Application Service Mesh

Getting Started

Issue 03

Date 2026-11-06



HUAWEI TECHNOLOGIES CO., LTD.

Copyright © Huawei Technologies Co., Ltd. 2026. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions


and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.
All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Security Declaration

Vulnerability

Huawei's regulations on product vulnerability management are subject to the *Vul. Response Process.* For details about this process, visit the following web page:
https://www.huawei.com/en/psirt/vul-response-process
For vulnerability information, enterprise customers can visit the following web page:
https://securitybulletin.huawei.com/enterprise/en/security-advisory

Contents

1 Grayscale Release Practices of Bookinfo.....1

2 Enabling Istio for a Cluster..... 15

2.1 Overview..... 15

2.2 Preparations..... 16

2.3 Buying a Service Mesh..... 19

3 Configurable Grayscale Release.....21

3.1 Overview..... 21

3.2 Preparations..... 22

3.3 Grayscale Release..... 26

 Copyright © Huawei Technologies Co., Ltd.

1 Grayscale Release Practices of Bookinfo

Application Service Mesh (ASM) is a service mesh platform developed based on Istio and seamlessly interconnects with Cloud Container Engine (CCE). With better usability, reliability, and visualization, ASM provides you with out-of-the-box features and enhanced experience.

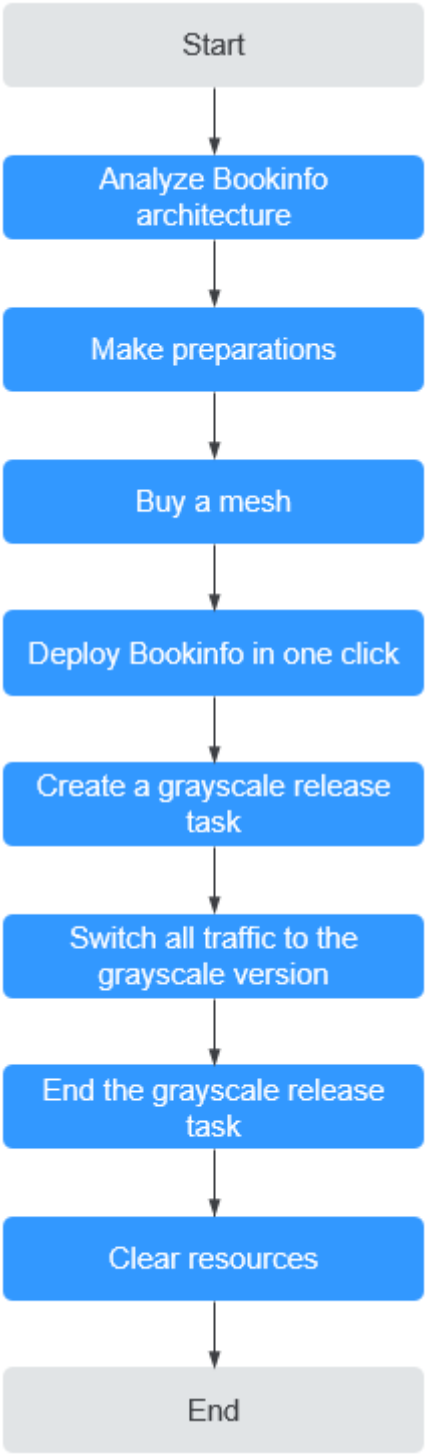
Introduction

Grayscale releases enable smooth iteration of software products in production environments. This section takes Bookinfo as an example to illustrate Istio-based service governance using ASM.

The grayscale release process of Bookinfo is as follows:

 Copyright © Huawei Technologies Co., Ltd.

Figure 1-1 Grayscale release process of Bookinfo



Architecture Analysis of Bookinfo

Bookinfo is an application that functions as an online bookstore that displays each book with its description, details (such as pages), and reviews.

Bookinfo consists of four independent services developed in different languages. These services demonstrate the features of a typical service mesh. They are described as follows:

 Copyright © Huawei Technologies Co., Ltd.

- productpage: calls the details and reviews services to generate a page.
- details: contains book information.
- reviews: contains book reviews and calls the ratings service.
- ratings: contains book rating information based on reviews.

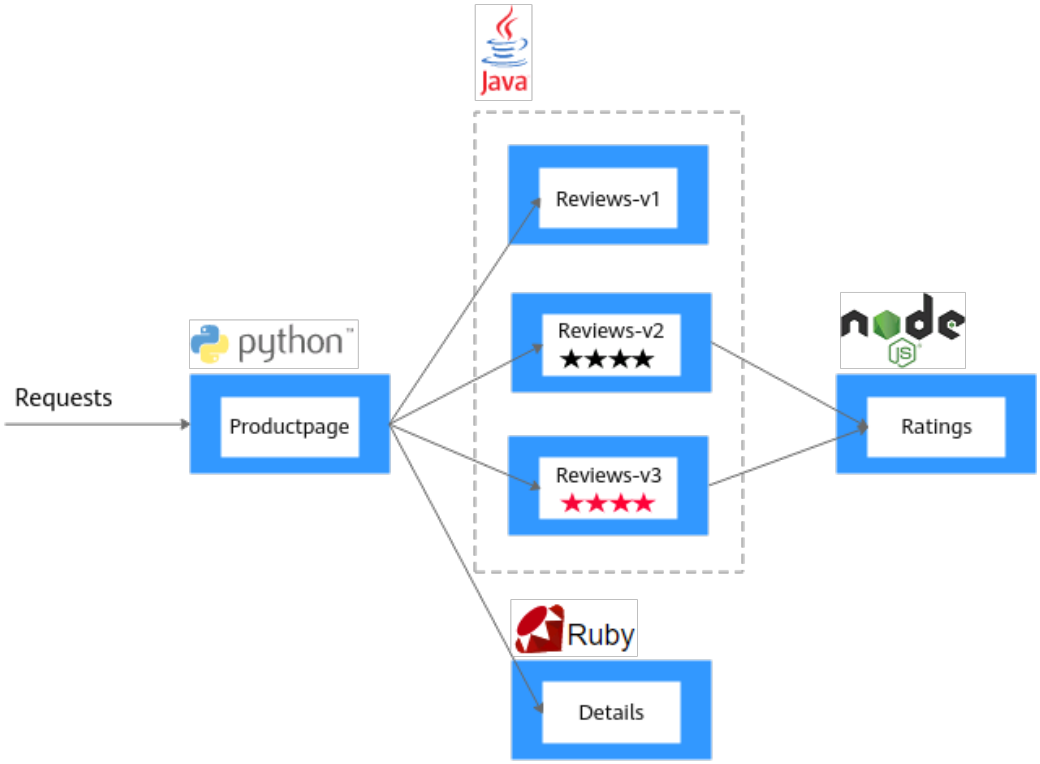
The reviews service has three versions:

- v1 (1.5.0) does not call the ratings service.
- v2 (1.5.1) calls the ratings service and uses one to five black stars to show ratings.
- v3 (1.5.2) calls the ratings service and uses one to five red stars to show ratings.

NOTE

To demonstrate traffic switchover between versions, this section takes 1.5.1 (rating with black stars) and 1.5.2 (rating with red stars) of the reviews service as examples.

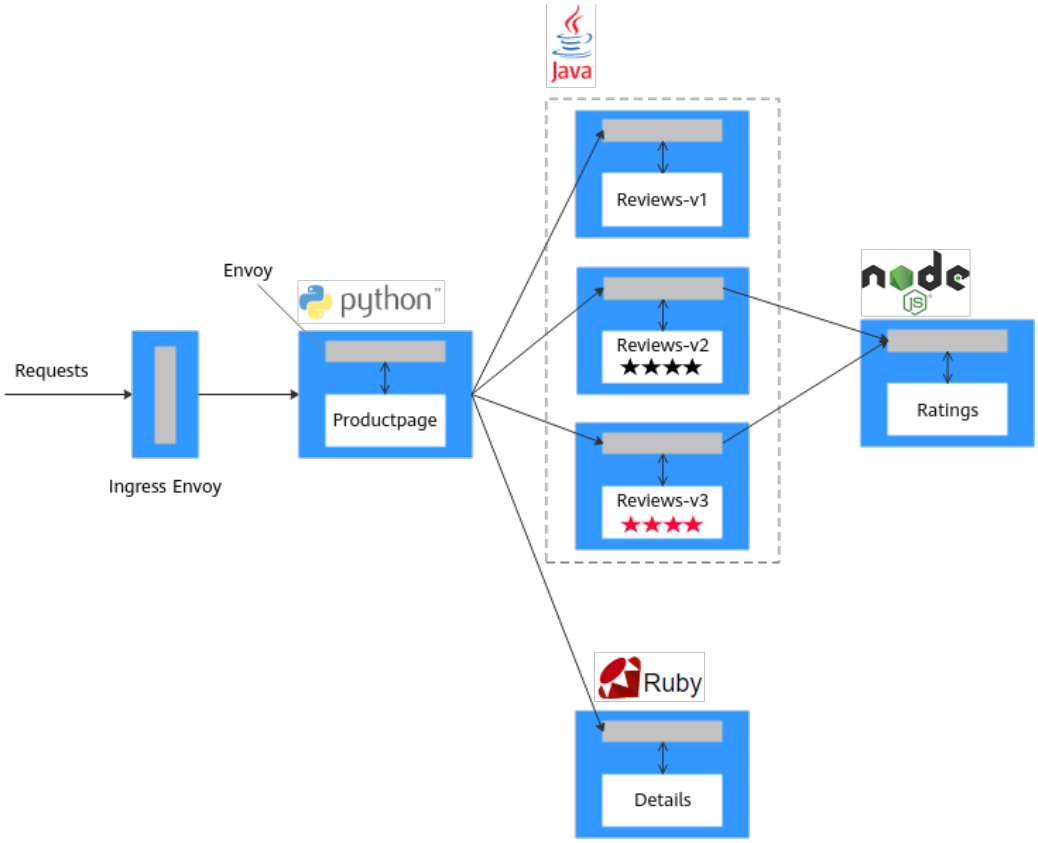
Figure 1-2 End-to-end architecture of Bookinfo



Running Bookinfo with ASM does not require any changes on the application itself. Simply configure and run the services in the ASM environment, that is, inject an Envoy sidecar into each service. **Figure 1-3** shows the final deployment.

 Copyright © Huawei Technologies Co., Ltd.

Figure 1-3 Bookinfo with Envoy sidecars injected



All services are integrated with Envoy sidecars. All inbound and outbound traffic of the integrated services is intercepted by sidecars. In this way, ASM can provide service routing, telemetry data collection, and policy implementation for Bookinfo.

Preparations

Perform the following operations:

Step 1 Create a VPC and subnet.

Virtual Private Cloud (VPC) provides a logically isolated, configurable, and manageable virtual network environment, improving resource security and simplifying network deployment.

1. Log in to the VPC console.
2. Click **Create VPC** in the upper right corner.
3. Retain default values for parameters unless otherwise specified. Then, click **Create Now**.

   For details, see **Creating a VPC**.

Step 2 (Optional) Create a key pair.

To log in to a cluster node using a key pair, create a key pair in advance.

1. Log in to the Elastic Cloud Server (ECS) console.
2. In the navigation pane, choose **Key Pair**. On the page displayed, click **Create Key Pair** in the upper right corner.

 Copyright © Huawei Technologies Co., Ltd.

3. Enter a key pair name and click **OK**.
4. Manually or automatically download the private key file. The file name is the specified key pair name with a suffix of **.pem**. Securely store the private key file. In the dialog box displayed, click **OK**.

   NOTE

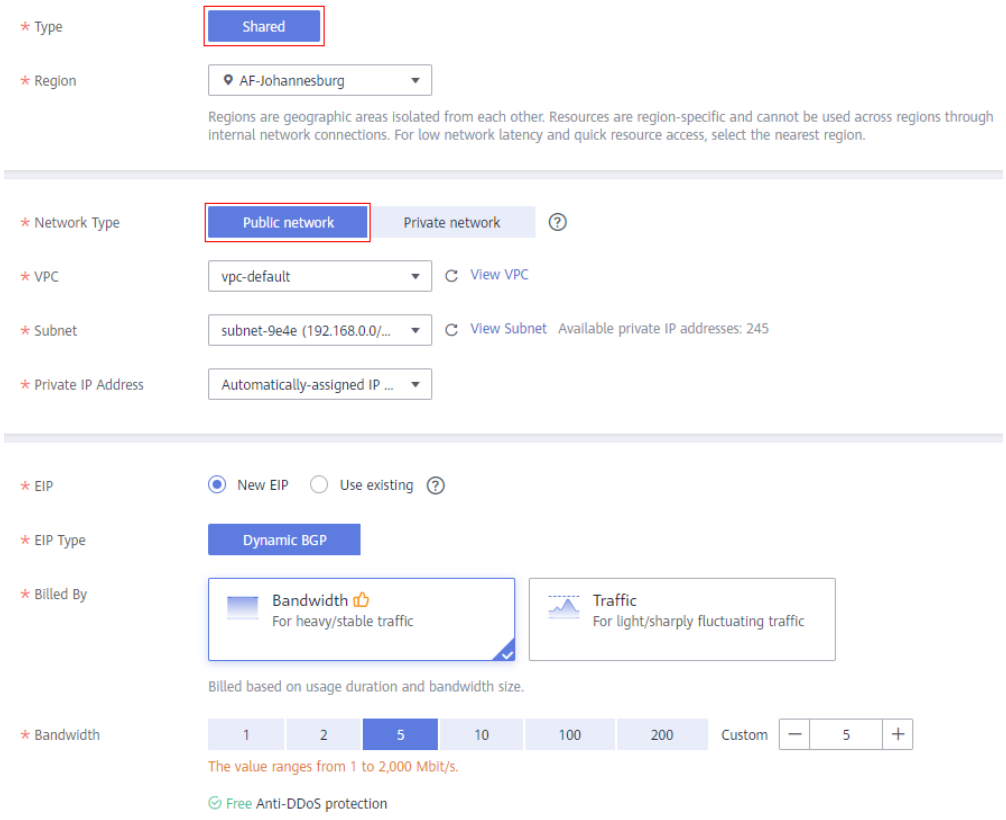
   For security purposes, a key pair can be downloaded only once. Keep it secure to ensure successful login.

Step 3 Create a load balancer.

A load balancer will be used as the external access entry of a service mesh, which will route the traffic to backend services.

1. Log in to the Elastic Load Balance (ELB) console.
2. Click **Buy Elastic Load Balancer** in the upper right corner.
3. Purchase a dedicated load balancer by referring to **Creating a Dedicated Load Balancer**.
   - **Network Type**: Select **Public network**.
   - **VPC** and **Subnet**: Select the VPC and subnet created in **Step 1**.

Figure 1-4 Buying a load balancer



Step 4 Create a cluster.

1. Log in to the Cloud Container Engine (CCE) console.
2. In the navigation pane, choose **Resource Management** > **Clusters**. On the displayed page, click **Buy** next to **CCE Cluster**.

 Copyright © Huawei Technologies Co., Ltd.

For details about how to create a cluster, see **Buying a CCE Cluster**.

3. On the **Configure** page, configure the following parameters and retain the default values for other parameters.
   - **Cluster Name**: Enter a cluster name, for example, **cce-asm**.
   - **VPC** and **Subnet**: Select the VPC and subnet created in **Step 1**.
4. Click **Next: Create Node**, configure the following parameters, and retain the default values for other parameters.
   - **Specifications**: 4 vCPUs and 8 GiB of memory.

     NOTE

     This is the minimum specifications for deploying Bookinfo.
   - **Login Mode**: Select the key pair created in **Step 2** for identity authentication upon remote node login.
5. Click **Next: Install Add-on** and select the add-ons to be installed in the **Install Add-on** step.

   System resource add-on must be installed. **Advanced functional add-on** is optional.
6. Click **Next: Confirm**. Read the product constraints and select **I am aware of the above limitations**. Review the configured parameters and specifications.
7. Submit the order.

   If this is a yearly/monthly cluster, click **Pay Now** and follow on-screen prompts to pay the order.

   It takes about 6 to 10 minutes to create a cluster. You can click **Back to Cluster List** to perform other operations on the cluster or click **Go to Cluster Events** to view the cluster details.

Step 5 Prepare the images required by Bookinfo (as shown in **Table 1-1**), push them to SWR and set their **Type** to **Public**.

CAUTION

The image name and tag of each service must be the same as those in **Table 1-1**. Otherwise, the experience task may fail.

Table 1-1 Image list

Service	Image Name	Image Tag
productpage	examples-bookinfo-productpage-v1	1.5.0
details	examples-bookinfo-details-v1	1.5.01.5.0
ratings	examples-bookinfo-ratings-v1	1.5.01.5.0
reviews	examples-bookinfo-reviews-v1	1.5.1
	examples-bookinfo-reviews-v1	1.5.2

 Copyright © Huawei Technologies Co., Ltd.

The following uses Bookinfo images as an example:

1. Prepare a computer that can access the Internet and has Docker 1.11.2 or later installed.
2. Run the following commands in sequence to download the images required by Bookinfo:

   docker pull docker.io/istio/examples-bookinfo-productpage-v1:1.5.0

   docker pull docker.io/istio/examples-bookinfo-details-v1:1.5.0

   docker pull docker.io/istio/examples-bookinfo-ratings-v1:1.5.0

   docker pull docker.io/istio/examples-bookinfo-reviews-v2:1.5.0

   docker pull docker.io/istio/examples-bookinfo-reviews-v3:1.5.0
3. Connect to SWR.
4. Label the images pulled in **Step 5.2**. Ensure that the image names and tags are the same as those in **Table 1-1**.

   docker tag docker.io/istio/examples-bookinfo-productpage-v1:1.5.0 *swr.xxxxxxxxx.*/*group*/**examples-bookinfo-productpage-v1:1.5.0**

   docker tag docker.io/istio/examples-bookinfo-details-v1:1.5.0 *swr.xxxxxxxxx.*/*group*/**examples-bookinfo-details-v1:1.5.0**

   docker tag docker.io/istio/examples-bookinfo-ratings-v1:1.5.0 *swr.xxxxxxxxx.*/*group*/**examples-bookinfo-ratings-v1:1.5.0**

   docker tag docker.io/istio/examples-bookinfo-reviews-v2:1.5.0 *swr.xxxxxxxxx.*/*group*/**examples-bookinfo-reviews-v1:1.5.1**

   docker tag docker.io/istio/examples-bookinfo-reviews-v3:1.5.0 *swr.xxxxxxxxx.*/*group*/**examples-bookinfo-reviews-v1:1.5.2**

   swr.xxxxxxxxx. indicates the image repository address, and *group* indicates the organization name. Replace them with the actual values.
5. Push the images to the SWR.

   docker push *swr.xxxxxxxxx.*/*group*/**examples-bookinfo-productpage-v1:1.5.0**

   docker push *swr.xxxxxxxxx.*/*group*/**examples-bookinfo-details-v1:1.5.0**

   docker push *swr.xxxxxxxxx.*/*group*/**examples-bookinfo-ratings-v1:1.5.0**

   docker push *swr.xxxxxxxxx.*/*group*/**examples-bookinfo-reviews-v1:1.5.1**

   docker push *swr.xxxxxxxxx.*/*group*/**examples-bookinfo-reviews-v1:1.5.2**
6. Change the image type to **Public**.

1. Prepare a computer that can access the Internet and has Docker 1.11.2 or later installed.
2. Run the following commands in sequence to download the images required by Bookinfo:

   docker pull docker.io/istio/examples-bookinfo-productpage-v1:1.17.0

   docker pull docker.io/istio/examples-bookinfo-details-v1:1.17.0

   docker pull docker.io/istio/examples-bookinfo-ratings-v1:1.17.0

   docker pull docker.io/istio/examples-bookinfo-reviews-v2:1.17.0

   docker pull docker.io/istio/examples-bookinfo-reviews-v3:1.17.0
3. Connect to SWR. For details, see **Uploading an Image Using a Container Engine Client**.

 Copyright © Huawei Technologies Co., Ltd.

4. Label the images pulled in **Step 5.2**. Ensure that the image names and tags are the same as those in **Table 1-1**.

   docker tag docker.io/istio/examples-bookinfo-productpage-v1:1.17.0 *swr.ap-southeast-3.my******cloud.com*/*group*/**examples-bookinfo-productpage-v1:1.17.0**

   docker tag docker.io/istio/examples-bookinfo-details-v1:1.17.0 *swr.ap-southeast-3.my******cloud.com*/*group*/**examples-bookinfo-details-v1:1.17.0**

   docker tag docker.io/istio/examples-bookinfo-ratings-v1:1.17.0 *swr.ap-southeast-3.my******cloud.com*/*group*/**examples-bookinfo-ratings-v1:1.17.0**

   docker tag docker.io/istio/examples-bookinfo-reviews-v2:1.17.0 *swr.ap-southeast-3.my******cloud.com*/*group*/**examples-bookinfo-reviews-v1:1.17.1**

   docker tag docker.io/istio/examples-bookinfo-reviews-v3:1.17.0 *swr.ap-southeast-3.my******cloud.com*/*group*/**examples-bookinfo-reviews-v1:1.17.2**

   *swr.ap-southeast-3.my******cloud.com* indicates the image repository address, and *group* indicates the organization name. Replace them with the actual values.

5. Push the images to the SWR.

   docker push *swr.ap-southeast-3.my******cloud.com*/*group*/**examples-bookinfo-productpage-v1:1.17.0**

   docker push *swr.ap-southeast-3.my******cloud.com*/*group*/**examples-bookinfo-details-v1:1.17.0**

   docker push *swr.ap-southeast-3.my******cloud.com*/*group*/**examples-bookinfo-ratings-v1:1.17.0**

   docker push *swr.ap-southeast-3.my******cloud.com*/*group*/**examples-bookinfo-reviews-v1:1.17.1**

   docker push *swr.ap-southeast-3.my******cloud.com*/*group*/**examples-bookinfo-reviews-v1:1.17.2**

6. Change the image type to **Public**. For details, see **Setting Image Attributes**.

----End

Buying a Service Mesh

Step 1 Log in to the ASM console.

Step 2 Click **Buy Mesh** in the upper right corner.

Step 3 Configure the following parameters and retain the default values for other parameters.

- **Mesh Edition**

  Select **Basic**.

- **Mesh Name**

  Enter the service mesh name.

- **Istio Version**

  Select the Istio version supported by the service mesh.

- **Cluster**

  Select the cluster created in **Step 4**.

 Copyright © Huawei Technologies Co., Ltd.

- **Mesh Control Plane Node**

  To achieve HA, select two or more nodes from different AZs.
- **Namespace Injection Settings**

  Select the namespace named **default** and enable **Restart Existing Services**.

Step 4 Review the service mesh configuration in **Configuration List** on the right of the page and click **Submit**.

It takes about 1 to 3 minutes to create a service mesh. If the service mesh status changes from **Installing** to **Running**, the service mesh is successfully created.

----End

Deploying Bookinfo in One Click

After the service mesh is enabled for the cluster, you can quickly create a Bookinfo demo.

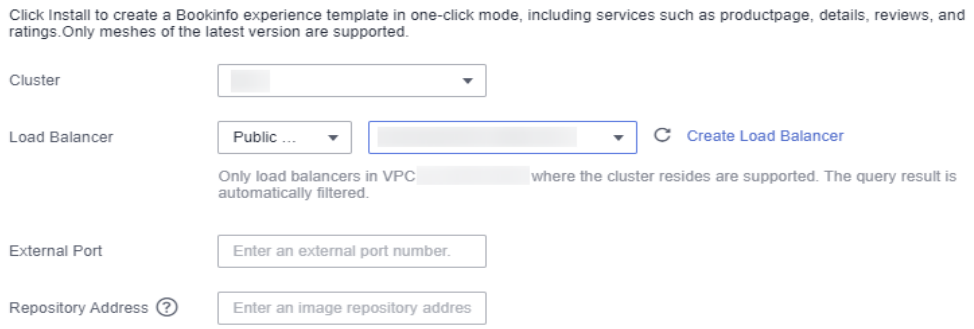
Step 1 Log in to the ASM console.

Step 2 Click the name of the service mesh to access its details page.

Step 3 In the navigation pane, choose **Experience Tasks** and click **Try Now** in the Bookinfo task.

Step 4 On the right of the page, set **Cluster** to the cluster where Bookinfo resides, set **Load Balancer** to a shared load balancer that is in the same VPC and subnet as the selected cluster, set an external port, enter the image repository address where the Bookinfo image is stored (for example, **swr.ap-southeast-3.myhuaweicloud.com/group**, where **group** indicates the organization name), and click **Install**.

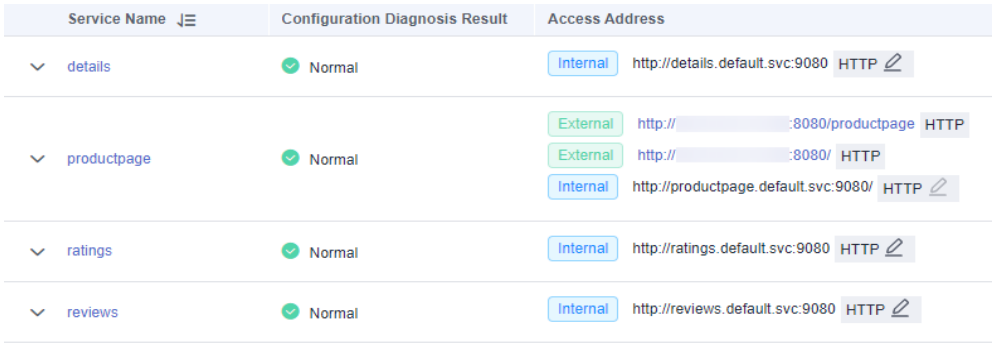
Figure 1-5 Installing Bookinfo



Step 5 Wait until Bookinfo is created. Click **Service Management** and ensure that the value in the **Configuration Diagnosis Result** column is **Normal**. The Bookinfo contains the productpage, details, reviews, and ratings services.

 Copyright © Huawei Technologies Co., Ltd.

Figure 1-6 Service list



----End

Creating a Grayscale Release Task

A new grayscale version of the **reviews** service of Bookinfo will be created. A grayscale policy will be configured to divert traffic of the default version to the new version.

The following steps will guide you to create a version (v3) for the **reviews** service and divert 30% traffic of Bookinfo to this version.

Deploying a grayscale version

Step 1 In the navigation pane, choose **Grayscale Release**. On the **Canary Release** area of the displayed page, click **Create Release Task**.

Step 2 Configure basic information.

- **Task Name**: Enter a task name, for example, **reviews-v3**.
- **Namespace**: Select the namespace that the service belongs to.
- **Service**: Select **reviews** from the drop-down list box.
- **Workload**: Select the workload that the service belongs to.

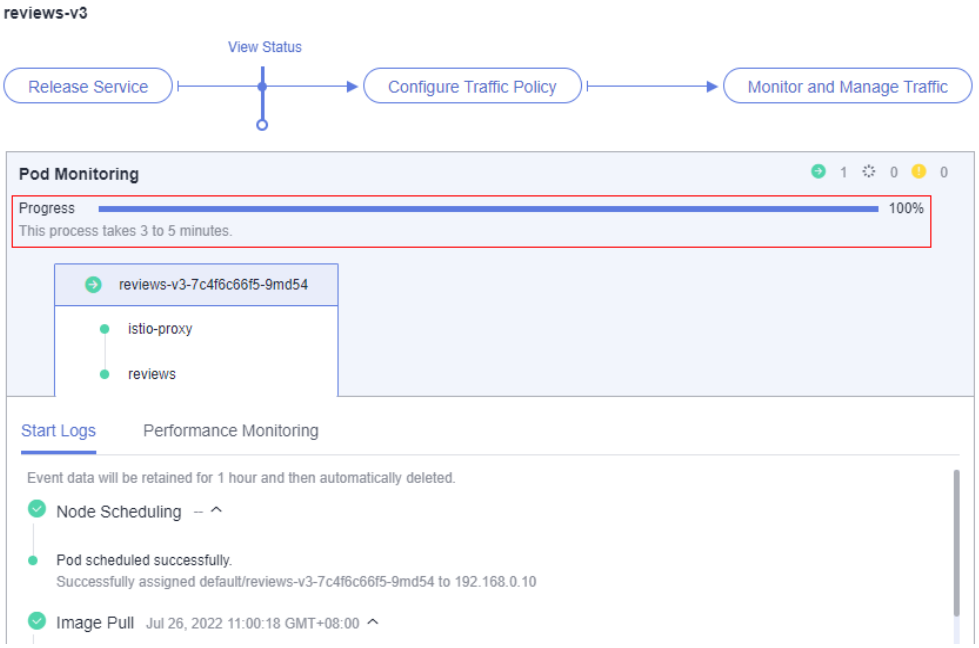
Step 3 Configure version information.

- **Cluster**: Select the cluster that the service belongs to.
- **Version**: Set this parameter to **v3**.
- **Pods**: Retain the default value.
- **Pod Configuration**: Set the image tag to **1.17.2** and retain the default values for other parameters.

Step 4 Click **Release**. If the progress reaches 100%, the grayscale version is successfully released.

 Copyright © Huawei Technologies Co., Ltd.

Figure 1-7 Viewing the progress



----End

Configuring a traffic policy

Configure a grayscale policy for the grayscale version. A specified percentage of traffic will be diverted from the original version to the grayscale version.

Step 1 After the grayscale version is deployed, click **Configure Traffic Policy**.

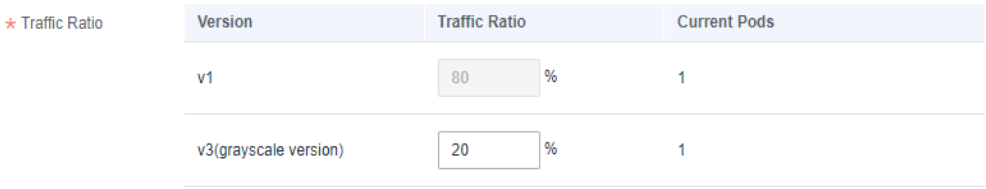
Step 2 Configure a traffic policy.

Policy Type: The value can be **Based on traffic ratio** or **Based on request content**.

- **Based on traffic ratio**: A specified percentage of traffic will be directed to the grayscale version. For example, 80% of the traffic is directed to the original version, and 20% is directed to the grayscale version.
- **Based on request content**: Only the traffic that meets specific conditions will be directed to the grayscale version. For example, only users on the Windows operating system can access the grayscale version.

In this example, configure a traffic policy **Based on traffic ratio** and set the traffic percentage of v3 to **20%**.

Figure 1-8 Traffic policy



Step 3 Click **Deliver Policy**.

 Copyright © Huawei Technologies Co., Ltd.

Step 4 On the **Service List** page, click the **Access Address** of the productpage service. Frequently refresh the book information page. You can find that the **Book Reviews** area is switching between black stars (v1) and red stars (v3) and the ratio is nearly 4 to 1.

Figure 1-9 v1 page

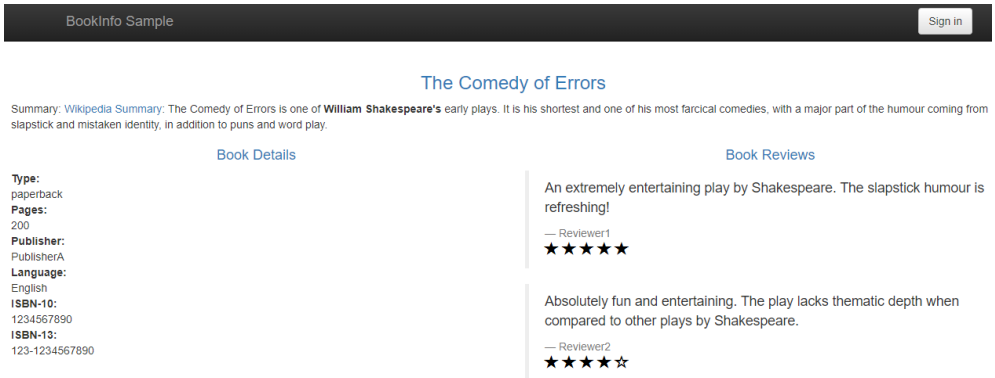
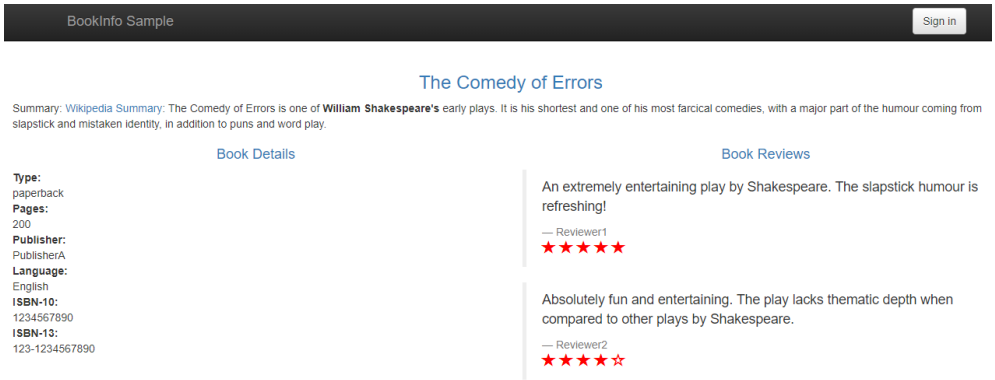


Figure 1-10 v3 page



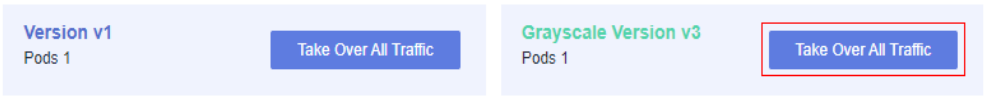
----End

Switching All Traffic to the Grayscale Version

Check whether the number of resources in v3 matches that in v1. After confirming that v3 is able to serve all the traffic of v1, switch all the traffic from v1 to v3.

Step 1 On the **Monitor and Manage Traffic** page, click **Take Over All Traffic** next to v3.

Figure 1-11 Taking over all traffic

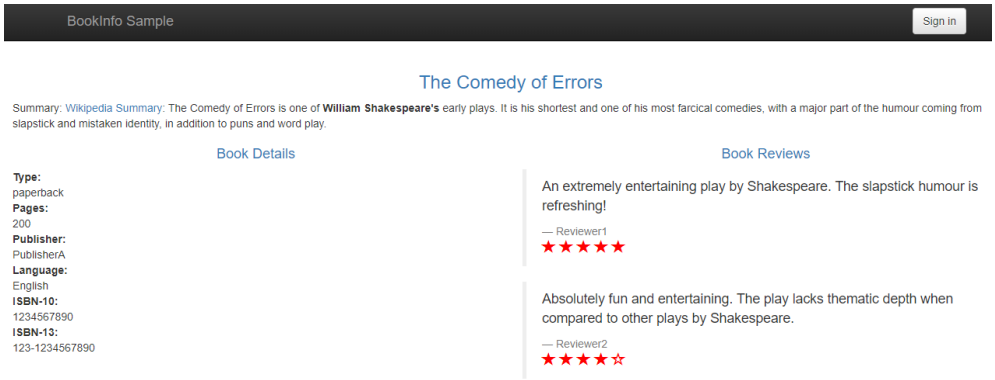


Step 2 Click **OK**.

A message indicating that the traffic is successfully switched is displayed in the upper right corner. Frequently refresh the Bookinfo page. You can find that only red stars (v3) are used in the **Book Reviews** area.

 Copyright © Huawei Technologies Co., Ltd.

Figure 1-12 v3 page



----End

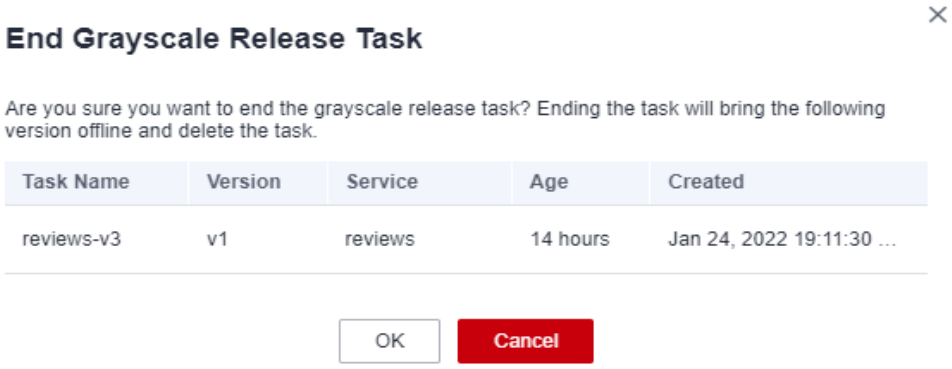
Ending the Grayscale Release Task

After v3 takes over all the traffic from v1, bring v1 offline to release its resources.

Step 1 On the **Monitor and Manage Traffic** page, click **End Task**.

Step 2 Click **OK** to end the task, bring the original version offline, and delete the task.

Figure 1-13 Ending the grayscale release task



Bringing a version offline will delete all its workloads and Istio configuration resources.

----End

Clearing Resources

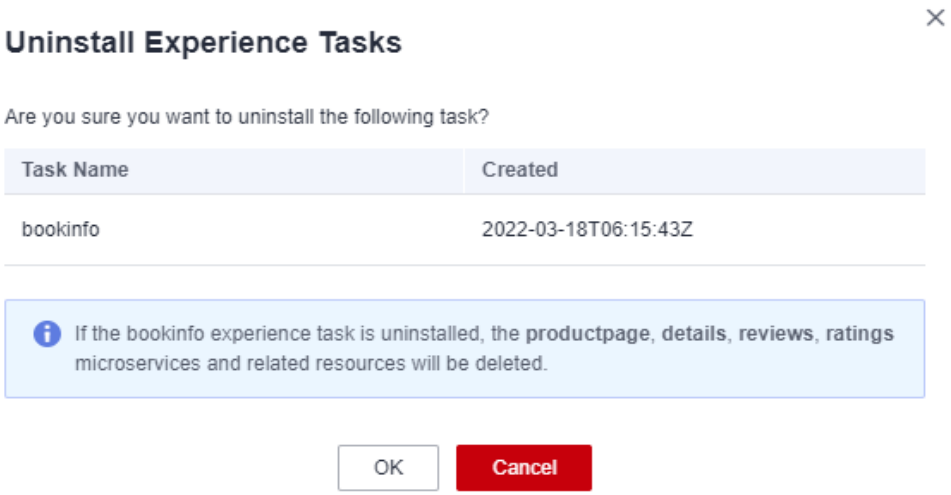
This is the end of the demo of performing the grayscale release using ASM. Delete the application and nodes in time to avoid unnecessary fees because node and application running incurs fees.

Step 1 In the navigation pane, choose **Experience Tasks** and click **Uninstall** in the Bookinfo task.

Step 2 Click **OK**. After the Bookinfo experience task is uninstalled, the productpage, details, reviews, and ratings services and related resources are automatically deleted.

 Copyright © Huawei Technologies Co., Ltd.

Figure 1-14 Uninstalling experience tasks



NOTE

After an experience task is uninstalled, go to the CCE console and manually delete the workloads corresponding to the grayscale version of the service for which grayscale release has been completed.

----End

 Copyright © Huawei Technologies Co., Ltd.

2 Enabling Istio for a Cluster

2.1 Overview

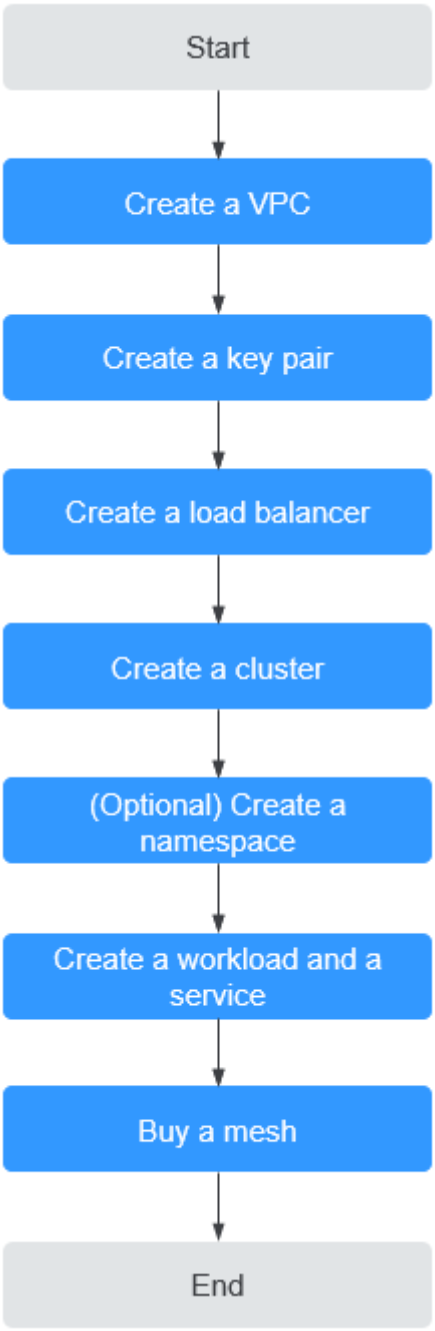
Providing a non-intrusive microservice governance solution, ASM supports full-lifecycle management and traffic management and is compatible with the Kubernetes and Istio ecosystems. It hosts functions such as load balancing, outlier detection, and rate limiting.

Process Description

The process of enabling Istio for a cluster is shown in the following figure.

 Copyright © Huawei Technologies Co., Ltd.

Figure 2-1 Process of enabling Istio for a cluster



2.2 Preparations

Before enabling Istio for a cluster, perform the following operations.

Creating a VPC

A VPC is an isolated virtual network environment on Huawei Cloud. You can create security groups and subnets, configure IP address ranges, specify bandwidth sizes, and assign Elastic IP addresses (EIPs) in a VPC.

 Copyright © Huawei Technologies Co., Ltd.

Step 1 Log in to the VPC console.

Step 2 Click **Create VPC** in the upper right corner.

Step 3 Retain default values for parameters unless otherwise specified. Then, click **Create Now**.

For details, see **Creating a VPC and Subnet**.

----End

Creating a Key Pair

Create a key pair for identity authentication upon remote node login.

Step 1 Log in to the Elastic Cloud Server (ECS) console.

Step 2 In the navigation pane, choose **Key Pair**. On the page displayed, click **Create Key Pair** in the upper right corner.

Step 3 Enter a key pair name and click **OK**.

Step 4 Manually or automatically download the private key file. The file name is the specified key pair name with a suffix of **.pem**. Securely store the private key file. In the dialog box displayed, click **OK**.

NOTE

For security purposes, a key pair can be downloaded only once. Keep it secure to ensure successful login.

----End

Creating a Load Balancer

A load balancer will be used as the external access entry of a service mesh, which will route the traffic to backend services.

Step 1 Log in to the Elastic Load Balance (ELB) console.

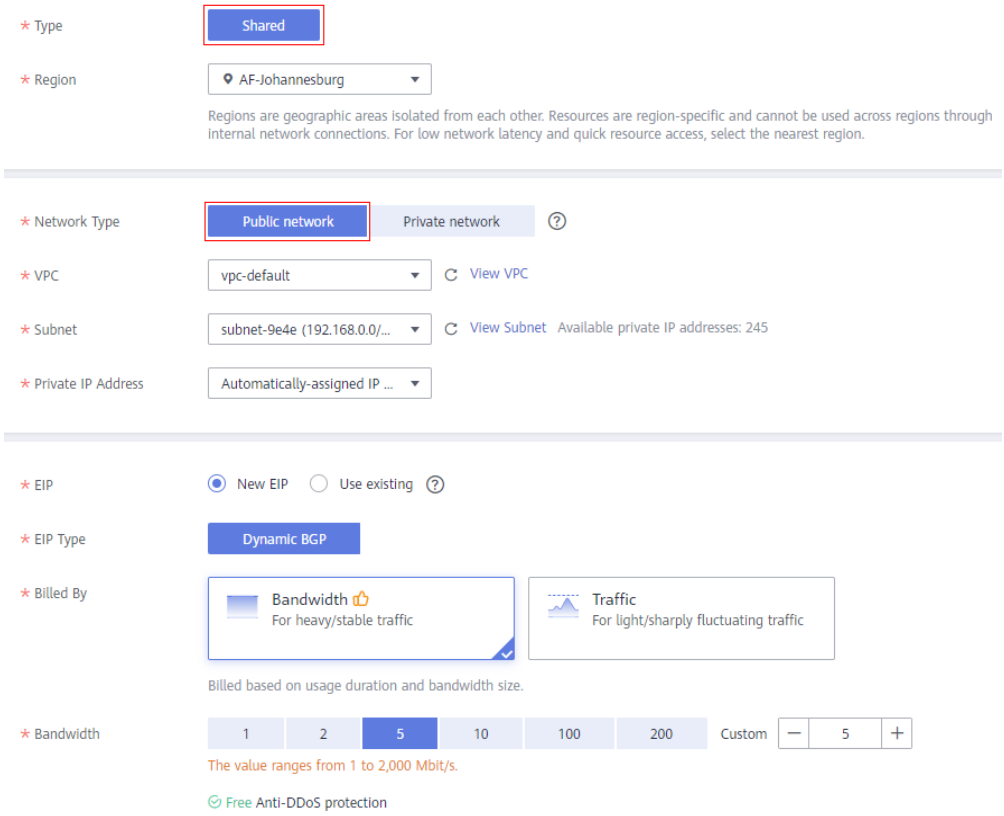
Step 2 Click **Buy Elastic Load Balancer** in the upper right corner.

Step 3 Purchase a dedicated load balancer by referring to **Creating a Dedicated Load Balancer**.

- **Network Type**: Select **Public network**.
- **VPC** and **Subnet**: Select the VPC and subnet created in **Creating a VPC**.

Copyright © Huawei Technologies Co., Ltd.

Figure 2-2 Buying a load balancer



----End

Creating a Cluster

Step 1 Log in to the CCE console.

Step 2 In the navigation pane, choose **Resource Management** > **Clusters**. On the displayed page, click **Buy** next to **CCE Cluster**.

For details about how to create a cluster, see **Buying a CCE Cluster**.

Step 3 On the **Configure** page, configure the following parameters and retain the default values for other parameters.

- **Cluster Name**: Enter a cluster name, for example, **cluster-test**.
- **VPC** and **Subnet**: Select the VPC and subnet created in **Creating a VPC**.

Step 4 Click **Next: Create Node**, configure the following parameters, and retain the default values for other parameters.

- **Specifications**: 4 vCPUs and 8 GiB of memory.
- **Login Mode**: Select the key pair created in **Creating a Key Pair** for identity authentication upon remote node login.

Step 5 Click **Next: Install Add-on** and select the add-ons to be installed in the **Install Add-on** step.

System resource add-on must be installed. **Advanced functional add-on** is optional.

 Copyright © Huawei Technologies Co., Ltd.

Step 6 Click **Next: Confirm**. Read the product constraints and select **I am aware of the above limitations**. Review the configured parameters and specifications.

Step 7 Submit the order.

If this is a yearly/monthly cluster, click **Pay Now** and follow on-screen prompts to pay the order.

It takes about 6 to 10 minutes to create a cluster. You can click **Back to Cluster List** to perform other operations on the cluster or click **Go to Cluster Events** to view the cluster details.

----End

(Optional) Creating a Namespace

Step 1 Log in to the CCE console.

Step 2 In the navigation pane, choose **Resource Management** > **Namespaces**. Then, click **Create Namespace** in the upper right corner.

Step 3 Enter the namespace name and select the created cluster.

Step 4 Click **OK**.

----End

Creating a Workload and a Service

Step 1 Log in to the CCE console.

Step 2 Choose **Workloads** > **Deployments**. In the the upper right corner, click **Create Workload**.

Step 3 Create a workload and a Service by referring to **Creating a Deployment**.

----End

2.3 Buying a Service Mesh

ASM allows you to create a service mesh of the Basic edition, which is a standard service mesh available for commercial use.

Procedure

Step 1 Log in to the ASM console and click **Buy Mesh**.

Step 2 Configure the following parameters and retain the default values for other parameters.

- **Mesh Edition**

  The default value is **Basic edition**.
- **Mesh Name**

  Enter the service mesh name.
- **Istio Version**

 Copyright © Huawei Technologies Co., Ltd.

Select the Istio version supported by the service mesh.

- **Cluster**

  Select the cluster created in **Creating a Cluster**.

- **Mesh Control Plane Node**

  To achieve HA, select two or more nodes from different AZs.

Step 3 Review the service mesh configuration in **Configuration List** on the right of the page and click **Submit**.

It takes about 1 to 3 minutes to create a service mesh. If the service mesh status changes from **Installing** to **Running**, the service mesh is successfully created.

----End

 Copyright © Huawei Technologies Co., Ltd.

3 Configurable Grayscale Release

3.1 Overview

A grayscale release is a smooth iteration mode for version upgrade. During the upgrade, some users use the new version, while other users continue to use the old version. After the new version is stable and ready, it gradually takes over all the live traffic.

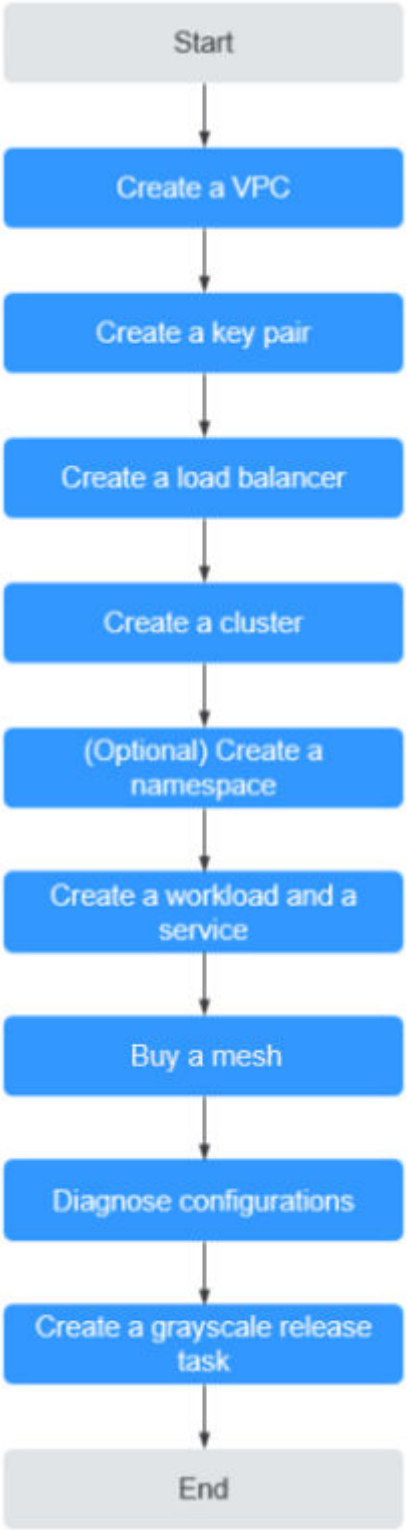
This section describes how to create a VPC and a grayscale version to complete a grayscale release.

Process Description

The following figure shows the grayscale release process.

 Copyright © Huawei Technologies Co., Ltd.

Figure 3-1 Process of creating a grayscale release task



3.2 Preparations

Before creating a grayscale release task, perform the following operations.

 Copyright © Huawei Technologies Co., Ltd.

Creating a VPC

A VPC is an isolated virtual network environment on Huawei Cloud. You can create security groups and subnets, configure IP address ranges, specify bandwidth sizes, and assign Elastic IP addresses (EIPs) in a VPC.

Step 1 Log in to the VPC console.

Step 2 Click **Create VPC** in the upper right corner.

Step 3 Retain default values for parameters unless otherwise specified. Then, click **Create Now**.

For details, see **Creating a VPC and Subnet**.

----End

Creating a Key Pair

Create a key pair for identity authentication upon remote node login.

Step 1 Log in to the Elastic Cloud Server (ECS) console.

Step 2 In the navigation pane, choose **Key Pair**. On the page displayed, click **Create Key Pair** in the upper right corner.

Step 3 Enter a key pair name and click **OK**.

Step 4 Manually or automatically download the private key file. The file name is the specified key pair name with a suffix of **.pem**. Securely store the private key file. In the dialog box displayed, click **OK**.

NOTE

For security purposes, a key pair can be downloaded only once. Keep it secure to ensure successful login.

----End

Creating a Load Balancer

A load balancer will be used as the external access entry of a service mesh, which will route the traffic to backend services.

Step 1 Log in to the Elastic Load Balance (ELB) console.

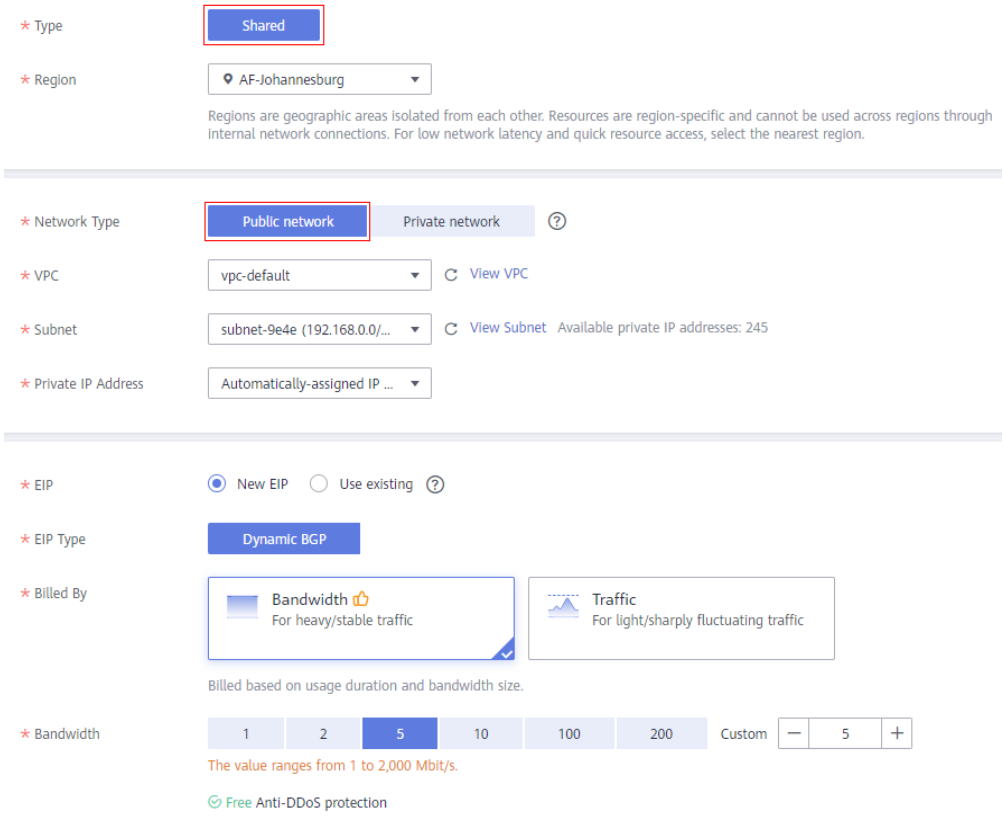
Step 2 Click **Buy Elastic Load Balancer** in the upper right corner.

Step 3 Purchase a dedicated load balancer by referring to **Creating a Dedicated Load Balancer**.

- **Network Type**: Select **Public network**.
- **VPC** and **Subnet**: Select the VPC and subnet created in **Creating a VPC**.

 Copyright © Huawei Technologies Co., Ltd.

Figure 3-2 Buying a load balancer



----End

Creating a Cluster

Step 1 Log in to the CCE console.

Step 2 In the navigation pane, choose **Resource Management** > **Clusters**. On the displayed page, click **Buy** next to **CCE Cluster**.

For details about how to create a cluster, see **Buying a CCE Cluster**.

Step 3 On the **Configure** page, configure the following parameters and retain the default values for other parameters.

- **Cluster Name**: Enter a cluster name, for example, **cluster-test**.
- **VPC** and **Subnet**: Select the VPC and subnet created in **Creating a VPC**.

Step 4 Click **Next: Create Node**, configure the following parameters, and retain the default values for other parameters.

- **Specifications**: 4 vCPUs and 8 GiB of memory.
- **Login Mode**: Select the key pair created in **Creating a Key Pair** for identity authentication upon remote node login.

Step 5 Click **Next: Install Add-on** and select the add-ons to be installed in the **Install Add-on** step.

System resource add-on must be installed. **Advanced functional add-on** is optional.

 Copyright © Huawei Technologies Co., Ltd.

Step 6 Click **Next: Confirm**. Read the product constraints and select **I am aware of the above limitations**. Review the configured parameters and specifications.

Step 7 Submit the order.

If this is a yearly/monthly cluster, click **Pay Now** and follow on-screen prompts to pay the order.

It takes about 6 to 10 minutes to create a cluster. You can click **Back to Cluster List** to perform other operations on the cluster or click **Go to Cluster Events** to view the cluster details.

----End

(Optional) Creating a Namespace

Step 1 Log in to the CCE console.

Step 2 In the navigation pane, choose **Resource Management** > **Namespaces**. Then, click **Create Namespace** in the upper right corner.

Step 3 Enter the namespace name and select the created cluster.

Step 4 Click **OK**.

----End

Creating a Workload and a Service

Step 1 Log in to the CCE console.

Step 2 Choose **Workloads** > **Deployments**. In the the upper right corner, click **Create Workload**.

Step 3 Create a workload and a Service by referring to **Creating a Deployment**.

----End

Buying a Service Mesh

Step 1 Log in to the ASM console and click **Buy Mesh**.

Step 2 Select the cluster named **cluster-test** created in **Creating a Cluster** and select nodes on which the Istio control plane is installed. Two or more nodes in different AZs are recommended.

Step 3 Click **Show Advanced Settings**. In **Namespace Injection Settings**, select the namespace named **default** and enable **Restart Existing Services**. Configure other parameters as required.

Step 4 Set **Observability Configuration** to **Connect with APM**.

Step 5 Review the service mesh configuration in **Configuration List** on the right of the page and click **Submit**.

It takes about 1 to 3 minutes to create a service mesh. If the service mesh status changes from **Installing** to **Running**, the service mesh is successfully created.

----End

 Copyright © Huawei Technologies Co., Ltd.

Diagnosing Configurations

ASM diagnoses all services in a managed cluster. Grayscale release can be performed only for services that are diagnosed as normal.

Step 1 Log in to the ASM console, click the service mesh named **asmtest** to access its details page.

Step 2 In the navigation pane, choose **Service Management**, select **Namespace: default**, and view the configuration diagnosis result of **servicetest**.

Step 3 If **Abnormal** is displayed, click **Fix** to fix the issue.

----End

3.3 Grayscale Release

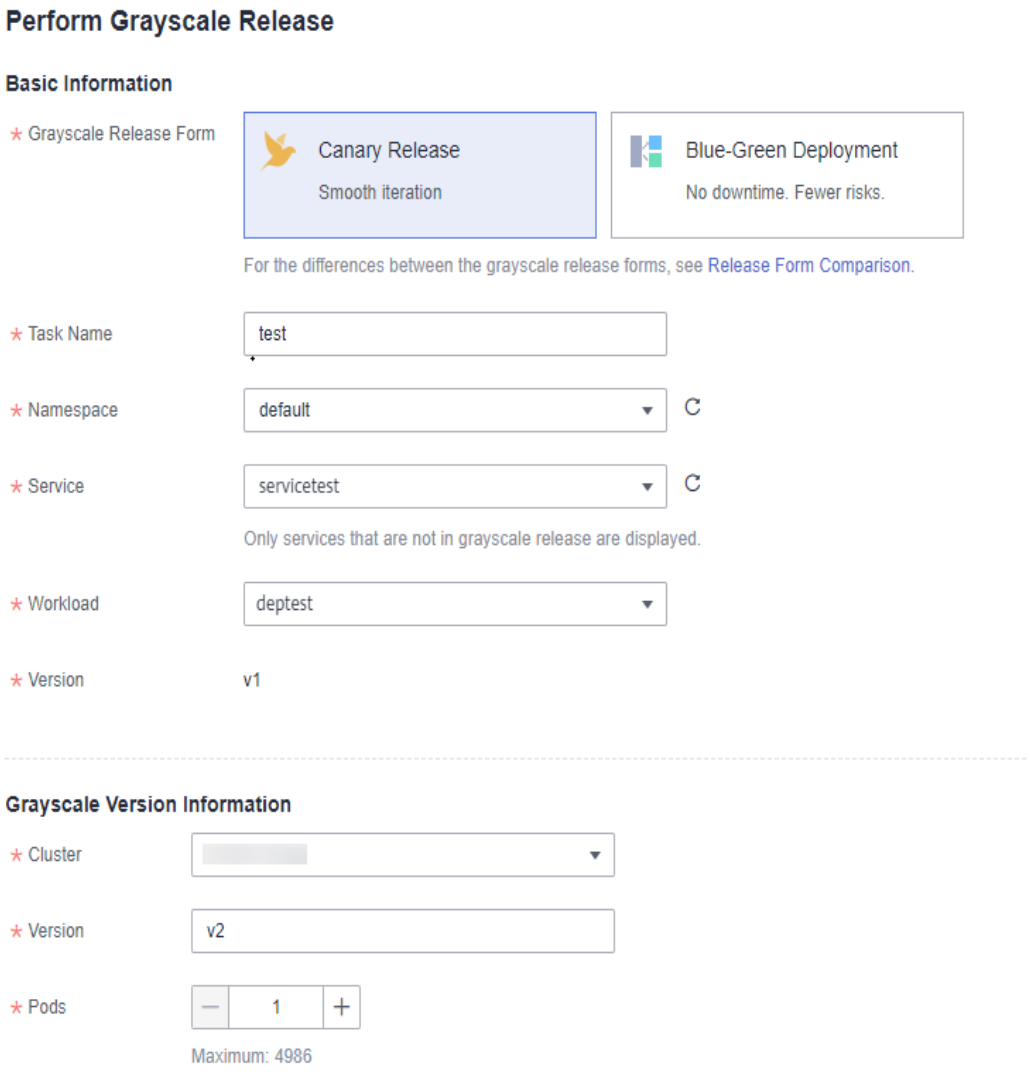
Creating a Grayscale Release Task

Step 1 Log in to the ASM console and click  in the **asmtest** mesh.

Step 2 Set **Task Name** to **test** and select **servicetest** created in **Creating a Workload and a Service** for **Service**. (**Workload** is automatically set to **deptest**.) Configure other basic information and grayscale version information and click **Release**.

 Copyright © Huawei Technologies Co., Ltd.

Figure 3-3 Creating a grayscale release task



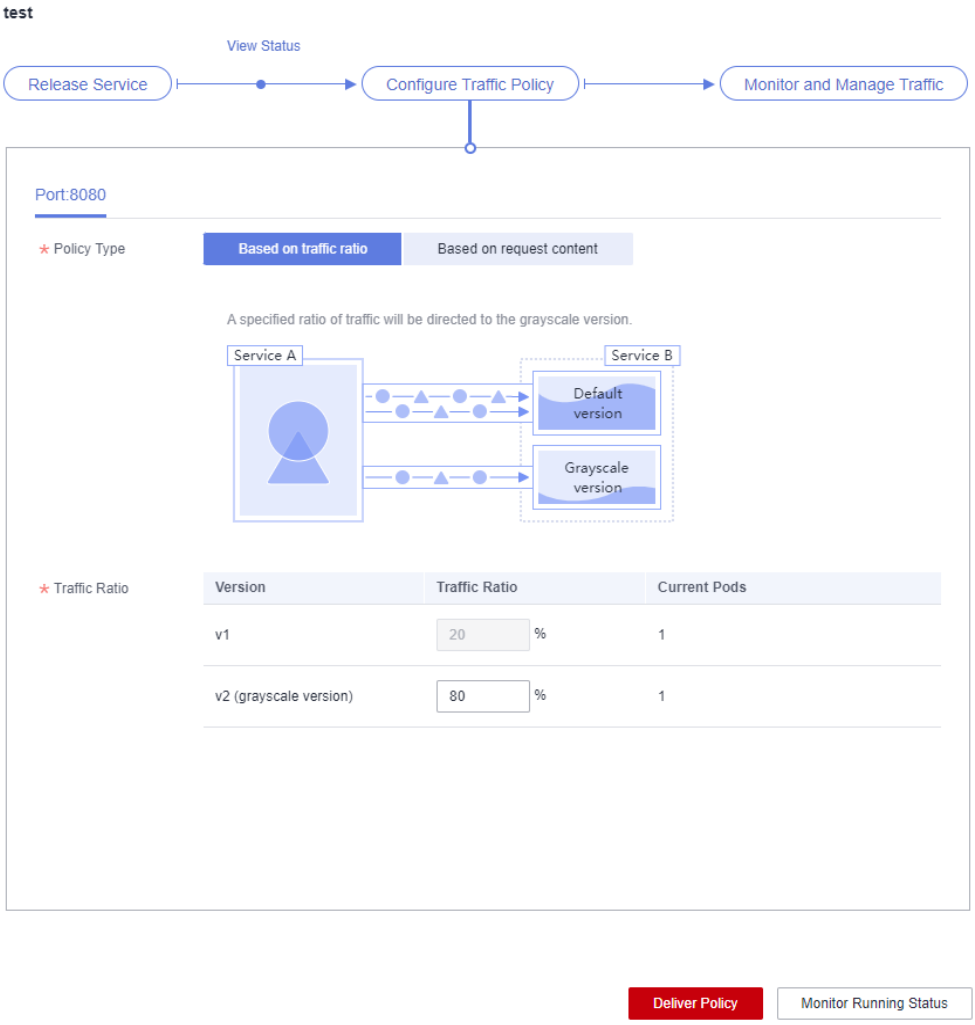
NOTE

If you cannot select **servicetest**, check whether the service is normal. If the service is abnormal, fix the issues and try again.

Step 3 Click **Configure Traffic Policy**, set the policy type to **Based on traffic ratio**, and set the **traffic ratio** of v2 to 80%.

 Copyright © Huawei Technologies Co., Ltd.

Figure 3-4 Configuring a traffic policy



Step 4 Click **Deliver Policy**.

It takes several seconds for the traffic policy to take effect. You can view the running of the grayscale version on the **View Status** page.

----End

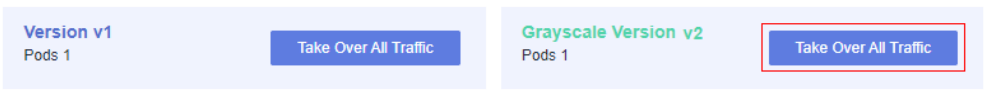
Switching All Traffic to the Grayscale Version

Check whether the number of resources in v2 matches that in v1. After confirming that v2 is able to serve all the traffic of v1, switch all the traffic from v1 to v2.

Step 1 On the **Grayscale Release** page, click **test** and then click **Monitor and Manage Traffic**.

Step 2 Click **Take Over All Traffic** next to v2.

Figure 3-5 Taking over all traffic



 Copyright © Huawei Technologies Co., Ltd.

Step 3 Click **OK**. A message is displayed in the upper right corner, indicating that the traffic is taken over successfully.

----End

Bringing the Original Version Offline

After v2 takes over all the traffic from v1, bring v1 offline to release its resources.

Step 1 On the **Grayscale Release** page, click **test** and then click **Monitor and Manage Traffic**.

Step 2 On the displayed page, when the traffic percentage of v2 is **100%**, v2 has taken over all traffic of v1. Click **Terminate Task**.

Step 3 Click **OK**.

The v1 version is brought offline and the test grayscale task is deleted.

----End

 Copyright © Huawei Technologies Co., Ltd.