Application Service Mesh

Getting Started

Issue   03

Date   2023-07-03

Contents

1 Grayscale Release Practices of Bookinfo

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

Introduction

Grayscale release facilitates smooth rollout of iterative 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.

Figure 1-1 Grayscale release process of Bookinfo
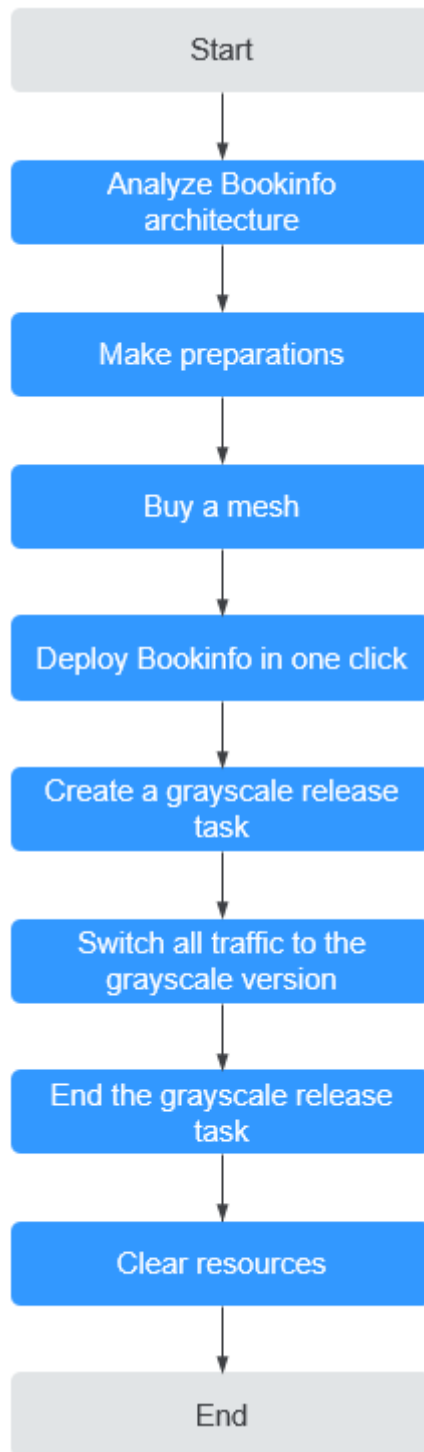
Architecture Analysis of Bookinfo

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

Bookinfo consists of four independent services developed in different languages. These services do not depend on ASM, but demonstrate the features of a typical

service mesh, and the reviews service has multiple versions. The four services are described as follows:

- 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:

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

📖 NOTE

To demonstrate traffic switching between grayscale versions, this section takes v1.5.1 (rating with black stars) and v1.5.2 (rating with red stars) of the reviews service as examples.

Figure 1-2 End-to-end architecture of Bookinfo
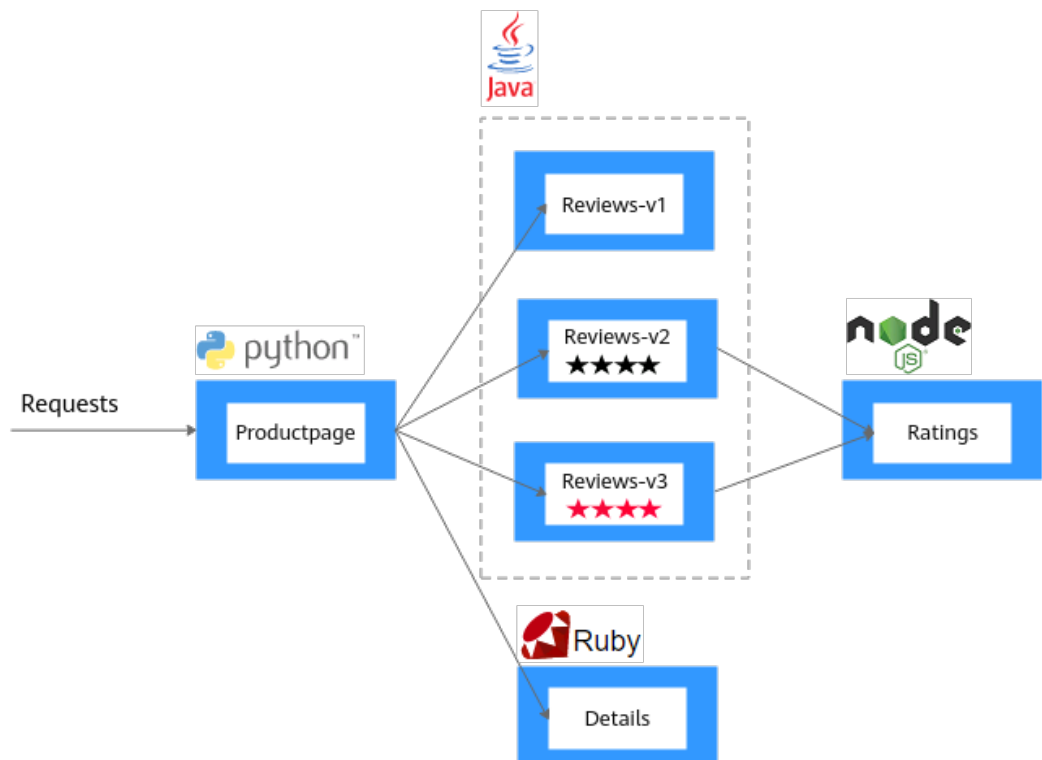
Running Bookinfo with ASM does not require any changes on the application itself. Simply configure and run the services in the ASM environment, that is, inject an Envoy sidecar into each service. **Figure 1-3** shows the final deployment.

Figure 1-3 Bookinfo with Envoy sidecars injected
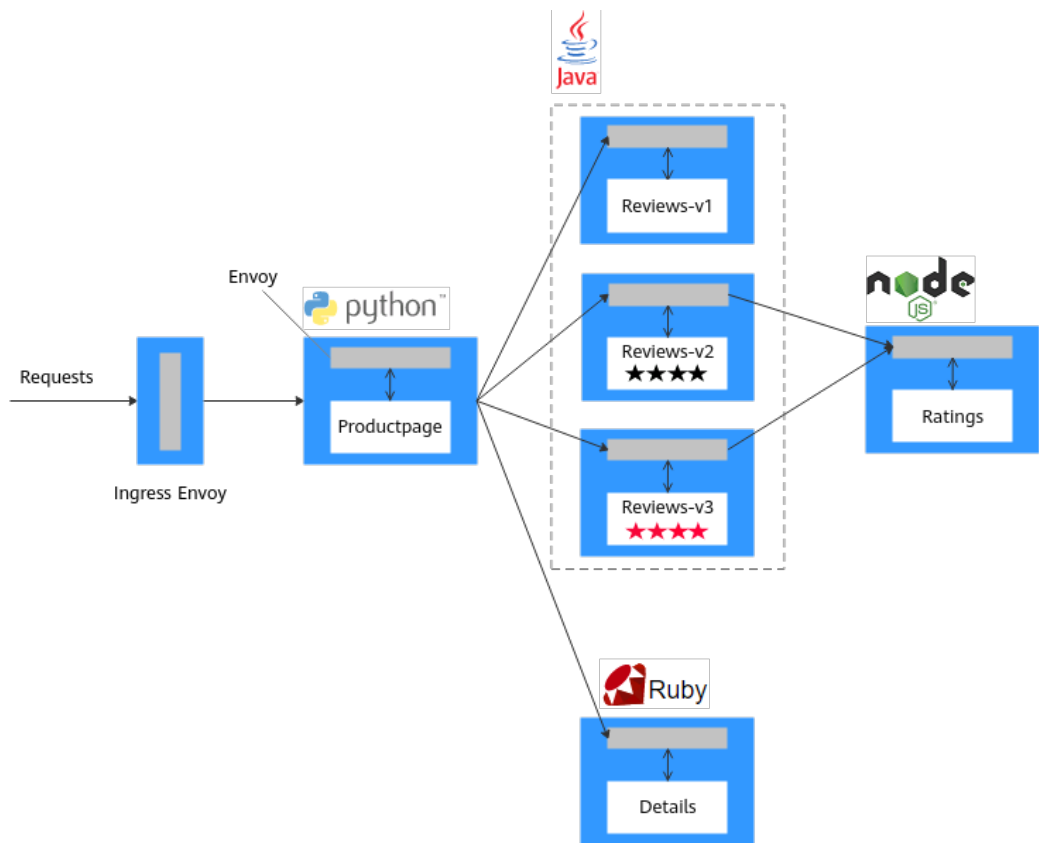
All services are integrated with Envoy sidecars. All inbound and outbound traffic of the integrated services is intercepted by sidecars. In this way, ASM can provide service routing, telemetry data collection, and policy implementation for Bookinfo.

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 settings for parameters unless otherwise specified. Then, click **Create Now**.

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

Step 2 (Optional) Create a key pair.

To create a cluster node using the key pair login mode, 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 **Key Pair** page, click **Create Key Pair** in the upper right corner.

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. Traffic managed by a service mesh will be distributed by this load balancer 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 shared load balancer by referring to **Creating a Shared Load Balancer**.

    –   **Network Type**: Select **Public network**.

    –   **VPC** and **Subnet**: Select the VPC and subnet created in **Step 1** respectively.

Figure 1-4 Buying an elastic load balancer
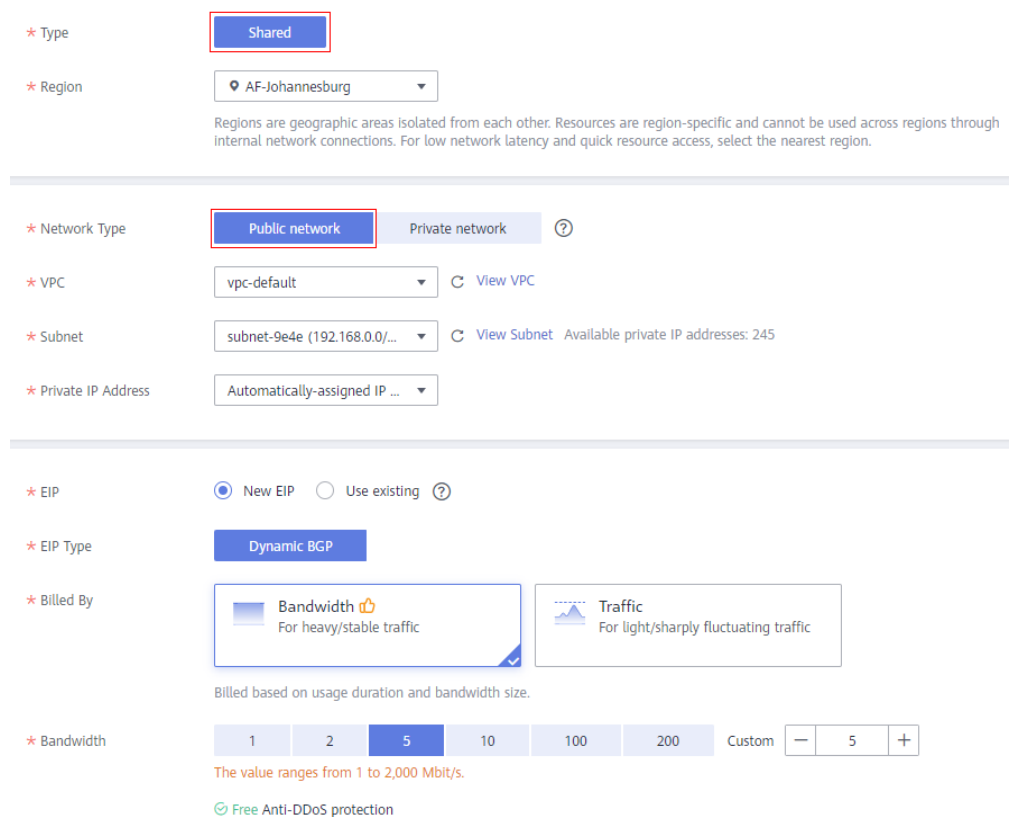
Step 4 Create a cluster.

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**.

   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** respectively.

4. Click **Next: Create Node** and set the parameters as prompted. Set **Specifications** and **Login Mode** as follows, and retain the default settings for the other parameters.

   – **Specifications**: 4 vCPUs and 8 GB 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 the cluster will be billed on a **yearly/monthly** basis, 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	1.5.0

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

The following uses the Bookinfo image 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. For details, see **Uploading an Image Through a Container Engine Client**.

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

   docker tag docker.io/istio/examples-bookinfo-productpage-v1:1.5.0 *swr.ap-southeast-3.myhuaweicloud.com*/*group*/**examples-bookinfo-productpage-v1:1.5.0**

   docker tag docker.io/istio/examples-bookinfo-details-v1:1.5.0 *swr.ap-southeast-3.myhuaweicloud.com*/*group*/**examples-bookinfo-details-v1:1.5.0**

   docker tag docker.io/istio/examples-bookinfo-ratings-v1:1.5.0 *swr.ap-southeast-3.myhuaweicloud.com*/*group*/**examples-bookinfo-ratings-v1:1.5.0**

   docker tag docker.io/istio/examples-bookinfo-reviews-v2:1.5.0 *swr.ap-southeast-3.myhuaweicloud.com*/*group*/**examples-bookinfo-reviews-v1:1.5.1**

   docker tag docker.io/istio/examples-bookinfo-reviews-v3:1.5.0 *swr.ap-southeast-3.myhuaweicloud.com*/*group*/**examples-bookinfo-reviews-v1:1.5.2**

   In the preceding commands, *swr.ap-southeast-3.myhuaweicloud.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.myhuaweicloud.com*/*group*/**examples-bookinfo-productpage-v1:1.5.0**

   docker push *swr.ap-southeast-3.myhuaweicloud.com*/*group*/**examples-bookinfo-details-v1:1.5.0**

   docker push *swr.ap-southeast-3.myhuaweicloud.com*/*group*/**examples-bookinfo-ratings-v1:1.5.0**

   docker push *swr.ap-southeast-3.myhuaweicloud.com*/*group*/**examples-bookinfo-reviews-v1:1.5.1**

docker push *swr.ap-southeast-3.myhuaweicloud.com/group/***examples-bookinfo-reviews-v1:1.5.2**

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

----End

Buying a 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 value for other parameters:

-   **Mesh Edition**

    Select **Basic**.

-   **Mesh Name**

    Enter the mesh name.

-   **Istio Version**

    Istio version supported by the mesh.

-   **Cluster**

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

-   **Mesh Control Plane Node**

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

-   **Sidecar Configuration**

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

    Figure 1-5 Sidecar configuration

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

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

----End

Deploying Bookinfo in One Click

After the service mesh is enabled for a cluster, you can create a Bookinfo demo in just a few clicks. The procedure is as follows:

Step 1 Log in to the ASM console.

Step 2 Click the target mesh to view its details.

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 1-6 Installing Bookinfo

Step 5 Wait until Bookinfo is created. After the creation is complete, click **Service Management**. The value of the **Configuration Diagnosis Result** column is **Normal**. The Bookinfo contains the productpage, details, reviews, and ratings services.

Figure 1-7 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 grayscale version.

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

Deploying a grayscale version

Step 1 In the navigation pane on the left, 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 to which the service belongs.
- **Service**: Select **reviews** from the drop-down list box.
- **Workload**: Select the workload to which the service belongs.

Step 3 Configure grayscale version information.

- **Cluster**: Select the cluster to which the service belongs.
- **Version**: Set this parameter as **v3**.
- **Pods**: Retain the default value.
- **Pod Configuration**: Set the image tag as **1.5.2** and retain the default value for other parameters.

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

Figure 1-8 Viewing the progress
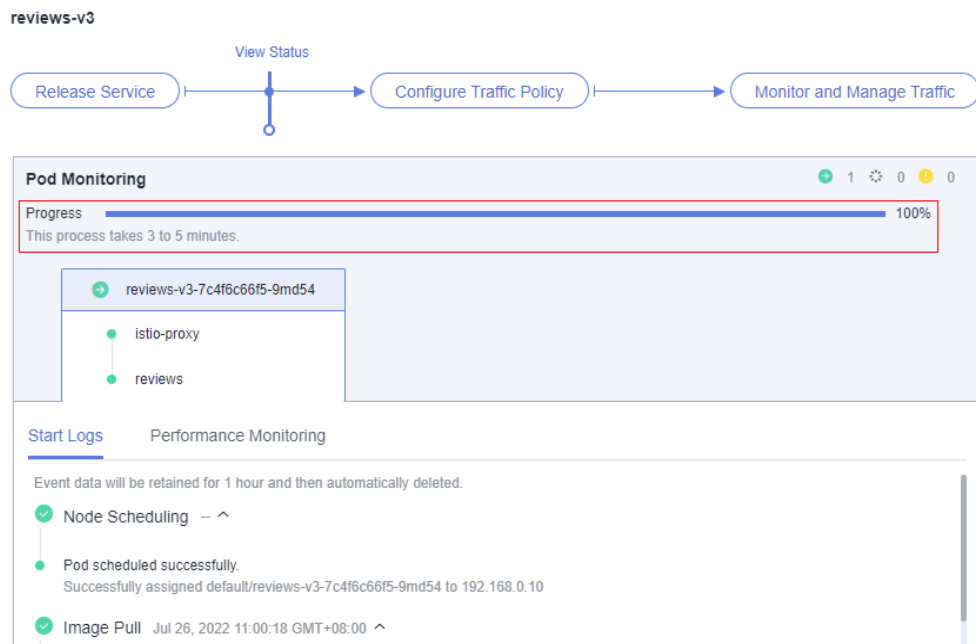
----End

Configuring a traffic policy

Configure a traffic policy for the grayscale version. A specified ratio 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 ratio 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 ratio of v3 to **20%**.

Figure 1-9 Traffic policy

★ Traffic Ratio	Version	Traffic Ratio		Current Pods
	v1	80	%	1
	v3(grayscale version)	20	%	1

Step 3 Click **Deliver Policy**.

Step 4 On the **Service List** page, click the **Access Address** of the productpage service. Frequently refresh the book information page, and 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 1-10 v1 page

Figure 1-11 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 1-12 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, and you can find that only red stars (v3) are used in the **Book Reviews** area.

Figure 1-13 v3 page
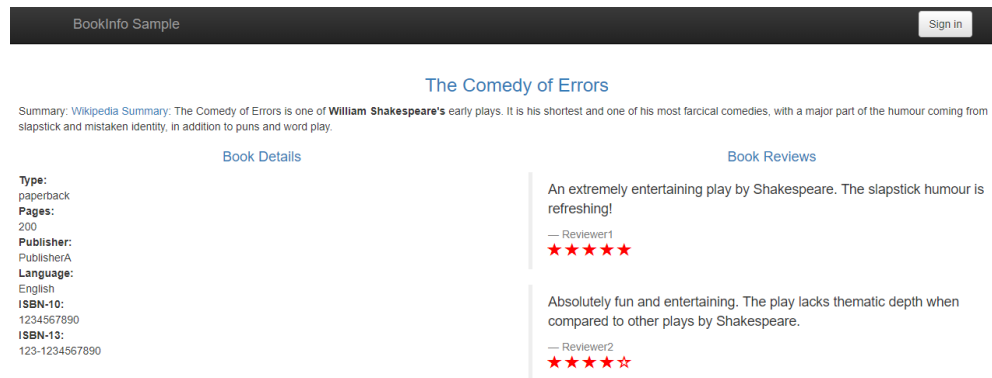
----**End**

Ending a Grayscale Release Task
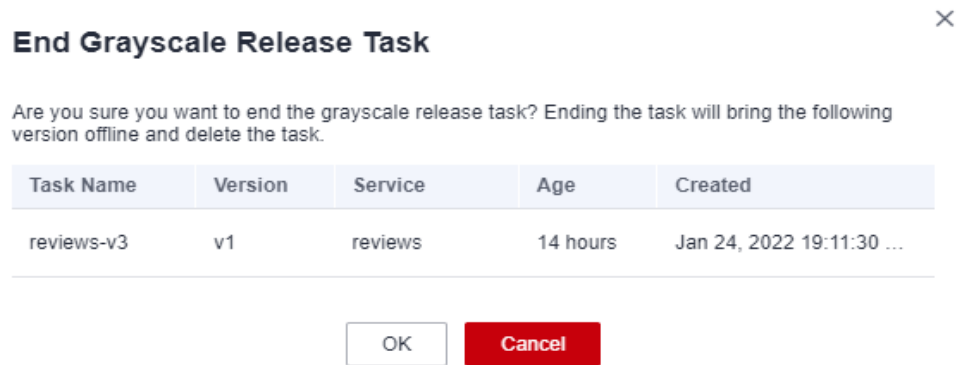
After v3 takes over all the traffic of v1, bring v1 offline to release its resources.

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 1-14 Ending a grayscale release task

End Grayscale Release Task

Are you sure you want to end the grayscale release task? Ending the task will bring the following version offline and delete the task.

Task Name	Version	Service	Age	Created
reviews-v3	v1	reviews	14 hours	Jan 24, 2022 19:11:30 ...

OK   Cancel

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

----End

Clearing Resources

This is the end of the demo of how to perform 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.

Figure 1-15 Uninstalling experience tasks

Uninstall Experience Tasks

Are you sure you want to uninstall the following task?

Task Name	Created
bookinfo	2022-03-18T06:15:43Z

ⓘ If the bookinfo experience task is uninstalled, the **productpage, details, reviews, ratings** microservices and related resources will be deleted.

OK   Cancel
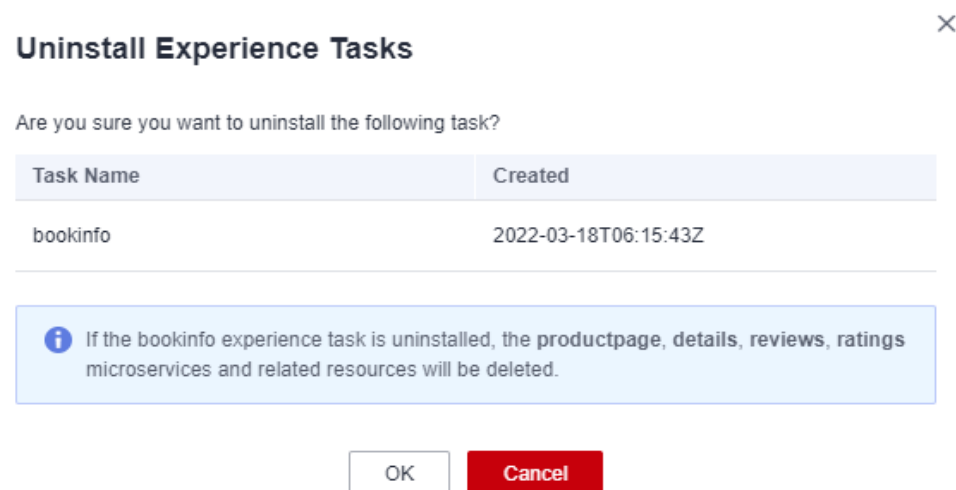
◫ NOTE

> 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

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.

Figure 2-1 Process of enabling Istio for a cluster
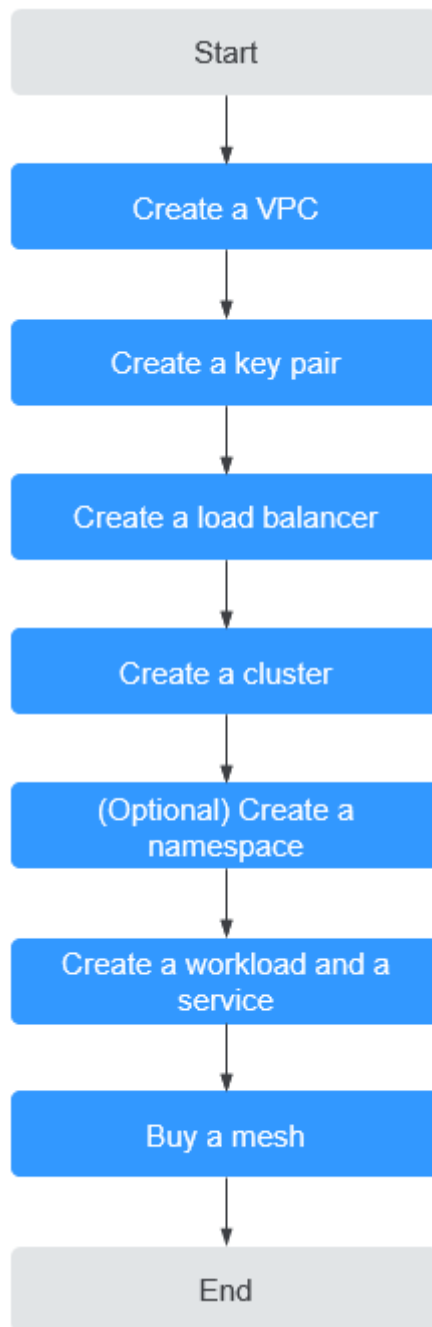
2.2 Preparations

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.

Step 1 Log in to the VPC console.

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

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

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

----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 **Key Pair** page, 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. Traffic managed by a service mesh will be distributed by this load balancer 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 shared load balancer by referring to **Creating a Shared Load Balancer**.

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

Figure 2-2 Buying an elastic load balancer

----End

Creating a Cluster

Step 1 Log in to the Cloud Container Engine (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** and set the parameters as prompted. Set **Specifications** and **Login Mode** as follows, and retain the default settings for the other parameters.

- **Specifications**: 4 vCPUs and 8 GB 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.

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 the cluster will be billed on a **yearly/monthly** basis, 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 Cloud Container Engine (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 Cloud Container Engine (CCE) console.

Step 2 In the navigation pane, choose **Workloads** > **Deployments**. On the page displayed, click **Create Deployment**.

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

----End

2.3 Buying a Mesh

ASM allows you to create a Basic mesh, which is a standard 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 value for other parameters.

- **Mesh Edition**

  The default value is Basic edition.

- **Mesh Name**

  Enter the mesh name.

- **Istio Version**

Istio version supported by the 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 mesh configuration in the **Configuration List** on the right of the page and click **Submit**.

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

----End

3 Configurable Grayscale Release

3.1 Overview

Grayscale release is a smooth iteration mode for version upgrade. During the upgrade, some users use the later version, while other users continue to use the earlier version. After the later 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 grayscale release process is shown in the following figure:

Figure 3-1 Process of creating a grayscale release task
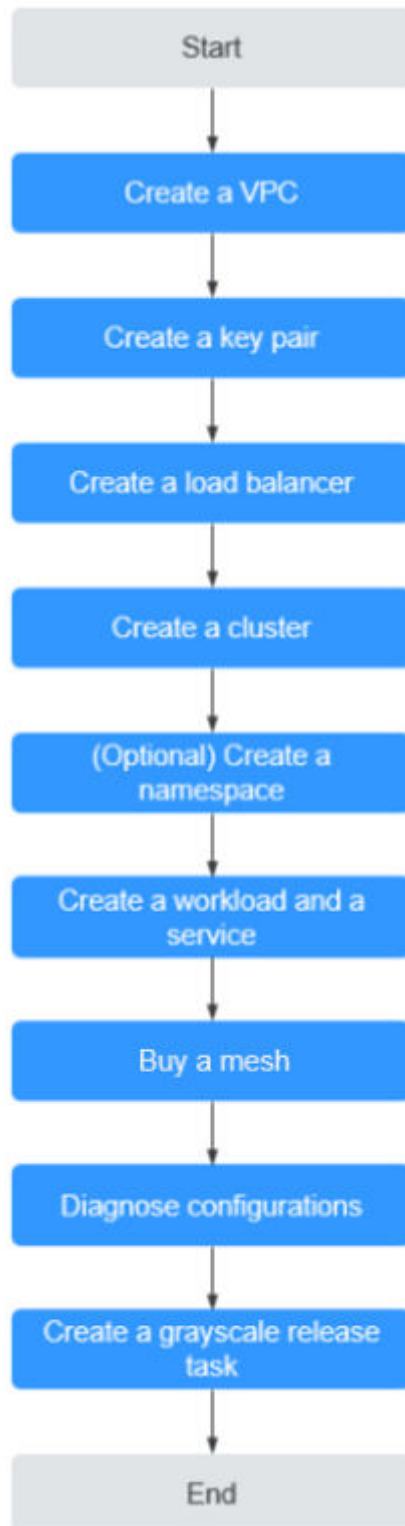
3.2 Preparations

Before creating a grayscale release task, complete the following preparations.

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 settings for parameters unless otherwise specified. Then, click **Create Now**.

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

----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 **Key Pair** page, 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. Traffic managed by a service mesh will be distributed by this load balancer 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 shared load balancer by referring to **Creating a Shared Load Balancer**.

- **Network Type**: Select **Public network**.

- **VPC** and **Subnet**: Select the VPC and subnet created in **Creating a VPC** respectively.

Figure 3-2 Buying an elastic load balancer

----**End**

Creating a Cluster

Step 1   Log in to the Cloud Container Engine (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** and set the parameters as prompted. Set **Specifications** and **Login Mode** as follows, and retain the default settings for the other parameters.

- **Specifications**: 4 vCPUs and 8 GB 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.

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 the cluster will be billed on a **yearly/monthly** basis, 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 Cloud Container Engine (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 Cloud Container Engine (CCE) console.

Step 2 In the navigation pane, choose **Workloads** > **Deployments**. On the page displayed, click **Create Deployment**.

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

----End

Buying a Mesh

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

Step 2 Set **Mesh Name** to **asmtest**, select the cluster named **cluster-test** created in **Creating a Cluster**, and select a node on which the Istio control plane is installed. Select two or more nodes in different AZs.

Step 3 Click **Show Advanced Settings**. In the **Sidecar Configuration** area, select the namespace named **default** and enable **Restart Existing Services**.

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

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

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

----End

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 mesh named **asmtest** to view its details.

Step 2 In the navigation pane on the left, choose **Service Management**, select **Namespace: default** from the drop-down list box, and view the **Configuration Diagnosis Result** of **servicetest**.

Step 3 If the **Configuration Diagnosis Result** is **Abnormal**, click **Fix** to fix the issues.

----End

3.3 Grayscale Release

Creating a Grayscale Release Task

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

Step 2 Set **Task Name** to **test**, configure the basic information and grayscale version information, and set **Service** to the **servicetest** service created in **Creating a Workload and a Service**. **Workload** is automatically set to **deptest**. Click **Release**.

Figure 3-3 Creating a grayscale release task

Perform Grayscale Release

Basic Information

★ Grayscale Release Form	**Canary Release** Smooth iteration	**Blue-Green Deployment** No downtime. Fewer risks.

For the differences between the grayscale release forms, see Release Form Comparison.

★ Task Name   test

★ Namespace   default

★ Service   servicetest

Only services that are not in grayscale release are displayed.

★ Workload   deptest

★ Version   v1

Grayscale Version Information

★ Cluster

★ Version   v2

★ Pods   − 1 +

Maximum: 4986

Pod Configuration   container-0

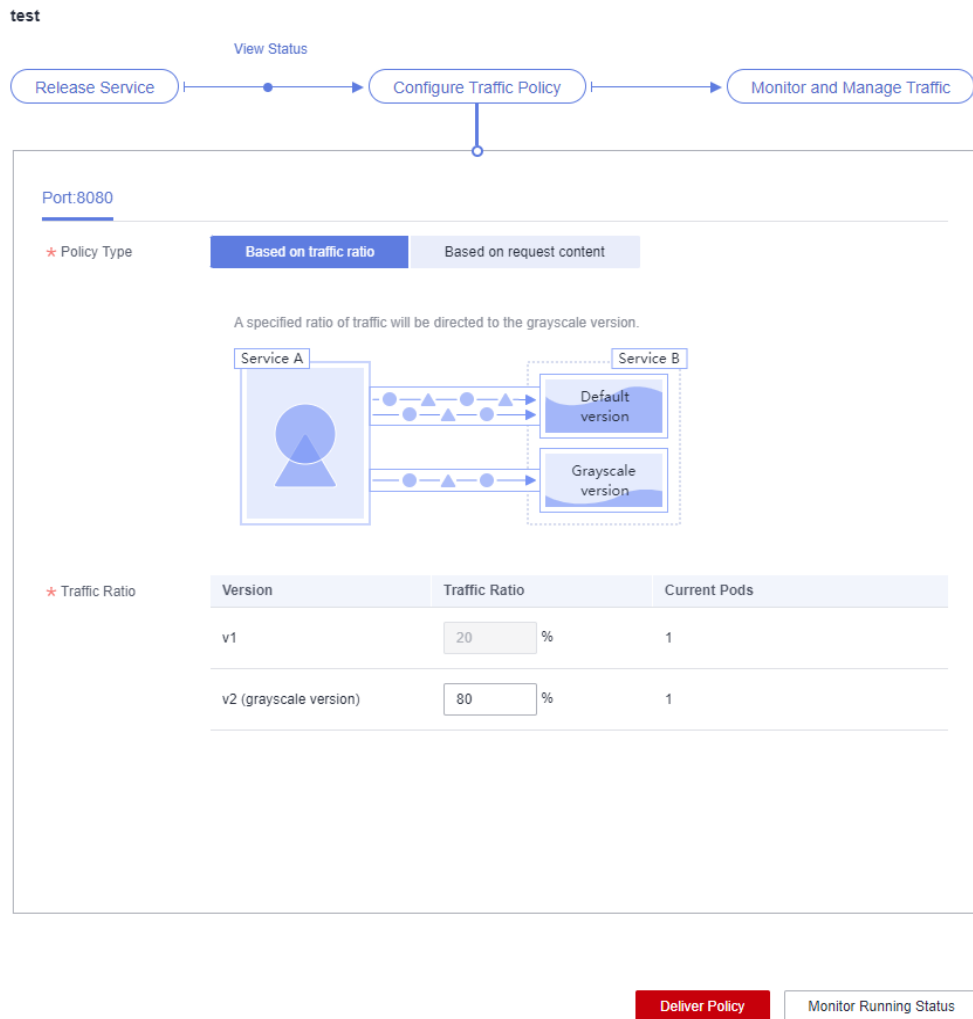Image Name   tomcat

★ Image Tag   latest

[Release] [Cancel]

NOTE

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

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

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 status 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

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 of 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 ratio of v2 is **100%**, v2 has taken over all traffic of v1. Click **Terminate Task**.

Step 3 Click **OK**.

After the grayscale task is terminated, the v1 version is brought offline and the test grayscale task is deleted.

----End