : [ ],
      "numberOfServers" : 3,
      "persistentVolume" : {
        "enabled" : true,
        "mountPath" : "/data",
        "size" : "10Gi"
      },
      "sidecarContainers" : [ ]
    },
    "defaultDatabase" : "neo4j",
    "image" : "neo4j",
    "imagePullPolicy" : "IfNotPresent",
    "imageTag" : "4.0.3-enterprise",
    "name" : "neo4j",
    "nodeSelector" : { },
    "podDisruptionBudget" : { },
    "readReplica" : {
      "autoscaling" : {
        "enabled" : false,
        "maxReplicas" : 3,
        "minReplicas" : 1,
        "targetAverageUtilization" : 70
      },
      "initContainers" : [ ],
      "numberOfServers" : 0,
      "resources" : { },
      "sidecarContainers" : [ ]
    },
    "resources" : { },
    "testImage" : "markhneedham/k8s-kubectl",
    "testImageTag" : "master",
    "tolerations" : [ ],
    "useAPOC" : "true"
  }
}
```

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class CreateAutopilotReleaseSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
```

```
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        CreateAutopilotReleaseRequest request = new CreateAutopilotReleaseRequest();
        request.withClusterId("{cluster_id}");
        CreateReleaseReqBody body = new CreateReleaseReqBody();
        CreateReleaseReqBodyValues valuesbody = new CreateReleaseReqBodyValues();
        valuesbody.withImagePullPolicy("IfNotPresent")
            .withImageTag("4.0.3-enterprise");
        body.withValues(valuesbody);
        body.withVersion("3.0.1");
        body.withNamespace("default");
        body.withName("koi-neo4j");
        body.withDescription("");
        body.withChartId("e99a7e86-afdd-11eb-aca3-0255ac100b0e");
        request.withBody(body);
        try {
            CreateAutopilotReleaseResponse response = client.createAutopilotRelease(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateAutopilotReleaseRequest()
        request.cluster_id = "{cluster_id}"
        valuesbody = CreateReleaseReqBodyValues(
            image_pull_policy="IfNotPresent",
            image_tag="4.0.3-enterprise"
        )
        request.body = CreateReleaseReqBody(
            values=valuesbody,
            version="3.0.1",
            namespace="default",
            name="koi-neo4j",
            description="",
            chart_id="e99a7e86-afdd-11eb-aca3-0255ac100b0e"
        )
        response = client.create_autopilot_release(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateAutopilotReleaseRequest{}
    request.ClusterId = "{cluster_id}"
    imagePullPolicyValues:= "IfNotPresent"
    imageTagValues:= "4.0.3-enterprise"
    valuesbody := &model.CreateReleaseReqBodyValues{
        ImagePullPolicy: &imagePullPolicyValues,
        ImageTag: &imageTagValues,
    }
    descriptionCreateReleaseReqBody:= ""
    request.Body = &model.CreateReleaseReqBody{
        Values: valuesbody,
        Version: "3.0.1",
        Namespace: "default",
        Name: "koi-neo4j",
        Description: &descriptionCreateReleaseReqBody,
        ChartId: "e99a7e86-afdd-11eb-aca3-0255ac100b0e",
    }
    response, err := client.CreateAutopilotRelease(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
201	Created

Error Codes

See **Error Codes**.

4.6.5 Updating a Chart

Function

This API is used to update a chart.

Calling Method

For details, see **Calling APIs**.

URI

PUT /autopilot/v2/charts/{chart_id}

Table 4-399 Path Parameters

Parameter	Mandatory	Type	Description
chart_id	Yes	String	Chart ID

Request Parameters

Table 4-400 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-401 FormData parameters

Parameter	Mandatory	Type	Description
parameters	No	String	Configuration parameters for updating a chart. The following shows an example: **"{"override":true,"skip_lint": true,"source":"package"}"** ● **skip_lint**: indicates whether to verify the uploaded chart. ● **override**: indicates whether to override an existing chart. ● **visible**: indicates whether the chart is visible.
content	Yes	File	Chart package file

Response Parameters

Status code: 200

Table 4-402 Response body parameters

Parameter	Type	Description
id	String	Chart ID
name	String	Chart name
values	String	Chart value
translate	String	Chart translation resources
instruction	String	Chart description
version	String	Chart version
description	String	Chart description
source	String	Chart source
icon_url	String	URL to chart icons
public	Boolean	Whether the chart is public
chart_url	String	URL to the chart
create_at	String	Created at
update_at	String	Updated at

Example Requests

```
PUT /autopilot/v2/charts/{chart_id}

{
  "parameters" : "{\"override\":true,\"skip_lint\":true,\"source\":\"package\"}",
  "content" : "chart-file.tgz"
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "e99a7e86-afdd-11eb-aca3-0255ac100b0e",
  "name" : "neo4j",
  "values" : "{\"acceptLicenseAgreement\":\"no\",\"affinity\":{},\"authEnabled\":true,\"clusterDomain
\":\"cluster.local\",\"core\":{\"initContainers\":[],\"numberOfServers\":3,\"persistentVolume\":{\"enabled
\":true,\"mountPath\":\"/data\",\"size\":\"10Gi\"},\"sidecarContainers\":[]},\"defaultDatabase\":\"neo4j
\",\"image\":\"neo4j\",\"imagePullPolicy\":\"IfNotPresent\",\"imageTag\":\"4.0.3-enterprise\",\"name
\":\"neo4j\",\"nodeSelector\":{},\"podDisruptionBudget\":{},\"readReplica\":{\"autoscaling\":{\"enabled
\":false,\"maxReplicas\":3,\"minReplicas\":1,\"targetAverageUtilization\":70},\"initContainers\":
[],\"numberOfServers\":0,\"resources\":{},\"sidecarContainers\":[]},\"resources\":{},\"testImage
\":\"markhneedham/k8s-kubectl\",\"testImageTag\":\"master\",\"tolerations\":[],\"useAPOC\":\"true\"}",
  "translate" : "",
  "instruction" : "README.md",
  "version" : "3.0.1",
  "description" : "DEPRECATED Neo4j is the world's leading graph database",
  "source" : "",
  "icon_url" : "https://example.com/images/neo4j_logo.png",
  "public" : false,
  "chart_url" : "neo4j-3.0.1.tgz",
  "create_at" : "2021-05-08T08:53:12Z",
  "update_at" : "2021-05-08T08:53:12Z"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class UpdateAutopilotChartSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        UpdateAutopilotChartRequest request = new UpdateAutopilotChartRequest();
        request.withChartId("{chart_id}");
        UpdateAutopilotChartRequestBody bodybody = new UpdateAutopilotChartRequestBody();
        bodybody.withParameters("{"override":true,"skip_lint":true,"source":"package"}")
            .withContent("chart-file.tgz");
        body.withBody(bodybody);
        request.withBody(listbodyBody);
        try {
            UpdateAutopilotChartResponse response = client.updateAutopilotChart(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security 
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment 
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this 
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateAutopilotChartRequest()
        request.chart_id = "{chart_id}"
        bodybody = UpdateAutopilotChartRequestBody(
            parameters="{"override":true,"skip_lint":true,"source":"package"}",
            content="chart-file.tgz"
        )
        request.body = listBodybody
        response = client.update_autopilot_chart(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateAutopilotChartRequest{}
    request.ChartId = "{chart_id}"
    parametersBody:= "{"override":true,"skip_lint":true,"source":"package"}"
    bodybody := &model.UpdateAutopilotChartRequestBody{
        Parameters: &parametersBody,
        Content: "chart-file.tgz",
    }
    request.Body = listBodybody
    response, err := client.UpdateAutopilotChart(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.6 Deleting a Chart

Function

This API is used to delete a chart.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /autopilot/v2/charts/{chart_id}

Table 4-403 Path Parameters

Parameter	Mandatory	Type	Description
chart_id	Yes	String	Chart ID

Request Parameters

Table 4-404 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: • application/json • application/json;charset=utf-8 • application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-405 Response body parameters

Parameter	Type	Description
-	String	

Example Requests

None

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class DeleteAutopilotChartSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        DeleteAutopilotChartRequest request = new DeleteAutopilotChartRequest();
        request.withChartId("{chart_id}");
        try {
            DeleteAutopilotChartResponse response = client.deleteAutopilotChart(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()
    try:
        request = DeleteAutopilotChartRequest()
        request.chart_id = "{chart_id}"
        response = client.delete_autopilot_chart(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteAutopilotChartRequest{}
    request.ChartId = "{chart_id}"
    response, err := client.DeleteAutopilotChart(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.7 Updating a Release

Function

This API is used to update a release.

Calling Method

For details, see **Calling APIs**.

URI

PUT /autopilot/cam/v3/clusters/{cluster_id}/namespace/{namespace}/releases/{name}

Table 4-406 Path Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Release name
namespace	Yes	String	Namespace to which a chart release belongs
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-407 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: • application/json • application/json;charset=utf-8 • application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Table 4-408 Request body parameters

Parameter	Mandatory	Type	Description
chart_id	Yes	String	Chart ID
action	Yes	String	**upgrade** for an upgrade and **rollback** for a rollback
parameters	Yes	**ReleaseReqBodyParams** object	Release parameters

Parameter	Mandatory	Type	Description
values	Yes	**values** object	Release value

Table 4-409 ReleaseReqBodyParams

Parameter	Mandatory	Type	Description
dry_run	No	Boolean	After this function is enabled, only chart parameters are verified, and installation is not performed.
name_template	No	String	Release name template
no_hooks	No	Boolean	Whether to disable hooks during installation
replace	No	Boolean	Whether to replace the release with the same name
recreate	No	Boolean	Whether to rebuild the release
reset_values	No	Boolean	Whether to reset values during an update
release_version	No	Integer	Version of the rollback release
include_hooks	No	Boolean	Enable hooks during an update or deletion.

Table 4-410 values

Parameter	Mandatory	Type	Description
imagePullPolicy	No	String	Image pull policy
imageTag	No	String	Image tag

Response Parameters

Status code: 200

Table 4-411 Response body parameters

Parameter	Type	Description
chart_name	String	Chart name
chart_public	Boolean	Whether the chart is public
chart_version	String	Chart version
cluster_id	String	Cluster ID
cluster_name	String	Current name
create_at	String	Created at
description	String	Release description
name	String	Release name
namespace	String	Namespace to which a chart release belongs
parameters	String	Release parameters
resources	String	Resources required by the release
status	String	Release status. ● **DEPLOYED**: The release is normal. ● **DELETED**: The release has been deleted. ● **FAILED**: The release fails to be deployed. ● **DELETING**: The release is being deleted. ● **PENDING_INSTALL**: The release is waiting to be installed. ● **PENDING_UPGRADE**: The release is waiting to be upgraded. ● **PENDING_ROLLBACK**: The release is waiting for rollback. ● **UNKNOWN**: The release status is unknown, indicating that the release is abnormal. You can manually delete the release and reinstall it.
status_description	String	Release status description
update_at	String	Updated at
values	String	Release value
version	Integer	Release version

Example Requests

```
PUT /autopilot/cam/v3/clusters/{cluster_id}/namespace/{namespace}/releases/{name}
```

```
{
  "chart_id" : "af4b699e-018c-11ec-b8b0-0255ac100b05",
  "action" : "upgrade",
  "parameters" : {
    "dry_run" : false,
    "name_template" : "string",
    "no_hooks" : false,
    "replace" : false,
    "recreate" : false,
    "reset_values" : false,
    "release_version" : 1,
    "include_hooks" : false
  },
  "values" : {
    "imagePullPolicy" : "IfNotPresent",
    "imageTag" : "v2"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "chart_name" : "magento-mysql",
  "chart_public" : false,
  "chart_version" : "1.0.0",
  "cluster_id" : "a870253f-5dc7-11ee-bf71-0255ac100b03",
  "cluster_name" : "sfs-turbo-test",
  "create_at" : "2023-11-14T20:30:57+08:00",
  "description" : "Initial install underway",
  "name" : "testwww",
  "namespace" : "monitoring",
  "parameters" : "",
  "resources" : "",
  "status" : "PENDING_INSTALL",
  "status_description" : "Initial install underway",
  "update_at" : "2023-11-14T20:30:57+08:00",
  "values" : "{\"basic\":{\"admin_password\":\"******\",\"admin_username\":\"username\",\"app_name
\":\"magento\",\"mysql_database\":\"magento\",\"mysql_name\":\"mysql\",\"mysql_password\":\"******
\",\"mysql_port\":3306,\"mysql_root_password\":\"******\",\"mysql_user\":\"magento\",\"storage_class\":\"csi-
nas\",\"storage_mode\":\"ReadWriteMany\",\"storage_size\":\"10G\"},\"global\":{\"magento_EIP
\":\"100.100.100.100\",\"magento_EPORT\":32080,\"namespace\":\"default\"},\"image\":{\"magento_image
\":\"example.com/everest/magento:latest\",\"mysql_image\":\"example.com/everest/mysql:5.7.14\"}}",
  "version" : 1
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;
```

```
public class UpdateAutopilotReleaseSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        UpdateAutopilotReleaseRequest request = new UpdateAutopilotReleaseRequest();
        request.withName("{name}");
        request.withNamespace("{namespace}");
        request.withClusterId("{cluster_id}");
        UpdateReleaseReqBody body = new UpdateReleaseReqBody();
        UpdateReleaseReqBodyValues valuesbody = new UpdateReleaseReqBodyValues();
        valuesbody.withImagePullPolicy("IfNotPresent")
            .withImageTag("v2");
        ReleaseReqBodyParams parametersbody = new ReleaseReqBodyParams();
        parametersbody.withDryRun(false)
            .withNameTemplate("string")
            .withNoHooks(false)
            .withReplace(false)
            .withRecreate(false)
            .withResetValues(false)
            .withReleaseVersion(1)
            .withIncludeHooks(false);
        body.withValues(valuesbody);
        body.withParameters(parametersbody);
        body.withAction(UpdateReleaseReqBody.ActionEnum.fromValue("upgrade"));
        body.withChartId("af4b699e-018c-11ec-b8b0-0255ac100b05");
        request.withBody(body);
        try {
            UpdateAutopilotReleaseResponse response = client.updateAutopilotRelease(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateAutopilotReleaseRequest()
        request.name = "{name}"
        request.namespace = "{namespace}"
        request.cluster_id = "{cluster_id}"
        valuesbody = UpdateReleaseReqBodyValues(
            image_pull_policy="IfNotPresent",
            image_tag="v2"
        )
        parametersbody = ReleaseReqBodyParams(
            dry_run=False,
            name_template="string",
            no_hooks=False,
            replace=False,
            recreate=False,
            reset_values=False,
            release_version=1,
            include_hooks=False
        )
        request.body = UpdateReleaseReqBody(
            values=valuesbody,
            parameters=parametersbody,
            action="upgrade",
            chart_id="af4b699e-018c-11ec-b8b0-0255ac100b05"
        )
        response = client.update_autopilot_release(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateAutopilotReleaseRequest{}
    request.Name = "{name}"
    request.Namespace = "{namespace}"
    request.ClusterId = "{cluster_id}"
    imagePullPolicyValues:= "IfNotPresent"
    imageTagValues:= "v2"
    valuesbody := &model.UpdateReleaseReqBodyValues{
        ImagePullPolicy: &imagePullPolicyValues,
        ImageTag: &imageTagValues,
    }
    dryRunParameters:= false
    nameTemplateParameters:= "string"
    noHooksParameters:= false
    replaceParameters:= false
    recreateParameters:= false
    resetValuesParameters:= false
    releaseVersionParameters:= int32(1)
    includeHooksParameters:= false
    parametersbody := &model.ReleaseReqBodyParams{
        DryRun: &dryRunParameters,
        NameTemplate: &nameTemplateParameters,
        NoHooks: &noHooksParameters,
        Replace: &replaceParameters,
        Recreate: &recreateParameters,
        ResetValues: &resetValuesParameters,
        ReleaseVersion: &releaseVersionParameters,
        IncludeHooks: &includeHooksParameters,
    }
    request.Body = &model.UpdateReleaseReqBody{
        Values: valuesbody,
        Parameters: parametersbody,
        Action: model.GetUpdateReleaseReqBodyActionEnum().UPGRADE,
        ChartId: "af4b699e-018c-11ec-b8b0-0255ac100b05",
    }
    response, err := client.UpdateAutopilotRelease(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.8 Obtaining a Chart

Function

This API is used to obtain a chart.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v2/charts/{chart_id}

Table 4-412 Path Parameters

Parameter	Mandatory	Type	Description
chart_id	Yes	String	Chart ID

Request Parameters

Table 4-413 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: • application/json • application/json;charset=utf-8 • application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-414 Response body parameters

Parameter	Type	Description
id	String	Chart ID
name	String	Chart name
values	String	Chart value
translate	String	Chart translation resources
instruction	String	Chart description
version	String	Chart version
description	String	Chart description
source	String	Chart source
icon_url	String	URL to chart icons
public	Boolean	Whether the chart is public
chart_url	String	URL to the chart
create_at	String	Created at
update_at	String	Updated at

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "id" : "e99a7e86-afdd-11eb-aca3-0255ac100b0e",
  "name" : "neo4j",
  "values" : "{\"acceptLicenseAgreement\":\"no\",\"affinity\":{},\"authEnabled\":true,\"clusterDomain\":\"cluster.local\",\"core\":{\"initContainers\":[],\"numberOfServers\":3,\"persistentVolume\":{\"enabled\":true,\"mountPath\":\"/data\",\"size\":\"10Gi\"},\"sidecarContainers\":[]},\"defaultDatabase\":\"neo4j\",\"image\":\"neo4j\",\"imagePullPolicy\":\"IfNotPresent\",\"imageTag\":\"4.0.3-enterprise\",\"name\":\"neo4j\",\"nodeSelector\":{},\"podDisruptionBudget\":{},\"readReplica\":{\"autoscaling\":{\"enabled\":false,\"maxReplicas\":3,\"minReplicas\":1,\"targetAverageUtilization\":70},\"initContainers\":[],\"numberOfServers\":0,\"resources\":{},\"sidecarContainers\":[]},\"resources\":{},\"testImage\":\"markhneedham/k8s-kubectl\",\"testImageTag\":\"master\",\"tolerations\":[],\"useAPOC\":\"true\"}",
  "translate" : "",
  "instruction" : "README.md",
  "version" : "3.0.1",
  "description" : "DEPRECATED Neo4j is the world's leading graph database",
  "source" : "",
  "icon_url" : "https://info.neo4j.com/rs/773-GON-065/images/neo4j_logo.png",
  "public" : false,
  "chart_url" : "neo4j-3.0.1.tgz",
  "create_at" : "2021-05-08T08:53:13Z",
  "update_at" : "2021-05-08T08:53:13Z"
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotChartSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);
        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotChartRequest request = new ShowAutopilotChartRequest();
        request.withChartId("{chart_id}");
        try {
            ShowAutopilotChartResponse response = client.showAutopilotChart(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotChartRequest()
        request.chart_id = "{chart_id}"
        response = client.show_autopilot_chart(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotChartRequest{}
    request.ChartId = "{chart_id}"
    response, err := client.ShowAutopilotChart(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.9 Deleting a Release

Function

This API is used to delete a release.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /autopilot/cam/v3/clusters/{cluster_id}/namespace/{namespace}/releases/{name}

Table 4-415 Path Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Release name
namespace	Yes	String	Namespace to which a chart release belongs
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-416 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-417 Response body parameters

Parameter	Type	Description
-	String	

Example Requests

None

Example Responses

None

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class DeleteAutopilotReleaseSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        DeleteAutopilotReleaseRequest request = new DeleteAutopilotReleaseRequest();
        request.withName("{name}");
        request.withNamespace("{namespace}");
        request.withClusterId("{cluster_id}");
        try {
            DeleteAutopilotReleaseResponse response = client.deleteAutopilotRelease(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteAutopilotReleaseRequest()
        request.name = "{name}"
        request.namespace = "{namespace}"
        request.cluster_id = "{cluster_id}"
        response = client.delete_autopilot_release(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteAutopilotReleaseRequest{}
    request.Name = "{name}"
    request.Namespace = "{namespace}"
    request.ClusterId = "{cluster_id}"
    response, err := client.DeleteAutopilotRelease(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.10 Obtaining a Release

Function

This API is used to obtain a release.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/cam/v3/clusters/{cluster_id}/namespace/{namespace}/releases/{name}

Table 4-418 Path Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Release name
namespace	Yes	String	Namespace to which a chart release belongs
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-419 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-420 Response body parameters

Parameter	Type	Description
chart_name	String	Chart name
chart_public	Boolean	Whether the chart is public

Parameter	Type	Description
chart_version	String	Chart version
cluster_id	String	Cluster ID
cluster_name	String	Current name
create_at	String	Created at
description	String	Release description
name	String	Release name
namespace	String	Namespace to which a chart release belongs
parameters	String	Release parameters
resources	String	Resources required by the release
status	String	Release status. ● **DEPLOYED**: The release is normal. ● **DELETED**: The release has been deleted. ● **FAILED**: The release fails to be deployed. ● **DELETING**: The release is being deleted. ● **PENDING_INSTALL**: The release is waiting to be installed. ● **PENDING_UPGRADE**: The release is waiting to be upgraded. ● **PENDING_ROLLBACK**: The release is waiting for rollback. ● **UNKNOWN**: The release status is unknown, indicating that the release is abnormal. You can manually delete the release and reinstall it.
status_description	String	Release status description
update_at	String	Updated at
values	String	Release value
version	Integer	Release version

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "chart_name" : "magento-mysql",
  "chart_public" : false,
  "chart_version" : "1.0.0",
  "cluster_id" : "a870253f-5dc7-11ee-bf71-0255ac100b03",
  "cluster_name" : "sfs-turbo-test",
  "create_at" : "2023-11-14T20:30:57+08:00",
  "description" : "Initial install underway",
  "name" : "testwww",
  "namespace" : "monitoring",
  "parameters" : "",
  "resources" : "",
  "status" : "PENDING_INSTALL",
  "status_description" : "Initial install underway",
  "update_at" : "2023-11-14T20:30:57+08:00",
  "values" : "{\"basic\":{\"admin_password\":\"******\",\"admin_username\":\"username\",\"app_name
\":\"magento\",\"mysql_database\":\"magento\",\"mysql_name\":\"mysql\",\"mysql_password\":\"******
\",\"mysql_port\":3306,\"mysql_root_password\":\"******\",\"mysql_user\":\"magento\",\"storage_class\":\"csi-
nas\",\"storage_mode\":\"ReadWriteMany\",\"storage_size\":\"10G\"},\"global\":{\"magento_EIP
\":\"100.100.100.100\",\"magento_EPORT\":32080,\"namespace\":\"default\"},\"image\":{\"magento_image
\":\"example.com/everest/magento:latest\",\"mysql_image\":\"example.com/everest/mysql:5.7.14\"}}",
  "version" : 1
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotReleaseSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotReleaseRequest request = new ShowAutopilotReleaseRequest();
        request.withName("{name}");
        request.withNamespace("{namespace}");
        request.withClusterId("{cluster_id}");
        try {
            ShowAutopilotReleaseResponse response = client.showAutopilotRelease(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotReleaseRequest()
        request.name = "{name}"
        request.namespace = "{namespace}"
        request.cluster_id = "{cluster_id}"
        response = client.show_autopilot_release(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotReleaseRequest{}
    request.Name = "{name}"
    request.Namespace = "{namespace}"
    request.ClusterId = "{cluster_id}"
    response, err := client.ShowAutopilotRelease(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.11 Downloading a Chart

Function

This API is used to download a chart.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v2/charts/{chart_id}/archive

Table 4-421 Path Parameters

Parameter	Mandatory	Type	Description
chart_id	Yes	String	Chart ID

Request Parameters

Table 4-422 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-423 Response body parameters

Parameter	Type	Description
-	File	

Example Requests

None

Example Responses

Status code: 200

OK

```
"chart-file.tgz"
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class DownloadAutopilotChartSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        DownloadAutopilotChartRequest request = new DownloadAutopilotChartRequest();
        request.withChartId("{chart_id}");
        try {
            DownloadAutopilotChartResponse response = client.downloadAutopilotChart(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DownloadAutopilotChartRequest()
        request.chart_id = "{chart_id}"
        response = client.download_autopilot_chart(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DownloadAutopilotChartRequest{}
    request.ChartId = "{chart_id}"
    response, err := client.DownloadAutopilotChart(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.12 Obtaining Chart Values

Function

This API is used to obtain chart values.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v2/charts/{chart_id}/values

Table 4-424 Path Parameters

Parameter	Mandatory	Type	Description
chart_id	Yes	String	Chart ID

Request Parameters

Table 4-425 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-426 Response body parameters

Parameter	Type	Description
values	Map<String,Object>	Data in **values.yaml**. The data structure depends on the chart.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "values" : {
    "basic" : {
      "admin_password" : "******",
      "admin_username" : "username"
    },
    "global" : {
      "magento_EIP" : "127.0.0.1",
      "magento_EPORT" : 32080,
      "namespace" : "demo"
    },
    "image" : {
      "magento_image" : "example.com/demo/magento:latest",
      "mysql_image" : "example.com/demo/mysql:5.7.14"
    }
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotChartValuesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotChartValuesRequest request = new ShowAutopilotChartValuesRequest();
        request.withChartId("{chart_id}");
        try {
            ShowAutopilotChartValuesResponse response = client.showAutopilotChartValues(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotChartValuesRequest()
        request.chart_id = "{chart_id}"
        response = client.show_autopilot_chart_values(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotChartValuesRequest{}
    request.ChartId = "{chart_id}"
    response, err := client.ShowAutopilotChartValues(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.13 Obtaining Historical Records of a Release

Function

This API is used to obtain historical records of a release.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/cam/v3/clusters/{cluster_id}/namespace/{namespace}/releases/{name}/history

Table 4-427 Path Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Release name
namespace	Yes	String	Namespace to which a chart release belongs
cluster_id	Yes	String	**Details**: Cluster ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Cluster IDs **Default value**: N/A

Request Parameters

Table 4-428 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-429 Response body parameters

Parameter	Type	Description
[items]	Array<Array<**ReleaseResp**>>	OK

Table 4-430 ReleaseResp

Parameter	Type	Description
chart_name	String	Chart name
chart_public	Boolean	Whether the chart is public
chart_version	String	Chart version
cluster_id	String	Cluster ID
cluster_name	String	Current name
create_at	String	Created at
description	String	Release description
name	String	Release name
namespace	String	Namespace to which a chart release belongs
parameters	String	Release parameters
resources	String	Resources required by the release
status	String	Release status. ● **DEPLOYED**: The release is normal. ● **DELETED**: The release has been deleted. ● **FAILED**: The release fails to be deployed. ● **DELETING**: The release is being deleted. ● **PENDING_INSTALL**: The release is waiting to be installed. ● **PENDING_UPGRADE**: The release is waiting to be upgraded. ● **PENDING_ROLLBACK**: The release is waiting for rollback. ● **UNKNOWN**: The release status is unknown, indicating that the release is abnormal. You can manually delete the release and reinstall it.
status_description	String	Release status description
update_at	String	Updated at
values	String	Release value
version	Integer	Release version

Example Requests

None

Example Responses

Status code: 200

OK

```
[ {
  "chart_name" : "magento-mysql",
  "chart_public" : false,
  "chart_version" : "1.0.0",
  "cluster_id" : "a870253f-5dc7-11ee-bf71-0255ac100b03",
  "cluster_name" : "sfs-turbo-test",
  "create_at" : "2023-11-14T20:30:57+08:00",
  "description" : "Initial install underway",
  "name" : "testwww",
  "namespace" : "monitoring",
  "parameters" : "",
  "resources" : "",
  "status" : "PENDING_INSTALL",
  "status_description" : "Initial install underway",
  "update_at" : "2023-11-14T20:30:57+08:00",
  "values" : "{\"basic\":{\"admin_password\":\"******\",\"admin_username\":\"username\",\"app_name
\":\"magento\",\"mysql_database\":\"magento\",\"mysql_name\":\"mysql\",\"mysql_password\":\"******
\",\"mysql_port\":3306,\"mysql_root_password\":\"******\",\"mysql_user\":\"magento\",\"storage_class\":\"csi-
nas\",\"storage_mode\":\"ReadWriteMany\",\"storage_size\":\"10G\"},\"global\":{\"magento_EIP
\":\"100.100.100.100\",\"magento_EPORT\":32080,\"namespace\":\"default\"},\"image\":{\"magento_image
\":\"example.com/everest/magento:latest\",\"mysql_image\":\"example.com/everest/mysql:5.7.14\"}}",
  "version" : 1
} ]
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotReleaseHistorySolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotReleaseHistoryRequest request = new ShowAutopilotReleaseHistoryRequest();
        request.withName("{name}");
        request.withNamespace("{namespace}");
        request.withClusterId("{cluster_id}");
        try {
            ShowAutopilotReleaseHistoryResponse response = client.showAutopilotReleaseHistory(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]

    credentials = BasicCredentials(ak, sk)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotReleaseHistoryRequest()
        request.name = "{name}"
        request.namespace = "{namespace}"
        request.cluster_id = "{cluster_id}"
        response = client.show_autopilot_release_history(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotReleaseHistoryRequest{}
    request.Name = "{name}"
    request.Namespace = "{namespace}"
    request.ClusterId = "{cluster_id}"
    response, err := client.ShowAutopilotReleaseHistory(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

4.6.14 Obtaining the Quota of a User Chart

Function

This API is used to obtain the quota of a user chart.

Calling Method

For details, see **Calling APIs**.

URI

GET /autopilot/v2/charts/{project_id}/quotas

Table 4-431 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Details**: Project ID. For details about how to obtain the value, see **How to Obtain Parameters in the API URI**. **Constraints**: None **Options**: Project IDs of the account **Default value**: N/A

Request Parameters

Table 4-432 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Details**: Request body type or format **Constraints**: The GET method is not verified. **Options**: ● application/json ● application/json;charset=utf-8 ● application/x-pem-file **Default value**: N/A

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Details**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: None **Options**: N/A **Default value**: N/A

Response Parameters

Status code: 200

Table 4-433 Response body parameters

Parameter	Type	Description
quotas	**quotas** object	Chart quota

Table 4-434 quotas

Parameter	Type	Description
resources	Array of **resources** objects	Resources

Table 4-435 resources

Parameter	Type	Description
type	String	Resource type
quota	Integer	Resource quota
used	Integer	Used resources

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "quotas" : {
    "resources" : [ {
      "type" : "Charts",
      "quota" : 200,
      "used" : 2
    } ]
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.cce.v3.region.CceRegion;
import com.huaweicloud.sdk.cce.v3.*;
import com.huaweicloud.sdk.cce.v3.model.*;


public class ShowAutopilotUserChartsQuotasSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great 
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or 
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running 
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
                .withProjectId(projectId)
                .withAk(ak)
                .withSk(sk);

        CceClient client = CceClient.newBuilder()
                .withCredential(auth)
                .withRegion(CceRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowAutopilotUserChartsQuotasRequest request = new ShowAutopilotUserChartsQuotasRequest();
        try {
            ShowAutopilotUserChartsQuotasResponse response = 
client.showAutopilotUserChartsQuotas(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkcce.v3.region.cce_region import CceRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkcce.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = CceClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(CceRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowAutopilotUserChartsQuotasRequest()
        response = client.show_autopilot_user_charts_quotas(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    cce "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/cce/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := cce.NewCceClient(
        cce.CceClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowAutopilotUserChartsQuotasRequest{}
    response, err := client.ShowAutopilotUserChartsQuotas(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

5 Kubernetes APIs

Description

Kubernetes APIs are resource-based (RESTful) programming interfaces provided through HTTP. It supports query, creation, update, and deletion of various cluster resources using standard HTTP request methods (POST, PUT, PATCH, DELETE, and GET).

CCE allows you to use native **Kubernetes APIs** in the following ways:

- **Calling Kubernetes APIs Through the Cluster API Server**. It is suitable for API calls on scale thanks to its direct connection to the API Server. This is a recommended option.
- **Calling Kubernetes APIs Through API Gateway**. It applies to small-scale API calls. API gateway flow control may be triggered when APIs are called on scale.

Calling Kubernetes APIs Through the Cluster API Server

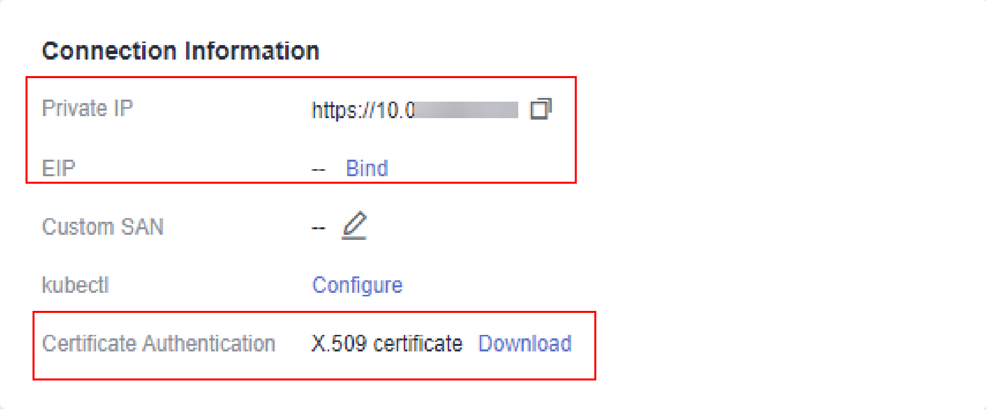
You can use the API server of a Kubernetes cluster to call Kubernetes-native APIs.

Step 1 Obtain the cluster certificate and API server.

- Method 1: Obtain the certificate by calling the API for **obtaining the cluster certificate**, save the returned information to the **kubeconfig.json** file, and extract the certificate, private key, and API server information. The commands are as follows:

```
# Obtain the certificate and save it as client.crt.
cat ./kubeconfig.json |grep client-certificate-data | awk -F '"' '{print $4}' | base64 -d > ./client.crt
# Obtain the private key and save it as client.key.
cat ./kubeconfig.json |grep client-key-data | awk -F '"' '{print $4}' | base64 -d > ./client.key
# Obtain the API server.
cat ./kubeconfig.json |grep server | awk -F '"' '{print $4}'
```

- Method 2: Obtain the API server address (private or public network address) on the **Overview** page of the CCE console and download certificates (**client.crt** and **client.key**).



Connection Information

Private IP https://10.0[redacted]

EIP -- Bind

Custom SAN --

kubectl Configure

Certificate Authentication X.509 certificate Download

Step 2 Call Kubernetes-native APIs using the cluster certificate.

For example, run the curl command to call an API to view pod information. In the following example, *192.168.0.198:5443* is the IP address of the cluster API server.

```
curl --cacert ./ca.crt --cert ./client.crt --key ./client.key  https://192.168.0.198:5443/api/v1/namespaces/
default/pods/
```

For more cluster APIs, see **Kubernetes APIs**.

----End

Calling Kubernetes APIs Through API Gateway

You can call Kubernetes-native APIs through API Gateway using the URL in the format of **https://{*clusterid*}.Endpoint/*uri***. In the URL, *{clusterid}* indicates the cluster ID, and *uri* indicates the resource path, which is the path for API access.

Table 5-1 URL parameters

Parameter	Description
{clusterid}	Cluster ID. After a cluster is created, call the **API for obtaining a cluster in a specified project** to obtain the cluster ID.
Endpoint	Entry (URL) for a web service, which can be obtained from **Endpoints**.
uri	Access path of an API for performing an operation. Obtain the value from the URI of the API. For details, see Kubernetes API.

Step 1 Obtain the token of the region where the cluster is located. For details about how to obtain the token, see Obtaining a Token.

Step 2 Obtain the cluster ID using either of the following methods:

- Method 1: Use the API for obtaining cluster information to obtain the cluster UID.
- Method 2: Obtain the cluster on the **Overview** page of the CCE console.

Step 3 Determine the requested URL based on the URL format **https://{*clusterid*}.Endpoint/uri**.

- **{clusterid}**: Obtain the value by using **Step 2**.
- You can obtain the parameter value from **Regions and Endpoints**.

  For example, the endpoint of CCE in the **AP-Singapore** region is **cce.ap-southeast-3.myhuaweicloud.com**.
- **uri**: Set this parameter based on the API to be called. For example, if you want to create a Deployment, the request method is POST and the API URI is **/apis/apps/v1/namespaces/*{namespace}*/deployments**, where *{namespace}* indicates the cluster namespace name. In this example, the value is **default**.

  For more APIs, see **Kubernetes APIs**.

Combine the preceding parameters following the URL format **https://{clusterid}.Endpoint/uri**.

The following is an example of the URL for calling the API to view information about all pods:

```
https://07da5*****.cce.ap-southeast-3.myhuaweicloud.com/apis/apps/v1/namespaces/default/deployments
```

Step 4 Use the request method specified by the API and set the request header parameters. If parameters in the body need to be added, add the structure corresponding to the API by referring to **Kubernetes APIs**.

Example curl command to call the API for creating a Deployment using POST and adding the corresponding body:

In this example, the **nginx.json** file is used to create a Deployment named **nginx**. The Deployment uses the **nginx:latest** image and contains two pods. Each pod occupies 100m CPU and 200 MiB memory.

```
curl --location --request POST 'https://07da5*****.cce.ap-southeast-3.myhuaweicloud.com/apis/apps/v1/namespaces/default/deployments' \
--header 'Content-Type: application/json' \
--header 'X-Auth-Token: MIIWvw*****' \
--data @nginx.json
```

Header parameters contained in the request are as follows:

Table 5-2 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Message body type (format), for example, application/json.
X-Auth-Token	Yes	String	Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a Token**.

The content of the **nginx.json** file is as follows:

```
{
    "apiVersion": "apps/v1",
    "kind": "Deployment",
    "metadata": {
        "name": "nginx"
    },
    "spec": {
        "replicas": 2,
        "selector": {
            "matchLabels": {
                "app": "nginx"
            }
        },
        "template": {
            "metadata": {
                "labels": {
                    "app": "nginx"
                }
            },
            "spec": {
                "containers": [
                    {
                        "image": "nginx:latest",
                        "name": "container-0",
                        "resources": {
                            "limits": {
                                "cpu": "100m",
                                "memory": "200Mi"
                            },
                            "requests": {
                                "cpu": "100m",
                                "memory": "200Mi"
                            }
                        }
                    }
                ],
                "imagePullSecrets": [
                    {
                        "name": "default-secret"
                    }
                ]
            }
        }
    }
}
```

----End

Related Documents

- **Accessing a Cluster Using Kubernetes APIs**
- **Kubernetes official SDKs** (including Go, Python, and Java)

Language	Client Library	Sample Program
C	**github.com/kubernetes-client/c**	**Browse**
dotnet	**github.com/kubernetes-client/csharp**	**Browse**
Go	**github.com/kubernetes/client-go/**	**Browse**
Haskell	**github.com/kubernetes-client/haskell**	**Browse**

Language	Client Library	Sample Program
Java	**github.com/kubernetes-client/java**	**Browse**
JavaScript	**github.com/kubernetes-client/javascript**	**Browse**
Perl	**github.com/kubernetes-client/perl/**	**Browse**
Python	**github.com/kubernetes-client/python/**	**Browse**
Ruby	**github.com/kubernetes-client/ruby/**	**Browse**

6 Permissions and Supported Actions

You can use Identity and Access Management (IAM) for fine-grained permissions management of your CCE clusters. If your account does not need individual IAM users, you can skip this section.

New IAM users do not have any permissions assigned by default. You need to first add them to one or more groups and attach policies or roles to these groups. Users inherit permissions from the groups to which they are added and can perform specific operations on cloud services based on the assigned permissions. For more information about policy syntax and example policies, see **Permissions Overview**.

You can grant users permissions by using **roles** and **policies**. Roles are provided by IAM to define service-based permissions that match users' job responsibilities. Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

NOTE

If you want to allow or deny the access to an API, fine-grained authorization is a good choice.

An account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned. The required permissions are determined by the actions supported by the API. Only users with the permissions allowing for those actions can call the API successfully. For example, if an IAM user wants to query ECSs using an API, the user must have been granted permissions that allow the **ecs:servers:list** action.

Supported Actions

CCE provides system-defined policies that can be directly used in IAM. You can also create custom policies to supplement system-defined policies for more refined access control. Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- Permissions: statements in a policy that allow or deny certain operations.
- APIs: REST APIs that can be called by a user who has been granted specific permissions.

- Actions: specific operations that are allowed or denied in a custom policy.
- Dependencies: actions which a specific action depends on. When allowing an action for a user, you also need to allow any existing action dependencies for that user.
- IAM projects/Enterprise projects: the authorization scope of a custom policy. A custom policy can be applied to IAM projects or enterprise projects or both. Policies that contain actions for both IAM and enterprise projects can be used and applied for both IAM and Enterprise Management. Policies that contain actions only for IAM projects can be used and applied to IAM only. For details about the differences between IAM and enterprise management, see **What Are the Differences Between IAM and Enterprise Management?**

NOTE

The check mark (√) and cross symbol (x) respectively indicate that an action takes effect or does not take effect for the corresponding type of projects.

CCE supports the following actions in custom policies.

Table 6-1 Cluster management actions

Permission	API	Action	IAM Project	Enterprise Project
Obtaining clusters in a project	GET /api/v3/projects/{project_id}/clusters	cce:cluster:list	√	√
Obtaining a cluster	GET /api/v3/projects/{project_id}/clusters/{cluster_id}	cce:cluster:get	√	√
Creating a cluster	POST /api/v3/projects/{project_id}/clusters	cce:cluster:create	√	√
Updating a cluster	PUT /api/v3/projects/{project_id}/clusters/{cluster_id}	cce:cluster:update	√	√
Deleting a cluster	DELETE /api/v3/projects/{project_id}/clusters/{cluster_id}	cce:cluster:delete	√	√
Upgrading a cluster	POST /api/v2/projects/:projectid/clusters/:clusterid/upgrade	cce:cluster:upgrade	√	√
Waking up a cluster	POST /api/v3/projects/{project_id}/clusters/{cluster_id}/operation/awake	cce:cluster:start	√	√

Permission	API	Action	IAM Project	Enterprise Project
Hibernating a cluster	POST /api/v3/projects/{project_id}/clusters/{cluster_id}/operation/hibernate	cce:cluster:stop	√	√
Changing the specifications of a cluster	POST /api/v2/projects/{project_id}/clusters/:clusterid/resize	cce:cluster:resize	√	√
Obtaining the certificate of a cluster	POST /api/v3/projects/{project_id}/clusters/{cluster_id}/clustercert	cce:cluster:get	√	√

Table 6-2 Node management actions

Permission	API	Action	IAM Project	Enterprise Project
Obtaining all nodes in a cluster	GET /api/v3/projects/{project_id}/clusters/{cluster_id}/nodes	cce:node:list	√	√
Obtaining a node	GET /api/v3/projects/{project_id}/clusters/{cluster_id}/nodes/{node_id}	cce:node:get	√	√
Creating a node	POST /api/v3/projects/{project_id}/clusters/{cluster_id}/nodes	cce:node:create	√	√ **NOTE** If you use enterprise project authorization to create a node, you need to add the global permission of **evs:quota:get**.
Updating a node	PUT /api/v3/projects/{project_id}/clusters/{cluster_id}/nodes/{node_id}	cce:node:update	√	√

Permission	API	Action	IAM Project	Enterprise Project
Deleting a node	DELETE /api/v3/projects/{project_id}/clusters/{cluster_id}/nodes/{node_id}	cce:node:delete	√	√

Table 6-3 Job management actions

Permission	API	Action	IAM Project	Enterprise Project
Obtaining information about a job	GET /api/v3/projects/{project_id}/jobs/{job_id}	cce:job:get	√	√
Listing all jobs	GET /api/v2/projects/{project_id}/jobs	cce:job:list	√	√
Deleting one or all jobs	DELETE /api/v2/projects/{project_id}/jobs DELETE /api/v2/projects/{project_id}/jobs/{job_id}	cce:job:delete	√	√

Table 6-4 Node pool management actions

Permission	API	Action	IAM Project	Enterprise Project
Obtaining all node pools in a cluster	GET /api/v3/projects/{project_id}/clusters/{cluster_id}/nodepools	cce:nodepool:list	√	√
Obtaining a node pool	GET /api/v3/projects/{project_id}/clusters/{cluster_id}/nodepools/{nodepool_id}	cce:nodepool:get	√	√
Creating a node pool	POST /api/v3/projects/{project_id}/clusters/{cluster_id}/nodepools	cce:nodepool:create	√	√
Updating a node pool	PUT /api/v3/projects/{project_id}/clusters/{cluster_id}/nodepools/{nodepool_id}	cce:nodepool:update	√	√

Permission	API	Action	IAM Project	Enterprise Project
Deleting a node pool	DELETE /api/v3/projects/{project_id}/clusters/{cluster_id}/nodepools/{nodepool_id}	cce:nodepool:delete	√	√

Table 6-5 Chart management actions

Permission	API	Action	IAM Project	Enterprise Project
Updating a chart	PUT /v2/charts/{id}	cce:chart:update	√	x
Uploading a chart	POST /v2/charts	cce:chart:upload	√	x
Listing all charts	GET /v2/charts	cce:chart:list	√	x
Obtaining information about a chart	GET /v2/charts/{id}	cce:chart:get	√	x
Deleting a chart	DELETE /v2/charts/{id}	cce:chart:delete	√	x

Table 6-6 Release management actions

Permission	API	Action	IAM Project	Enterprise Project
Updating a release	PUT /v2/releases/{name}	cce:release:update	√	√
Listing all releases	GET /v2/releases	cce:release:list	√	√
Creating a release	POST /v2/releases	cce:release:create	√	√
Obtaining information about a release	GET /v2/releases/{name}	cce:release:get	√	√
Deleting a release	DELETE /v2/releases/{name}	cce:release:delete	√	√

Table 6-7 Storage management actions

Permission	API	Action	IAM Project	Enterprise Project
Creating a PersistentVolumeClaim	POST /api/v1/namespaces/{namespace}/cloudpersistentvolume-claims	cce:storage:create	√	√
Deleting a PersistentVolumeClaim	DELETE /api/v1/namespaces/{namespace}/cloudpersistentvolume-claims/{name}	cce:storage:delete	√	√
Listing all volumes	GET /storage/api/v1/namespaces/{namespace}/listvolumes	cce:storage:list	√	√

Table 6-8 Add-on management actions

Permission	API	Action	IAM Project	Enterprise Project
Creating an add-on instance	POST /api/v3/addons	cce:addonInstance:create	√	√
Obtaining an add-on instance	GET /api/v3/addons/{id}?cluster_id={cluster_id}	cce:addonInstance:get	√	√
Listing all add-on instances	GET /api/v3/addons?cluster_id={cluster_id}	cce:addonInstance:list	√	√
Deleting an add-on instance	DELETE /api/v3/addons/{id}?cluster_id={cluster_id}	cce:addonInstance:delete	√	√
Updating an add-on instance	PUT /api/v3/addons/{id}	cce:addonInstance:update	√	√

Table 6-9 Quota management actions

Permission	API	Action	IAM Project	Enterprise Project
Obtaining quota details	GET /api/v3/projects/{project_id}/quotas	cce:quota:get	√	√

7 Appendix

7.1 Status Code

Table 7-1 describes the status codes.

Table 7-1 Status code

Status Code	Code	Description
100	Continue	The server has received the initial part of the request and the client should continue to send the remaining part. It is issued on a provisional basis while request processing continues. It alerts the client to wait for a final response.
101	Switching Protocols	The requester has asked the server to switch protocols and the server has agreed to do so. The target protocol must be more advanced than the source protocol. For example, the current HTTP protocol is switched to a later version of HTTP.
201	Created	The request has been fulfilled, resulting in the creation of a new resource.
202	Accepted	The request has been accepted for processing, but the processing has not been completed.
203	Non-Authoritative Information	The server successfully processed the request, but is returning information that may be from another source.

Status Code	Code	Description
204	NoContent	The server has successfully processed the request, but does not return any content. The status code is returned in response to an HTTP OPTIONS request.
205	Reset Content	The server successfully processed the request, but is not returning any content.
206	Partial Content	The server has successfully processed a part of the GET request.
300	Multiple Choices	There are multiple options for the requested resource. For example, this code could be used to present a list of resource characteristics and addresses from which the client such as a browser may choose.
301	Moved Permanently	This and all future requests should be permanently directed to the given URI indicated in this response.
302	Found	The requested resource was temporarily moved.
303	See Other	The response to the request can be found under a different URI, and should be retrieved using a GET or POST method.
304	Not Modified	The requested resource has not been modified. In such case, there is no need to retransmit the resource since the client still has a previously-downloaded copy.
305	Use Proxy	The requested resource is available only through a proxy.
306	Unused	This HTTP status code is no longer used.
400	BadRequest	The request is invalid. The client should modify the request instead of re-initiating it.
401	Unauthorized	The authorization information provided by the client is incorrect or invalid.
402	Payment Required	This status code is reserved for future use.

Status Code	Code	Description
403	Forbidden	The server has received the request and understood it, but the server is refusing to respond to it. The client should modify the request instead of re-initiating it.
404	NotFound	The requested resource cannot be found. The client should modify the request instead of re-initiating it.
405	MethodNotAllowed	A request method is not supported for the requested resource. The client should modify the request instead of re-initiating it.
406	Not Acceptable	The server cannot fulfill the request based on the content characteristics of the request.
407	Proxy Authentication Required	This code is similar to 401, but indicates that the client must first authenticate itself with the proxy.
408	Request Time-out	The server timed out waiting for the request. The client may re-initiate the request without modifications at any later time.
409	Conflict	The request cannot be processed due to a conflict. This status code indicates that the resource that the client attempts to create already exits, or the request fails to be processed because of the update of the conflict request.
410	Gone	The requested resource cannot be found. The status code indicates that the requested resource has been deleted permanently.
411	Length Required	The server refused to process the request because the request does not specify the length of its content.
412	Precondition Failed	The server does not meet one of the preconditions that the requester puts on the request.

Status Code	Code	Description
413	Request Entity Too Large	The server refuses to process a request because the request entity is too large. The server may disable the connection to prevent the client from sending requests consecutively. If the server temporarily cannot process the request, the response will contain a Retry-After header field.
414	Request-URI Too Large	The URI provided was too long for the server to process.
415	Unsupported Media Type	The server does not support the media type in the request.
416	Requested range not satisfiable	The requested range is invalid.
417	Expectation Failed	The server fails to meet the requirements of the Expect request-header field.
422	UnprocessableEntity	The request is well-formed but is unable to be processed due to semantic errors.
429	TooManyRequests	The client sends excessive requests to the server within a given time (exceeding the limit on the access frequency of the client), or the server receives excessive requests within a given time (beyond its processing capability). In this case, the client should repeat requests after the time specified in the Retry-After header of the response expires.
500	InternalServerError	The server is able to receive the request but it could not understand the request.
501	Not Implemented	The server does not support the requested function.
502	Bad Gateway	The server acting as a gateway or proxy receives an invalid response from a remote server.
503	ServiceUnavailable	The requested service is invalid. The client should modify the request instead of re-initiating it.
504	ServerTimeout	The server could not return a timely response. The response will reach the client only if the request carries a timeout parameter.

Status Code	Code	Description
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

7.2 Error Codes

If an error occurs in API calling, no result is returned. Identify the cause based on the error code of each API. If an error occurs in API calling, HTTP status code 4*xx* or 5*xx* is returned. The response body contains the specific error code and information. If you fail to locate the cause of an error, contact customer service and provide the error code, so that we can help you solve the problem as soon as possible.

Format of an Error Response Body

If an error occurs during API calling, an error code and a message will be displayed. The following shows an error response body.

```
{
   "errorMessage": "The format of message is error",
   "errorCode": "CCE.01400001"
}
```

In the preceding information, **errorCode** is an error code, and **errorMessage** describes the error.

Error Code Description

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to the instructions provided in **Error Codes**.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	CCE.01400001	Invalid request.	Invalid request body.	Modify the request body based on the returned message and the CCE API documentation, or contact technical support.
400	CCE.01400002	Subnet not found in the VPC.	No subnet is found in the VPC.	Check whether the subnet in the request body is in the corresponding VPC.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	CCE.01400003	IPv6 not supported for the subnet.	The subnet does not support IPv6.	Use a subnet that supports IPv6.
400	CCE.01400004	No available flavors for master nodes.	There is no available flavor for the master node.	Change to another available cluster flavor or contact technical support.
400	CCE.01400005	Container network CIDR blocks conflict.	The container CIDR block conflicts with the existing one.	Check the container CIDR block based on the returned message.
400	CCE.01400006	Content type not supported.	The content type is invalid.	Use the supported content type by referring to the CCE API documentation.
400	CCE.01400007	Insufficient cluster quota.	Insufficient cluster quota.	Submit a service ticket to increase the cluster quota.
400	CCE.01400008	Insufficient server quota	Insufficient ECS quota.	Submit a service ticket to increase the ECS quota.
400	CCE.01400009	Insufficient CPU quota.	Insufficient ECS CPU quota.	Submit a service ticket to increase the ECS CPU quota.
400	CCE.01400010	Insufficient memory quota.	Insufficient ECS memory quota.	Submit a service ticket to increase the ECS memory quota.
400	CCE.01400011	Insufficient security group quota.	Insufficient security group quota.	Submit a service ticket to increase the security group quota.
400	CCE.01400012	Insufficient EIP quota.	Insufficient EIP quota.	Submit a service ticket to increase the EIP quota.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	CCE.01400013	Insufficient volume quota.	Insufficient disk quota.	Submit a service ticket to increase the disk quota based on the returned message.
400	CCE.01400014	Excessive nodes in the cluster.	The number of nodes exceeds the cluster scale.	Submit a service ticket to change the cluster flavor.
400	CCE.01400015	Version not supported.	The cluster version is not supported.	Create a cluster of the supported version based on the returned message.
400	CCE.01400016	Current cluster type does not support this node flavor.	The current cluster type does not support this node flavor.	Use the correct node flavor based on the returned message.
400	CCE.01400017	No available container CIDR block found.	No available container CIDR block is found.	Use a correct container CIDR block based on the returned message.
400	CCE.01400018	This type of OS cannot be created in this CCE version.	The current CCE version does not support this type of OS.	Use a supported OS based on the returned message.
400	CCE.01400019	Insufficient resource tenant quota.	The quota of the resource tenant is insufficient.	Rectify the fault based on the returned message or contact technical support.
400	CCE.01400020	Insufficient VPC quota.	Insufficient VPC quota.	Rectify the fault based on the returned message or contact technical support.
400	CCE.01400021	No available flavors for nodes.	There is no available flavor for the node.	Change to another available node flavor or contact technical support.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	CCE.01400022	No available node volumes for nodes.	There is no available EVS disk flavor for the node.	Change to another available EVS disk flavor or contact technical support.
400	CCE.02400001	Invalid request.	Invalid request body.	Modify the request body based on the returned message and the CCE API documentation, or contact technical support.
400	CCE.03400001	Invalid request.	Invalid request body.	Modify the request body based on the returned message and the CCE API documentation, or contact technical support.
400	CCE.03400002	Missing access key.	The access key is missing.	Ensure that the version of the installed or upgraded storage add-on is correct, or contact technical support.
401	CCE.01401001	Authorization failed.	Authentication failed.	Rectify the fault based on the returned message or contact technical support.
401	CCE.02401001	Authorization failed.	Authentication failed.	Rectify the fault based on the returned message or contact technical support.
401	CCE.03401001	Authorization failed.	Authentication failed.	Rectify the fault based on the returned message or contact technical support.

Status Code	Error Code	Error Message	Description	Troubleshooting
403	CCE.01403001	Forbidden.	Access denied.	Rectify the fault based on the returned message or contact technical support.
403	CCE.02403001	Forbidden.	Access denied.	Rectify the fault based on the returned message or contact technical support.
403	CCE.03403001	Forbidden.	Access denied.	Rectify the fault based on the returned message or contact technical support.
404	CCE.01404001	Resource not found.	Resources not found.	Check whether the resource to be accessed has been deleted.
404	CCE.02404001	Resource not found.	Resources not found.	Check whether the resource to be accessed has been deleted.
404	CCE.03404001	Resource not found.	Resources not found.	Check whether the resource to be accessed has been deleted.
409	CCE.01409001	The resource already exists.	The resource already exists.	Delete the resource and try again.
409	CCE.01409002	Resource updated with out-of-date version.	An out-of-date version is used to update the target resource.	Ensure that the target resource version is the latest one or contact technical support.
409	CCE.02409001	The resource already exists.	The resource already exists.	Delete the resource and try again.
409	CCE.03409001	Addon instance has installed.	The add-on instance has been installed.	Delete the add-on instance and install it again.

Status Code	Error Code	Error Message	Description	Troubleshooting
429	CCE.01429002	Resource locked by other requests.	The resource is locked by another request.	Rectify the fault based on the returned message or contact technical support.
429	CCE.02429001	The throttling threshold has been reached.	The maximum number of requests has been reached.	Reduce the frequency of sending requests or contact technical support.
500	CCE.01500001	Internal error.	Internal error.	Rectify the fault based on the returned message or contact technical support.
500	CCE.02500001	Internal error.	Internal error.	Rectify the fault based on the returned message or contact technical support.
500	CCE.03500001	Internal error.	Internal error.	Rectify the fault based on the returned message or contact technical support.

7.3 Obtaining a Project ID

Scenarios

A project ID is required for some URLs when APIs are called. Therefore, obtain a project ID in advance. Two methods are available:

- **Call an API**
- **Use the console**

Obtaining the Project ID by Calling an API

You can obtain the project ID by calling the API used to **obtain projects based on specified criteria**.

The API for obtaining a project ID is **GET https://{Endpoint}/v3/projects**. *{Endpoint}* indicates the endpoint of IAM, which can be obtained from **Endpoints**. For details about API authentication, see **Authentication**.

The following is an example response. The value of **id** is the project ID.

```
{
    "projects": [
        {
            "domain_id": "65382450e8f64ac0870cd180d14e684b",
            "is_domain": false,
            "parent_id": "65382450e8f64ac0870cd180d14e684b",
            "name": "project_name",
            "description": "",
            "links": {
                "next": null,
                "previous": null,
                "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
            },
            "id": "a4a5d4098fb4474fa22cd05f897d6b99",
            "enabled": true
        }
    ],
    "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects"
    }
}
```

Obtaining a Project ID from the Console

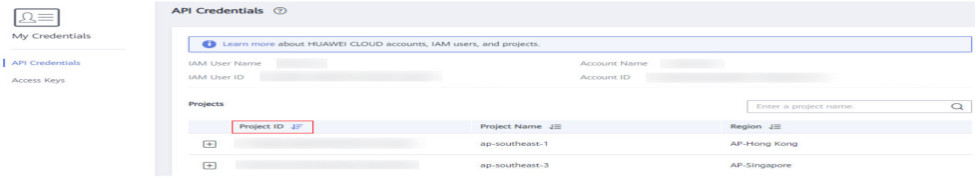
To obtain a project ID from the console, perform the following operations:

1. Log in to the management console.
2. Hover over the username in the upper right corner and select **My Credentials** from the drop-down list.

   On the **API Credentials** page, view the project ID in the project list.
3. Hover over the username and choose **My Credentials** from the drop-down list.

   On the **Projects** tab page, view project IDs.

Figure 7-1 Viewing project IDs



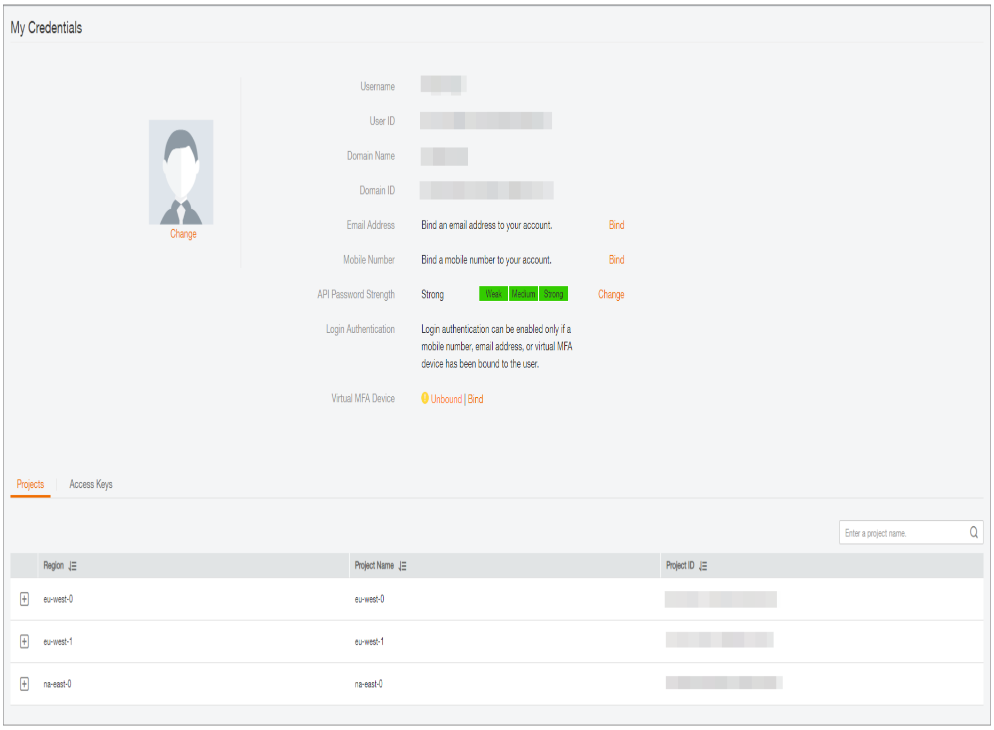
Learn more about HUAWEI CLOUD accounts, IAM users, and projects.

IAM User Name [redacted]
IAM User ID [redacted]
Account Name [redacted]
Account ID [redacted]

Projects

	Project ID	Project Name	Region
⊞	[redacted]	ap-southeast-1	AP-Hong Kong
⊞	[redacted]	ap-southeast-3	AP-Singapore

Figure 7-2 Viewing project IDs



My Credentials

Username [redacted]

User ID [redacted]

Domain Name [redacted]

Domain ID [redacted]

Email Address: Bind an email address to your account. Bind

Mobile Number: Bind a mobile number to your account. Bind

API Password Strength: Strong Weak Medium Strong Change

Login Authentication: Login authentication can be enabled only if a mobile number, email address, or virtual MFA device has been bound to the user.

Virtual MFA Device: Unbound | Bind

Projects | Access Keys

Enter a project name.

Region	Project Name	Project ID
eu-west-0	eu-west-0	[redacted]
eu-west-1	eu-west-1	[redacted]
na-east-0	na-east-0	[redacted]

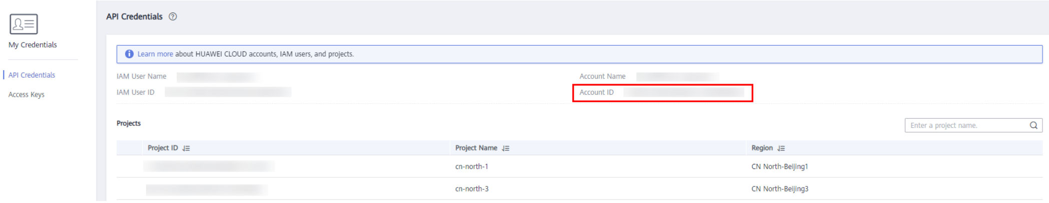
7.4 Obtaining an Account ID

An account ID (domain-id) is required for some URLs when an API is called. To obtain an account ID, perform the following operations:

1. Sign up and log in to the management console.
2. Click the username in the upper right corner and choose **My Credentials** from the drop-down list.

   On the **API Credentials** page, view the account ID.

   Figure 7-3 Obtaining an account ID

   API Credentials

   Learn more about HUAWEI CLOUD accounts, IAM users, and projects.

   IAM User Name [redacted] Account Name [redacted]

   IAM User ID [redacted] Account ID [redacted]

   Projects

   Enter a project name.

Project ID	Project Name	Region
[redacted]	cn-north-1	CN North-Beijing1
[redacted]	cn-north-3	CN North-Beijing3

7.5 How to Obtain Parameters in the API URI

Obtaining a Project ID (project_id)

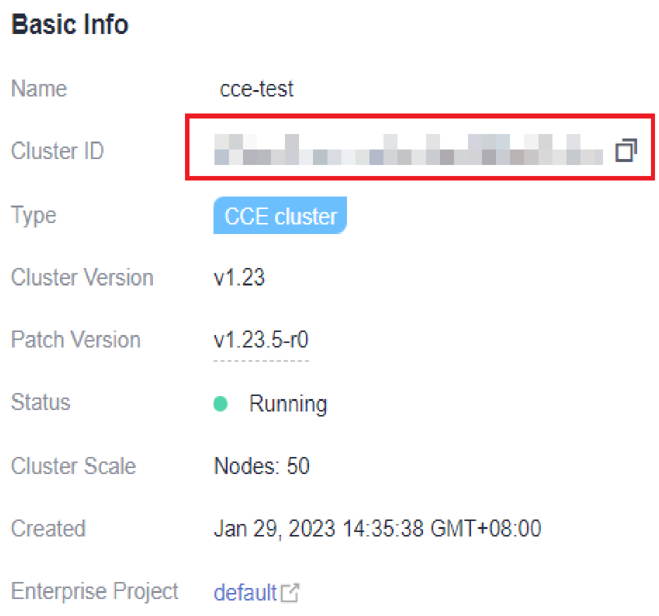
project_id indicates the project ID, which can be obtained from the console or APIs. For details, see **Obtaining a Project ID**.

Obtaining a Cluster ID (cluster_id)

Step 1 Log in to the CCE console. In the navigation pane, choose **Clusters**.

Step 2 Click the name of the created cluster. The cluster details page is displayed. Obtain the cluster ID.

Figure 7-4 Obtaining the cluster ID



Basic Info

Name cce-test

Cluster ID [redacted]

Type CCE cluster

Cluster Version v1.23

Patch Version v1.23.5-r0

Status ● Running

Cluster Scale Nodes: 50

Created Jan 29, 2023 14:35:38 GMT+08:00

Enterprise Project default

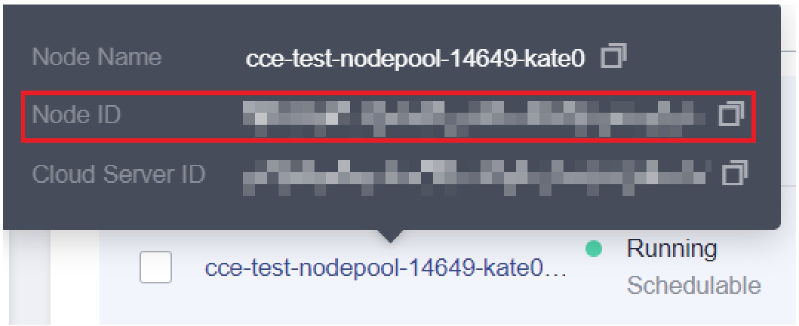
----End

Obtaining a Node ID (node_id)

Step 1 Log in to the CCE console. In the navigation pane, choose **Clusters**.

Step 2 Click the name of the created cluster, select **Nodes** on the left, and move the cursor to the node name to view the node ID.

Figure 7-5 Obtaining the node ID



Node Name cce-test-nodepool-14649-kate0

Node ID [redacted]

Cloud Server ID [redacted]

□ cce-test-nodepool-14649-kate0...

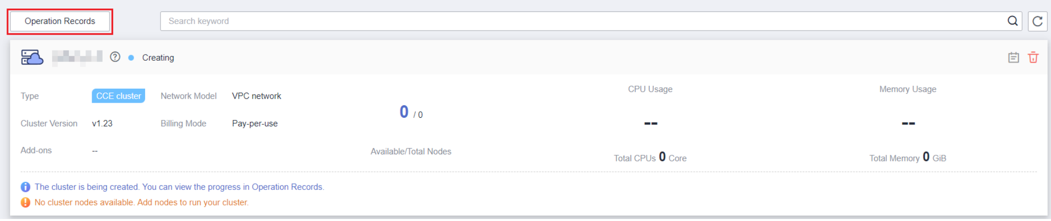
● Running
Schedulable

----End

Obtaining a Job ID (job_id)

Step 1 Log in to the CCE console. In the navigation pane, choose **Clusters**. The following uses cluster management as an example to describe how to obtain the **job_id** of the cluster that is being created.

Figure 7-6 Creating a cluster



[redacted] Creating

Type: CCE cluster
Network Model: VPC network
Cluster Version: v1.23
Billing Mode: Pay-per-use
Add-ons: --

0 / 0
Available/Total Nodes

CPU Usage
--
Total CPUs 0 Core

Memory Usage
--
Total Memory 0 GiB

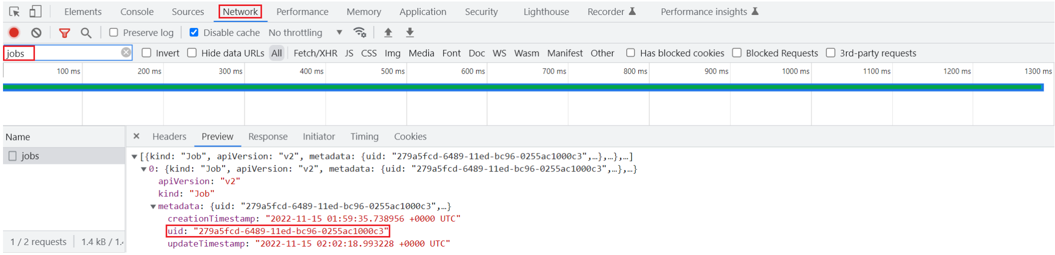
The cluster is being created. You can view the progress in Operation Records.

No cluster nodes available. Add nodes to run your cluster.

Step 2 Obtain the job ID.

1. If you are using Google Chrome, press **F12**. On the pane displayed on the right, click the **Network** tab.
2. Click **Operation Records** on the CCE console to view details about cluster operation records.
3. Enter **jobs** in the **Filter** text box to filter out the jobs. Select a job from the list on the left and click **Preview**. The **uid** field indicates the job UID.

Figure 7-7 Obtaining the job ID



Filter: jobs

☐ jobs

```
▼[{kind: "Job", apiVersion: "v2", metadata: {uid: "279a5fcd-6489-11ed-bc96-0255ac1000c3",…},…},…]
  ▼0: {kind: "Job", apiVersion: "v2", metadata: {uid: "279a5fcd-6489-11ed-bc96-0255ac1000c3",…},…}
     apiVersion: "v2"
     kind: "Job"
   ▼metadata: {uid: "279a5fcd-6489-11ed-bc96-0255ac1000c3",…}
      creationTimestamp: "2022-11-15 01:59:35.738956 +0000 UTC"
      uid: "279a5fcd-6489-11ed-bc96-0255ac1000c3"
      updateTimestamp: "2022-11-15 02:02:18.993228 +0000 UTC"
```

----End

7.6 Creating a VPC and Subnet

Context

To provide a secure and isolated network environment for CCE, create a VPC before creating a cluster.

If you have already created a VPC, you do not need to create it again.

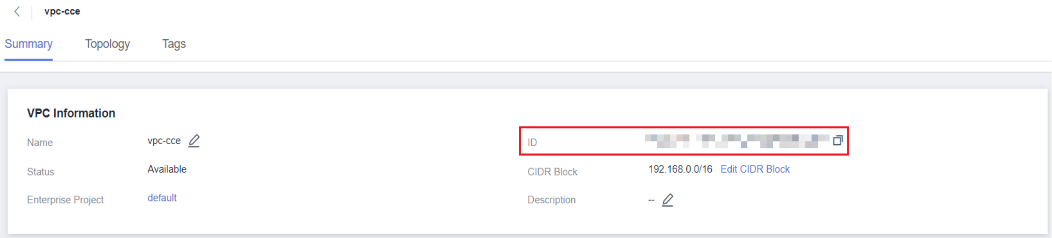
Creating a VPC

Step 1 On the management console, click **Service List**, and choose **Network** > **Virtual Private Cloud** to launch the VPC console.

Step 2 On the VPC console, click **Create VPC** to create a VPC.

Step 3 The created VPC is displayed in the list. Click its name and obtain the VPC ID, which will be required in **cluster creation**.

Figure 7-8 Obtaining the VPC ID



VPC Information

Name vpc-cce

Status Available

Enterprise Project default

ID [redacted]

CIDR Block 192.168.0.0/16 Edit CIDR Block

Description --

----End

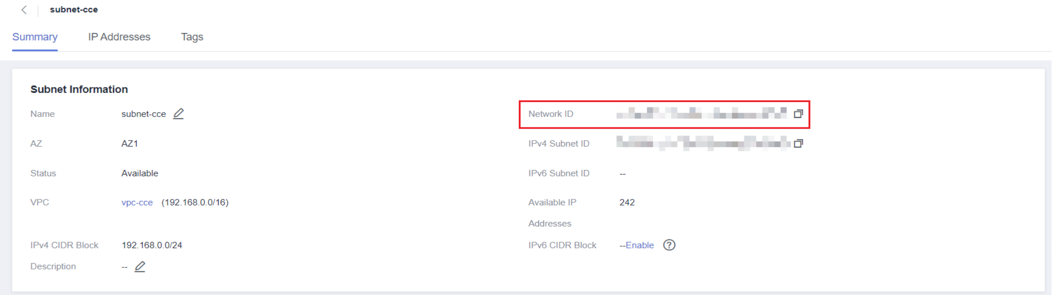
Creating a Subnet

Step 1 On the management console, click **Service List**, and choose **Network** > **Virtual Private Cloud** to launch the VPC console.

Step 2 On the **VPC** console, choose **Virtual Private Cloud** > **Subnets** in the navigation pane, and click **Create Subnet** in the upper right corner.

Step 3 Create a subnet as prompted and click its name to obtain the network ID, which will be required in **cluster creation**.

Figure 7-9 Obtaining the network ID of a subnet



Subnet Information

Name subnet-cce

AZ AZ1

Status Available

VPC vpc-cce (192.168.0.0/16)

IPv4 CIDR Block 192.168.0.0/24

Description --

Network ID [redacted]

IPv4 Subnet ID [redacted]

IPv6 Subnet ID --

Available IP Addresses 242

IPv6 CIDR Block --Enable

----End

7.7 Creating a Key Pair

Context

Create a key pair before you create a container cluster. Key pairs are used for user identity authentication upon login to a worker node.

If you have already created a key pair, you do not need to create it again.

Procedure

Step 1 On the management console, click **Service List**, and choose **Compute** > **Elastic Cloud Server** to go to the ECS console.

Step 2 In the navigation pane, choose **Key Pair**.

Step 3 Click **Create Key Pair** and create a key pair as prompted. For details, see **Key Pairs**.

Step 4 After the creation is complete, a key file in the **.pem** format is generated and automatically saved to the default directory on your local computer.

----End