Storage Disaster Recovery Service

User Guide

Issue 05

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HUAWEI TECHNOLOGIES CO., LTD.

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1 Permissions Management

1.1 Creating a User and Granting SDRS Permissions

You can use **IAM** for fine-grained permissions control on SDRS resources. With IAM, you can:

- Create IAM users for personnel based on your enterprise's organizational structure. Each IAM user has their own identity credentials for accessing SDRS resources.
- Grant only the permissions required for users to perform a task.
- Entrust a HUAWEI ID or a cloud service to perform efficient O&M on your SDRS resources.

If your HUAWEI ID meets your permissions requirements, you can skip this section.

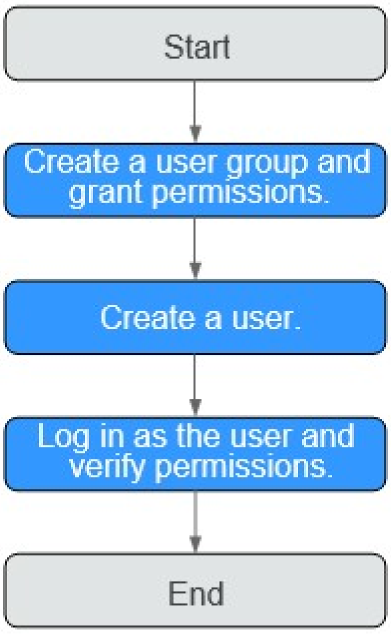
This section describes the procedure for granting permissions (see **Figure 1-1**).

Prerequisites

You have learnt about the system-defined role in **SDRS Permissions**. To grant permissions of other services, see **System Permissions**.

Process Flow

Figure 1-1 Process for granting SDRS permissions


Start
Create a user group and grant permissions.
Create a user.
Log in as the user and verify permissions.
End

1. **Create a user group and assign permissions** to it.

   Create a user group on the IAM console, and attach the **SDRS Administrator** and **VPC Administrator** policies to the group.

2. **Create an IAM user and add it to the user group**.

   Create a user on the IAM console and add the user to the group created in **1**.

3. **Log in** and verify permissions.

   Log in to the SDRS console as the created user, and verify the user's permissions for SDRS.

   - Choose **Service List** > **Storage Disaster Recovery Service**. Click **Create Protection Group** on the SDRS console. If a protection group can be successfully created, the **SDRS Administrator** policy has already taken effect.
   - Choose another service in the **Service List**. If a message appears indicating insufficient permissions to access the service, the **SDRS Administrator** policy has already taken effect.
   - Create a disaster recovery drill and select **Automatically create** for the drill VPC. If the drill is successfully created, the **VPC Administrator** policy has already taken effect.

2 Asynchronous Replication

2.1 Managing a Replica Pair

2.1.1 Creating a Replica Pair

Scenarios

You can set up the replication relationship between the production site and disaster recovery site by creating a replica pair.

Procedure

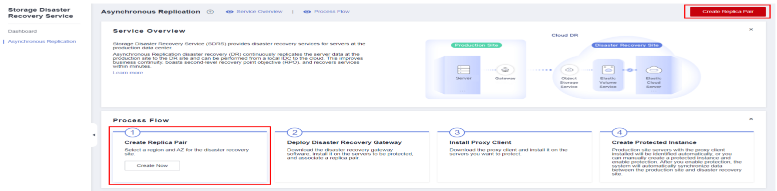
Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the upper right corner of the page, click **Create Replica Pair**.

Figure 2-1 Service Overview



Storage Disaster Recovery Service (SDRS) provides disaster recovery services for servers at the production data center.

Asynchronous Replication disaster recovery (DR) continuously replicates the server data at the production site to the DR site and can be performed from a local IDC to the cloud. This improves business continuity, boasts second-level recovery point objective (RPO), and recovers services within minutes.

1 Create Replica Pair: Select a region and AZ for the disaster recovery site.

2 Deploy Disaster Recovery Gateway: Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.

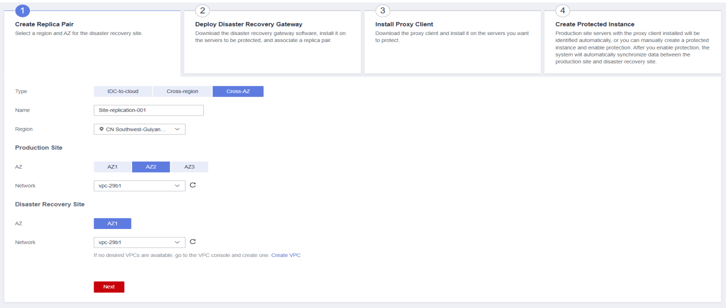
3 Install Proxy Client: Download the proxy client and install it on the servers you want to protect.

4 Create Protected Instance: Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Step 4 Select the type of the replica pair you want to create and configure parameters by referring to **Table 2-1**.

1. **Cross-AZ**: The production site and disaster recovery site are located in different AZs of the same region.

Figure 2-2 Creating a cross-AZ replica pair



1 Create Replica Pair
Select a region and AZ for the disaster recovery site.

2 Deploy Disaster Recovery Gateway
Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.

3 Install Proxy Client
Download the proxy client and install it on the servers you want to protect.

4 Create Protected Instance
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

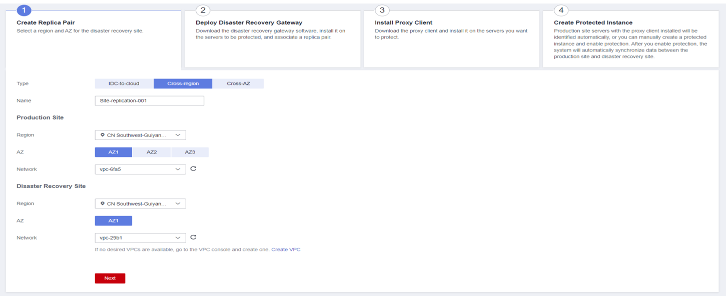
Type: IDC-to-cloud | Cross-region | [✓ Cross-AZ]
Name: Site-replication-001
Region: CN Southwest-Guiyan...

Production Site
AZ: AZ1 | [✓ AZ2] | AZ3
Network: vpc-29b1

Disaster Recovery Site
AZ: [✓ AZ1]
Network: vpc-29b1
If no desired VPCs are available, go to the VPC console and create one. Create VPC

2. **Cross-region**: The production site and disaster recovery site are located in different regions.

Figure 2-3 Creating a cross-region replica pair



1 Create Replica Pair
Select a region and AZ for the disaster recovery site.

2 Deploy Disaster Recovery Gateway
Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.

3 Install Proxy Client
Download the proxy client and install it on the servers you want to protect.

4 Create Protected Instance
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

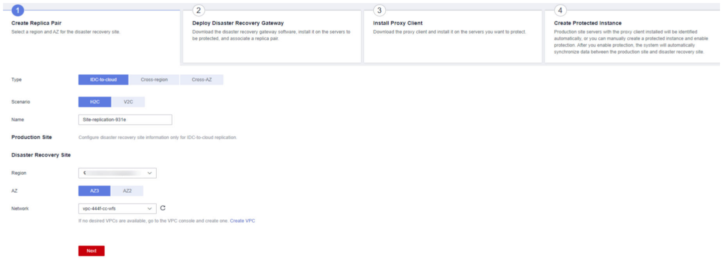
Type: IDC-to-cloud | [✓ Cross-region] | Cross-AZ
Name: Site-replication-001

Production Site
Region: CN Southwest-Guiyan...
AZ: [✓ AZ1] | AZ2 | AZ3
Network: vpc-6fa5

Disaster Recovery Site
Region: CN Southwest-Guiyan...
AZ: [✓ AZ1]
Network: vpc-29b1
If no desired VPCs are available, go to the VPC console and create one. Create VPC

3. **IDC-to-cloud**: The production site is deployed in a local data center.

Figure 2-4 Creating an IDC-to-cloud replica pair



1 Create Replica Pair
Select a region and AZ for the disaster recovery site.

2 Deploy Disaster Recovery Gateway
Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.

3 Install Proxy Client
Download the proxy client and install it on the servers you want to protect.

4 Create Protected Instance
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Type: [✓ IDC-to-cloud] | Cross-region | Cross-AZ
Scenario: [✓ H2C] | V2C
Name: Site-replication-931e
Production Site: Configure disaster recovery site information only for IDC-to-cloud replication.

Disaster Recovery Site
Region:
AZ: [✓ AZ3] | AZ2
Network: vpc-444f-cc-wfs
If no desired VPCs are available, go to the VPC console and create one. Create VPC

Table 2-1 Parameter description

Parameter	Description	Example Value
Type	Type of the replica pair The supported types are **IDC-to-cloud**, **Cross-region** and **Cross-AZ**.	Cross-AZ

Parameter		Description	Example Value
Scenario		Select the replication scenario you want to set up. Supported scenarios are: **H2C** (HCS Online DR to the public cloud) and **V2C** (VMware DR to the public cloud). **NOTE** This field shows up only when you are creating an IDC-to-cloud replica pair.	H2C
Name		Name of the replica pair The name can contain letters, digits, underscores (_), hyphens (-), or periods (.), can be no more than 64 characters long, and cannot contain spaces.	Site-replication-001
Production Site **NOTE** You only need to configure the production site when creating a cross-region or cross-AZ replica pair.	Region	Region where the production site resides **NOTE** You only need to select a region when creating a cross-region replica pair.	-
	AZ	AZ where the production site servers reside **NOTE** You only need to select an AZ when creating a cross-region or cross-AZ replica pair.	AZ1
	Network	VPC where the production site servers reside	VPC01
Disaster Recovery Site	Region	Region where the disaster recovery site resides Select the region you selected when you set up the disaster recovery network. For details, see **Preparation: Set Up a Disaster Recovery Network on the Cloud**. **NOTE** You only need to select a region when creating an IDC-to-cloud or a cross-region replica pair.	-
	AZ	AZ where the disaster recovery site servers reside	AZ2
	Network	VPC where the disaster recovery site servers reside	VPC02

----End

2.1.2 Changing the Name of a Replica Pair

Scenarios

You can change the name of an existing replica pair.

Procedure

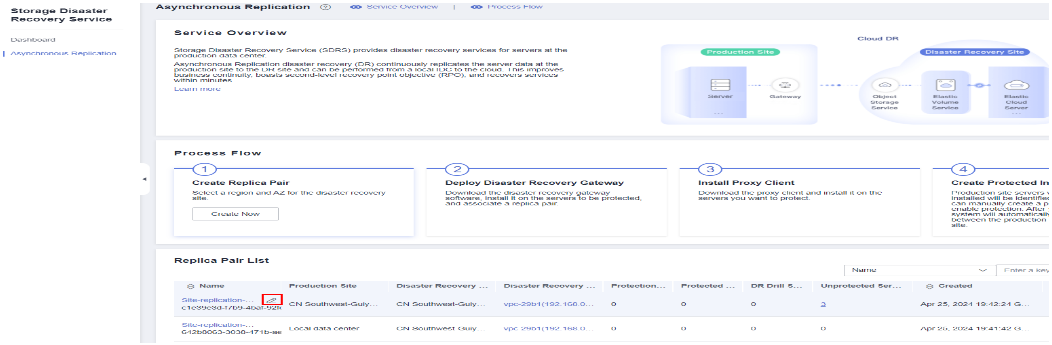
Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the replica pair list, locate the replica pair you want to change its name, and hover over its name.

Figure 2-5 Replica Pair List



Storage Disaster Recovery Service

Dashboard

Asynchronous Replication

Asynchronous Replication | Service Overview | Process Flow

Service Overview

Storage Disaster Recovery Service (SDRS) provides disaster recovery services for servers at the production data center.

Asynchronous Replication disaster recovery (DR) continuously replicates the server data at the production site to the DR site and can be performed from a local IDC to the cloud. This improves business continuity, boasts second-level recovery point objective (RPO), and recovers services within minutes.

Learn more

Process Flow

1 Create Replica Pair
Select a region and AZ for the disaster recovery site.
Create Now

2 Deploy Disaster Recovery Gateway
Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.

3 Install Proxy Client
Download the proxy client and install it on the servers you want to protect.

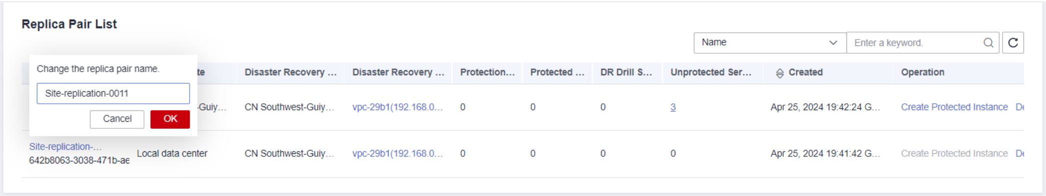
4 Create Protected In
Production site servers installed will be identifie can manually create a p enable protection. After system will automaticall between the production site.

Replica Pair List

Name | Enter a key

Name	Production Site	Disaster Recovery ...	Disaster Recovery ...	Protection...	Protected ...	DR Drill S...	Unprotected Ser...	Created
Site-replication-... c1e39e3d-f7b9-4baf-92f(	CN Southwest-Guiy...	CN Southwest-Guiy...	vpc-29b1(192.168.0...	0	0	0	3	Apr 25, 2024 19:42:24 G...
Site-replication-... 642b8063-3038-471b-ae	Local data center	CN Southwest-Guiy...	vpc-29b1(192.168.0...	0	0	0	0	Apr 25, 2024 19:41:42 G...

Step 4 Click the pencil icon. In the displayed dialog box, enter a new name.



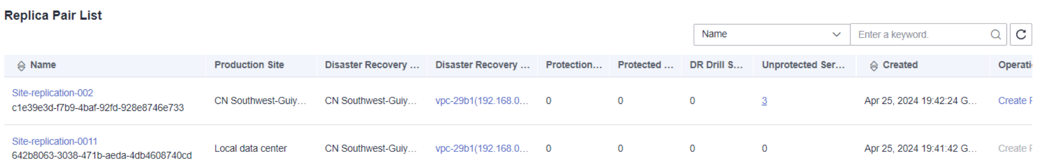
Replica Pair List

Name | Enter a keyword.

Change the replica pair name.
Site-replication-0011
Cancel | OK

...te	Disaster Recovery ...	Disaster Recovery ...	Protection...	Protected ...	DR Drill S...	Unprotected Ser...	Created	Operation
-Guiy...	CN Southwest-Guiy...	vpc-29b1(192.168.0...	0	0	0	3	Apr 25, 2024 19:42:24 G...	Create Protected Instance De
Site-replication-... 642b8063-3038-471b-ae Local data center	CN Southwest-Guiy...	vpc-29b1(192.168.0...	0	0	0	0	Apr 25, 2024 19:41:42 G...	Create Protected Instance De

Step 5 Click **OK**.



Replica Pair List

Name | Enter a keyword.

Name	Production Site	Disaster Recovery ...	Disaster Recovery ...	Protection...	Protected ...	DR Drill S...	Unprotected Ser...	Created	Operati
Site-replication-002 c1e39e3d-f7b9-4baf-92fd-928e8746e733	CN Southwest-Guiy...	CN Southwest-Guiy...	vpc-29b1(192.168.0...	0	0	0	3	Apr 25, 2024 19:42:24 G...	Create F
Site-replication-0011 642b8063-3038-471b-aeda-4db4608740cd	Local data center	CN Southwest-Guiy...	vpc-29b1(192.168.0...	0	0	0	0	Apr 25, 2024 19:41:42 G...	Create F

----End

2.1.3 Deleting a Replica Pair

Scenarios

You can delete replica pairs that are no longer required to release resources.

Prerequisites

The replica pair does not contain any drill resource, protection group or protected instance.

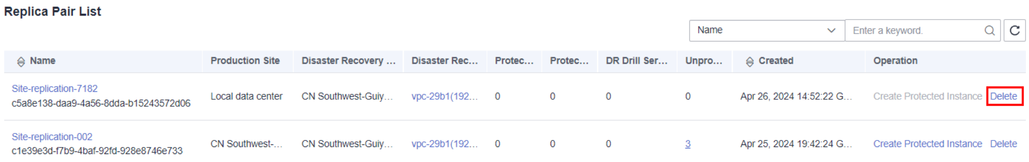
Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

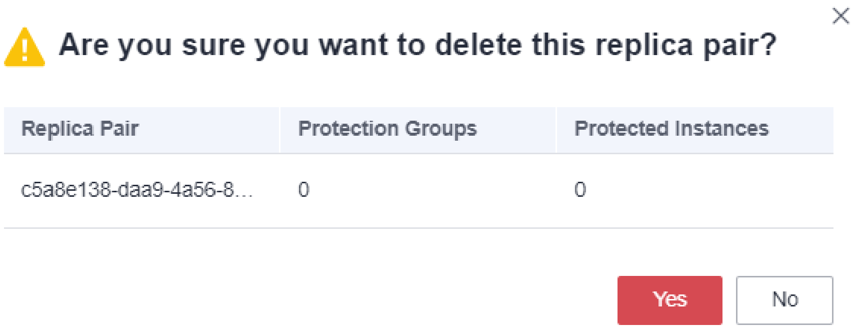
Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair you want to delete and click **Delete** in the **Operation** column.



Replica Pair List

Name	Production Site	Disaster Recovery ...	Disaster Rec...	Protec...	Protec...	DR Drill Ser...	Unpro...	Created	Operation
Site-replication-7182 c5a8e138-daa9-4a56-8dda-b15243572d06	Local data center	CN Southwest-Guiy...	vpc-29b1(192...	0	0	0	0	Apr 26, 2024 14:52:22 G...	Create Protected Instance Delete
Site-replication-002 c1e39e3d-f7b9-4baf-92fd-928e8746e733	CN Southwest-...	CN Southwest-Guiy...	vpc-29b1(192...	0	0	0	3	Apr 25, 2024 19:42:24 G...	Create Protected Instance Delete

In the displayed dialog box, click **Yes**.



Are you sure you want to delete this replica pair?

Replica Pair	Protection Groups	Protected Instances
c5a8e138-daa9-4a56-8...	0	0

----End

2.2 Managing a Protection Group

2.2.1 Creating a Protection Group

Scenarios

In a replica pair, you can create a protection group and create protected instances in this group.

Procedure

Step 1 Log in to the management console.

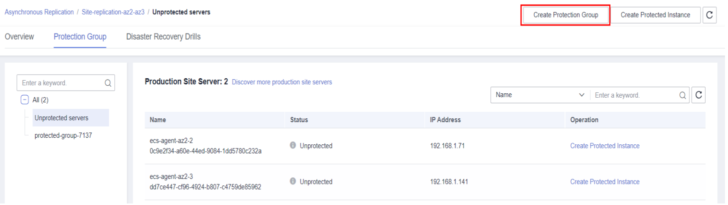
Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair in which you want to create protection groups and click the number in the **Protection Groups** column.

The **Protection Groups** tab page is displayed.

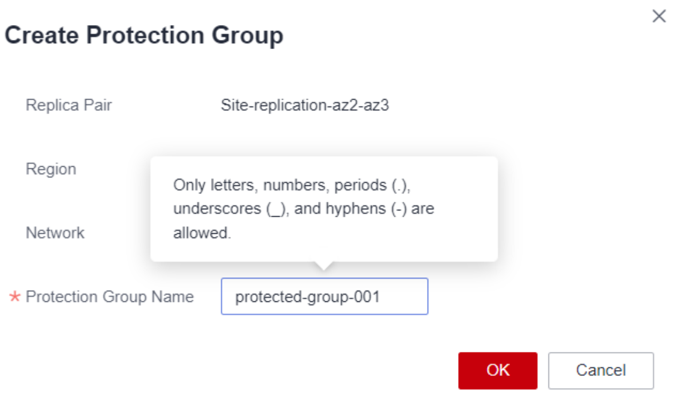
Step 4 In the upper right corner of the page, click **Create Protection Group**.



Production Site Server: 2 Discover more production site servers

Name	Status	IP Address	Operation
ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd5780c232a	Unprotected	192.168.1.71	Create Protected Instance
ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759de85962	Unprotected	192.168.1.141	Create Protected Instance

Step 5 On the displayed **Create Protection Group** page, enter a protection group name and click **OK**.



Create Protection Group

Replica Pair Site-replication-az2-az3

Region

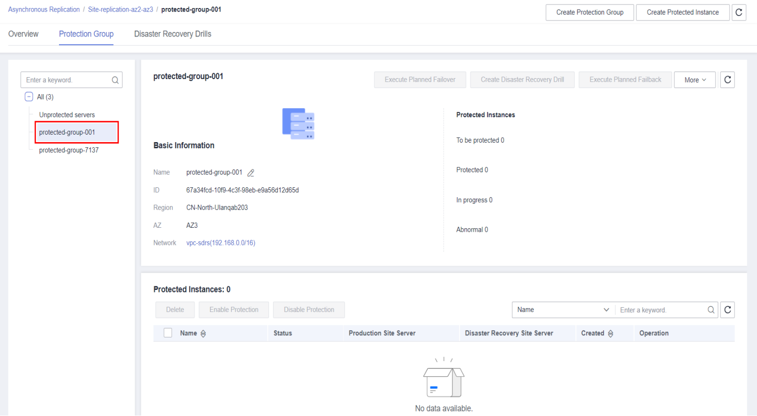
Network

Only letters, numbers, periods (.), underscores (_), and hyphens (-) are allowed.

* Protection Group Name protected-group-001

The name can contain letters, digits, underscores (_), hyphens (-), or periods (.), can be no more than 64 characters long, and cannot contain spaces.

Step 6 Manage the protection group on the **Protection Groups** tab page.



protected-group-001

Basic Information

Name protected-group-001

ID 67a34fcd-10f9-4c3f-98eb-e9a56d12d65d

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 0

Protected 0

In progress 0

Abnormal 0

Protected Instances: 0

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation

No data available.

----End

2.2.2 Enabling Protection

Scenarios

You can enable protection for all resources in a protection group.

After protection is enabled, data synchronization starts for all protected instances that meet the prerequisites in this group.

Prerequisites

- The protection group contains protected instances.
- The status of protected instances in the protection group is **Pending protection** or **Enabling protection failed**.

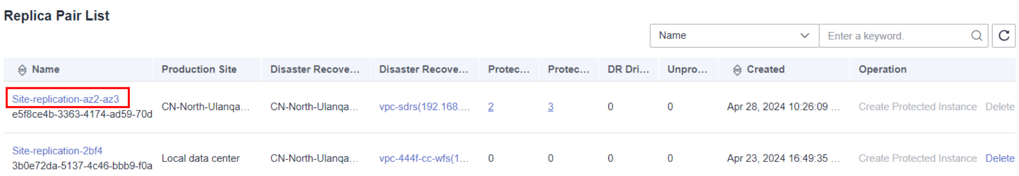
Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the replica pair list, locate the replica pair you want to operate and click its name to go to the **Overview** page.

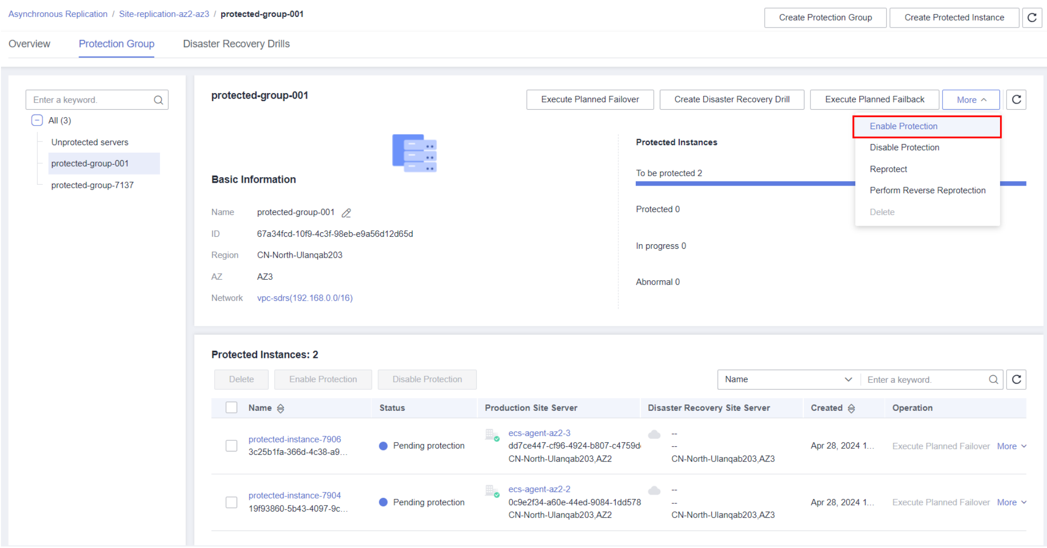


Replica Pair List

Name	Production Site	Disaster Recove...	Disaster Recove...	Protec...	Protec...	DR Dri...	Unpro...	Created	Operation
Site-replication-az2-az3 e5f8ce4b-3363-4174-ad59-70d	CN-North-Ulanqa...	CN-North-Ulanqa...	vpc-sdrs(192.168....	2	3	0	0	Apr 28, 2024 10:26:09 ...	Create Protected Instance Delete
Site-replication-2bf4 3b0e72da-5137-4c46-bbb9-f0a	Local data center	CN-North-Ulanqa...	vpc-444f-cc-wfs(1...	0	0	0	0	Apr 23, 2024 16:49:35 ...	Create Protected Instance Delete

Step 4 Click the **Protection Groups** tab and then select the desired protection group on the left to view the protection group details.

Step 5 In the upper right corner of the basic information area, choose **More** > **Enable Protection**.



protected-group-001

Basic Information

Name protected-group-001

ID 67a34fcd-10f9-4c3f-98eb-e9a56d12d65d

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 2

Protected 0

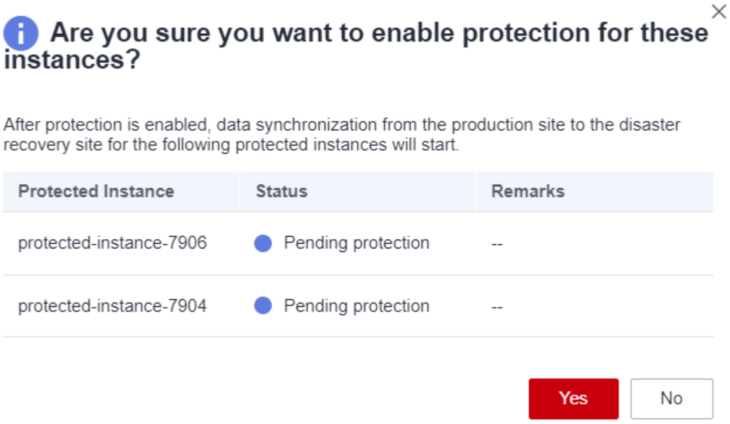
In progress 0

Abnormal 0

Protected Instances: 2

□	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-7906 3c25b1fa-366d-4c38-a9...	● Pending protection	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
□	protected-instance-7904 19f93860-5b43-4097-9c...	● Pending protection	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

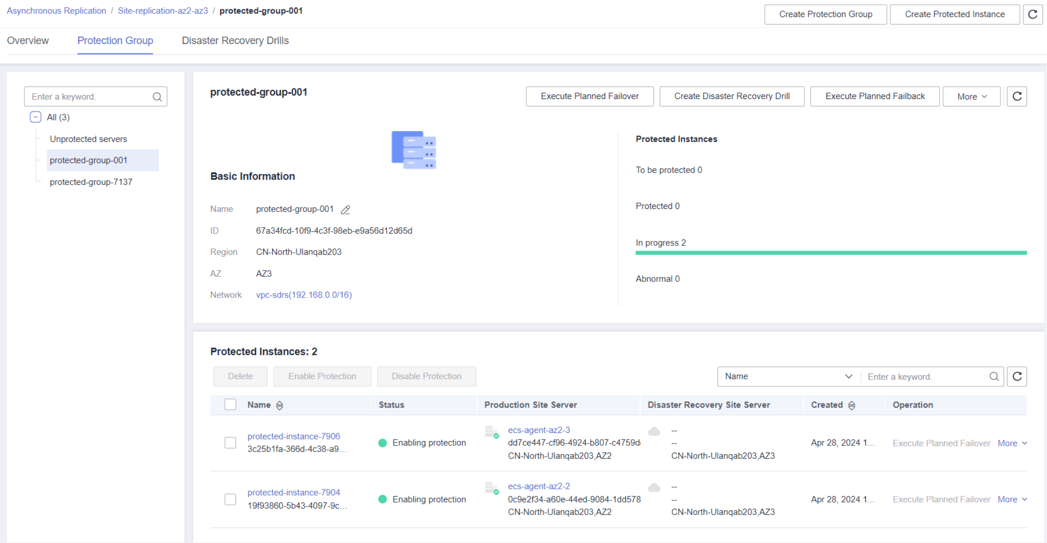
Step 6 In the displayed dialog box, confirm the protected instance information and click **Yes** to enable protection. The protected instance status changes to **Enabling protection**.



Are you sure you want to enable protection for these instances?

After protection is enabled, data synchronization from the production site to the disaster recovery site for the following protected instances will start.

Protected Instance	Status	Remarks
protected-instance-7906	● Pending protection	--
protected-instance-7904	● Pending protection	--



protected-group-001

Basic Information

Name protected-group-001

ID 67a34fcd-10f9-4c3f-98eb-e9a56d12d65d

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 0

Protected 0

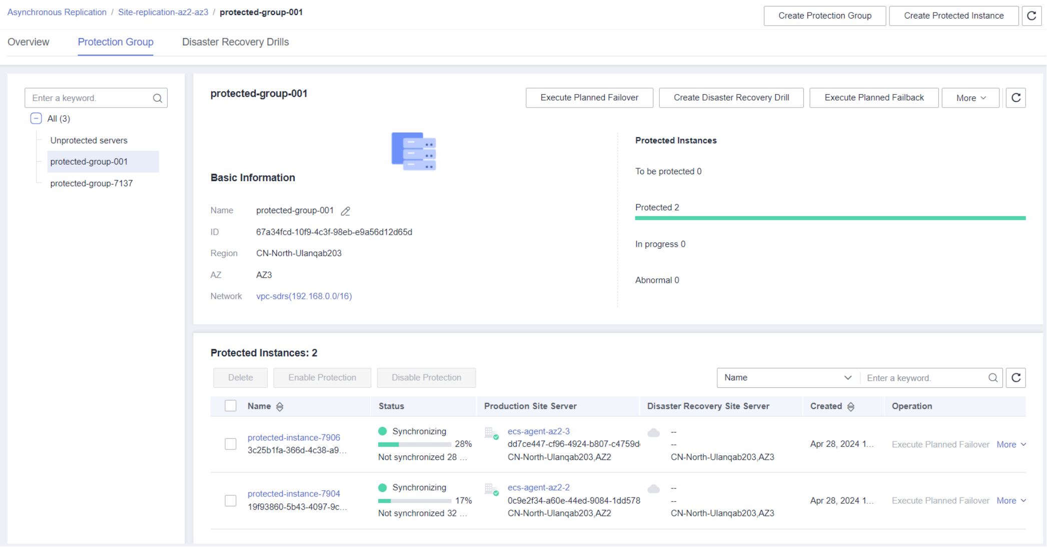
In progress 2

Abnormal 0

Protected Instances: 2

□	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-7906 3c25b1fa-366d-4c38-a9...	● Enabling protection	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
□	protected-instance-7904 19f93860-5b43-4097-9c...	● Enabling protection	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

Step 7 After protection is enabled, the protected instance status changes to **Synchronizing**, indicating that differential data is being synchronized.



protected-group-001

Basic Information

Name protected-group-001

ID 67a34fcd-10f9-4c3f-98eb-e9a56d12d65d

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 0

Protected 2

In progress 0

Abnormal 0

Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Synchronizing 28% Not synchronized 28 ...	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Synchronizing 17% Not synchronized 32 ...	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

NOTE

After protection is enabled, differential data is read from disks and synchronized to the disaster recovery site. During this period, the disk read bandwidth increases, and services may be affected, so you are advised to enable protection during off-peak hours.

----End

2.2.3 Disabling Protection

Scenarios

You can disable protection for all resources in a protection group.

After protection is disabled, data synchronization stops for all protected instances that meet the prerequisites in this group.

As data synchronization uses service resources (disk, CPU, and memory) and may affect production services, you can disable protection to stop data synchronization.

Prerequisites

- The protection group contains protected instances.
- The status of protected instances in the protection group is **Synchronization finished**, **Synchronizing**, or **Disabling protection failed**.
- Protected instance services are running at the production site.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

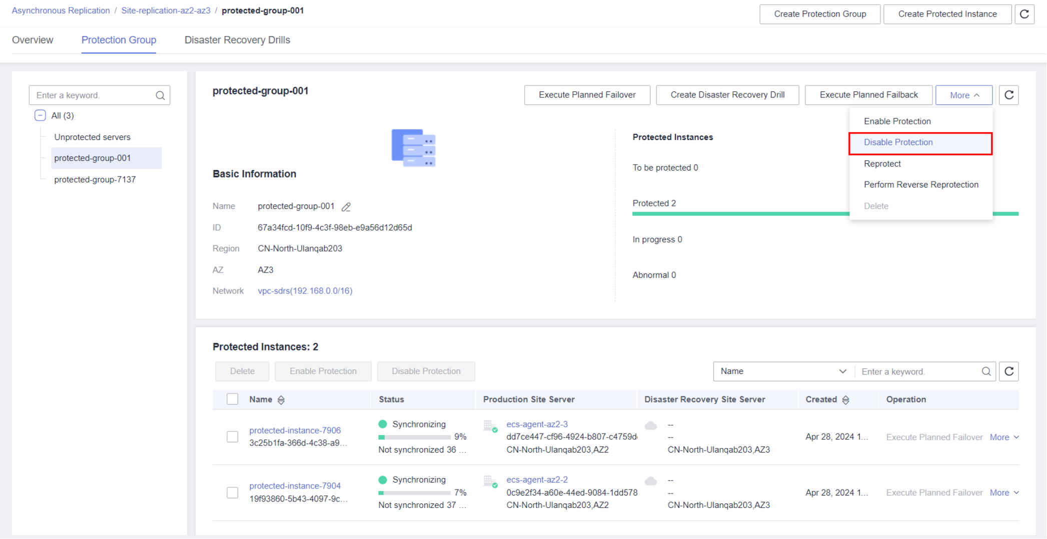
Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protection group you want to disable protection and click the number in the **Protection Groups** column.

The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the upper right corner of the basic information area, choose **More** > **Disable Protection**.



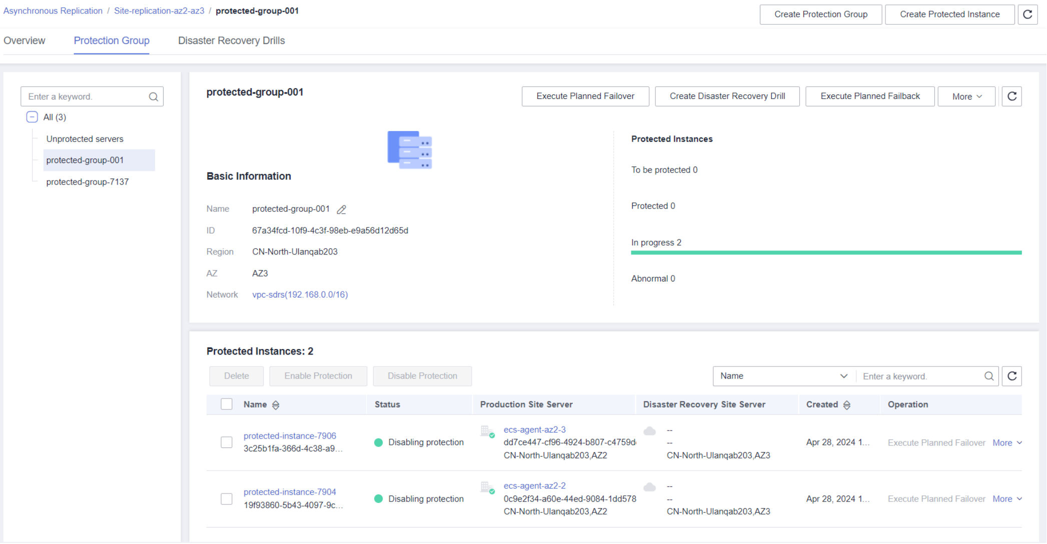
Name	protected-group-001
ID	67a34fcd-10f9-4c3f-98eb-e9a56d12d65d
Region	CN-North-Ulanqab203
AZ	AZ3
Network	vpc-sdrs(192.168.0.0/16)

To be protected 0
Protected 2
In progress 0
Abnormal 0

Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Synchronizing 9% Not synchronized 36 ...	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Synchronizing 7% Not synchronized 37 ...	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

Step 6 In the displayed dialog box, confirm the protected instance information and click **Yes** to disable protection. The protected instance status changes to **Disabling protection**.



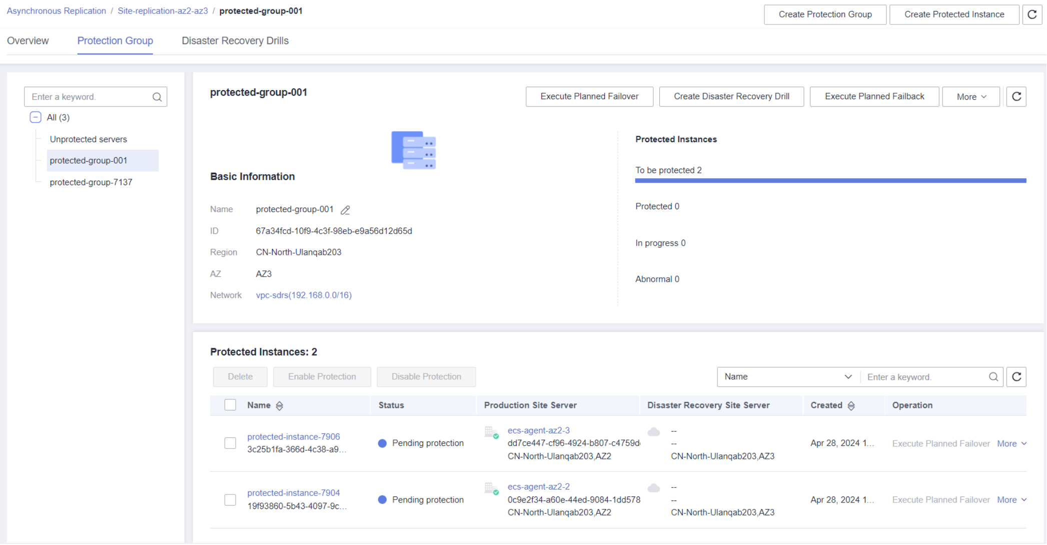
Name	protected-group-001
ID	67a34fcd-10f9-4c3f-98eb-e9a56d12d65d
Region	CN-North-Ulanqab203
AZ	AZ3
Network	vpc-sdrs(192.168.0.0/16)

To be protected 0
Protected 0
In progress 2
Abnormal 0

Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Disabling protection	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Disabling protection	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

Step 7 After protection is disabled, the protected instance status changes to **Pending protection**.



protected-group-001

Basic Information

Name protected-group-001

ID 67a34fcd-10f9-4c3f-98eb-e9a56d12d65d

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 2

Protected 0

In progress 0

Abnormal 0

Protected Instances: 2

□	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-7906 3c25b1fa-366d-4c38-a9...	● Pending protection	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
□	protected-instance-7904 19f93860-5b43-4097-9c...	● Pending protection	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

NOTE

After protection is disabled, the agent still records differential data.

----End

2.2.4 Performing a Failover

Scenarios

Disaster recovery site servers are created using the most current data and billed based on the server billing standards. If servers are still running during a failover, the system synchronizes all the server data before failover is performed to the disaster recovery site servers. Data written to the servers during the failover may not be synchronized to the disaster recovery site. If one of the servers to be failed over fails, data on the server may fail to be synchronized and some data may be lost.

After a failover, data is not automatically synchronized from the disaster recovery site to the production site, and protection is disabled for protected instances. To start data synchronization from the disaster recovery site to the production site, perform a reverse reprotection.

NOTICE

- Failover is a high-risk operation. After a failover, services are started at the disaster recovery site. At this time, you must ensure that production site services are stopped. Otherwise, services may be conflicted or interrupted and data may be damaged because both sites are providing services. If you just want to verify and analyze the disaster recovery site data, perform disaster recovery drills instead.
- During a failover in a V2C scenario, an ECS used for system conversion will be created, with a name suffix **VMwareToCloud**. Do not perform any operation on this ECS. Or, the failover may fail. This ECS will be automatically deleted after the failover is complete.
- If NIC switchover is enabled, after a failover, SDRS automatically stops the production site server and changes the server status to **Planned stop**. If NIC switchover is disabled, the production site server status remains unchanged before and after a failover.
- After a failover, the production site server stops providing services. Or, new data will be overwritten after a reverse synchronization.

Prerequisites

- The protection group contains protected instances.
- Initial synchronization is completed for all the protected instances in the protection group, and the status of protected instances is **Synchronization finished** or **Failover failed**.
- Protected instance services are running at the production site.
- All services on production site servers are stopped, and all data has been flushed to disks.

Precautions

During a failover, a primary NIC is configured for each disaster recovery site server. If a production site server uses a secondary NIC, you need to manually bind a secondary NIC for the corresponding disaster recovery site server on the server details page.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protection group you want to perform a failover and click the number in the **Protection Groups** column.

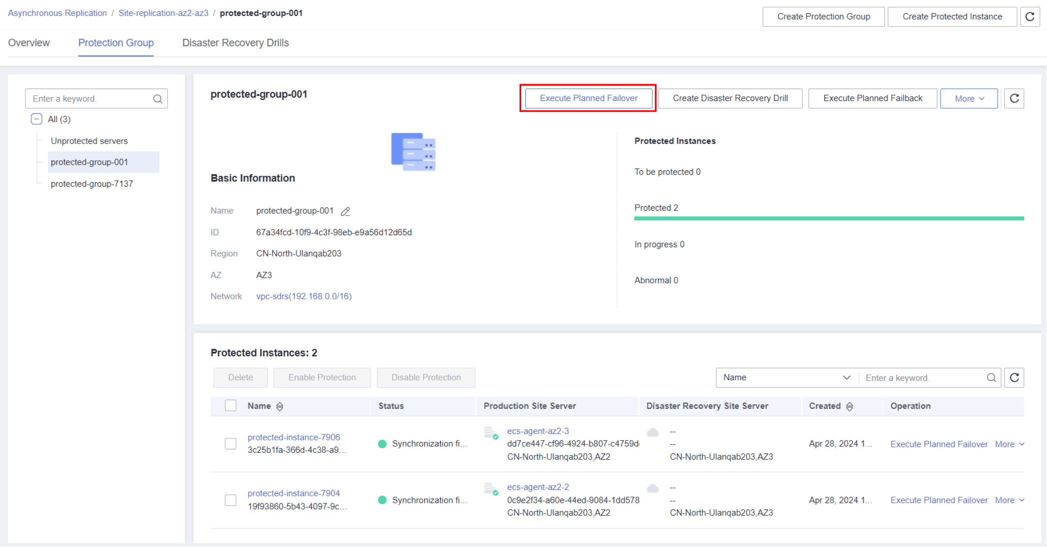
The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the upper right corner of the basic information area, click **Execute Failover**.

The **Execute Failover** page is displayed.



protected-group-001

Basic Information

Name	protected-group-001
ID	67a34fcd-10f9-4c3f-98eb-e9a56d12d65d
Region	CN-North-Ulanqab203
AZ	AZ3
Network	vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 0

Protected 2

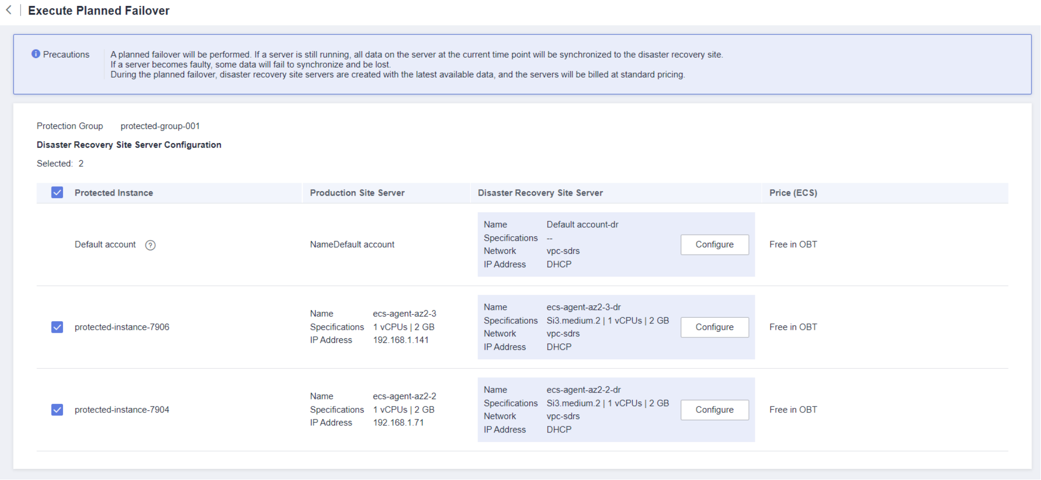
In progress 0

Abnormal 0

Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Synchronization fi...	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Synchronization fi...	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

Step 6 Configure disaster recovery site servers.



Execute Planned Failover

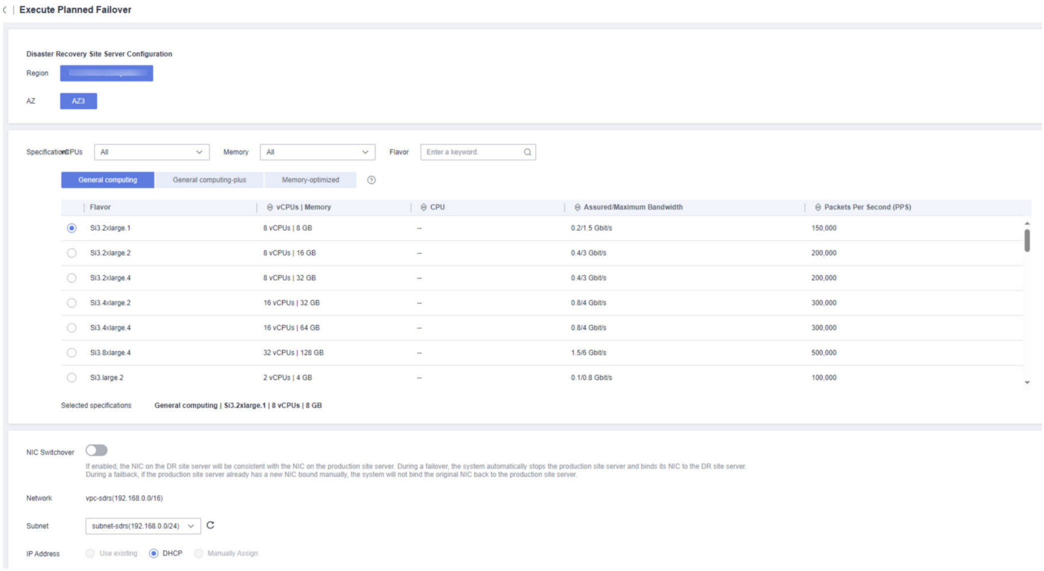
Precautions A planned failover will be performed. If a server is still running, all data on the server at the current time point will be synchronized to the disaster recovery site.
If a server becomes faulty, some data will fail to synchronize and be lost.
During the planned failover, disaster recovery site servers are created with the latest available data, and the servers will be billed at standard pricing.

Protection Group protected-group-001

Disaster Recovery Site Server Configuration

Selected: 2

☑ Protected Instance	Production Site Server	Disaster Recovery Site Server		Price (ECS)
Default account	NameDefault account	Name Default account-dr Specifications -- Network vpc-sdrs IP Address DHCP	Configure	Free in OBT
☑ protected-instance-7906	Name ecs-agent-az2-3 Specifications 1 vCPUs | 2 GB IP Address 192.168.1.141	Name ecs-agent-az2-3-dr Specifications Si3.medium.2 | 1 vCPUs | 2 GB Network vpc-sdrs IP Address DHCP	Configure	Free in OBT
☑ protected-instance-7904	Name ecs-agent-az2-2 Specifications 1 vCPUs | 2 GB IP Address 192.168.1.71	Name ecs-agent-az2-2-dr Specifications Si3.medium.2 | 1 vCPUs | 2 GB Network vpc-sdrs IP Address DHCP	Configure	Free in OBT



Execute Planned Failover

Disaster Recovery Site Server Configuration

Region: [redacted]

AZ: AZ3

Specifications vCPUs: All | Memory: All | Flavor: Enter a keyword.

General computing | General computing-plus | Memory-optimized

	Flavor	vCPUs | Memory	CPU	Assured/Maximum Bandwidth	Packets Per Second (PPS)
●	Si3.2xlarge.1	8 vCPUs | 8 GB	--	0.2/1.5 Gbit/s	150,000
○	Si3.2xlarge.2	8 vCPUs | 16 GB	--	0.4/3 Gbit/s	200,000
○	Si3.2xlarge.4	8 vCPUs | 32 GB	--	0.4/3 Gbit/s	200,000
○	Si3.4xlarge.2	16 vCPUs | 32 GB	--	0.8/4 Gbit/s	300,000
○	Si3.4xlarge.4	16 vCPUs | 64 GB	--	0.8/4 Gbit/s	300,000
○	Si3.8xlarge.4	32 vCPUs | 128 GB	--	1.5/6 Gbit/s	500,000
○	Si3.large.2	2 vCPUs | 4 GB	--	0.1/0.8 Gbit/s	100,000

Selected specifications: **General computing | Si3.2xlarge.1 | 8 vCPUs | 8 GB**

NIC Switchover: ○

If enabled, the NIC on the DR site server will be consistent with the NIC on the production site server. During a failover, the system automatically stops the production site server and binds its NIC to the DR site server. During a failback, if the production site server already has a new NIC bound manually, the system will not bind the original NIC back to the production site server.

Network: vpc-sdrs(192.168.0.0/16)

Subnet: subnet-sdrs(192.168.0.0/24)

IP Address: ○ Use existing ● DHCP ○ Manually Assign

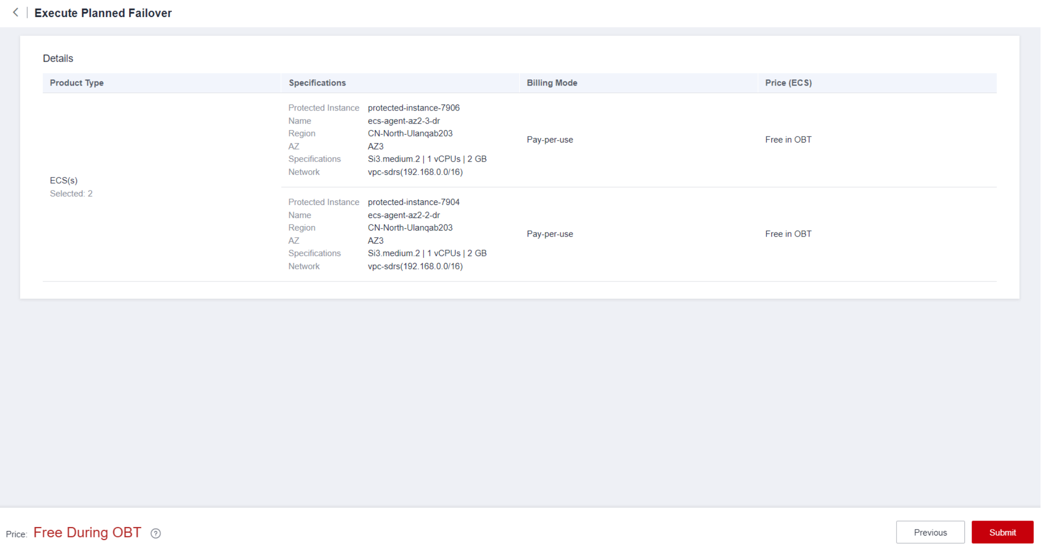
Table 2-2 Parameter description

Parameter	Description	Example Value
Billing Mode	Billing mode of the disaster recovery site server Only pay-per-use billing is supported currently.	Pay-per-use
Specifications	Select the specifications for the disaster recovery site servers.	-
Name	Enter a name for the disaster recovery site server. The name can contain letters, digits, underscores (_), hyphens (-), or periods (.), can be no more than 64 characters long, and cannot contain spaces.	ECS02-DR
NIC Switchover	● If enabled, the NIC on the disaster recovery site server will be consistent with the NIC on the production site server. ● During a failover, the system automatically stops the production site server and binds its NIC to the DR site server. ● During a failback, if the production site server already has a new NIC bound manually, the system will not bind the original NIC back to the production site server. This function is only available when both servers are in the same region.	-
Subnet	Select the subnet where the disaster recovery server resides.	-

Parameter	Description	Example Value
IP Address	Select how the server obtains an IP address. ● **Use existing**: Select this option if the subnet selected is in the same CIDR Block as the production site server. This setting keeps the IP addresses on both servers consistent. ● **DHCP**: IP addresses are automatically assigned by the system. ● **Manually Assign**: Manually specify an IP address. **NOTE** If disaster recovery site servers are configured in a batch, only **DHCP** is available. If disaster recovery site servers are configured individually, all options are available.	-

Step 7 Click **Next**.

Step 8 Confirm the disaster recovery site server information and click **Submit**.



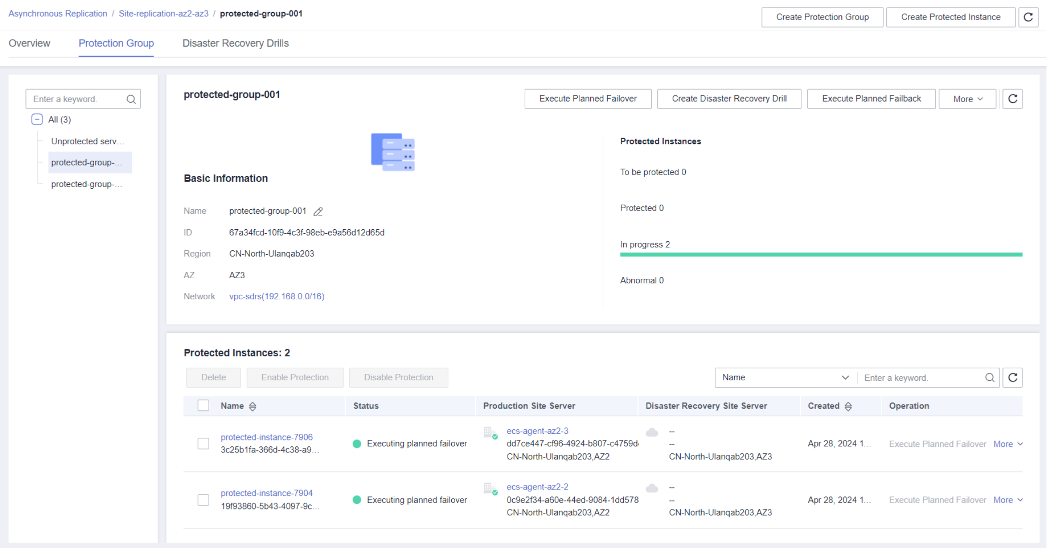
Execute Planned Failover

Details

Product Type	Specifications	Billing Mode	Price (ECS)
ECS(s) Selected: 2	Protected Instance protected-instance-7906 Name ecs-agent-az2-3-dr Region CN-North-Ulanqab203 AZ AZ3 Specifications Si3.medium.2 | 1 vCPUs | 2 GB Network vpc-sdrs(192.168.0.0/16)	Pay-per-use	Free in OBT
	Protected Instance protected-instance-7904 Name ecs-agent-az2-2-dr Region CN-North-Ulanqab203 AZ AZ3 Specifications Si3.medium.2 | 1 vCPUs | 2 GB Network vpc-sdrs(192.168.0.0/16)	Pay-per-use	Free in OBT

Price: Free During OBT

Step 9 The protected instance status changes to **Executing failover**. After the failover is complete, the status changes to **Failover completed**.



Asynchronous Replication / Site-replication-az2-az3 / **protected-group-001**

protected-group-001

Basic Information

Name protected-group-001

ID 67a34fcd-10f9-4c3f-98eb-e9a56d12d65d

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 0

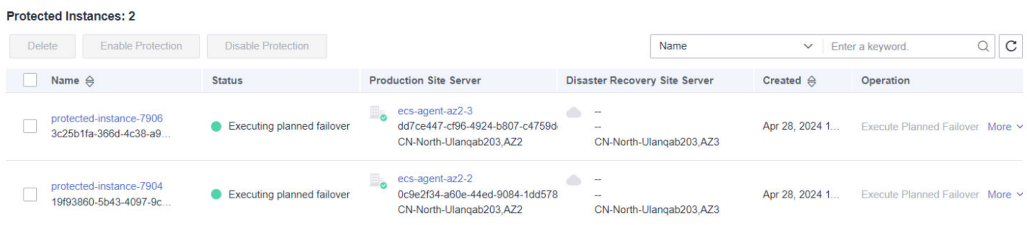
Protected 0

In progress 2

Abnormal 0

Protected Instances: 2

□	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-7906 3c25b1fa-366d-4c38-a9...	● Executing planned failover	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
□	protected-instance-7904 19f93860-5b43-4097-9c...	● Executing planned failover	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More



Protected Instances: 2

□	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-7906 3c25b1fa-366d-4c38-a9...	● Executing planned failover	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
□	protected-instance-7904 19f93860-5b43-4097-9c...	● Executing planned failover	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

----End

2.2.5 Performing a Reverse Reprotection

Scenarios

After a failover, data is not automatically synchronized from the disaster recovery site to the production site, and protection is disabled for protected instances. To start data synchronization from the disaster recovery site to the production site, perform a reverse reprotection.

NOTE

- After you perform a reverse reprotection, the initial data synchronization starts. During the data synchronization, if disaster recovery site servers are restarted, data will be resynchronized until the synchronization is complete.
- During a reverse reprotection, SDRS stops the production site server and changes the server status to **Planned stop**.
- Reverse reprotection overwrites data of production site servers with data of disaster recovery site servers. If there is data written to production site servers after the failover is performed, such data will be overwritten.
- Reverse reprotection is not supported for replica pairs whose **Type** is set to **IDC-to-cloud** and **Scenario** set to **V2C**.

Prerequisites

- Ensure that, in 24.6.0 or an earlier version, you have preconfigured the disaster recovery site servers that you want to perform reverse reprotection according to **Configuring Disaster Recovery Site Servers**.

- In 24.9.0 or a later version, SDRS automatically configures the disaster recovery gateway, so you do not need to preconfigure the disaster recovery site servers before performing a reverse reprotection. In 24.6.0 or an earlier version, ensure that you have upgraded the SDRS software on the gateway and production site servers to 24.9.0 or later and reconfigured the gateway according to **Configuring a Disaster Recovery Gateway**.
- The status of protected instances in the protection group is **Failover completed** or **Reverse reprotection failed**.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protection group you want to perform reverse reprotection and click the number in the **Protection Groups** column.

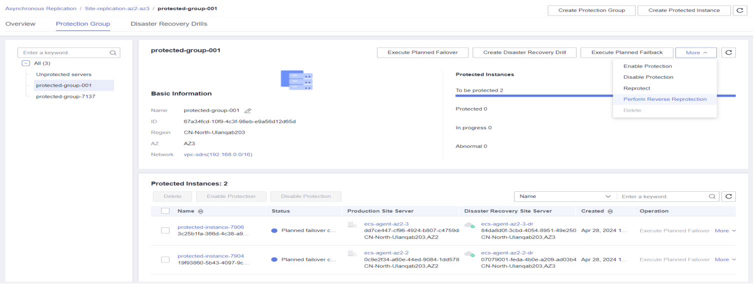
The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the upper right corner of the basic information area, choose **More** > **Perform Reverse Reprotection**.

The **Perform Reverse Reprotection** page is displayed.



protected-group-001

Basic Information

Name protected-group-001

ID 67a34fcd-10f9-4c3f-98eb-e9a56d12d65d

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 2

Protected 0

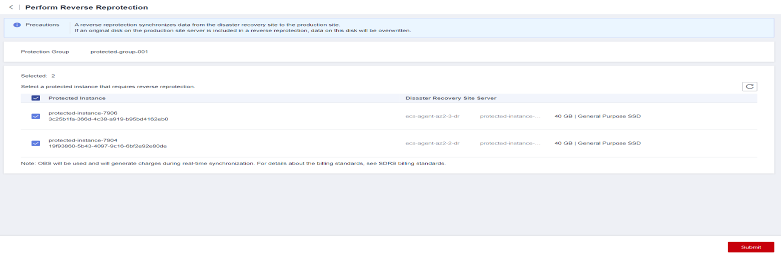
In progress 0

Abnormal 0

Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Planned failover c...	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	ecs-agent-az2-3-dr 84da8d0f-3cbd-4054-8951-49e250 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Planned failover c...	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	ecs-agent-az2-2-dr 07079001-feda-4b0e-a209-ad03b4 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

Step 6 Select the protected instances to be reprotected.



Perform Reverse Reprotection

Precautions A reverse reprotection synchronizes data from the disaster recovery site to the production site.
If an original disk on the production site server is included in a reverse reprotection, data on this disk will be overwritten.

Protection Group protected-group-001

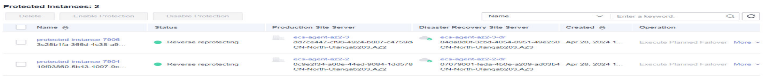
Selected: 2

Select a protected instance that requires reverse reprotection.

☑ Protected Instance	Disaster Recovery Site Server		
☑ protected-instance-7906 3c25b1fa-366d-4c38-a919-b95bd4162eb0	ecs-agent-az2-3-dr	protected-instance-...	40 GB | General Purpose SSD
☑ protected-instance-7904 19f93860-5b43-4097-9c16-6bf2e92e80de	ecs-agent-az2-2-dr	protected-instance-...	40 GB | General Purpose SSD

Note: OBS will be used and will generate charges during real-time synchronization. For details about the billing standards, see SDRS billing standards.

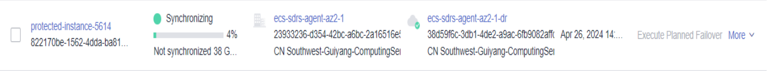
Step 7 Click **Submit**. The protected instance status changes to **Reverse reprotecting**.



Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Reverse reprotecting	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	ecs-agent-az2-3-dr 84da8d0f-3cbd-4054-8951-49e250 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Reverse reprotecting	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	ecs-agent-az2-2-dr 07079001-feda-4b0e-a209-ad03b4 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

Step 8 After 1 to 2 minutes, the protected instance status changes to **Synchronizing**, and the amount of data to be synchronized and estimated remaining time are displayed.



□	protected-instance-5614 822170be-1562-4dda-ba81...	● Synchronizing 4% Not synchronized 38 G...	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e5 CN Southwest-Guiyang-ComputingSe	ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More

----End

2.2.6 Performing a Failback

Scenarios

After a failover, services are running at the disaster recovery site. You can fail back to your production site with a failback.

Failback is a high-risk operation. After a failback, services are started at the production site. At this time, you must ensure that disaster recovery site services are stopped. Otherwise, services may be conflicted or interrupted and data may be damaged because both sites are providing services.

NOTICE

Failback is not supported for replica pairs whose **Type** is set to **IDC-to-cloud** and **Scenario** set to **V2C**.

Prerequisites

- Reverse reprotection is completed for all the protected instances in the protection group, and the status of protected instances is **Synchronization finished** or **Failback failed**.
- Protected instance services are running at the disaster recovery site.
- All services on disaster recovery site servers are stopped, and all data has been flushed to disks.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protection group you want to perform a failback and click the number in the **Protection Groups** column.

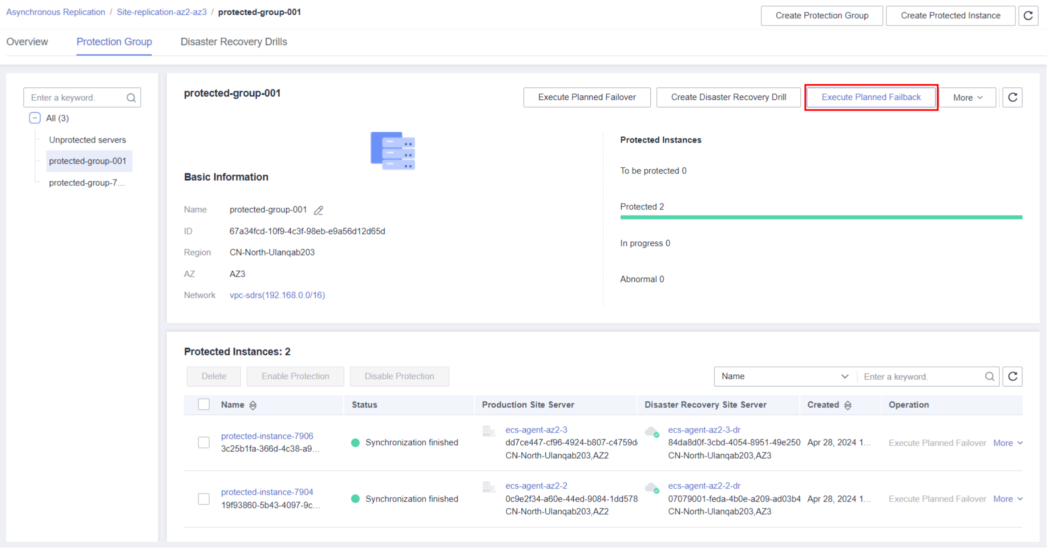
The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the upper right corner of the basic information area, click **Execute Failback**.

The **Execute Failback** page is displayed.



protected-group-001

Basic Information

Name protected-group-001

ID 67a34fcd-10f9-4c3f-98eb-e9a56d12d65d

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 0

Protected 2

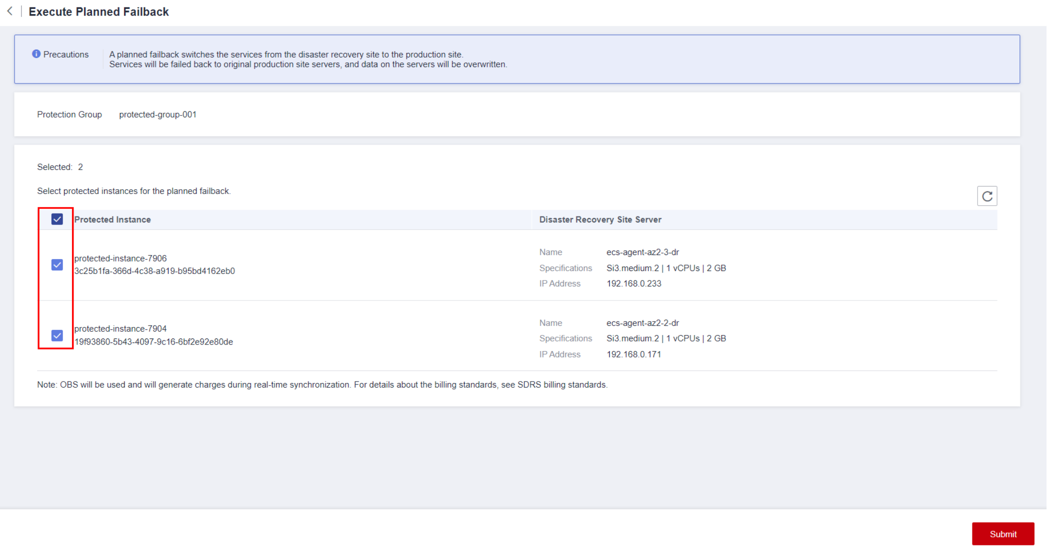
In progress 0

Abnormal 0

Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Synchronization finished	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	ecs-agent-az2-3-dr 84da8d0f-3cbd-4054-8951-49e250 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Synchronization finished	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	ecs-agent-az2-2-dr 07079001-feda-4b0e-a209-ad03b4 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

Step 6 Select protected instances and click **Submit**.


Execute Planned Failback

Precautions A planned failback switches the services from the disaster recovery site to the production site.
Services will be failed back to original production site servers, and data on the servers will be overwritten.

Protection Group protected-group-001

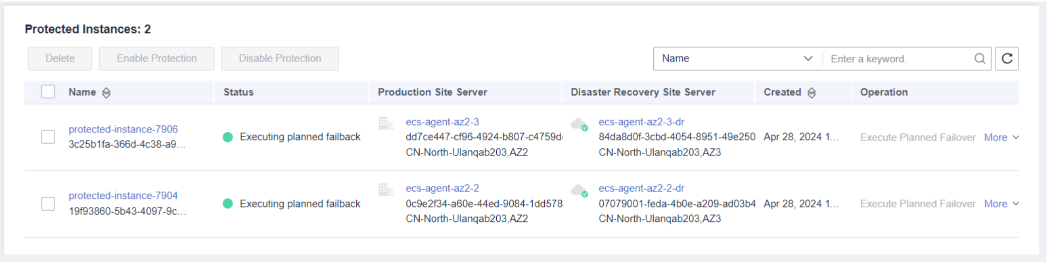
Selected: 2

Select protected instances for the planned failback.

☑ Protected Instance	Disaster Recovery Site Server
☑ protected-instance-7906 3c25b1fa-366d-4c38-a919-b95bd4162eb0	Name ecs-agent-az2-3-dr Specifications Si3.medium.2 | 1 vCPUs | 2 GB IP Address 192.168.0.233
☑ protected-instance-7904 19f93860-5b43-4097-9c16-6bf2e92e80de	Name ecs-agent-az2-2-dr Specifications Si3.medium.2 | 1 vCPUs | 2 GB IP Address 192.168.0.171

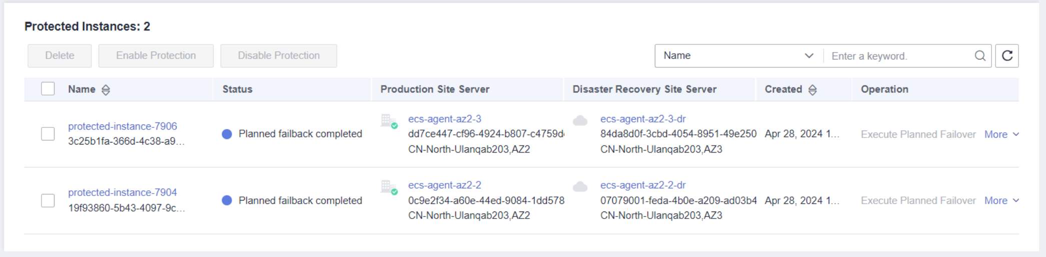
Note: OBS will be used and will generate charges during real-time synchronization. For details about the billing standards, see SDRS billing standards.

Step 7 The protected instance status changes to **Executing failback**.


Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Executing planned failback	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	ecs-agent-az2-3-dr 84da8d0f-3cbd-4054-8951-49e250 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Executing planned failback	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	ecs-agent-az2-2-dr 07079001-feda-4b0e-a209-ad03b4 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

Step 8 After the protected instance status changes to **Failback completed**, the operation is successful.



Protected Instances: 2

	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-7906 3c25b1fa-366d-4c38-a9...	● Planned failback completed	ecs-agent-az2-3 dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	ecs-agent-az2-3-dr 84da8d0f-3cbd-4054-8951-49e250 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
□	protected-instance-7904 19f93860-5b43-4097-9c...	● Planned failback completed	ecs-agent-az2-2 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	ecs-agent-az2-2-dr 07079001-feda-4b0e-a209-ad03b4 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

----End

2.2.7 Reprotecting a Protection Group

Scenarios

After a failback, data is not automatically synchronized from the production site to the disaster recovery site, and protection is disabled for protected instances. To start data synchronization from the production site to the disaster recovery site, reprotect the protection group.

Prerequisites

- Ensure that, in 24.6.0 or an earlier version, you have preconfigured the production site servers you want to reprotect according to **Configuring Production Site Servers**.
- In 24.9.0 or a later version, SDRS automatically configures the disaster recovery gateway, so you do not need to preconfigure the production site servers before performing a reprotection. In 24.6.0 or an earlier version, ensure that you have upgraded the SDRS software on the gateway and production site servers to 24.9.0 or later and reconfigured the gateway according to **Configuring a Disaster Recovery Gateway**.
- The status of protected instances in the protection group is **Failback completed** or **Reprotection failed**.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

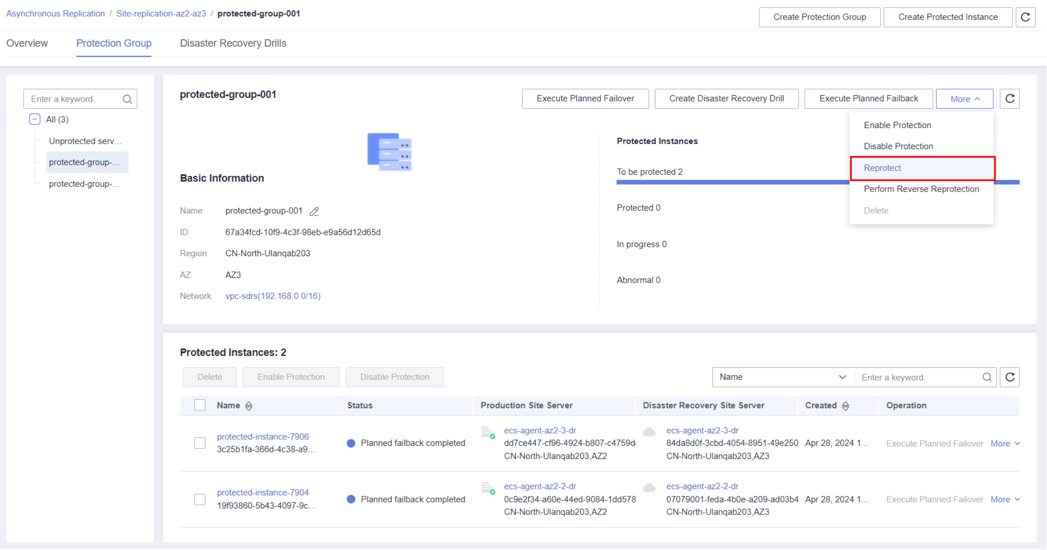
Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protection group you want to reprotect and click the number in the **Protection Groups** column.

The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the upper right corner of the basic information area, choose **More** > **Reprotect**.



Asynchronous Replication / Site-replication-az2-az3 / protected-group-001

protected-group-001

Basic Information

Name	protected-group-001
ID	67a34fcd-10f9-4c3f-98eb-e9a56d12d65d
Region	CN-North-Ulanqab203
AZ	AZ3
Network	vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 2

Protected 0

In progress 0

Abnormal 0

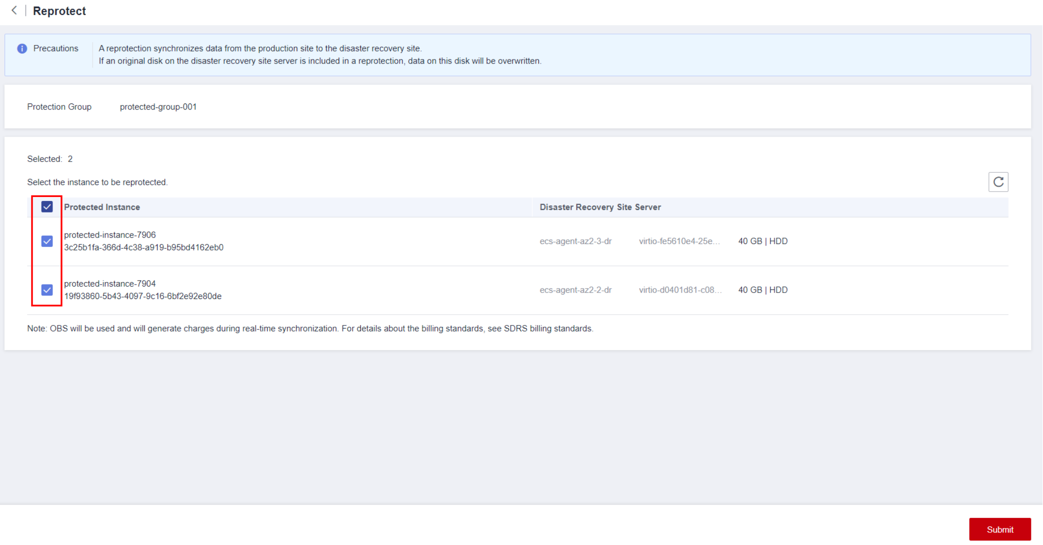
Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Planned failback completed	ecs-agent-az2-3-dr dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	ecs-agent-az2-3-dr 84da8d0f-3cbd-4054-8951-49e250 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Planned failback completed	ecs-agent-az2-2-dr 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	ecs-agent-az2-2-dr 07079001-feda-4b0e-a209-ad03b4 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

NOTE

In 24.9.0 and later versions, SDRS automatically configures the disaster recovery gateway. After a failback, wait for 1 to 2 minutes and then use reprotection.

Step 6 Select protected instances and click **Submit**.



Reprotect

Precautions A reprotection synchronizes data from the production site to the disaster recovery site.
If an original disk on the disaster recovery site server is included in a reprotection, data on this disk will be overwritten.

Protection Group protected-group-001

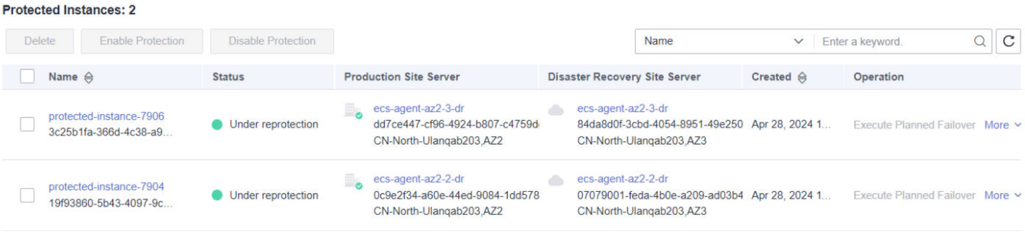
Selected: 2

Select the instance to be reprotected.

☑ Protected Instance	Disaster Recovery Site Server		
☑ protected-instance-7906 3c25b1fa-366d-4c38-a919-b95bd4162eb0	ecs-agent-az2-3-dr	virtio-fe5610e4-25e...	40 GB | HDD
☑ protected-instance-7904 19f93860-5b43-4097-9c16-6bf2e92e80de	ecs-agent-az2-2-dr	virtio-d0401d81-c08...	40 GB | HDD

Note: OBS will be used and will generate charges during real-time synchronization. For details about the billing standards, see SDRS billing standards.

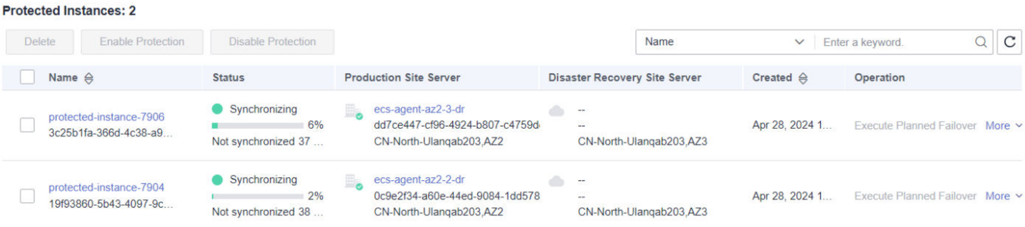
Step 7 The protected instance status changes to **Under reprotection**. Wait until the operation is complete.



Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Under reprotection	ecs-agent-az2-3-dr dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	ecs-agent-az2-3-dr 84da8d0f-3cbd-4054-8951-49e250 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Under reprotection	ecs-agent-az2-2-dr 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	ecs-agent-az2-2-dr 07079001-feda-4b0e-a209-ad03b4 CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

Step 8 After the operation is complete, the protected instance status changes to **Synchronizing**, and the amount of data to be synchronized and estimated remaining time are displayed.



Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Synchronizing 6% Not synchronized 37 ...	ecs-agent-az2-3-dr dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Synchronizing 2% Not synchronized 38 ...	ecs-agent-az2-2-dr 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

NOTE

After the failback is successful, disaster recovery site servers will be automatically deleted.

----End

2.2.8 Creating a Disaster Recovery Drill

Scenarios

Disaster recovery drills are used to simulate fault scenarios, formulate recovery plans, and verify whether the plans are applicable and effective. Services are not affected during disaster recovery drills. When a fault occurs, you can use the plans to quickly recover services, thus improving service continuity.

SDRS allows you to run disaster recovery drills in isolated VPCs (different from the disaster recovery site VPC). During a disaster recovery drill, drill servers can be quickly created based on the disk snapshot data.

NOTE

- After drill servers are created, production site servers and drill servers will independently run at the same time, and data will not be synchronized between these servers.
- During a drill, an ECS used for system conversion will be created, with a name suffix **VMwareToCloud**. Do not perform any operation on this ECS. Or, the drill may fail. This ECS will be automatically deleted after the drill is complete.

To guarantee that services can be switched to the disaster recovery site when an outage occurs, it is recommended that you run disaster recovery drills regularly.

Precautions

- If the production site servers of a protection group are added to an enterprise project, the drill servers created will not be automatically added to the enterprise project. Manually add them to the project as needed.
- If the production site servers run Linux and use key pairs for login, the key pair information will not be displayed on the server details page, but login using the key pairs is not affected.
- After a disaster recovery drill is created, modifications made to **Hostname**, **Name**, **Agency**, **ECS Group**, **Security Group**, **Tags**, and **Auto Recovery** of production site servers will not be synchronized to drill servers. Log in to the console and manually make the modifications for the drill servers.
- During a disaster recovery drill, a primary NIC is configured for each disaster recovery site server. If a production site server uses a secondary NIC, you need to manually bind a secondary NIC for the corresponding disaster recovery site server on the server details page.

Prerequisites

- Initial synchronization is completed for all the protected instances in the protection group, and the status of protected instances is **Synchronization finished** or **Disaster recovery drill failed**.
- Protected instance services are running at the production site.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protection group you want to run a disaster recovery drill and click the number in the **Protection Groups** column.

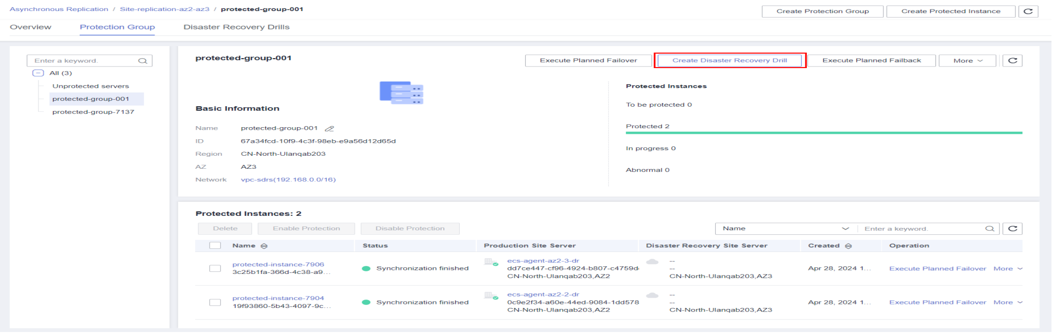
The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the upper right corner of the basic information area, click **Create Disaster Recover Drill**.

Figure 2-6 Protection group drill entry



protected-group-001

Basic Information

Name protected-group-001

ID 67a34fcd-10f9-4c3f-98eb-e9a56d12d65d

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 0

Protected 2

In progress 0

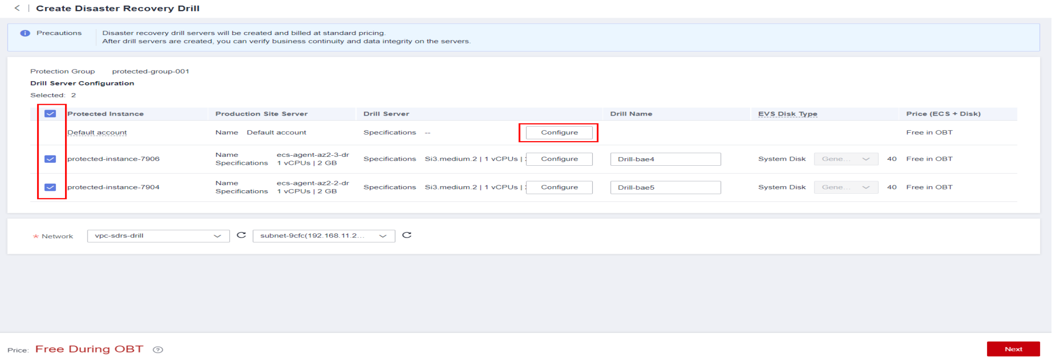
Abnormal 0

Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Synchronization finished	ecs-agent-az2-3-dr dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Synchronization finished	ecs-agent-az2-2-dr 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

Step 6 Configure drill servers.

Figure 2-7 Configuring drill server specifications in a batch



Precautions: Disaster recovery drill servers will be created and billed at standard pricing.
After drill servers are created, you can verify business continuity and data integrity on the servers.

Protection Group protected-group-001

Drill Server Configuration

Selected: 2

☑	Protected Instance	Production Site Server	Drill Server	Drill Name	EVS Disk Type	Price (ECS + Disk)
	Default account	Name Default account	Specifications -- Configure			Free in OBT
☑	protected-instance-7906	Name ecs-agent-az2-3-dr Specifications 1 vCPUs | 2 GB	Specifications Si3.medium.2 | 1 vCPUs | Configure	Drill-bae4	System Disk Gene... 40	Free in OBT
☑	protected-instance-7904	Name ecs-agent-az2-2-dr Specifications 1 vCPUs | 2 GB	Specifications Si3.medium.2 | 1 vCPUs | Configure	Drill-bae5	System Disk Gene... 40	Free in OBT

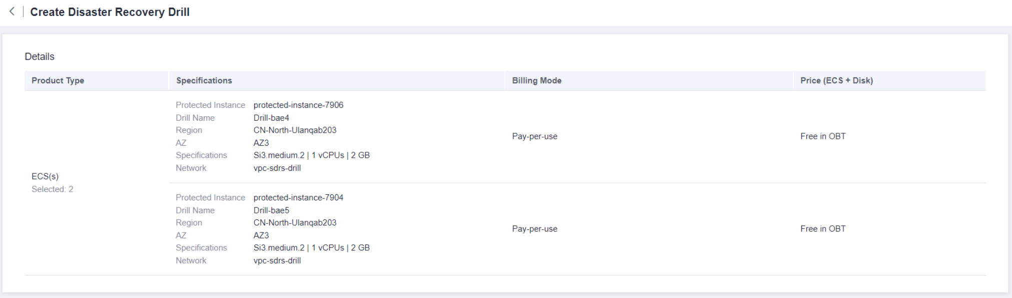
* Network vpc-sdrs-drill subnet-9cfc(192.168.11.2...

Price: Free During OBT

Table 2-3 Parameter description

Parameter	Description	Example Value
Protected Instance	Select all the protected instances you want to perform a disaster recovery drill.	-
Drill Server	Select the drill server specifications. To configure drill server specifications in a batch, select protected instances and click **Configure** in the first row, as shown in **Figure 2-7**.	-
Drill Name	Enter a drill name for each protected instance. The name can contain letters, digits, underscores (_), hyphens (-), or periods (.), can be no more than 64 characters long, and cannot contain spaces.	Drill-ECS02
Network	Select a VPC and subnet for the drill. The drill VPC and the VPC of disaster recovery site servers must be different.	-

Step 7 Click **Next**. On the displayed page, confirm drill information and click **Submit**.



Create Disaster Recovery Drill

Details

Product Type	Specifications	Billing Mode	Price (ECS + Disk)
ECS(s) Selected: 2	Protected Instance protected-instance-7906 Drill Name Drill-bae4 Region CN-North-Ulanqab203 AZ AZ3 Specifications Si3.medium.2 | 1 vCPUs | 2 GB Network vpc-sdrs-drill	Pay-per-use	Free in OBT
	Protected Instance protected-instance-7904 Drill Name Drill-bae5 Region CN-North-Ulanqab203 AZ AZ3 Specifications Si3.medium.2 | 1 vCPUs | 2 GB Network vpc-sdrs-drill	Pay-per-use	Free in OBT

Step 8 After the disaster recovery drill is created, log in to drill servers and check whether services are running properly.

----End

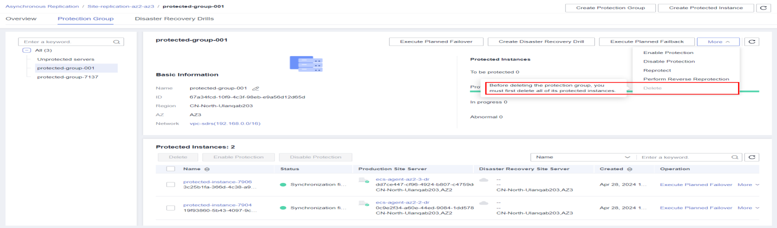
2.2.9 Deleting a Protection Group

Scenarios

You can delete protection groups that are no longer needed to release resources.

Prerequisites

- The protection group contains no protected instances.



protected-group-001

Basic Information

Name protected-group-001

ID 67a34fcd-10f9-4c3f-98eb-e9a56d12d65d

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 0

Before deleting the protection group, you must first delete all of its protected instances.

In progress 0

Abnormal 0

Protected Instances: 2

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-7906 3c25b1fa-366d-4c38-a9...	Synchronization fi...	ecs-agent-az2-3-dr dd7ce447-cf96-4924-b807-c4759d CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More
protected-instance-7904 19f93860-5b43-4097-9c...	Synchronization fi...	ecs-agent-az2-2-dr 0c9e2f34-a60e-44ed-9084-1dd578 CN-North-Ulanqab203,AZ2	-- -- CN-North-Ulanqab203,AZ3	Apr 28, 2024 1...	Execute Planned Failover More

- Disaster recovery drills in the protection group have been deleted.

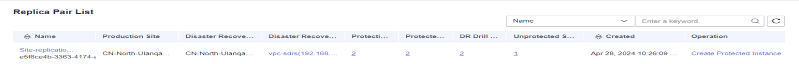
Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair in which you want to delete protection groups and click the number in the **Protection Groups** column.

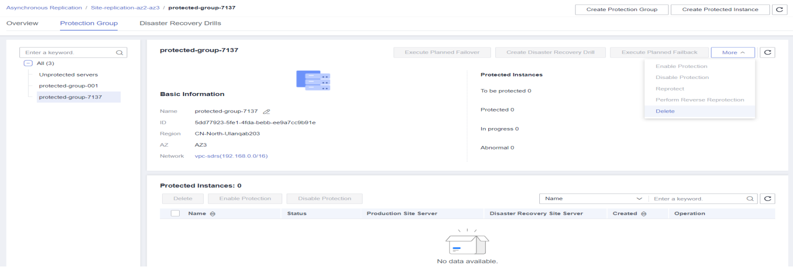


Replica Pair List

Name	Production Site	Disaster Recove...	Disaster Recove...	Protecti...	Protecte...	DR Drill ...	Unprotected S...	Created	Operation
Site-replicatio... e5f8ce4b-3363-4174-a	CN-North-Ulanqa...	CN-North-Ulanqa...	vpc-sdrs(192.168....	2	2	2	1	Apr 28, 2024 10:26:09 ...	Create Protected Instance

Step 4 In the navigation tree, select the target protection group to view its details.

In the upper right corner of the basic information area, choose **More** > **Delete**.



protected-group-7137

Basic Information

Name protected-group-7137

ID 5dd77923-5fe1-4fda-bebb-ee9a7cc9b91e

Region CN-North-Ulanqab203

AZ AZ3

Network vpc-sdrs(192.168.0.0/16)

Protected Instances

To be protected 0

Protected 0

In progress 0

Abnormal 0

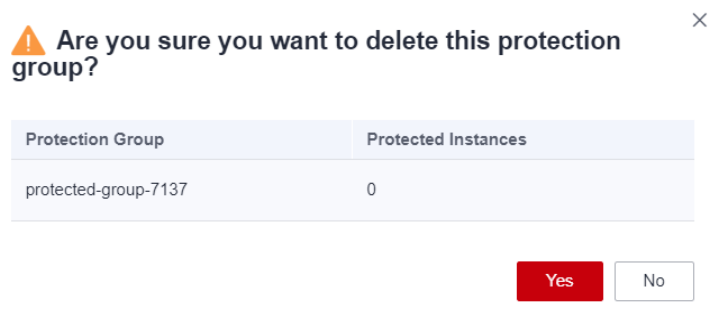
Protected Instances: 0

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation

NOTE

A protection group cannot be deleted if it contains protected instances or disaster recovery drills.

Step 5 In the displayed dialog box, confirm information and click **Yes**.



Are you sure you want to delete this protection group?

Protection Group	Protected Instances
protected-group-7137	0

----End

2.3 Managing Protected Instances

2.3.1 Creating Protected Instances

Scenarios

You can create protected instances for ECSs that require disaster recovery in a specific protection group. If a lot of production site servers become faulty due to force majeure, you can execute a failover to switch services from the production site to disaster recovery site to ensure service continuity.

When you create a protected instance, only disks are created at the disaster recovery site. The disk type can be different, but disk sizes must be the same as those of the production site server disks. After a protected instance is created, protection is automatically enabled until data has been synchronized.

NOTE

When you create a protected instance, the background system automatically creates replication pairs for all the disks on the server, creates disks of the same specifications at the disaster recovery site, and then starts the initial data synchronization.

Initial synchronization occupies the disk read bandwidth, CPU, and memory of the production site server, so you are advised to create protected instances at off-peak hours, or disable protection for them when services are affected and then enable protection at off-peak hours.

Prerequisites

- Production site servers are not used to create protected instances.
- Production site servers are in the same AZ and VPC as the cloud disaster recovery gateway.

  NOTE

  - If you have installed the proxy client on production site servers and then attach and detach disks on them, restart the servers before creating protected instances for them.

Procedure

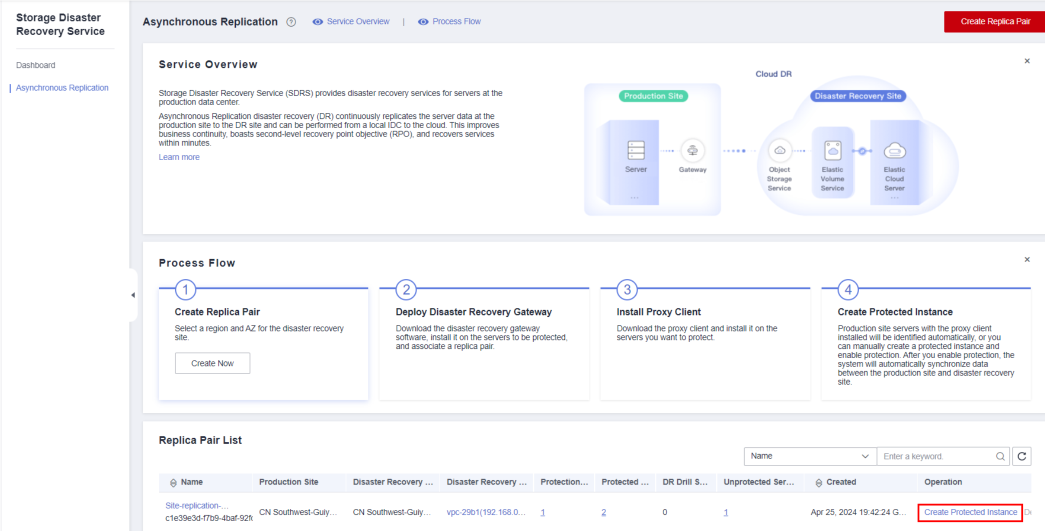
Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair in which you want to create protected instances and click **Create Protected Instance** in the **Operation** column.

The **Create Protected Instance** page is displayed.



Service Overview

Storage Disaster Recovery Service (SDRS) provides disaster recovery services for servers at the production data center.

Asynchronous Replication disaster recovery (DR) continuously replicates the server data at the production site to the DR site and can be performed from a local IDC to the cloud. This improves business continuity, boasts second-level recovery point objective (RPO), and recovers services within minutes.

Learn more

Process Flow

1 Create Replica Pair

Select a region and AZ for the disaster recovery site.

Create Now

2 Deploy Disaster Recovery Gateway

Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.

3 Install Proxy Client

Download the proxy client and install it on the servers you want to protect.

4 Create Protected Instance

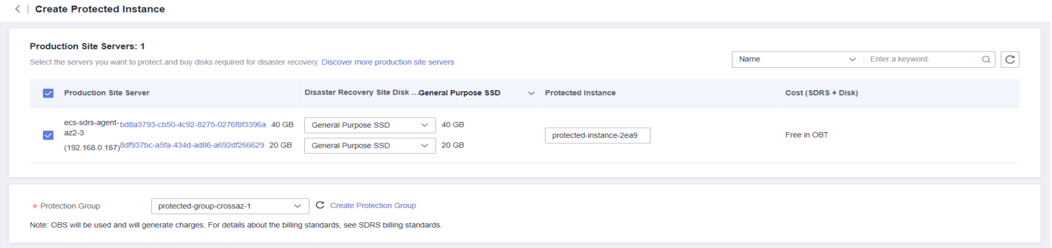
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Replica Pair List

Name | Enter a keyword.

Name	Production Site	Disaster Recovery ...	Disaster Recovery ...	Protection...	Protected ...	DR Drill S...	Unprotected Ser...	Created	Operation
Site-replication-... c1e39e3d-f7b9-4baf-92f(	CN Southwest-Guiy...	CN Southwest-Guiy...	vpc-29b1(192.168.0...	1	2	0	1	Apr 25, 2024 19:42:24 G...	Create Protected Instance De

Step 4 Configure the protected instance information.



Create Protected Instance

Production Site Servers: 1

Select the servers you want to protect and buy disks required for disaster recovery. Discover more production site servers

Name | Enter a keyword.

☑ Production Site Server		Disaster Recovery Site Disk ...General Purpose SSD		Protected Instance	Cost (SDRS + Disk)
☑ ecs-sdrs-agent-az2-3 (192.168.0.187)	bd8a3793-cb50-4c92-8275-0276f8f3396a 40 GB	General Purpose SSD	40 GB	protected-instance-2ea9	Free in OBT
	8df937bc-a5fa-434d-ad86-a692df266629 20 GB	General Purpose SSD	20 GB		

* Protection Group: protected-group-crossaz-1 | Create Protection Group

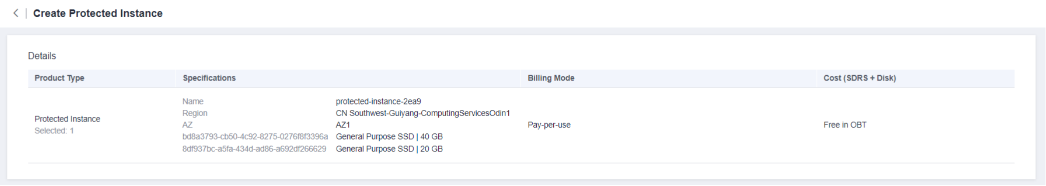
Note: OBS will be used and will generate charges. For details about the billing standards, see SDRS billing standards.

Table 2-4 Parameter description

Parameter	Description	Example Value
Production Site Server	Select production site servers you want to protect.	-
Disaster Recovery Site Disk	Select the disk type for each disaster recovery site disk. **NOTE** For the disaster recovery site servers created, the device type of system disks is VBD, and that of data disks is SCSI.	-
Protected Instance	Enter a name for each protected instance. The name can contain letters, digits, underscores (_), hyphens (-), or periods (.), can be no more than 64 characters long, and cannot contain spaces.	protected-instance-01

Paramete r	Description	Example Value
Protection Group	Select a protection group for the protected instances. If you create protected instances first time ever or the current protection group does not meet your requirements, click **Create Protection Group** to create a new one. It is recommended that you add servers of a specific business to the same protection group. In this case, you can start protection, perform failovers, and run disaster recovery drills for the entire group.	protected-group-01

Step 5 Click **Next**. On the displayed page, confirm the configuration information and click **Submit**.

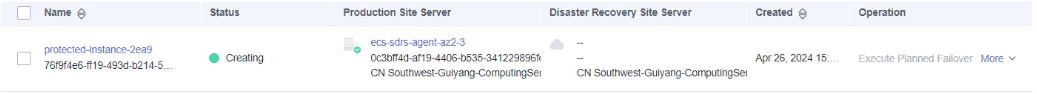


< | Create Protected Instance

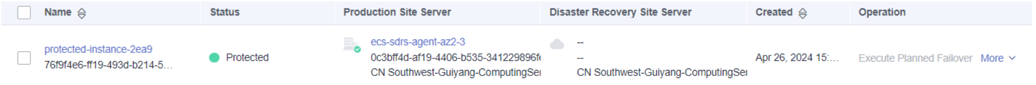
Details

Product Type	Specifications		Billing Mode	Cost (SDRS + Disk)
Protected Instance Selected: 1	Name Region AZ bd8a3793-cb50-4c92-8275-0276f8f3396a 8df937bc-a5fa-434d-ad86-a692df266629	protected-instance-2ea9 CN Southwest-Guiyang-ComputingServicesOdin1 AZ1 General Purpose SSD | 40 GB General Purpose SSD | 20 GB	Pay-per-use	Free in OBT

Step 6 When the protected instance status changes from **Creating** to **Protected**, the protected instance is created successfully created, and the initial data synchronization starts.

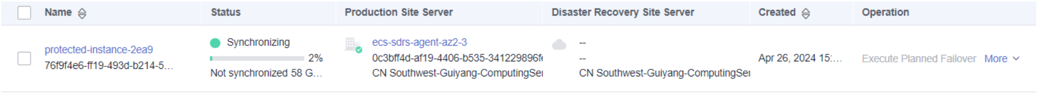


□	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Creating	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More



□	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Protected	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

Step 7 After 1 to 2 minutes, the protected instance status changes to **Synchronizing**, and the amount of data to be synchronized and estimated remaining time are displayed.



□	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Synchronizing 2% Not synchronized 58 G...	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

NOTE

1. An initial synchronization synchronizes all disk data on the servers to disaster recovery site disks. The time required for synchronization varies with the amount of the disk data. The larger the amount of data, the longer the time.
2. The initial synchronization speed is affected by multiple factors, including the service loads, network quality, and network bandwidth on the servers. Normally, the synchronization speed is faster when servers have light loads and high network quality. The synchronization bandwidth of a single instance can reach up to 60 MB/s.
3. The data upload bandwidth displayed on the protected instance page is the bandwidth after data is compressed. This bandwidth is usually smaller than the actual bandwidth.
4. The synchronization progress displayed may restart from 0% if the synchronization is interrupted by a fault or manually disabled and then enabled. This is because the progress of the previous synchronization is not accumulated.

Step 8 When the protected instance status changes from **Synchronization finished** and the **Execute Failover** button is available, the initial synchronization is complete.

----End

2.3.2 Enabling Protection

Scenarios

You can enable protection for a protected instance in a protection group.

After protection is enabled, data synchronization starts for the protected instance.

Prerequisites

The status of the protected instance is **Pending protection** or **Enabling protection failed**.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

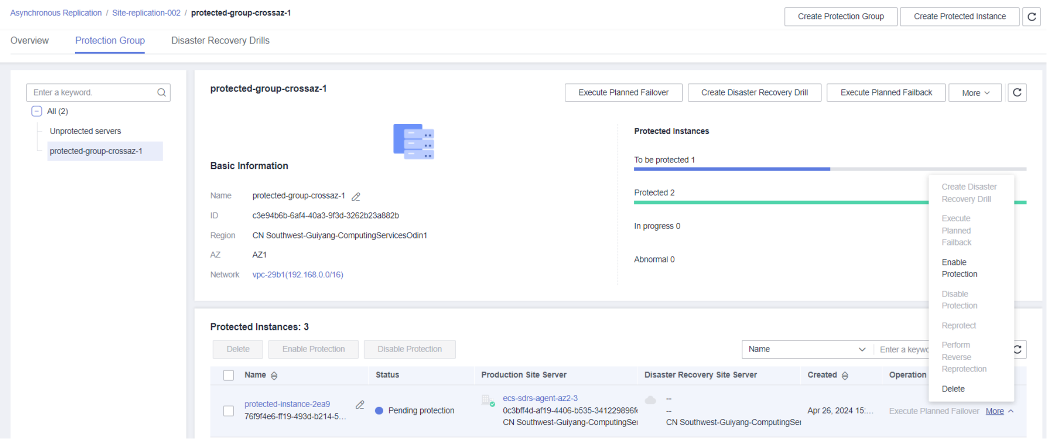
Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protected instance you want to enable protection and click the number in the **Protected Instances** column.

The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the **Protected Instances** area, locate the target protected instance, choose **More** > **Enable Protection** in the **Operation** column.



protected-group-crossaz-1

Basic Information

Name protected-group-crossaz-1

ID c3e94b6b-6af4-40a3-9f3d-3262b23a882b

Region CN Southwest-Guiyang-ComputingServicesOdin1

AZ AZ1

Network vpc-29b1(192.168.0.0/16)

Protected Instances

To be protected 1

Protected 2

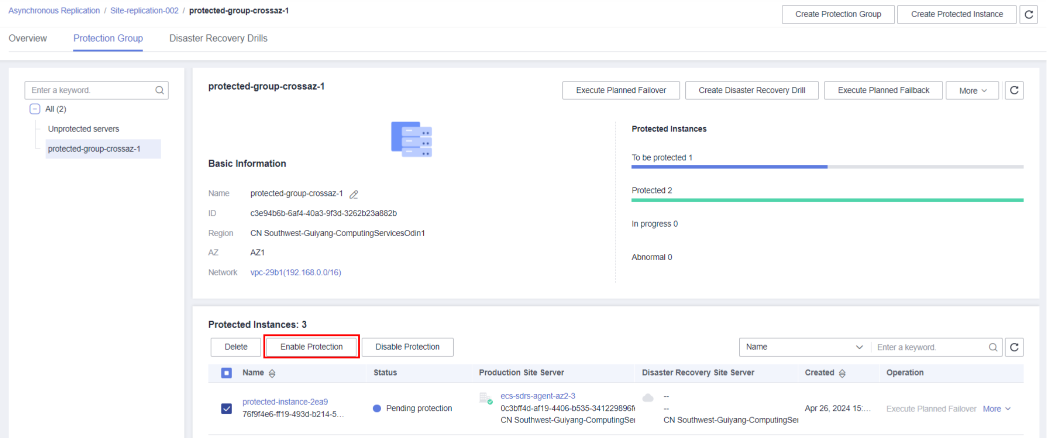
In progress 0

Abnormal 0

Protected Instances: 3

☐ Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
☐ protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Pending protection	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

If you want to enable protection for multiple protected instances, select the desired instances and click **Enable Protection** above the instance list.



protected-group-crossaz-1

Basic Information

Name protected-group-crossaz-1

ID c3e94b6b-6af4-40a3-9f3d-3262b23a882b

Region CN Southwest-Guiyang-ComputingServicesOdin1

AZ AZ1

Network vpc-29b1(192.168.0.0/16)

Protected Instances

To be protected 1

Protected 2

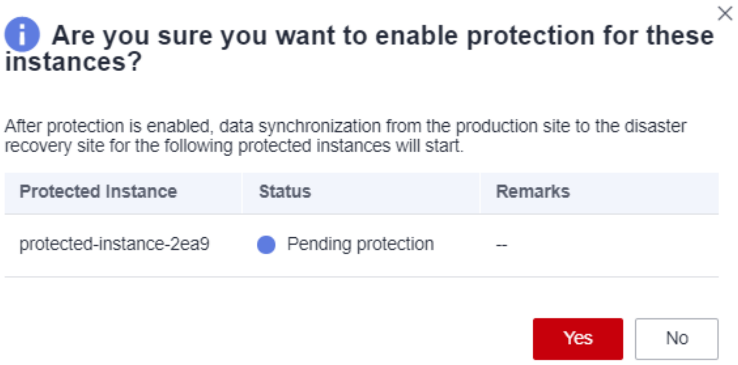
In progress 0

Abnormal 0

Protected Instances: 3

☑ Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
☑ protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Pending protection	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

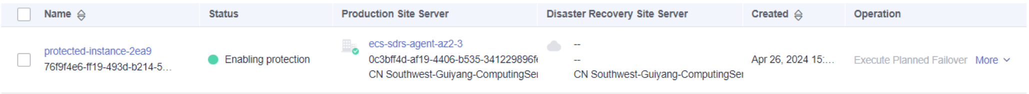
Step 6 In the displayed dialog box, confirm the protected instance information and click **Yes** to enable protection. The protected instance status changes to **Enabling protection**.



Are you sure you want to enable protection for these instances?

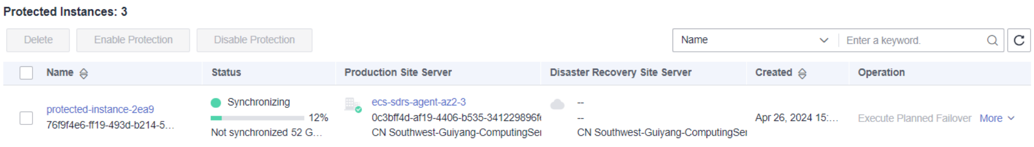
After protection is enabled, data synchronization from the production site to the disaster recovery site for the following protected instances will start.

Protected Instance	Status	Remarks
protected-instance-2ea9	● Pending protection	--



☐ Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
☐ protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Enabling protection	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

Step 7 After protection is enabled, the protected instance status changes to **Synchronizing**, indicating that differential data is being synchronized.



Protected Instances: 3

☐	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
☐	protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	Synchronizing 12% Not synchronized 52 G...	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

NOTE

After protection is enabled, differential data is read from disks and synchronized to the disaster recovery site. During this period, the disk read bandwidth increases, and services may be affected, so you are advised to enable protection during off-peak hours.

----End

2.3.3 Disabling Protection

Scenarios

You can disable protection for a protected instance in a protection group.

After protection is disabled, data synchronization stops for the protected instance.

Prerequisites

- The status of the protected instance is **Synchronization finished**, **Synchronizing**, or **Disabling protection failed**.
- Protected instance services are running at the production site.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

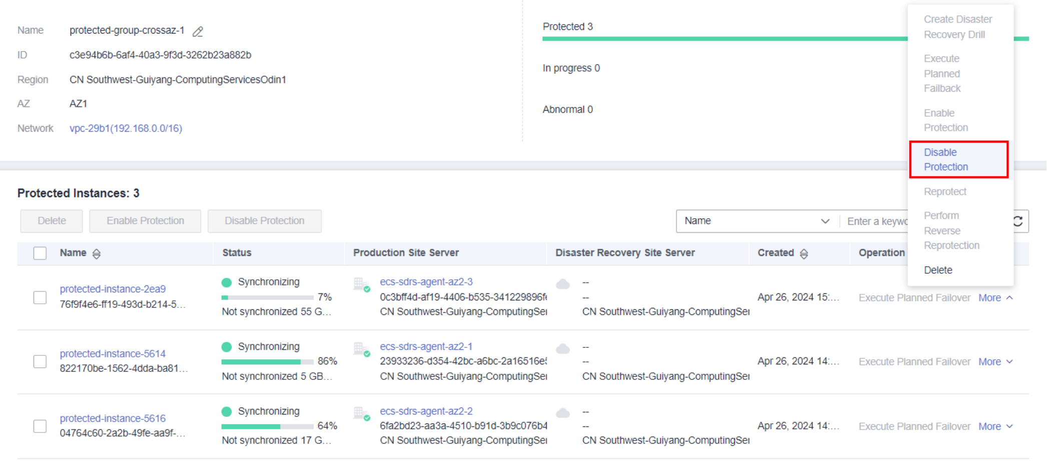
Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protected instance you want to disable protection and click the number in the **Protection Groups** column.

The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the **Protected Instances** area, locate the target protected instance, choose **More** > **Disable Protection** in the **Operation** column.



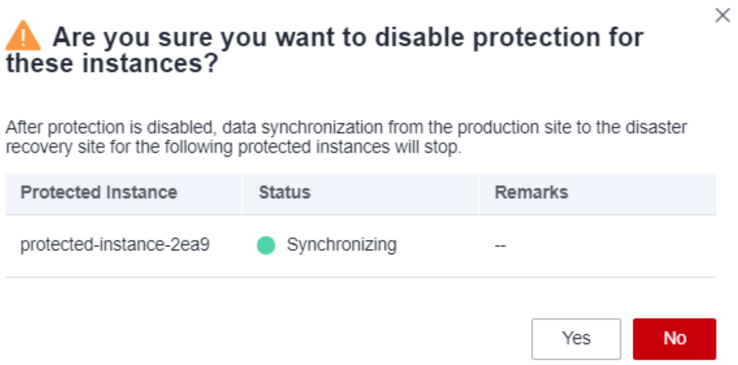
Name protected-group-crossaz-1
ID c3e94b6b-6af4-40a3-9f3d-3262b23a882b
Region CN Southwest-Guiyang-ComputingServicesOdin1
AZ AZ1
Network vpc-29b1(192.168.0.0/16)

Protected 3
In progress 0
Abnormal 0

Protected Instances: 3

	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Synchronizing 7% Not synchronized 55 G...	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More
□	protected-instance-5614 822170be-1562-4dda-ba81...	● Synchronizing 86% Not synchronized 5 GB...	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More
□	protected-instance-5616 04764c60-2a2b-49fe-aa9f-...	● Synchronizing 64% Not synchronized 17 G...	ecs-sdrs-agent-az2-2 6fa2bd23-aa3a-4510-b91d-3b9c076b4 CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More

If you want to disable protection for multiple protected instances, select the desired instances and click **Disable Protection** above the instance list.

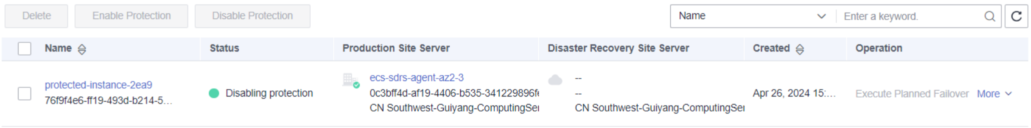


Are you sure you want to disable protection for these instances?

After protection is disabled, data synchronization from the production site to the disaster recovery site for the following protected instances will stop.

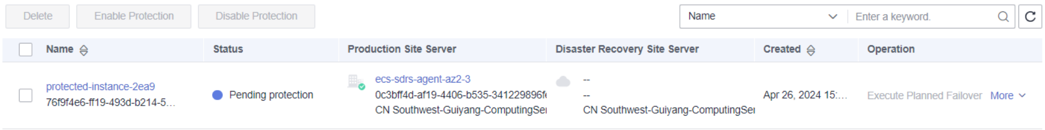
Protected Instance	Status	Remarks
protected-instance-2ea9	● Synchronizing	--

Step 6 In the displayed dialog box, confirm the protected instance information and click **Yes** to disable protection. The protected instance status changes to **Disabling protection**.



	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Disabling protection	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

Step 7 After protection is disabled, the protected instance status changes to **Pending protection**.



	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Pending protection	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

----End

2.3.4 Performing a Failover

Scenarios

Disaster recovery site servers are created using the most current data and billed based on the server billing standards. If servers are still running during a failover, the system synchronizes all the server data before failover is performed to the disaster recovery site servers. Data written to the servers during the failover may not be synchronized to the disaster recovery site. If one of the servers to be failed over fails, data on the server may fail to be synchronized and some data may be lost.

After a failover, data is not automatically synchronized from the disaster recovery site to the production site, and protection is disabled for protected instances. To start data synchronization from the disaster recovery site to the production site, perform a reverse reprotection.

NOTICE

- Failover is a high-risk operation. After a failover, services are started at the disaster recovery site. At this time, you must ensure that production site services are stopped. Otherwise, services may be conflicted or interrupted and data may be damaged because both sites are providing services. If you just want to verify and analyze the disaster recovery site data, perform disaster recovery drills instead.
- During a failover in a V2C scenario, an ECS used for system conversion will be created, with a name suffix **VMwareToCloud**. Do not perform any operation on this ECS. Or, the failover may fail. This ECS will be automatically deleted after the failover is complete.
- If NIC switchover is enabled, after a failover, SDRS automatically stops the production site server and changes the server status to **Planned stop**. If NIC switchover is disabled, the production site server status remains unchanged before and after a failover.
- After a failover, the production site server stops providing services. Or, new data will be overwritten after a reverse synchronization.

Prerequisites

- Initial synchronization is completed for the protected instance, and the status of the protected instance is **Synchronization finished** or **Failover failed**.
- Protected instance services are running at the production site.
- All services on production site server are stopped, and all data has been flushed to disks.

Precautions

During a failover, a primary NIC is configured for each disaster recovery site server. If a production site server uses a secondary NIC, you need to manually bind a secondary NIC for the corresponding disaster recovery site server on the server details page.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

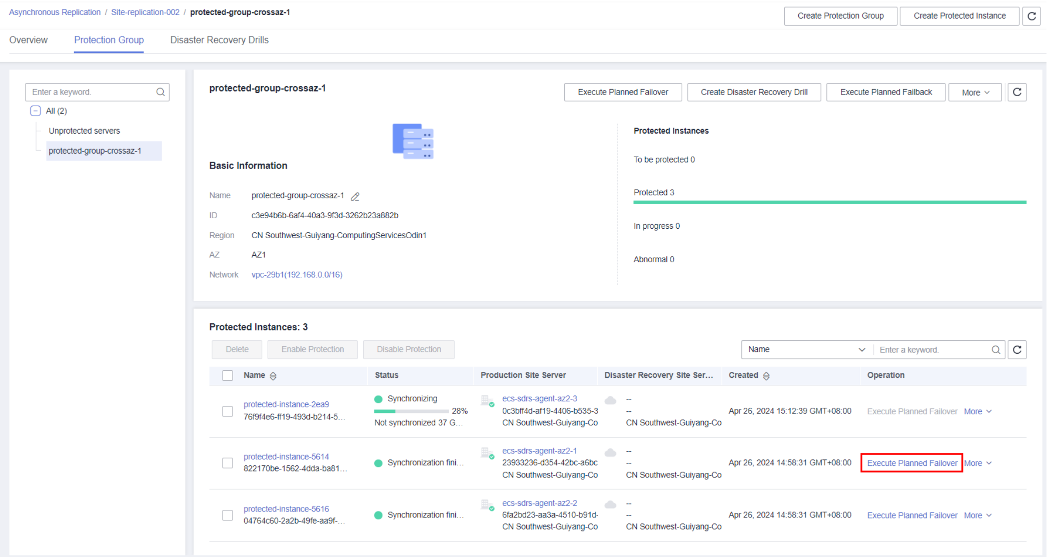
Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protected instance you want to perform a failover and click the number in the **Protected Instances** column.

The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the **Protected Instances** area, locate the target protected instance, and click **Execute Failover** in the **Operation** column.



protected-group-crossaz-1

Basic Information

Name	protected-group-crossaz-1
ID	c3e94b6b-6af4-40a3-9f3d-3262b23a882b
Region	CN Southwest-Guiyang-ComputingServicesOdin1
AZ	AZ1
Network	vpc-29b1(192.168.0.0/16)

Protected Instances

To be protected 0

Protected 3

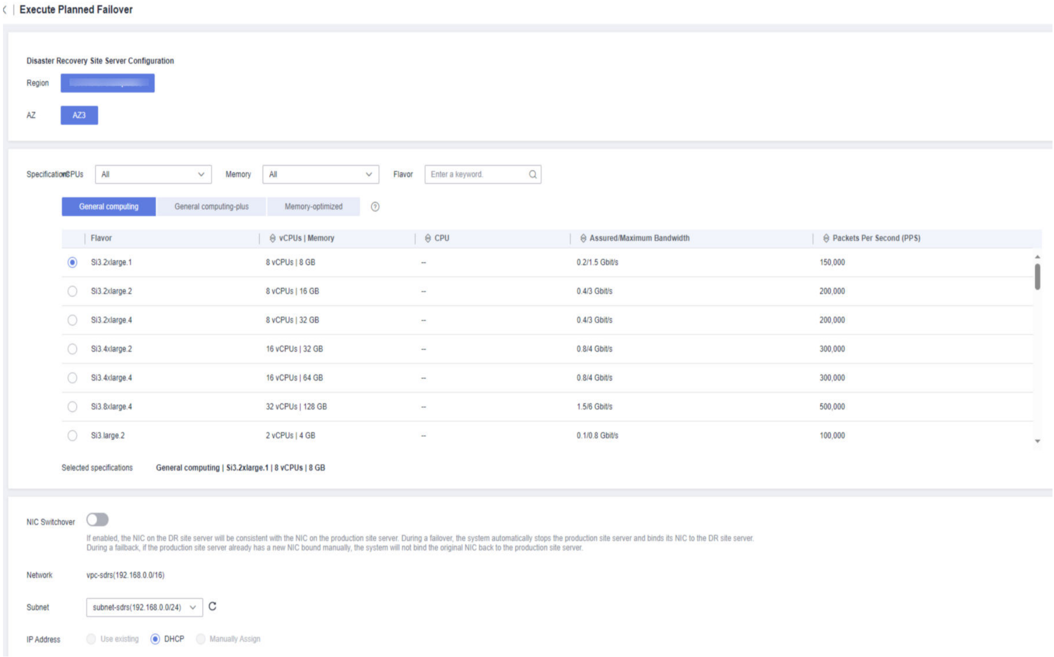
In progress 0

Abnormal 0

Protected Instances: 3

Name	Status	Production Site Server	Disaster Recovery Site Ser...	Created	Operation
protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	Synchronizing 28% Not synchronized 37 G...	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-3 CN Southwest-Guiyang-Co	-- -- CN Southwest-Guiyang-Co	Apr 26, 2024 15:12:39 GMT+08:00	Execute Planned Failover More
protected-instance-5614 822170be-1562-4dda-ba81...	Synchronization fini...	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc CN Southwest-Guiyang-Co	-- -- CN Southwest-Guiyang-Co	Apr 26, 2024 14:58:31 GMT+08:00	Execute Planned Failover More
protected-instance-5616 04764c60-2a2b-49fe-aa9f-...	Synchronization fini...	ecs-sdrs-agent-az2-2 6fa2bd23-aa3a-4510-b91d- CN Southwest-Guiyang-Co	-- -- CN Southwest-Guiyang-Co	Apr 26, 2024 14:58:31 GMT+08:00	Execute Planned Failover More

Step 6 Configure the disaster recovery site server.



Execute Planned Failover

Disaster Recovery Site Server Configuration

Region [redacted]

AZ AZ3

Specifications vCPUs All Memory All Flavor Enter a keyword.

General computing | General computing-plus | Memory-optimized

	Flavor	vCPUs | Memory	CPU	Assured/Maximum Bandwidth	Packets Per Second (PPS)
●	Si3.2xlarge.1	8 vCPUs | 8 GB	--	0.2/1.5 Gbit/s	150,000
○	Si3.2xlarge.2	8 vCPUs | 16 GB	--	0.4/3 Gbit/s	200,000
○	Si3.2xlarge.4	8 vCPUs | 32 GB	--	0.4/3 Gbit/s	200,000
○	Si3.4xlarge.2	16 vCPUs | 32 GB	--	0.8/4 Gbit/s	300,000
○	Si3.4xlarge.4	16 vCPUs | 64 GB	--	0.8/4 Gbit/s	300,000
○	Si3.8xlarge.4	32 vCPUs | 128 GB	--	1.5/6 Gbit/s	500,000
○	Si3.large.2	2 vCPUs | 4 GB	--	0.1/0.8 Gbit/s	100,000

Selected specifications **General computing | Si3.2xlarge.1 | 8 vCPUs | 8 GB**

NIC Switchover

If enabled, the NIC on the DR site server will be consistent with the NIC on the production site server. During a failover, the system automatically stops the production site server and binds its NIC to the DR site server. During a failback, if the production site server already has a new NIC bound manually, the system will not bind the original NIC back to the production site server.

Network vpc-sdrs(192.168.0.0/16)

Subnet subnet-sdrs(192.168.0.0/24)

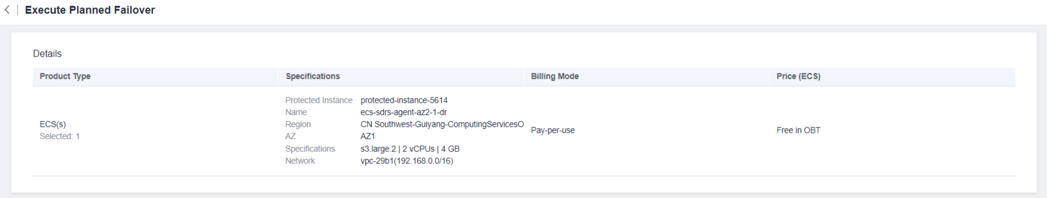
IP Address ○ Use existing ● DHCP ○ Manually Assign

Table 2-5 Parameter description

Parameter	Description	Example Value
Billing Mode	Billing mode of the disaster recovery site server Only pay-per-use billing is supported currently.	Pay-per-use
Specifications	Select the specifications for the disaster recovery site server.	-
Name	Enter a name for the disaster recovery site server. The name can contain letters, digits, underscores (_), hyphens (-), or periods (.), can be no more than 64 characters long, and cannot contain spaces.	ECS02-DR
NIC Switchover	● If enabled, the NIC on the disaster recovery site server will be consistent with the NIC on the production site server. ● During a failover, the system automatically stops the production site server and binds its NIC to the DR site server. ● During a failback, if the production site server already has a new NIC bound manually, the system will not bind the original NIC back to the production site server. This function is only available when both servers are in the same region.	-

Parameter	Description	Example Value
Subnet	Select the subnet where the disaster recovery server resides.	-
IP Address	Select how the server obtains an IP address. ● **Use existing**: Select this option if the subnet selected is in the same CIDR Block as the production site server. This setting keeps the IP addresses on both servers consistent. ● **DHCP**: IP addresses are automatically assigned by the system. ● **Manually Assign**: Manually specify an IP address.	-

Step 7 Click **Next**. On the displayed page, confirm the disaster recovery server information and click **Submit**.

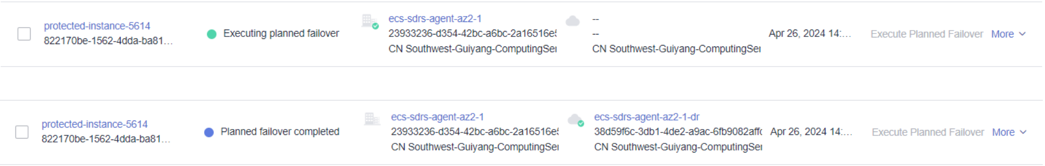


< | Execute Planned Failover

Details

Product Type	Specifications	Billing Mode	Price (ECS)
ECS(s) Selected: 1	Protected Instance protected-instance-5614 Name ecs-sdrs-agent-az2-1-dr Region CN Southwest-Guiyang-ComputingServicesO AZ AZ1 Specifications s3.large.2 | 2 vCPUs | 4 GB Network vpc-29b1(192.168.0.0/16)	Pay-per-use	Free in OBT

Step 8 The protected instance status changes to **Executing failover**. After the failover is complete, the status changes to **Failover completed**.



□	protected-instance-5614 822170be-1562-4dda-ba81...	● Executing planned failover	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e! CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More ⌄
□	protected-instance-5614 822170be-1562-4dda-ba81...	● Planned failover completed	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e! CN Southwest-Guiyang-ComputingSe	ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More ⌄

----End

2.3.5 Performing a Reverse Reprotection

Scenarios

After a failover, data is not automatically synchronized from the disaster recovery site to the production site, and protection is disabled for protected instances. To start data synchronization from the disaster recovery site to the production site, perform a reverse reprotection.

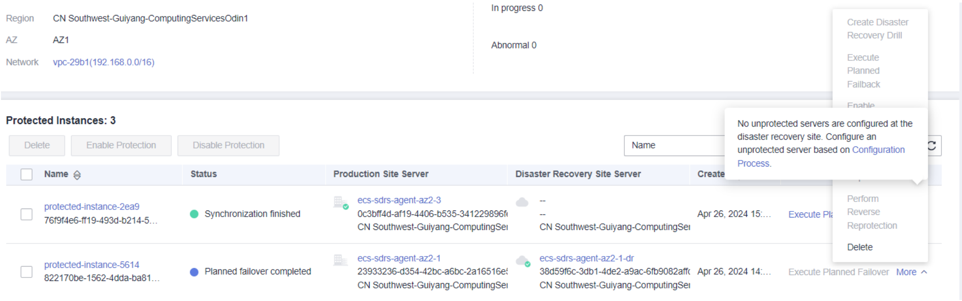
NOTE

- After you perform a reverse reprotection, the initial data synchronization starts. During the data synchronization, if disaster recovery site servers are restarted, data will be resynchronized until the synchronization is complete.
- During a reverse reprotection, SDRS stops the production site server and changes the server status to **Planned stop**.
- If disaster recovery site servers are restarted after the initial synchronization is complete, data will not be resynchronized. If there is data written to the disaster recovery server later, incremental data synchronization will be performed.
- Reverse reprotection overwrites data of production site servers with data of disaster recovery site servers. If there is data written to production site servers after the failover is performed, such data will be overwritten.
- Reverse reprotection is not supported for replica pairs whose **Type** is set to **IDC-to-cloud** and **Scenario** set to **V2C**.

Prerequisites

- Ensure that, in 24.6.0 or an earlier version, you have preconfigured the disaster recovery site server that you want to perform reverse reprotection according to **Configuring Disaster Recovery Site Servers**. Or, the protected instance cannot be operated, as shown in the following figure.

  Figure 2-8 Disaster recovery site server not preconfigured

  Region CN Southwest-Guiyang-ComputingServicesOdin1
  AZ AZ1
  Network vpc-29b1(192.168.0.0/16)

  In progress 0
  Abnormal 0

  Protected Instances: 3

Name	Status	Production Site Server	Disaster Recovery Site Server	Create	
protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5…	Synchronization finished	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSer	-- -- CN Southwest-Guiyang-ComputingSer	Apr 26, 2024 15:…	Execute Pl
protected-instance-5614 822170be-1562-4dda-ba81…	Planned failover completed	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e CN Southwest-Guiyang-ComputingSer	ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff CN Southwest-Guiyang-ComputingSer	Apr 26, 2024 14:…	Execute Planned Failover More

  No unprotected servers are configured at the disaster recovery site. Configure an unprotected server based on Configuration Process.

- In 24.9.0 or a later version, SDRS automatically configures the disaster recovery gateway, so you do not need to preconfigure the disaster recovery site servers before performing a reverse reprotection. In 24.6.0 or an earlier version, ensure that you have upgraded the SDRS software on the gateway and production site servers to 24.9.0 or later and reconfigured the gateway according to **Configuring a Disaster Recovery Gateway**.
- The status of the protected instance is **Failover completed** or **Reverse reprotection failed**.

Procedure

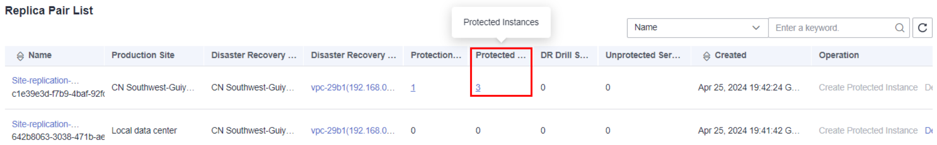
Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protected instance you want to perform reverse reprotection and click the number in the **Protected Instances** column.

The **Protection Groups** tab page is displayed.

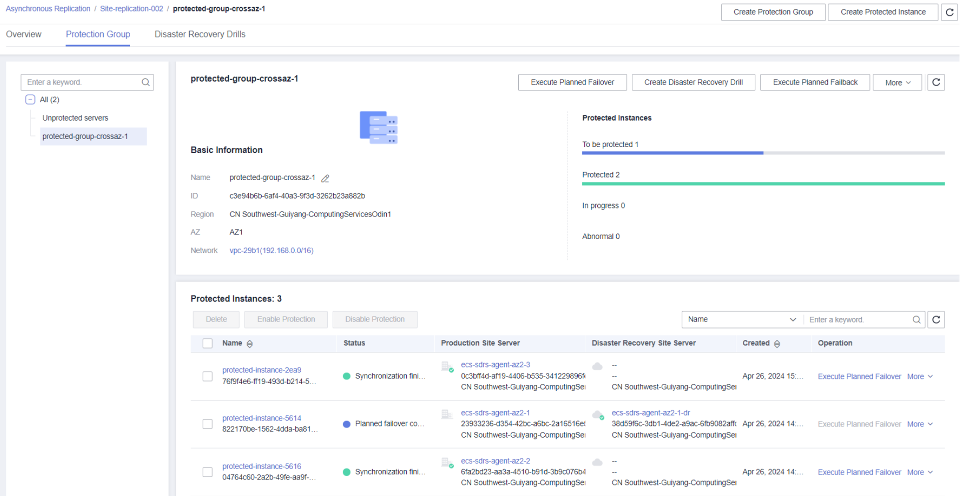


Replica Pair List

Name	Production Site	Disaster Recovery ...	Disaster Recovery ...	Protection...	Protected ...	DR Drill S...	Unprotected Ser...	Created	Operation
Site-replication-... c1e39e3d-f7b9-4baf-92fc	CN Southwest-Guiy...	CN Southwest-Guiy...	vpc-29b1(192.168.0...	1	3	0	0	Apr 25, 2024 19:42:24 G...	Create Protected Instance De
Site-replication-... 642b8063-3038-471b-ae	Local data center	CN Southwest-Guiy...	vpc-29b1(192.168.0...	0	0	0	0	Apr 25, 2024 19:41:42 G...	Create Protected Instance De

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.



protected-group-crossaz-1

Basic Information

Name	protected-group-crossaz-1
ID	c3e94b6b-6af4-40a3-9f3d-3262b23a882b
Region	CN Southwest-Guiyang-ComputingServicesOdin1
AZ	AZ1
Network	vpc-29b1(192.168.0.0/16)

Protected Instances

To be protected 1

Protected 2

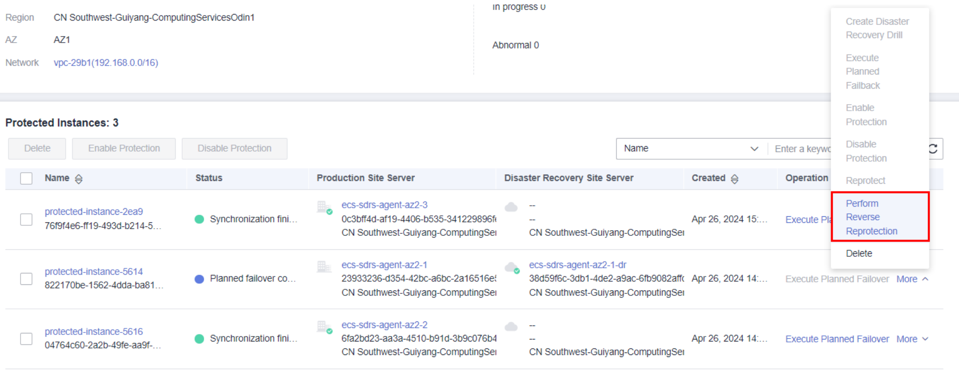
In progress 0

Abnormal 0

Protected Instances: 3

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	Synchronization fini...	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More
protected-instance-5614 822170be-1562-4dda-ba81...	Planned failover co...	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e CN Southwest-Guiyang-ComputingSe	ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More
protected-instance-5616 04764c60-2a2b-49fe-aa9f-...	Synchronization fini...	ecs-sdrs-agent-az2-2 6fa2bd23-aa3a-4510-b91d-3b9c076b4 CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More

Step 5 In the **Protected Instances** area, locate the target protected instance, choose **More** > **Perform Reverse Reprotection** in the **Operation** column.



Region	CN Southwest-Guiyang-ComputingServicesOdin1
AZ	AZ1
Network	vpc-29b1(192.168.0.0/16)

In progress 0

Abnormal 0

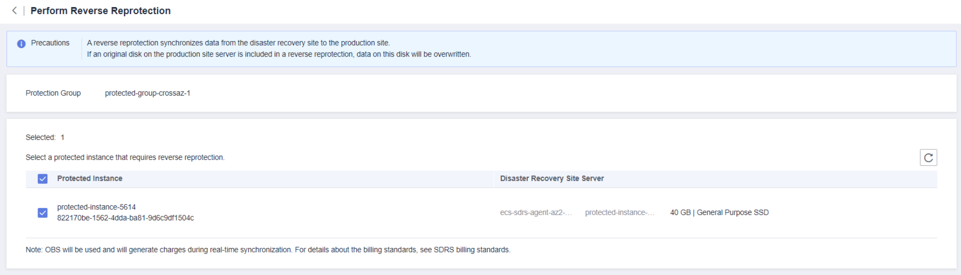
Protected Instances: 3

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	Synchronization fini...	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Pl
protected-instance-5614 822170be-1562-4dda-ba81...	Planned failover co...	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e CN Southwest-Guiyang-ComputingSe	ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More
protected-instance-5616 04764c60-2a2b-49fe-aa9f-...	Synchronization fini...	ecs-sdrs-agent-az2-2 6fa2bd23-aa3a-4510-b91d-3b9c076b4 CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More

NOTE

In 24.9.0 and later versions, SDRS automatically configures the disaster recovery gateway. After a failover, wait for 1 to 2 minutes and then use reverse reprotection.

Step 6 Confirm information on the **Perform Reverse Reprotection** page.



< | **Perform Reverse Reprotection**

Precautions: A reverse reprotection synchronizes data from the disaster recovery site to the production site.
If an original disk on the production site server is included in a reverse reprotection, data on this disk will be overwritten.

Protection Group: protected-group-crossaz-1

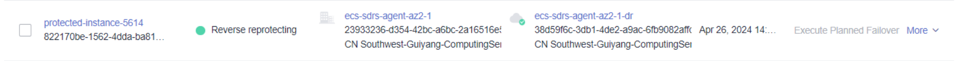
Selected: 1

Select a protected instance that requires reverse reprotection.

☑ Protected Instance	Disaster Recovery Site Server
☑ protected-instance-5614 822170be-1562-4dda-ba81-9d6c9df1504c	ecs-sdrs-agent-az2-... protected-instance-... 40 GB | General Purpose SSD

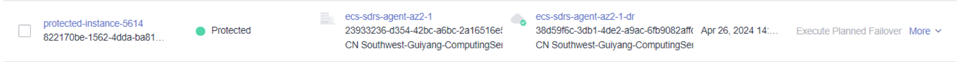
Note: OBS will be used and will generate charges during real-time synchronization. For details about the billing standards, see SDRS billing standards.

Step 7 Click **Submit**. The protected instance status changes to **Reverse reprotecting**.



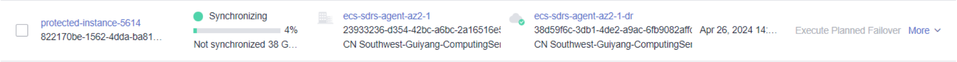
□ protected-instance-5614 822170be-1562-4dda-ba81... | ● Reverse reprotecting | ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e: CN Southwest-Guiyang-ComputingSer | ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff(CN Southwest-Guiyang-ComputingSer | Apr 26, 2024 14:... | Execute Planned Failover More

Step 8 When the protected instance status changes to **Protected**, reverse reprotection is executed successfully. At this time, a full data comparison is performed and incremental data synchronization is started.



□ protected-instance-5614 822170be-1562-4dda-ba81... | ● Protected | ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e: CN Southwest-Guiyang-ComputingSer | ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff(CN Southwest-Guiyang-ComputingSer | Apr 26, 2024 14:... | Execute Planned Failover More

Step 9 After 1 to 2 minutes, the protected instance status changes to **Synchronizing**, and the amount of data to be synchronized and estimated remaining time are displayed.



□ protected-instance-5614 822170be-1562-4dda-ba81... | ● Synchronizing 4% Not synchronized 38 G... | ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e: CN Southwest-Guiyang-ComputingSer | ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff(CN Southwest-Guiyang-ComputingSer | Apr 26, 2024 14:... | Execute Planned Failover More

----End

2.3.6 Performing a Failback

Scenarios

After a failover, services are running at the disaster recovery site. You can fail back to your production site with a failback.

Failback is a high-risk operation. After a failback, services are started at the production site. At this time, you must ensure that disaster recovery site services are stopped. Otherwise, services may be conflicted or interrupted and data may be damaged because both sites are providing services.

NOTICE

Failback is not supported for replica pairs whose **Type** is set to **IDC-to-cloud** and **Scenario** set to **V2C**.

Prerequisites

- Initial synchronization is completed for the protected instance, and the status of the protected instance is **Synchronization finished** or **Failback failed**.
- Protected instance services are running at the disaster recovery site.

- All services on the disaster recovery site server are stopped, and all data has been flushed to disks.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

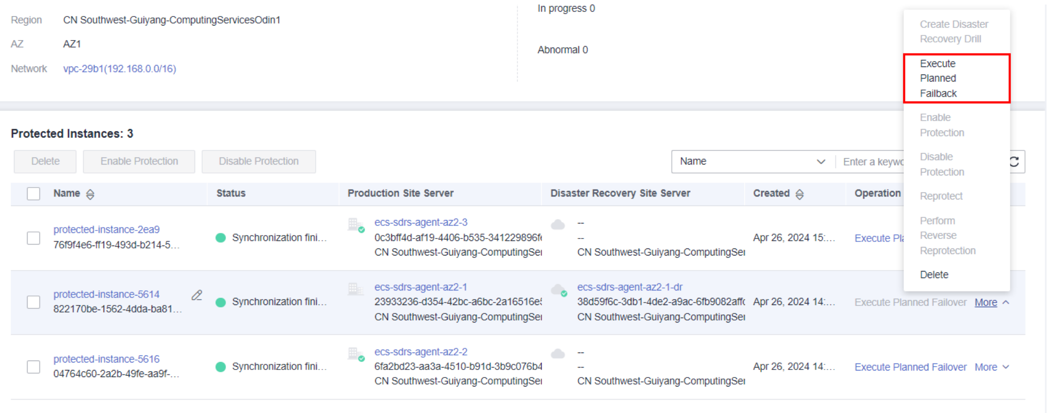
Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protected instance you want to perform a failback and click the number in the **Protected Instances** column.

The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the **Protected Instances** area, locate the target protected instance and choose **More** > **Execute Failback** in the **Operation** column.



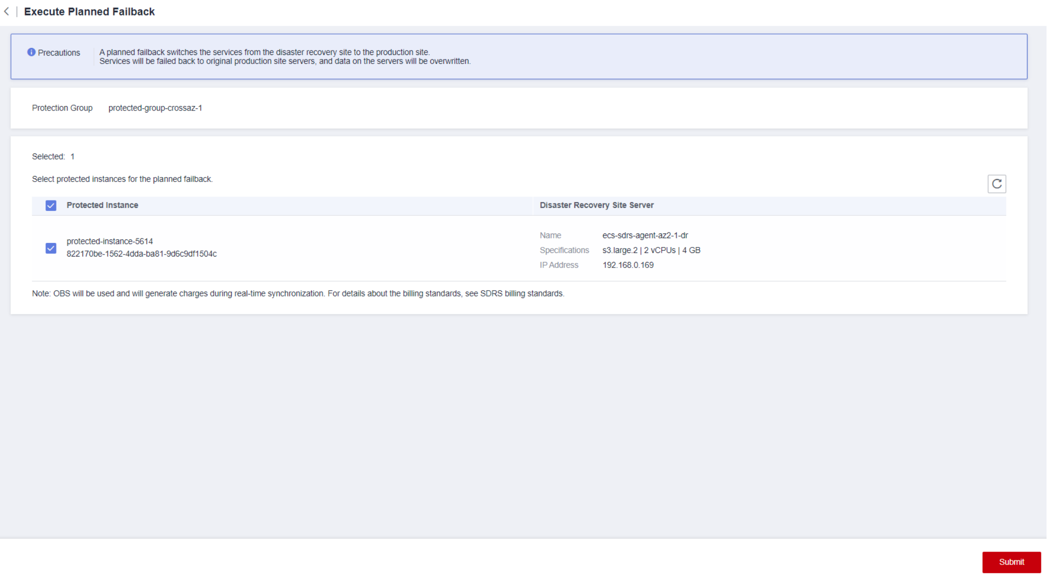
Region CN Southwest-Guiyang-ComputingServicesOdin1
AZ AZ1
Network vpc-29b1(192.168.0.0/16)

In progress 0
Abnormal 0

Protected Instances: 3

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	Synchronization fini...	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Pl
protected-instance-5614 822170be-1562-4dda-ba81...	Synchronization fini...	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e CN Southwest-Guiyang-ComputingSe	ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More
protected-instance-5616 04764c60-2a2b-49fe-aa9f-...	Synchronization fini...	ecs-sdrs-agent-az2-2 6fa2bd23-aa3a-4510-b91d-3b9c076b4 CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More

Step 6 On the displayed page, click **Submit**.



Execute Planned Failback

Precautions A planned failback switches the services from the disaster recovery site to the production site.
Services will be failed back to original production site servers, and data on the servers will be overwritten.

Protection Group protected-group-crossaz-1

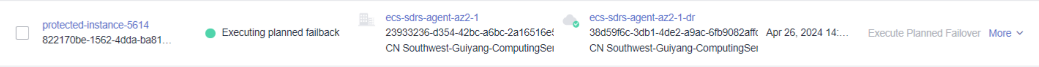
Selected: 1

Select protected instances for the planned failback.

☑ Protected Instance	Disaster Recovery Site Server
☑ protected-instance-5614 822170be-1562-4dda-ba81-9d6c9df1504c	Name ecs-sdrs-agent-az2-1-dr Specifications s3.large.2 | 2 vCPUs | 4 GB IP Address 192.168.0.169

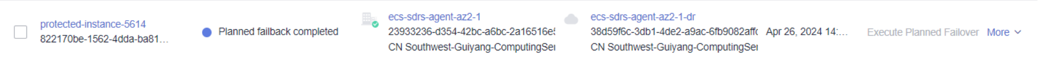
Note: OBS will be used and will generate charges during real-time synchronization. For details about the billing standards, see SDRS billing standards.

Step 7 The protected instance status changes to **Executing failback**. Wait until the operation is complete.



□	protected-instance-5614 822170be-1562-4dda-ba81...	● Executing planned failback	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e! CN Southwest-Guiyang-ComputingSei	ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082affc CN Southwest-Guiyang-ComputingSei	Apr 26, 2024 14:...	Execute Planned Failover More ⌄

Step 8 After the protected instance status changes to **Failback completed**, the operation is successful.



□	protected-instance-5614 822170be-1562-4dda-ba81...	● Planned failback completed	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e! CN Southwest-Guiyang-ComputingSei	ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082affc CN Southwest-Guiyang-ComputingSei	Apr 26, 2024 14:...	Execute Planned Failover More ⌄

----End

2.3.7 Reprotecting a Protected Instance

Scenarios

After a failback, data is not automatically synchronized from the production site to the disaster recovery site, and protection is disabled for protected instances. To start data synchronization from the production site to the disaster recovery site, reprotect the protected instances.

Prerequisites

- Ensure that, in 24.6.0 or an earlier version, you have preconfigured the production site server you want to reprotect according to **Configuring Production Site Servers**.
- In 24.9.0 or a later version, SDRS automatically configures the disaster recovery gateway, so you do not need to preconfigure the production site servers before performing a reprotection. In 24.6.0 or an earlier version, ensure that you have upgraded the SDRS software on the gateway and production site servers to 24.9.0 or later and reconfigured the gateway according to **Configuring a Disaster Recovery Gateway**.
- The status of the protected instance is **Failback completed** or **Reprotection failed**.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

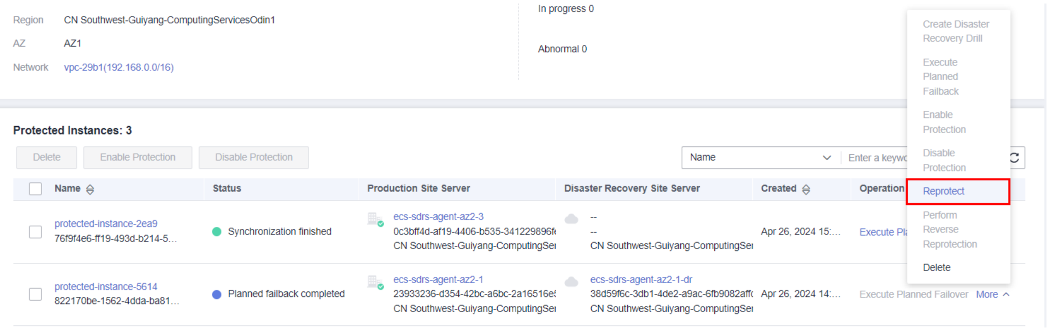
Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protected instance you want to reprotect and click the number in the **Protected Instances** column.

The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the **Protected Instances** area, locate the target protected instance, choose **More** > **Reprotect** in the **Operation** column.



Region CN Southwest-Guiyang-ComputingServicesOdin1
AZ AZ1
Network vpc-29b1(192.168.0.0/16)
In progress 0
Abnormal 0

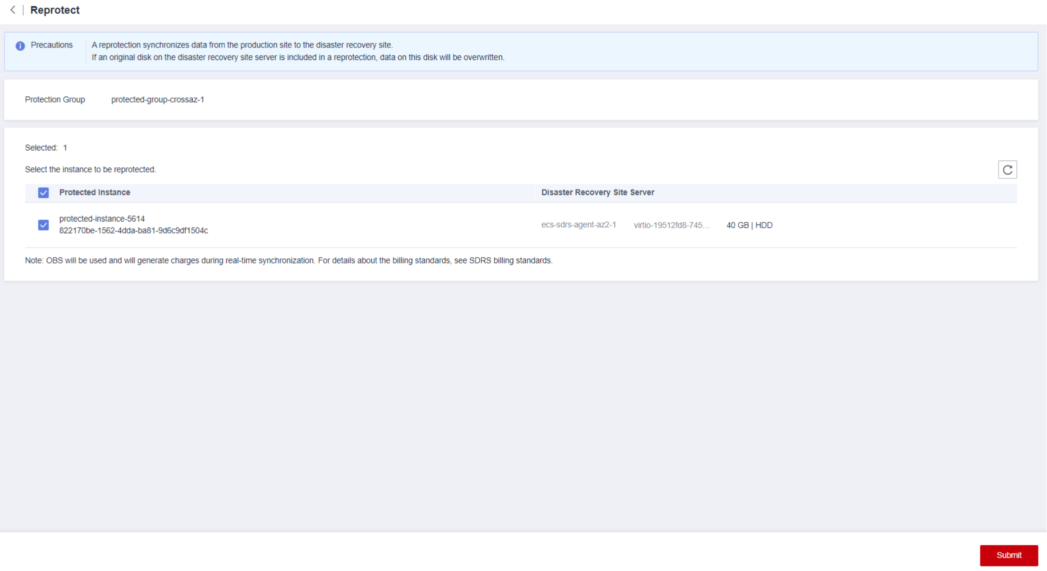
Protected Instances: 3

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	Synchronization finished	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Pl
protected-instance-5614 822170be-1562-4dda-ba81...	Planned failback completed	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e CN Southwest-Guiyang-ComputingSe	ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More

NOTE

In 24.9.0 and later versions, SDRS automatically configures the disaster recovery gateway. After a failback, wait for 1 to 2 minutes and then use reprotection.

Step 6 On the displayed page, click **Submit**.



Reprotect

Precautions A reprotection synchronizes data from the production site to the disaster recovery site.
If an original disk on the disaster recovery site server is included in a reprotection, data on this disk will be overwritten.

Protection Group protected-group-crossaz-1

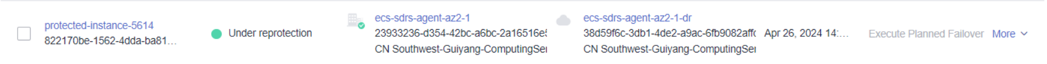
Selected: 1

Select the instance to be reprotected.

☑ Protected Instance	Disaster Recovery Site Server
☑ protected-instance-5614 822170be-1562-4dda-ba81-9d6c9df1504c	ecs-sdrs-agent-az2-1 virtio-19512fd8-745... 40 GB | HDD

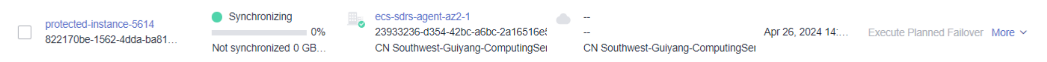
Note: OBS will be used and will generate charges during real-time synchronization. For details about the billing standards, see SDRS billing standards.

Step 7 The protected instance status changes to **Under reprotection**. Wait until the operation is complete.



□	protected-instance-5614 822170be-1562-4dda-ba81...	Under reprotection	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e CN Southwest-Guiyang-ComputingSe	ecs-sdrs-agent-az2-1-dr 38d59f6c-3db1-4de2-a9ac-6fb9082aff CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More

Step 8 After the operation is complete, the protected instance status changes to **Synchronizing**, and the amount of data to be synchronized and estimated remaining time are displayed.



□	protected-instance-5614 822170be-1562-4dda-ba81...	Synchronizing 0% Not synchronized 0 GB...	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More

NOTE

After the failback is successful, the disaster recovery site server will be automatically deleted.

----End

2.3.8 Creating a Disaster Recovery Drill

Scenarios

Disaster recovery drills are used to simulate fault scenarios, formulate recovery plans, and verify whether the plans are applicable and effective. Services are not affected during disaster recovery drills. When a fault occurs, you can use the plans to quickly recover services, thus improving service continuity.

SDRS allows you to run disaster recovery drills in isolated VPCs (different from the disaster recovery site VPC). During a disaster recovery drill, drill servers can be quickly created based on the disk snapshot data.

NOTE

- After drill servers are created, production site servers and drill servers will independently run at the same time, and data will not be synchronized between these servers.
- During a drill, an ECS used for system conversion will be created, with a name suffix **VMwareToCloud**. Do not perform any operation on this ECS. Or, the drill may fail. This ECS will be automatically deleted after the drill is complete.

To guarantee that services can be switched to the disaster recovery site when an outage occurs, it is recommended that you run disaster recovery drills regularly.

Precautions

- If the production site servers of a protection group are added to an enterprise project, the drill servers created will not be automatically added to the enterprise project. Manually add them to the project as needed.
- If the production site servers run Linux and use key pairs for login, the key pair information will not be displayed on the server details page, but login using the key pairs is not affected.
- After a disaster recovery drill is created, modifications made to **Hostname**, **Name**, **Agency**, **ECS Group**, **Security Group**, **Tags**, and **Auto Recovery** of production site servers will not be synchronized to drill servers. Log in to the console and manually make the modifications for the drill servers.
- During a disaster recovery drill, a primary NIC is configured for each disaster recovery site server. If a production site server uses a secondary NIC, you need to manually bind a secondary NIC for the corresponding disaster recovery site server on the server details page.

Prerequisites

- Initial synchronization is completed for the protected instance, and the status of the protected instance is **Synchronization finished** or **Disaster recovery drill failed**.
- Protected instance services are running at the production site.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

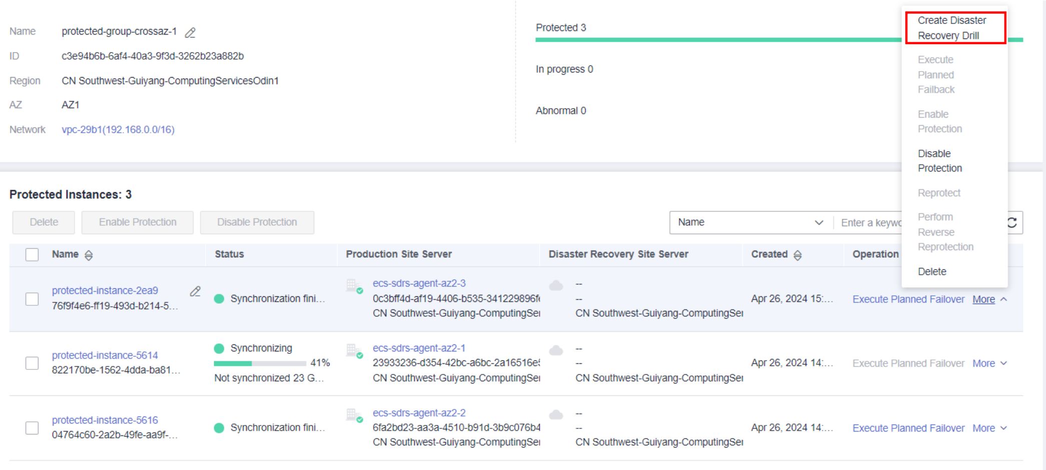
Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protected instance you want to run a disaster recovery drill and click the number in the **Protection Groups** column.

The **Protection Groups** tab page is displayed.

Step 4 In the navigation tree, choose the target protection group.

The protection group details page is displayed.

Step 5 In the **Protected Instances** area, locate the target protected instance and choose **More** > **Create Disaster Recovery Drill** in the **Operation** column.



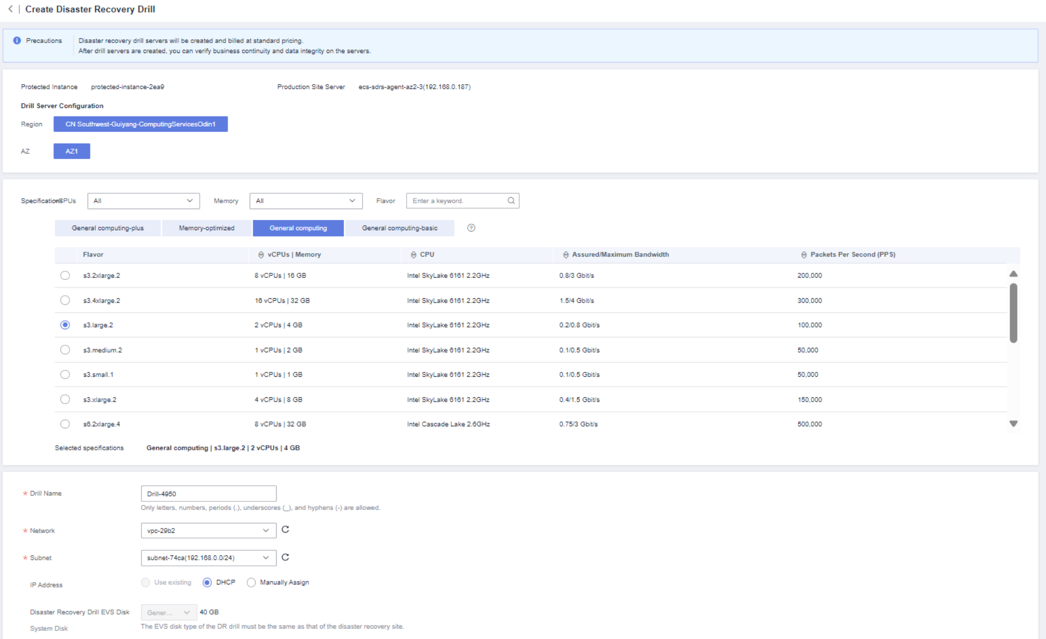
Name protected-group-crossaz-1
ID c3e94b6b-6af4-40a3-9f3d-3262b23a882b
Region CN Southwest-Guiyang-ComputingServicesOdin1
AZ AZ1
Network vpc-29b1(192.168.0.0/16)

Protected 3
In progress 0
Abnormal 0

Protected Instances: 3

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	Synchronization fini...	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More
protected-instance-5614 822170be-1562-4dda-ba81...	Synchronizing 41% Not synchronized 23 G...	ecs-sdrs-agent-az2-1 23933236-d354-42bc-a6bc-2a16516e CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More
protected-instance-5616 04764c60-2a2b-49fe-aa9f-...	Synchronization fini...	ecs-sdrs-agent-az2-2 6fa2bd23-aa3a-4510-b91d-3b9c076b4 CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 14:...	Execute Planned Failover More

Step 6 Configure the drill server information.



Create Disaster Recovery Drill

Precautions Disaster recovery drill servers will be created and billed at standard pricing.
After drill servers are created, you can verify business continuity and data integrity on the servers.

Protected Instance protected-instance-2ea9 Production Site Server ecs-sdrs-agent-az2-3(192.168.0.187)

Drill Server Configuration

Region CN Southwest-Guiyang-ComputingServicesOdin1

AZ AZ1

Specifications vCPUs All Memory All Flavor Enter a keyword.

	Flavor	vCPUs | Memory	CPU	Assured/Maximum Bandwidth	Packets Per Second (PPS)
○	s3.2xlarge.2	8 vCPUs | 16 GB	Intel SkyLake 6161 2.2GHz	0.8/3 Gbit/s	200,000
○	s3.4xlarge.2	16 vCPUs | 32 GB	Intel SkyLake 6161 2.2GHz	1.5/4 Gbit/s	300,000
●	s3.large.2	2 vCPUs | 4 GB	Intel SkyLake 6161 2.2GHz	0.2/0.8 Gbit/s	100,000
○	s3.medium.2	1 vCPUs | 2 GB	Intel SkyLake 6161 2.2GHz	0.1/0.5 Gbit/s	50,000
○	s3.small.1	1 vCPUs | 1 GB	Intel SkyLake 6161 2.2GHz	0.1/0.5 Gbit/s	50,000
○	s3.xlarge.2	4 vCPUs | 8 GB	Intel SkyLake 6161 2.2GHz	0.4/1.5 Gbit/s	150,000
○	s6.2xlarge.4	8 vCPUs | 32 GB	Intel Cascade Lake 2.6GHz	0.75/3 Gbit/s	500,000

Selected specifications **General computing | s3.large.2 | 2 vCPUs | 4 GB**

* Drill Name Drill-4950
Only letters, numbers, periods (.), underscores (_), and hyphens (-) are allowed.

* Network vpc-29b2

* Subnet subnet-74ca(192.168.0.0/24)

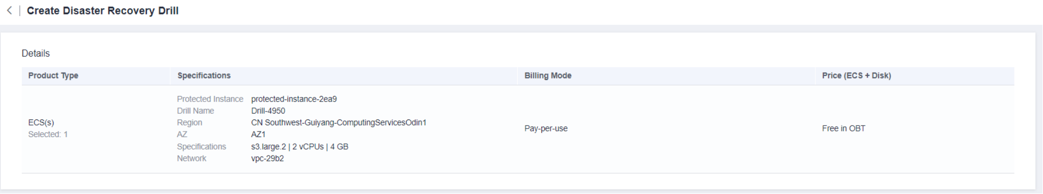
IP Address ○ Use existing ● DHCP ○ Manually Assign

Disaster Recovery Drill EVS Disk System Disk Gener... 40 GB
The EVS disk type of the DR drill must be the same as that of the disaster recovery site.

Table 2-6 Parameter description

Parameter	Description	Example Value
Specifications	Select the drill server specifications.	-
Drill Name	Enter a drill name. The name can contain letters, digits, underscores (_), hyphens (-), or periods (.), can be no more than 64 characters long, and cannot contain spaces.	Drill-ECS02
Network	Select a VPC for the drill. The drill VPC and the VPC of disaster recovery site server must be different.	-
Subnet	Select a subnet for the drill.	-
IP Address	Select how the server obtains an IP address. ● **Use existing**: Select this option if the subnet selected is in the same CIDR Block as the production site server. This setting keeps the IP addresses on both servers consistent. ● **DHCP**: IP addresses are automatically assigned by the system. ● **Manually Assign**: Manually specify an IP address.	-

Step 7 Click **Next**. On the displayed page, confirm drill information and click **Submit**.

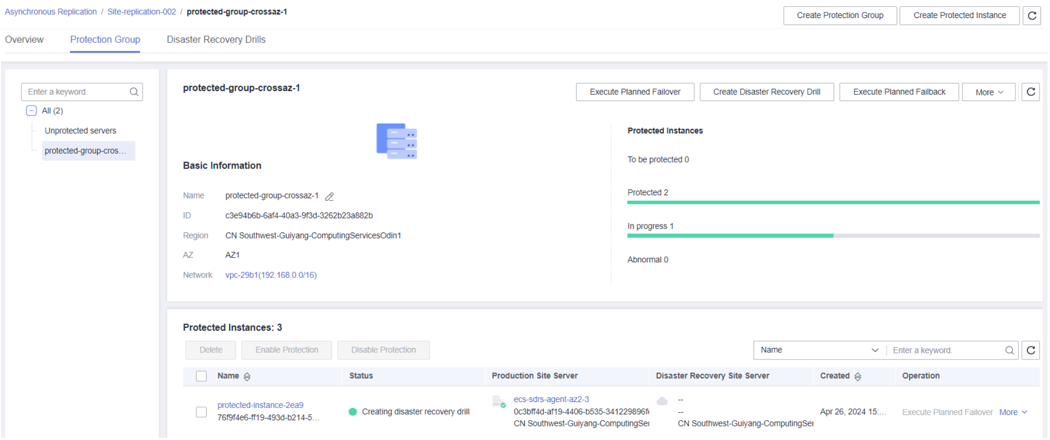


< | Create Disaster Recovery Drill

Details

Product Type	Specifications	Billing Mode	Price (ECS + Disk)
ECS(s) Selected: 1	Protected Instance protected-instance-2ea9 Drill Name Drill-4950 Region CN Southwest-Guiyang-ComputingServicesOdin1 AZ AZ1 Specifications s3.large.2 | 2 vCPUs | 4 GB Network vpc-29b2	Pay-per-use	Free in OBT

Step 8 The protected instance status changes to **Creating disaster recovery drill**. After the drill is created, the instance status changes back to **Synchronization finished**.



Asynchronous Replication / Site-replication-002 / protected-group-crossaz-1

Overview | Protection Group | Disaster Recovery Drills

protected-group-crossaz-1

Basic Information

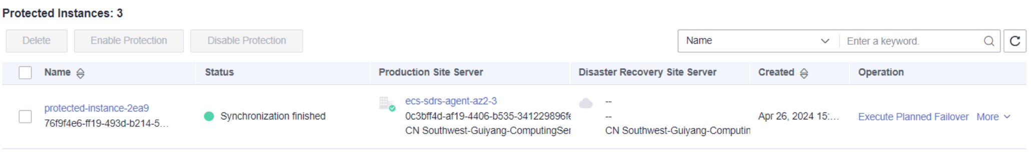
Name protected-group-crossaz-1
ID c3e94b6b-6af4-40a3-9f3d-3262b23a882b
Region CN Southwest-Guiyang-ComputingServicesOdin1
AZ AZ1
Network vpc-29b1(192.168.0.0/16)

Protected Instances

To be protected 0
Protected 2
In progress 1
Abnormal 0

Protected Instances: 3

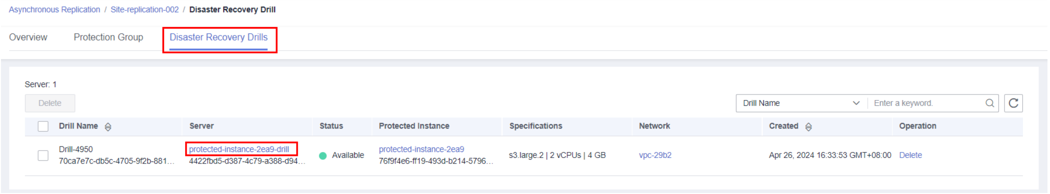
Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	Creating disaster recovery drill	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSer	-- -- CN Southwest-Guiyang-ComputingSer	Apr 26, 2024 15:...	Execute Planned Failover More



Protected Instances: 3

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	Synchronization finished	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSer	-- -- CN Southwest-Guiyang-Computin	Apr 26, 2024 15:...	Execute Planned Failover More

Step 9 After the drill is created, view the drill information on the **Disaster Recovery Drills** tab page. Alternatively, log in to the drill server and check whether services are running properly.



Asynchronous Replication / Site-replication-002 / Disaster Recovery Drill

Overview | Protection Group | Disaster Recovery Drills

Server: 1

Drill Name	Server	Status	Protected Instance	Specifications	Network	Created	Operation
Drill-4950 70ca7e7c-db5c-4705-9f2b-881...	protected-instance-2ea9-drill 4422fbd5-d387-4c79-a388-d94...	Available	protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5796...	s3.large.2 | 2 vCPUs | 4 GB	vpc-29b2	Apr 26, 2024 16:33:53 GMT+08:00	Delete

----End

2.3.9 Deleting a Protected Instance

Scenarios

You can delete protected instances no longer needed to cancel the replication relationship between production site servers and the disaster recovery site servers on Huawei Cloud.

Deleting protected instances does not delete production site servers and has no impact on production site services.

Precautions

- In the scenario that a reverse reprotection is performed for a protected instance, you are advised to delete the instance after the initial data synchronization is complete.

Prerequisites

No operations are being performed on the protected instance.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

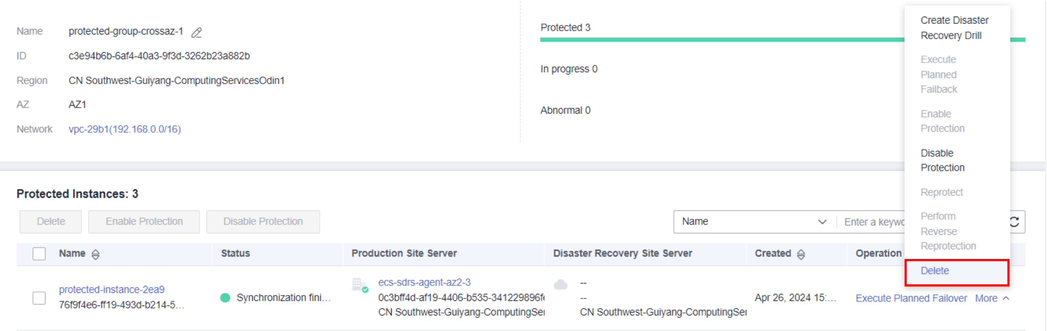
Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the protected instance you want to delete and click the number in the **Protected Instances** column.

The **Protection Groups** tab page is displayed.

Step 4 In the navigation pane, choose the protection group housing the target protected instance.

The protection group details page is displayed.

Step 5 In the **Protected Instances** area, locate the target protected instance, and choose **More** > **Delete** in the **Operation** column.



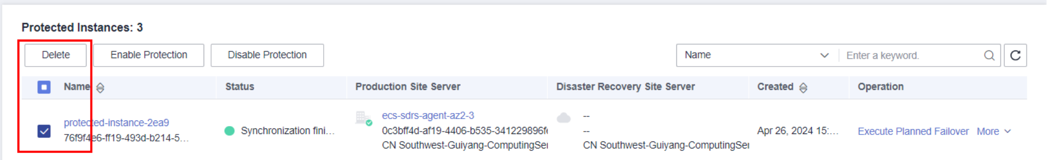
Name protected-group-crossaz-1
ID c3e94b6b-6af4-40a3-9f3d-3262b23a882b
Region CN Southwest-Guiyang-ComputingServicesOdin1
AZ AZ1
Network vpc-29b1(192.168.0.0/16)

Protected 3
In progress 0
Abnormal 0

Protected Instances: 3

□	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
□	protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Synchronization fini...	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

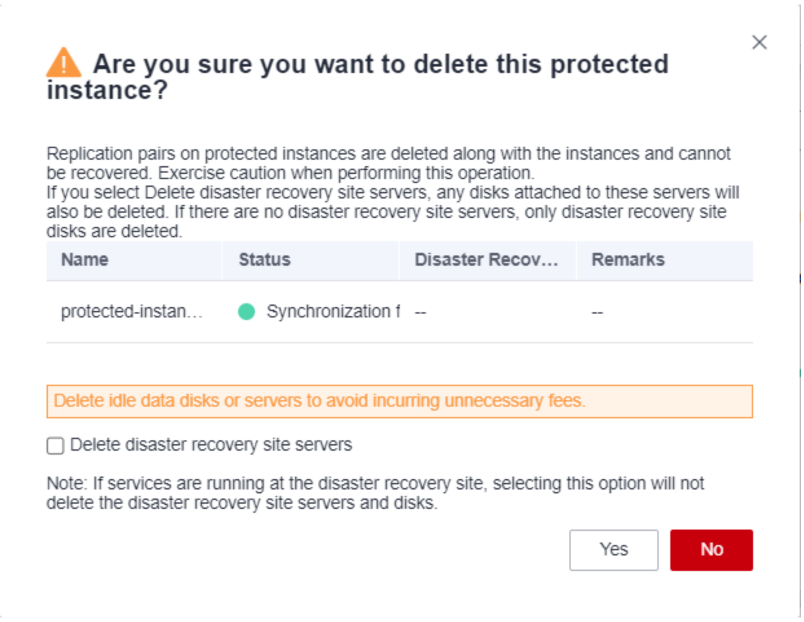
To delete protected instances in a batch, select the target protected instances and click **Delete** above the protected instance list.



Protected Instances: 3

■	Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
☑	protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Synchronization fini...	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896f CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

Step 6 In the displayed dialog box, select the following option as required:



Are you sure you want to delete this protected instance?

Replication pairs on protected instances are deleted along with the instances and cannot be recovered. Exercise caution when performing this operation.
If you select Delete disaster recovery site servers, any disks attached to these servers will also be deleted. If there are no disaster recovery site servers, only disaster recovery site disks are deleted.

Name	Status	Disaster Recov...	Remarks
protected-instan...	● Synchronization f	--	--

Delete idle data disks or servers to avoid incurring unnecessary fees.

☐ Delete disaster recovery site servers

Note: If services are running at the disaster recovery site, selecting this option will not delete the disaster recovery site servers and disks.

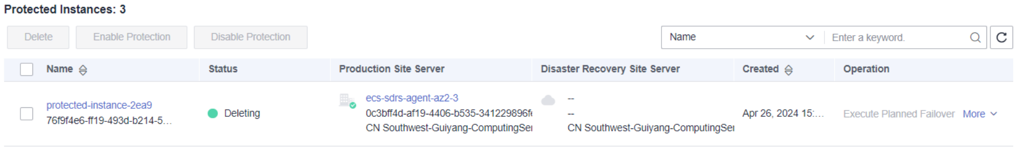
Delete disaster recovery site servers

- If you do not select this option, the replication relationship between the production site server and disaster recovery site server is canceled, but the disaster recovery site server and disks are retained.
- If you select this option, the replication relationship between the production site server and disaster recovery site server is canceled, and the disaster recovery site server and disks are deleted. If there are no disaster recovery site servers, EVS disks will be deleted.

NOTE

If the protected instance is in the **Failover completed** or **Reverse reprotecting** state, meaning that services are running at the disaster recovery site, resources at the disaster recovery site will not be deleted regardless of whether you select this option or not.

Step 7 Click **Yes**. The protected instance status changes to **Deleting**.

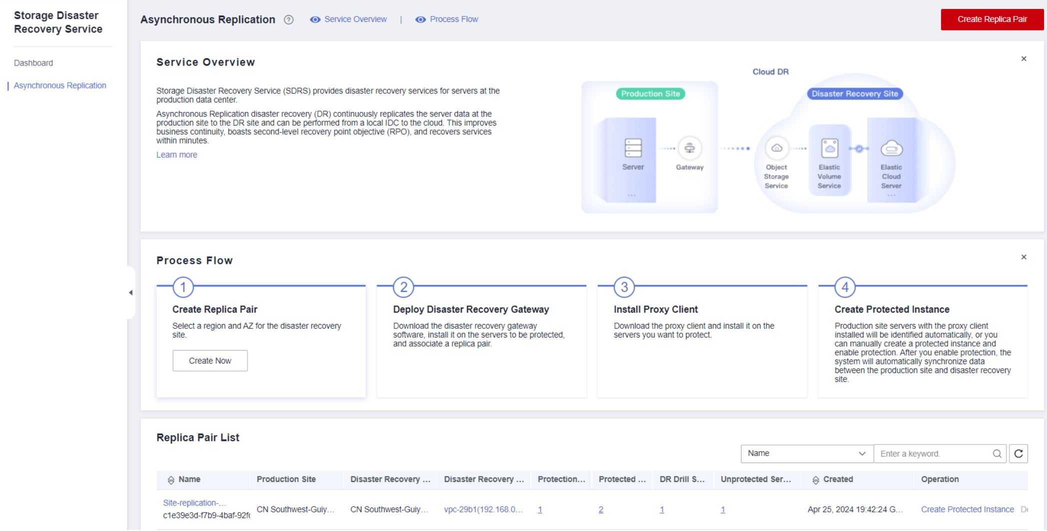


Protected Instances: 3

Name	Status	Production Site Server	Disaster Recovery Site Server	Created	Operation
protected-instance-2ea9 76f9f4e6-ff19-493d-b214-5...	● Deleting	ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896fe CN Southwest-Guiyang-ComputingSe	-- -- CN Southwest-Guiyang-ComputingSe	Apr 26, 2024 15:...	Execute Planned Failover More

Step 8 After the deletion is complete, the production site server is moved in the list of **Unprotected servers**.

Deleting a protected instance does not delete its disaster recovery drills. To delete its drills, go to the **Diaster Recovery Drills** tab page, as shown in **Deleting a Disaster Recovery Drill**.



Service Overview

Storage Disaster Recovery Service (SDRS) provides disaster recovery services for servers at the production data center.

Asynchronous Replication disaster recovery (DR) continuously replicates the server data at the production site to the DR site and can be performed from a local IDC to the cloud. This improves business continuity, boasts second-level recovery point objective (RPO), and recovers services within minutes.

Learn more

Process Flow

1 Create Replica Pair
Select a region and AZ for the disaster recovery site.

2 Deploy Disaster Recovery Gateway
Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.

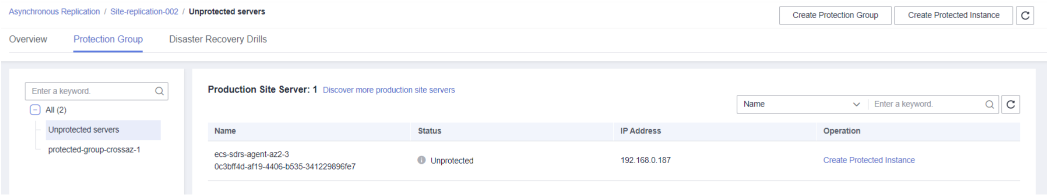
3 Install Proxy Client
Download the proxy client and install it on the servers you want to protect.

4 Create Protected Instance
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Replica Pair List

Name | Enter a keyword.

Name	Production Site	Disaster Recovery ...	Disaster Recovery ...	Protection...	Protected ...	DR Drill S...	Unprotected Ser...	Created	Operation
Site-replication-... c1e39e3d-f7b9-4baf-92f	CN Southwest-Guiy...	CN Southwest-Guiy...	vpc-29b1(192.168.0...	1	2	1	1	Apr 25, 2024 19:42:24 G...	Create Protected Instance De



Asynchronous Replication / Site-replication-002 / Unprotected servers

Production Site Server: 1 Discover more production site servers

Name | Enter a keyword.

Name	Status	IP Address	Operation
ecs-sdrs-agent-az2-3 0c3bff4d-af19-4406-b535-341229896fe7	Unprotected	192.168.0.187	Create Protected Instance

----End

2.4 Managing DR Drills

2.4.1 Deleting a Disaster Recovery Drill

Scenarios

Delete disaster recovery drills no longer needed to release the virtual resources. Drill servers are deleted along with drills.

Prerequisites

No operations are being performed on the disaster recovery drill.

Procedure

Step 1 Log in to the management console.

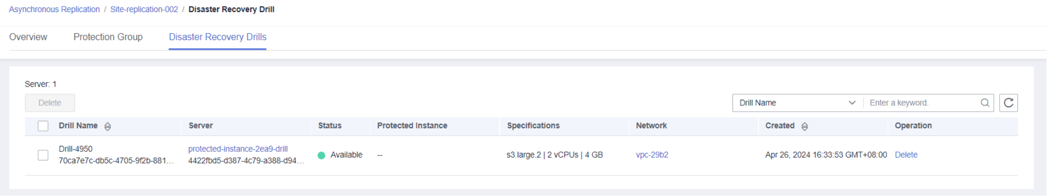
Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Choose **Asynchronous Replication**. In the right pane, locate the replica pair housing the disaster recovery drill you want to delete and click the replica pair name.

The **Overview** tab page is displayed.

Step 4 Click the **Disaster Recovery Drill** tab. In the drill list, locate the drill you want to delete and click **Delete** in the **Operation** column.



Asynchronous Replication / Site-replication-002 / Disaster Recovery Drill

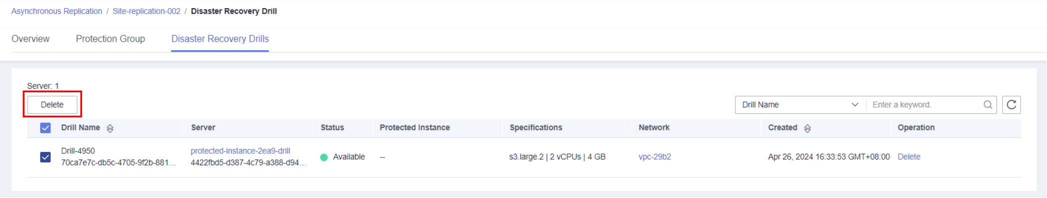
Overview | Protection Group | Disaster Recovery Drills

Server: 1

Delete

□	Drill Name	Server	Status	Protected Instance	Specifications	Network	Created	Operation
□	Drill-4950 70ca7e7c-db5c-4705-9f2b-881...	protected-instance-2ea9-drill 4422fbd5-d387-4c79-a388-d94...	● Available	--	s3.large.2 | 2 vCPUs | 4 GB	vpc-29b2	Apr 26, 2024 16:33:53 GMT+08:00	Delete

To delete drills in a batch, select the target drills and click **Delete** above the drill server list.



Asynchronous Replication / Site-replication-002 / Disaster Recovery Drill

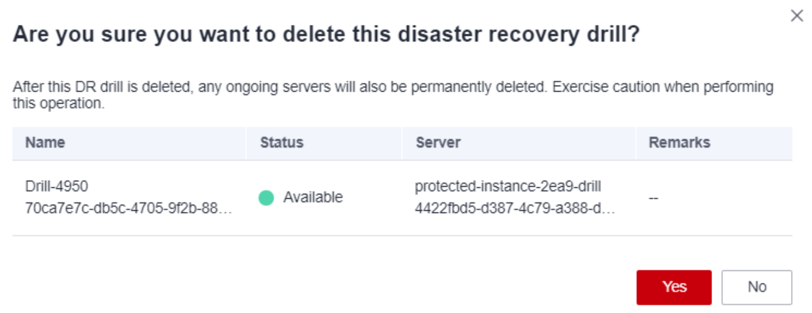
Overview | Protection Group | Disaster Recovery Drills

Server: 1

Delete

☑	Drill Name	Server	Status	Protected Instance	Specifications	Network	Created	Operation
☑	Drill-4950 70ca7e7c-db5c-4705-9f2b-881...	protected-instance-2ea9-drill 4422fbd5-d387-4c79-a388-d94...	● Available	--	s3.large.2 | 2 vCPUs | 4 GB	vpc-29b2	Apr 26, 2024 16:33:53 GMT+08:00	Delete

Step 5 In the displayed dialog box, confirm drill information and click **Yes**.



Are you sure you want to delete this disaster recovery drill?

After this DR drill is deleted, any ongoing servers will also be permanently deleted. Exercise caution when performing this operation.

Name	Status	Server	Remarks
Drill-4950 70ca7e7c-db5c-4705-9f2b-88...	● Available	protected-instance-2ea9-drill 4422fbd5-d387-4c79-a388-d...	--

Step 6 The drill status changes to **Deleting**. After the drill is deleted, it disappears from the drill list.

The drill server is deleted along with the drill.

----End

2.5 Managing Clients

2.5.1 Installing a Disaster Recovery Gateway

Scenarios

To use SDRS, you need to **separately deploy** the disaster recovery gateway at the production site. Do not deploy the gateway and proxy client on the same server.

The gateway aggregates and compresses I/Os received from production site servers and then transmits them to the disaster recovery site.

Prerequisites

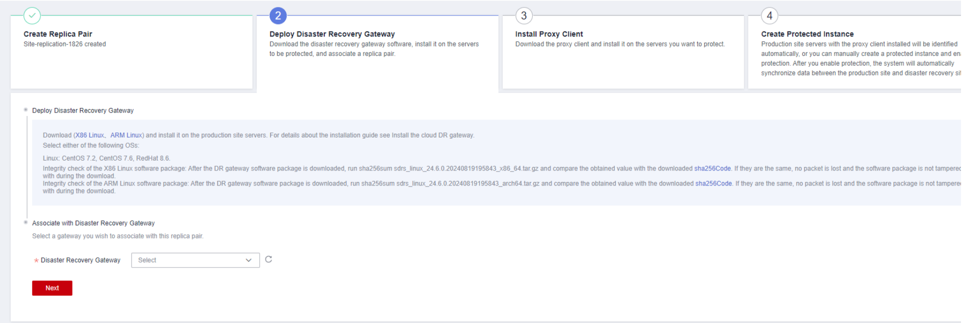
- The recommended ECS specifications to deploy the gateway are 8 vCPUs and 16 GB memory. Only Linux is supported. Huawei Cloud EulerOS 2.0 and EulerOS 2.9\2.10 are recommended, or see **Supported OSs**.
- The region, AZ, and VPC of the gateway ECS must be the same as those of the production site servers.
- It is recommended that you deploy the disaster recovery gateway and proxy client in the same security group and only allow ECSs within the security group to communication with each other. For details, see **Security Group Configuration Examples**.
- Ensure that the ports listed in **Port Description (Asynchronous Replication)** are not used.

Procedure

In the following example, **sdrs_xxxx_24.9.0.xxxx.tar.gz** is the package (24.9.0) used to install the gateway.

Step 1 Obtain the disaster recovery gateway package and upload it to a directory on the target ECS.

- **IDC-to-cloud**: Click the link on the console to download the package and upload it to the ECS where you want to deploy the gateway.



✓
Create Replica Pair
Site-replication-1826 created
2
Deploy Disaster Recovery Gateway
Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.
3
Install Proxy Client
Download the proxy client and install it on the servers you want to protect.
4
Create Protected Instance
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and en protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery si

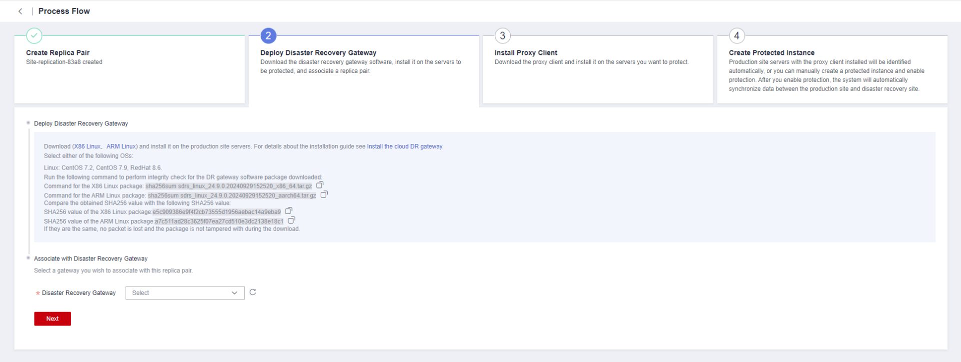
Deploy Disaster Recovery Gateway

Download (X86 Linux、 ARM Linux) and install it on the production site servers. For details about the installation guide see Install the cloud DR gateway.
Select either of the following OSs:
Linux: CentOS 7.2, CentOS 7.6, RedHat 8.6.
Integrity check of the X86 Linux software package: After the DR gateway software package is downloaded, run sha256sum sdrs_linux_24.6.0.20240819195843_x86_64.tar.gz and compare the obtained value with the downloaded sha256Code. If they are the same, no packet is lost and the software package is not tampered with during the download.
Integrity check of the ARM Linux software package: After the DR gateway software package is downloaded, run sha256sum sdrs_linux_24.6.0.20240819195843_arch64.tar.gz and compare the obtained value with the downloaded sha256Code. If they are the same, no packet is lost and the software package is not tampere with during the download.

Associate with Disaster Recovery Gateway

Select a gateway you wish to associate with this replica pair.

- **Cross-region** and **Cross-AZ**: Copy the command provided on the console, log in to the ECS where you want to deploy the gateway, go to the desired directory, and paste and run the command to obtain the package.



Process Flow
✓
Create Replica Pair
Site-replication-83a8 created
2
Deploy Disaster Recovery Gateway
Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.
3
Install Proxy Client
Download the proxy client and install it on the servers you want to protect.
4
Create Protected Instance
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Deploy Disaster Recovery Gateway

Download (X86 Linux、 ARM Linux) and install it on the production site servers. For details about the installation guide see Install the cloud DR gateway.
Select either of the following OSs:
Linux: CentOS 7.2, CentOS 7.9, RedHat 8.6.
Run the following command to perform integrity check for the DR gateway software package downloaded:
Command for the X86 Linux package: sha256sum sdrs_linux_24.9.0.20240929152520_x86_64.tar.gz
Command for the ARM Linux package: sha256sum sdrs_linux_24.9.0.20240929152520_aarch64.tar.gz
Compare the obtained SHA256 value with the following SHA256 value:
SHA256 value of the X86 Linux package:e5c909386e9f4f2cb73555d1956aebac14a9eba9
SHA256 value of the ARM Linux package:a7c511ad28c3625f07ea27cd510e3dc2138e18c1
If they are the same, no packet is lost and the package is not tampered with during the download.

Associate with Disaster Recovery Gateway

Select a gateway you wish to associate with this replica pair.

Step 2 In the directory containing the package, run the following command as user **root** to decompress the package:

tar -zxvf sdrs_xxxx_24.9.0.xxxx.tar.gz

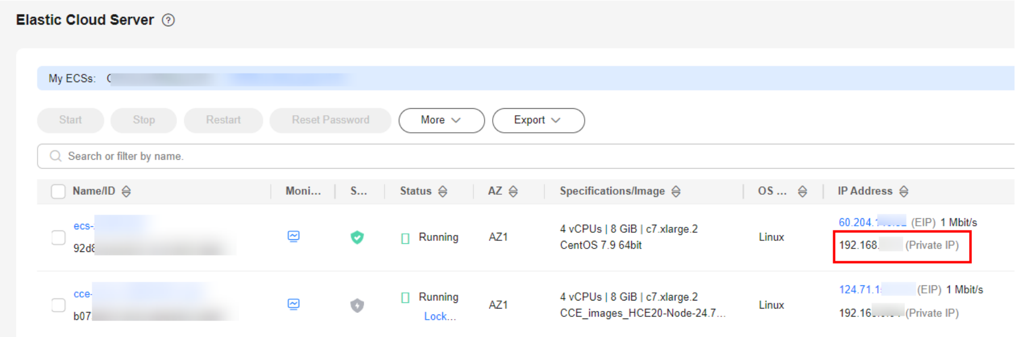
Step 3 Go to the directory containing the installation script.

cd sdrs_xxxx_24.9.0.xxxx

Step 4 Install the gateway.

sh install.sh --drm-ip=*drm_ip* **--dra-ip=***dra_ip* **--role=gateway**

In the command, *drm_ip* and *dra_ip* are the IP address of the server where the disaster recovery gateway is deployed. You can obtain the IP address from the ECS console, as shown in the following figure.



	Name/ID	Moni...	S...	Status	AZ	Specifications/Image	OS ...	IP Address
□	ecs-[redacted] 92d[redacted]			Running	AZ1	4 vCPUs | 8 GiB | c7.xlarge.2 CentOS 7.9 64bit	Linux	60.204.[redacted] (EIP) 1 Mbit/s 192.168.[redacted] (Private IP)
□	cce-[redacted] b07[redacted]			Running Lock...	AZ1	4 vCPUs | 8 GiB | c7.xlarge.2 CCE_images_HCE20-Node-24.7...	Linux	124.71.1[redacted] (EIP) 1 Mbit/s 192.16[redacted] (Private IP)

If the command output contains the following information, the gateway has been installed:

```
...
Installed DRM successfully.
Installed SDRS successfully.
...
```

NOTE

For security concerns, SDRS randomly generates a self-signed certificate for inter-component authentication upon the first installation.

Step 5 Check whether the gateway is enabled.

ps -ef | grep java | grep drm

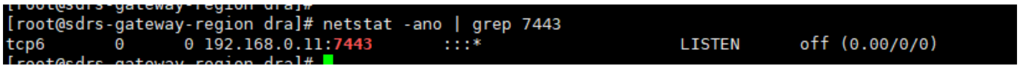
Information similar to the following is displayed:

```
service 2089 1 5 10:25 ? 00:01:12 /opt/cloud/sdrs/drm/tools/jre/bin/java -Djava.security.egd=file:/dev/
random -jar /opt/cloud/sdrs/drm/drm-24.9.0.jar --service.kernel.security.scc.config_path=file:/opt/cloud/
sdrs/drm/classes/scc --spring.config.location=/opt/cloud/sdrs/drm/classes/application.properties
```

If the command output contains the **drm** process, the gateway has been enabled.

Step 6 Check whether the gateway listening port is enabled.

netstat -ano | grep 7443



```
[root@sdrs-gateway-region dra]#
[root@sdrs-gateway-region dra]# netstat -ano | grep 7443
tcp6       0      0 192.168.0.11:7443       :::*                    LISTEN      off (0.00/0/0)
[root@sdrs-gateway-region dra]#
```

Step 7 After the installation is complete, check in the software package directory of the same level that the **sdrs_xxxx_24.9.0.xxxx_with_certs.tar.gz** installation package with a self-signed certificate and the **sdrs_xxxx_24.9.0.xxxx.tar.gz_with_certs_sha256** .sha256 file for integrity verification are generated. Use this installation package to install and deploy the proxy client.

⚠ CAUTION

After the package is installed, configure the gateway by referring to **Configuring a Disaster Recovery Gateway**.

----End

2.5.2 Configuring a Disaster Recovery Gateway

Scenarios

Before using a gateway and disaster recovery site servers for the first time, you need to configure the gateway.

Prerequisites

- The recommended ECS specifications to deploy the gateway are 8 vCPUs and 16 GB memory. Only Linux is supported. Huawei Cloud EulerOS 2.0 and EulerOS 2.9\2.10 are recommended, or see **Supported OSs**.
- The region, AZ, and VPC of the gateway ECS must be the same as those of the production site servers.
- It is recommended that you deploy the disaster recovery gateway and proxy client in the same security group and only allow ECSs within the security group to communication with each other. For details, see **Security Group Configuration Examples**.
- For security purposes, ensure that the AK/SK pair used for configuring the gateway belongs to the account that is using SDRS. Or, protected instances cannot be created.
- In 24.6.0 or an earlier version, ensure that you have upgraded the SDRS software on the gateway and production site servers to 24.9.0 or later and reconfigured the gateway according to the "Procedure for 24.9.0 or Later" part in this section.

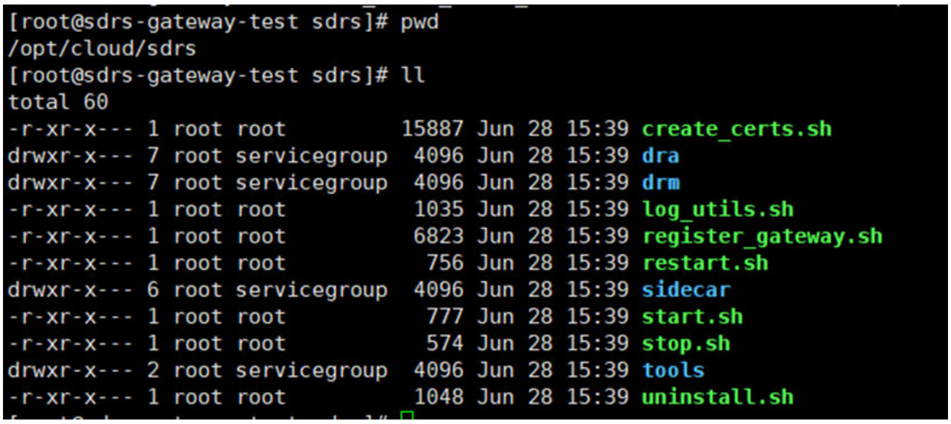
Procedure for 24.6.0 or Earlier

In the following example, **sdrs_linux_amd64_24.6.0.20240627203949.tar.gz** is the package (24.6.0) used to configure the gateway.

Step 1 Run the following command in the **/opt/cloud/sdrs** directory to configure the gateway:

```
sh register_gateway.sh
```

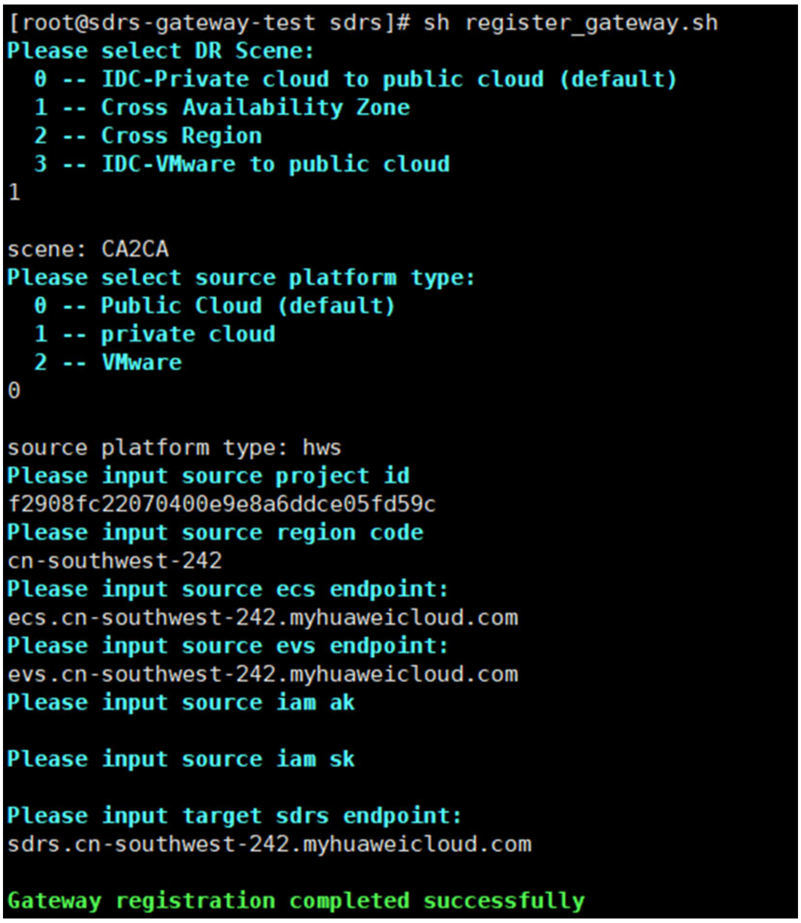
Figure 2-9 Executing the script



```
[root@sdrs-gateway-test sdrs]# pwd
/opt/cloud/sdrs
[root@sdrs-gateway-test sdrs]# ll
total 60
-r-xr-x--- 1 root root          15887 Jun 28 15:39 create_certs.sh
drwxr-x--- 7 root servicegroup   4096 Jun 28 15:39 dra
drwxr-x--- 7 root servicegroup   4096 Jun 28 15:39 drm
-r-xr-x--- 1 root root           1035 Jun 28 15:39 log_utils.sh
-r-xr-x--- 1 root root           6823 Jun 28 15:39 register_gateway.sh
-r-xr-x--- 1 root root            756 Jun 28 15:39 restart.sh
drwxr-x--- 6 root servicegroup   4096 Jun 28 15:39 sidecar
-r-xr-x--- 1 root root            777 Jun 28 15:39 start.sh
-r-xr-x--- 1 root root            574 Jun 28 15:39 stop.sh
drwxr-x--- 2 root servicegroup   4096 Jun 28 15:39 tools
-r-xr-x--- 1 root root           1048 Jun 28 15:39 uninstall.sh
```

1. In cross-AZ scenarios, configure the following parameters:

Figure 2-10 Script execution example in the cross-AZ scenario



```
[root@sdrs-gateway-test sdrs]# sh register_gateway.sh
Please select DR Scene:
  0 -- IDC-Private cloud to public cloud (default)
  1 -- Cross Availability Zone
  2 -- Cross Region
  3 -- IDC-VMware to public cloud
1

scene: CA2CA
Please select source platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
  2 -- VMware
0

source platform type: hws
Please input source project id
f2908fc22070400e9e8a6ddce05fd59c
Please input source region code
cn-southwest-242
Please input source ecs endpoint:
ecs.cn-southwest-242.myhuaweicloud.com
Please input source evs endpoint:
evs.cn-southwest-242.myhuaweicloud.com
Please input source iam ak

Please input source iam sk

Please input target sdrs endpoint:
sdrs.cn-southwest-242.myhuaweicloud.com

Gateway registration completed successfully
```

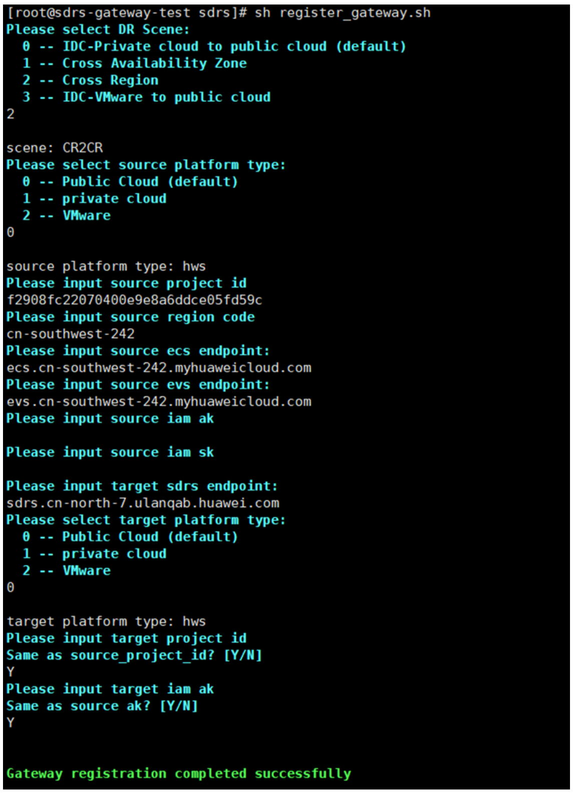
Table 2-7 Parameters for configuring cross-AZ disaster recovery

Parameter	Description	How to Obtain	Example Value
DR Scene	Replication	– **0**: IDC-to-cloud – **1**: Cross-AZ – **2**: Cross-region – **3**: IDC VMware-to-cloud	1
source platform type	Type of the production site	– **0**: Huawei public cloud – **1**: Huawei private cloud – **2**: VMware platform	0
source project id	Project ID of the production region	Log in to the console, select the production region, and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
source region code	Production region ID	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	cn-east-2
source ecs endpoint	ECS endpoint in the production region	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-
source evs endpoint	EVS endpoint in the production region	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-
source iam ak	Access key ID in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	RZSAMHULWKKE71N0XHUT

Parameter	Description	How to Obtain	Example Value
source iam sk	Secret access key in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	K7bXplAT0pEpy4SAiN2fHUwEtxvgmK3IqyhqnMTA
target sdrs endpoint	SDRS endpoint in the disaster recovery region	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	sdrs.cn-east-2.myhuaweicloud.com

2. In cross-region scenarios, configure the following parameters:

Figure 2-11 Script execution example in the cross-region scenario



```
[root@sdrs-gateway-test sdrs]# sh register_gateway.sh
Please select DR Scene:
  0 -- IDC-Private cloud to public cloud (default)
  1 -- Cross Availability Zone
  2 -- Cross Region
  3 -- IDC-VMware to public cloud
2

scene: CR2CR
Please select source platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
  2 -- VMware
0

source platform type: hws
Please input source project id
f2908fc22070400e9e8a6ddce05fd59c
Please input source region code
cn-southwest-242
Please input source ecs endpoint:
ecs.cn-southwest-242.myhuaweicloud.com
Please input source evs endpoint:
evs.cn-southwest-242.myhuaweicloud.com
Please input source iam ak

Please input source iam sk

Please input target sdrs endpoint:
sdrs.cn-north-7.ulanqab.huawei.com
Please select target platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
  2 -- VMware
0

target platform type: hws
Please input target project id
Same as source_project_id? [Y/N]
Y
Please input target iam ak
Same as source ak? [Y/N]
Y


Gateway registration completed successfully
```

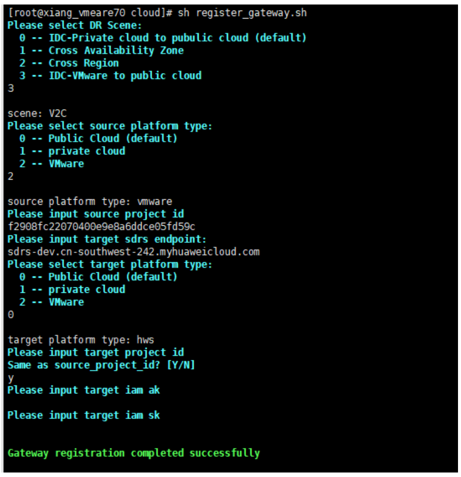
Table 2-8 Parameters for configuring cross-region disaster recovery

Parameter	Description	How to Obtain	Example Value
DR Scene	Replication	– **0**: IDC-to-cloud – **1**: Cross-AZ – **2**: Cross-region – **3**: IDC VMware-to-cloud	2
source platform type	Type of the production site	– **0**: Huawei public cloud – **1**: Huawei private cloud – **2**: VMware platform	0
source project id	Project ID of the production region	Log in to the console and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
source region code	ID of the current region	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	cn-east-2
source ecs endpoint	ECS endpoint in the production region	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-
source evs endpoint	EVS endpoint in the production region	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-
source iam ak	Access key ID in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-

Parameter	Description	How to Obtain	Example Value
source iam sk	Secret access key in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-
target sdrs endpoint	SDRS endpoint in the disaster recovery region	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	sdrs.cn-east-2.myhuaweicloud.com
target platform type	Type of the disaster recovery site	– **0**: Huawei public cloud – **1**: Huawei private cloud	0
target project id	Project ID of the disaster recovery region	Log in to the console and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
target iam ak	Access key ID in the disaster recovery region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-
target iam sk	Secret access key in the disaster recovery region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-

3. In IDC-to-cloud scenarios, configure the following parameters:

Figure 2-12 Script execution example in the IDC-to-cloud scenario



```
[root@xiang_vmeare70 cloud]# sh register_gateway.sh
Please select DR Scene:
  0 -- IDC-Private cloud to pubulic cloud (default)
  1 -- Cross Availability Zone
  2 -- Cross Region
  3 -- IDC-VMware to public cloud
3

scene: V2C
Please select source platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
  2 -- VMware
2

source platform type: vmware
Please input source project id
f2908fc22070400e9e8a6ddce05fd59c
Please input target sdrs endpoint:
sdrs-dev.cn-southwest-242.myhuaweicloud.com
Please select target platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
  2 -- VMware
0

target platform type: hws
Please input target project id
Same as source_project_id? [Y/N]
y
Please input target iam ak

Please input target iam sk


Gateway registration completed successfully
```

Table 2-9 Parameters for configuring IDC-to-cloud disaster recovery

Parameter	Description	How to Obtain	Example Value
DR Scene	Type	– **0**: IDC-to-cloud – **1**: Cross-AZ – **2**: Cross-region – **3**: IDC VMware-to-cloud	3
source platform type	Type of the production site	– **0**: Huawei public cloud – **1**: Huawei private cloud – **2**: VMware platform	2
source project id	Project ID of the production region	Log in to the console and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
source region code	Production region ID	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	cn-east-2
source ecs endpoint	ECS endpoint in the production region	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-

Parameter	Description	How to Obtain	Example Value
source evs endpoint	EVS endpoint in the production region	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-
source iam ak	Access key ID in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-
source iam sk	Secret access key in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-
target sdrs endpoint	SDRS endpoint in the disaster recovery region	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	sdrs.cn-east-2.myhuaweicloud.com

----End

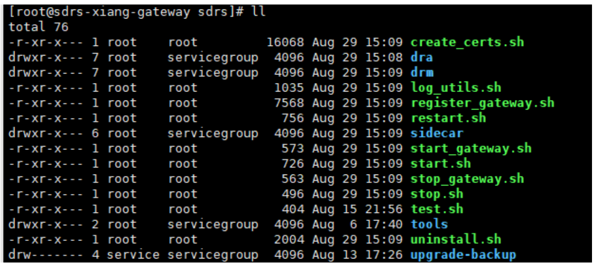
Procedure for 24.9.0 or Later

In the following example, **sdrs_xxxx_24.9.0.xxxx.tar.gz** is the package (24.9.0) used to configure the gateway.

Step 1 Run the following command in the **/opt/cloud/sdrs** directory to configure the gateway:

sh register_gateway.sh

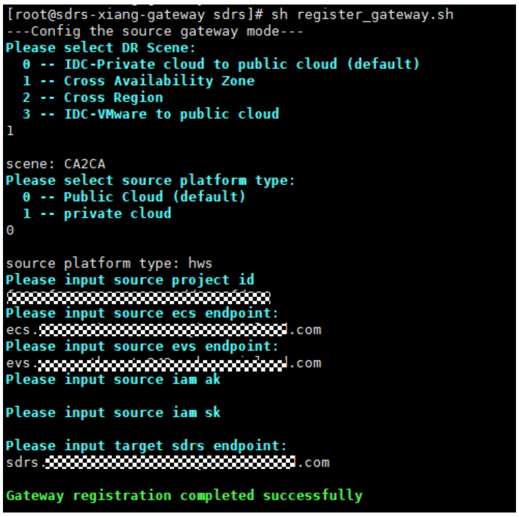
Figure 2-13 Executing the script



```
[root@sdrs-xiang-gateway sdrs]# ll
total 76
-r-xr-x--- 1 root    root         16068 Aug 29 15:09 create_certs.sh
drwxr-x--- 7 root    servicegroup  4096 Aug 29 15:08 dra
drwxr-x--- 7 root    servicegroup  4096 Aug 29 15:09 drm
-r-xr-x--- 1 root    root          1035 Aug 29 15:09 log_utils.sh
-r-xr-x--- 1 root    root          7568 Aug 29 15:09 register_gateway.sh
-r-xr-x--- 1 root    root           756 Aug 29 15:09 restart.sh
drwxr-x--- 6 root    servicegroup  4096 Aug 29 15:09 sidecar
-r-xr-x--- 1 root    root           573 Aug 29 15:09 start_gateway.sh
-r-xr-x--- 1 root    root           726 Aug 29 15:09 start.sh
-r-xr-x--- 1 root    root           563 Aug 29 15:09 stop_gateway.sh
-r-xr-x--- 1 root    root           496 Aug 29 15:09 stop.sh
-r-xr-x--- 1 root    root           404 Aug 15 21:56 test.sh
drwxr-x--- 2 root    servicegroup  4096 Aug  6 17:40 tools
-r-xr-x--- 1 root    root          2004 Aug 29 15:09 uninstall.sh
drw------- 4 service servicegroup  4096 Aug 13 17:26 upgrade-backup
```

1. In cross-AZ scenarios, configure the following parameters:

Figure 2-14 Script execution example in the cross-AZ scenario



```
[root@sdrs-xiang-gateway sdrs]# sh register_gateway.sh
---Config the source gateway mode---
Please select DR Scene:
  0 -- IDC-Private cloud to public cloud (default)
  1 -- Cross Availability Zone
  2 -- Cross Region
  3 -- IDC-VMware to public cloud
1

scene: CA2CA
Please select source platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
0

source platform type: hws
Please input source project id
[redacted]
Please input source ecs endpoint:
ecs.[redacted].com
Please input source evs endpoint:
evs.[redacted].com
Please input source iam ak

Please input source iam sk

Please input target sdrs endpoint:
sdrs.[redacted].com

Gateway registration completed successfully
```

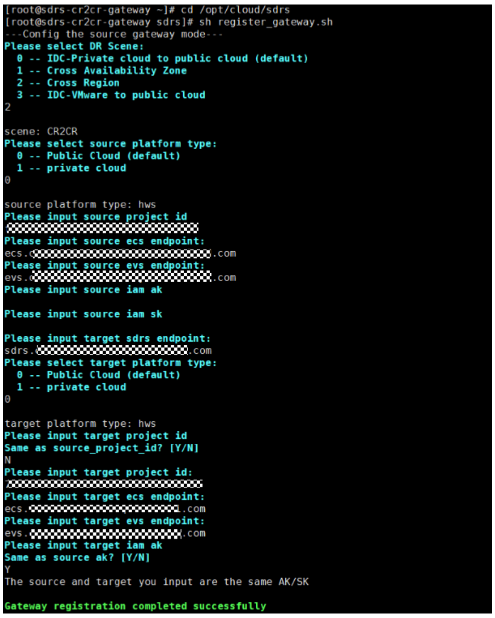
Table 2-10 Parameters for configuring cross-AZ disaster recovery

Parameter	Description	How to Obtain	Example Value
DR Scene	Replication	– **0**: IDC-to-cloud – **1**: Cross-AZ – **2**: Cross-region – **3**: IDC VMware-to-cloud	1
source platform type	Type of the production site	– **0**: Huawei public cloud – **1**: Huawei private cloud	0
source project id	Project ID of the production region	Log in to the console and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
source ecs endpoint	ECS endpoint in the production region	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-
source evs endpoint	EVS endpoint in the production region	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-

Parameter	Description	How to Obtain	Example Value
source iam ak	Access key ID in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	RZSAMHULWKKE71N0XHUT
source iam sk	Secret access key in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	K7bXplAT0pEpy4SAiN2fHUwEtxvgmK3IqyhqnMTA
target sdrs endpoint	SDRS endpoint in the disaster recovery region	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	sdrs.cn-east-2.myhuaweicloud.com

2. In cross-region scenarios, configure the following parameters:

Figure 2-15 Script execution example in the cross-region scenario



```
[root@sdrs-cr2cr-gateway ~]# cd /opt/cloud/sdrs
[root@sdrs-cr2cr-gateway sdrs]# sh register_gateway.sh
---Config the source gateway mode---
Please select DR Scene:
  0 -- IDC-Private cloud to public cloud (default)
  1 -- Cross Availability Zone
  2 -- Cross Region
  3 -- IDC-VMware to public cloud
2

scene: CR2CR
Please select source platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
0

source platform type: hws
Please input source project id
[redacted]
Please input source ecs endpoint:
ecs.[redacted].com
Please input source evs endpoint:
evs.[redacted].com
Please input source iam ak

Please input source iam sk

Please input target sdrs endpoint:
sdrs.[redacted].com
Please select target platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
0

target platform type: hws
Please input target project id
Same as source_project_id? [Y/N]
N
Please input target project id:
[redacted]
Please input target ecs endpoint:
ecs.[redacted].com
Please input target evs endpoint:
evs.[redacted].com
Please input target iam ak
Same as source ak? [Y/N]
Y
The source and target you input are the same AK/SK

Gateway registration completed successfully
```

Table 2-11 Parameters for configuring cross-region disaster recovery

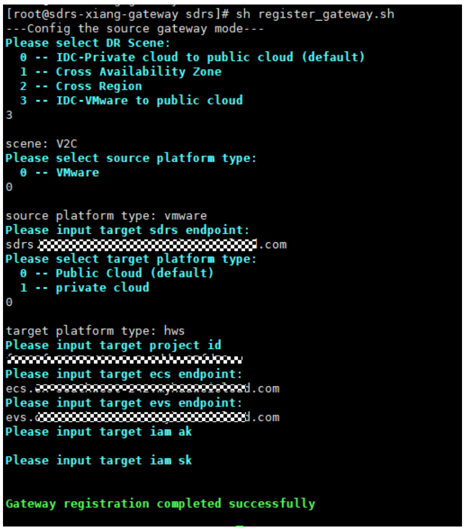
Parameter	Description	How to Obtain	Example Value
DR Scene	Replication	– **0**: IDC-to-cloud – **1**: Cross-AZ – **2**: Cross-region – **3**: IDC VMware-to-cloud	2
source platform type	Type of the production site	– **0**: Huawei public cloud – **1**: Huawei private cloud	0
source project id	Project ID of the production region	Log in to the console, select the production region, and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
source ecs endpoint	ECS endpoint in the production region	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-
source evs endpoint	EVS endpoint in the production region	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-
source iam ak	Access key ID in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-
source iam sk	Secret access key in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-

Parameter	Description	How to Obtain	Example Value
target sdrs endpoint	SDRS endpoint in the disaster recovery region	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	sdrs.cn-east-2.myhuaweicloud.com
target platform type	Type of the disaster recovery site	– **0**: Huawei public cloud – **1**: Huawei private cloud	0
target project id	Project ID of the disaster recovery region	Log in to the console, select the disaster recovery region, and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
target ecs endpoint	ECS endpoint in the disaster recovery region	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-
target evs endpoint	EVS endpoint in the disaster recovery region	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-
target iam ak	Access key ID in the disaster recovery region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-
target iam sk	Secret access key in the disaster recovery region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-

3. In IDC-to-cloud scenarios, configure the following parameters:

– V2C scenario

Figure 2-16 Script execution example in the IDC-to-cloud scenario (V2C)



```
[root@sdrs-xiang-gateway sdrs]# sh register_gateway.sh
---Config the source gateway mode---
Please select DR Scene:
  0 -- IDC-Private cloud to public cloud (default)
  1 -- Cross Availability Zone
  2 -- Cross Region
  3 -- IDC-VMware to public cloud
3

scene: V2C
Please select source platform type:
  0 -- VMware
0

source platform type: vmware
Please input target sdrs endpoint:
sdrs.[redacted].com
Please select target platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
0

target platform type: hws
Please input target project id
[redacted]
Please input target ecs endpoint:
ecs.[redacted].com
Please input target evs endpoint:
evs.[redacted].com
Please input target iam ak

Please input target iam sk


Gateway registration completed successfully
```

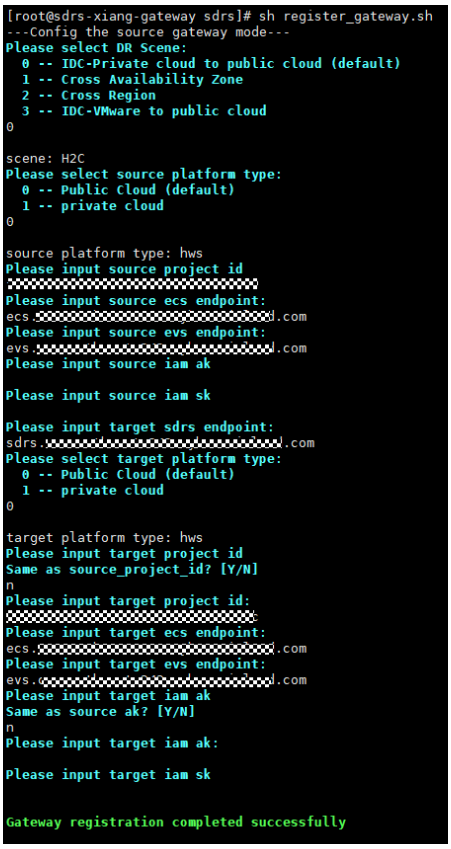
Table 2-12 Parameters for configuring IDC-to-cloud disaster recovery

Parameter	Description	How to Obtain	Example Value
DR Scene	Type	■ **0**: IDC-to-cloud ■ **1**: Cross-AZ ■ **2**: Cross-region ■ **3**: IDC VMware-to-cloud	3
source platform type	Type of the production site	■ **0**: VMware platform	0
target sdrs endpoint	SDRS endpoint in the disaster recovery region	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	sdrs.cn-east-2.myhuaweicloud.com
target platform type	Type of the disaster recovery site	■ **0**: Huawei public cloud ■ **1**: Huawei private cloud	0

Parameter	Description	How to Obtain	Example Value
target project id	Project ID of the disaster recovery region	Log in to the console, select the disaster recovery region, and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
target ecs endpoint	ECS endpoint in the disaster recovery region	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-
target evs endpoint	EVS endpoint in the disaster recovery region	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-
target iam ak	Access key ID in the disaster recovery region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-
target iam sk	Secret access key in the disaster recovery region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-

– H2C scenario

Figure 2-17 Script execution example in the IDC-to-cloud scenario (H2C)



```
[root@sdrs-xiang-gateway sdrs]# sh register_gateway.sh
---Config the source gateway mode---
Please select DR Scene:
  0 -- IDC-Private cloud to public cloud (default)
  1 -- Cross Availability Zone
  2 -- Cross Region
  3 -- IDC-VMware to public cloud
0

scene: H2C
Please select source platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
0

source platform type: hws
Please input source project id
[redacted]
Please input source ecs endpoint:
ecs.[redacted].com
Please input source evs endpoint:
evs.[redacted].com
Please input source iam ak

Please input source iam sk

Please input target sdrs endpoint:
sdrs.[redacted].com
Please select target platform type:
  0 -- Public Cloud (default)
  1 -- private cloud
0

target platform type: hws
Please input target project id
Same as source_project_id? [Y/N]
n
Please input target project id:
[redacted]
Please input target ecs endpoint:
ecs.[redacted].com
Please input target evs endpoint:
evs.[redacted].com
Please input target iam ak
Same as source ak? [Y/N]
n
Please input target iam ak:

Please input target iam sk


Gateway registration completed successfully
```

Table 2-13 Parameters for configuring IDC-to-cloud disaster recovery (H2C)

Parameter	Description	How to Obtain	Example Value
DR Scene	Replication	- **0**: IDC-to-cloud - **1**: Cross-AZ - **2**: Cross-region - **3**: IDC VMware-to-cloud	0
source platform type	Type of the production site	- **0**: Huawei public cloud - **1**: Huawei private cloud	0
source project id	Project ID of the production region	Log in to the console, select the production region, and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44

Parameter	Description	How to Obtain	Example Value
source ecs endpoint	ECS endpoint in the production region	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-
source evs endpoint	EVS endpoint in the production region	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-
source iam ak	Access key ID in the production region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-
source iam sk	Secret access key in the production region		-
target sdrs endpoint	SDRS endpoint in the disaster recovery region	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	sdrs.cn-east-2.myhuaweicloud.com
target platform type	Type of the disaster recovery site	■ **0**: Huawei public cloud ■ **1**: Huawei private cloud	0
target project id	Project ID of the disaster recovery region	Log in to the console, select the disaster recovery region, and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
target ecs endpoint	ECS endpoint in the disaster recovery region	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-

Parameter	Description	How to Obtain	Example Value
target evs endpoint	EVS endpoint in the disaster recovery region	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-
target iam ak	Access key ID in the disaster recovery region	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-
target iam sk	Secret access key in the disaster recovery region		-

----End

2.5.3 Upgrading a Disaster Recovery Gateway

Scenarios

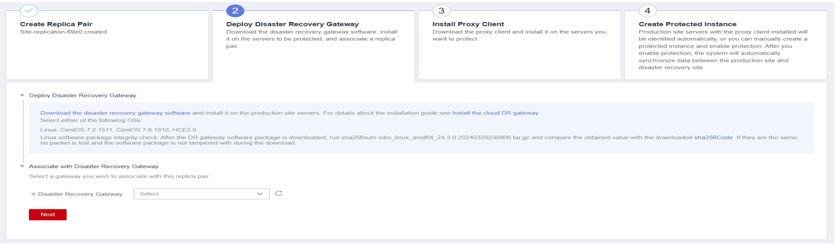
When a new version of the cloud disaster recovery gateway is released, you need to upgrade the existing disaster recovery gateway deployed.

Procedure

In the following example, **sdrs_xxxx_24.9.0.xxxx.tar.gz** is the package (24.9.0) used to upgrade the gateway.

Step 1 Obtain the disaster recovery gateway package and upload it to a directory on the target ECS.

- **IDC-to-cloud**: Click the link on the console to download the package and upload it to the ECS where you deployed the gateway.



✓ **Create Replica Pair**
Site-replication-69e0 created

2 **Deploy Disaster Recovery Gateway**
Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.

3 **Install Proxy Client**
Download the proxy client and install it on the servers you want to protect.

4 **Create Protected Instance**
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Deploy Disaster Recovery Gateway

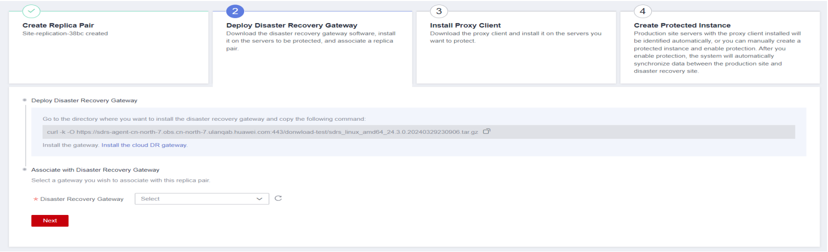
Download the disaster recovery gateway software and install it on the production site servers. For details about the installation guide see Install the cloud DR gateway.
Select either of the following OSs:
Linux: CentOS 7.2.1511, CentOS 7.6.1810, HCE2.0.
Linux software package integrity check: After the DR gateway software package is downloaded, run sha256sum sdrs_linux_amd64_24.3.0.20240329230906.tar.gz and compare the obtained value with the downloaded sha256Code. If they are the same, no packet is lost and the software package is not tampered with during the download.

Associate with Disaster Recovery Gateway

Select a gateway you wish to associate with this replica pair.

* Disaster Recovery Gateway: Select

- **Cross-region** and **Cross-AZ**: Copy the command provided on the console, log in to the ECS where you deployed the gateway, go to the desired directory, and paste and run the command to obtain the package.



✓ **Create Replica Pair**
Site-replication-38bc created

2 **Deploy Disaster Recovery Gateway**
Download the disaster recovery gateway software, install it on the servers to be protected, and associate a replica pair.

3 **Install Proxy Client**
Download the proxy client and install it on the servers you want to protect.

4 **Create Protected Instance**
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Deploy Disaster Recovery Gateway

Go to the directory where you want to install the disaster recovery gateway and copy the following command:

```
curl -k -O https://sdrs-agent-cn-north-7.obs.cn-north-7.ulanqab.huawei.com:443/donwload-test/sdrs_linux_amd64_24.3.0.20240329230906.tar.gz
```

Install the gateway. Install the cloud DR gateway.

Associate with Disaster Recovery Gateway

Select a gateway you wish to associate with this replica pair.

* Disaster Recovery Gateway: Select

Step 2 In the directory containing the package, run the following command as user **root** to decompress the package:

tar -zxvf sdrs_xxxx_24.9.0.xxxx.tar.gz

Step 3 Go to the directory containing the upgrade script.

cd sdrs_xxxx_24.9.0.xxxx.tar.gz

Step 4 Upgrade the gateway.

sh upgrade.sh

If the command output contains the following information, the gateway has been upgraded:

```
...
Upgrade SDRS successfully.
```

----End

2.5.4 Installing a Proxy Client

Scenarios

To use SDRS, you need to install a proxy client on each production site server.

The proxy client replicates I/Os of each production site server and sends them to the disaster recovery gateway.

Prerequisites

- The proxy client cannot be deployed on the disaster recovery gateway server.
- Ensure that the ports listed in **Port Description (Asynchronous Replication)** are not used.
- If the firewall is enabled on the ECS where you want to deploy the proxy client, enable port 59526 on the firewall.
- It is recommended that you deploy the disaster recovery gateway and proxy client in the same security group and only allow ECSs within the security group to communication with each other. For details, see **Security Group Configuration Examples**.

Preparing the Installation Packages

For security concerns, SDRS randomly generates a self-signed certificate for inter-component authentication upon the first installation. When you install the proxy client, the package with this certificate generated on the **gateway server** is required to ensure normal communication.

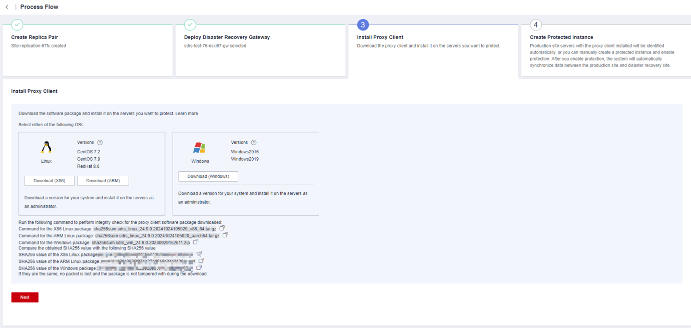
NOTE

You only need to prepare the installation packages for servers where the proxy client is installed for the first time.

If a signed installation package of the desired version is available on the disaster recovery gateway, you can directly install it. For details, see **Installing the Proxy Client on a Linux Server** or **Installing the Proxy Client on a Windows Server**.

Step 1 Obtain the proxy client package and upload it to the **/opt/cloud** directory on the **gateway server**. Ensure the package integrity by comparing the SHA256 values in advance.

- **IDC-to-cloud**: Click the link on the console to download the package and upload it to the **/opt/cloud** directory of the gateway server.



Process Flow

Create Replica Pair
Site-replication-67fc created

Deploy Disaster Recovery Gateway
sdrs-test-76-esxi67-gw selected

3 Install Proxy Client
Download the proxy client and install it on the servers you want to protect.

4 Create Protected Instance
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Install Proxy Client

Download the software package and install it on the servers you want to protect. Learn more

Select either of the following OSs:

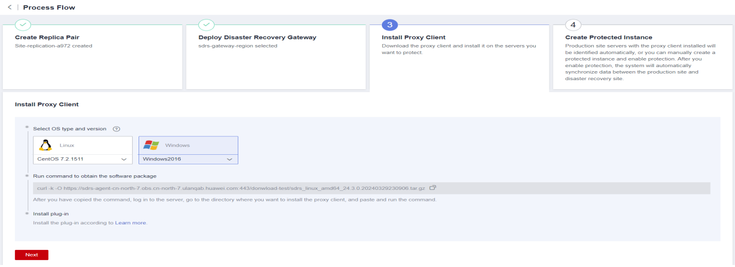
Linux
Versions
CentOS 7.2
CentOS 7.9
RedHat 8.6
Download (X86) Download (ARM)
Download a version for your system and install it on the servers as an administrator.

Windows
Versions
Windows2016
Windows2019
Download (Windows)
Download a version for your system and install it on the servers as an administrator.

Run the following command to perform integrity check for the proxy client software package downloaded:
Command for the X86 Linux package: sha256sum sdrs_linux_24.9.0.20241024105020_x86_64.tar.gz
Command for the ARM Linux package: sha256sum sdrs_linux_24.9.0.20241024105020_aarch64.tar.gz
Command for the Windows package: sha256sum sdrs_win_24.9.0.20240929152511.zip
Compare the obtained SHA256 value with the following SHA256 value:
SHA256 value of the X86 Linux package:[redacted]
SHA256 value of the ARM Linux package:[redacted]
SHA256 value of the Windows package:[redacted]
If they are the same, no packet is lost and the package is not tampered with during the download.

Next

- **Cross-region** and **Cross-AZ**: Select the OS type and version of your production site server on the console and copy the command provided. Then, log in to the gateway server, go to the **/opt/cloud** directory, and paste and run the command to obtain the package.



Process Flow

Create Replica Pair
Site-replication-a972 created

Deploy Disaster Recovery Gateway
sdrs-gateway-region selected

3 Install Proxy Client
Download the proxy client and install it on the servers you want to protect.

4 Create Protected Instance
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Install Proxy Client

Select OS type and version
Linux: CentOS 7.2.1511
Windows: Windows2016

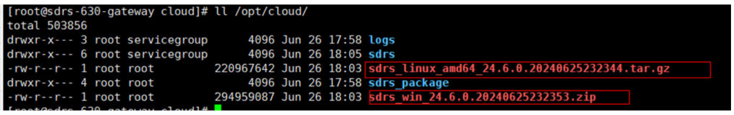
Run command to obtain the software package

```
curl -k -O https://sdrs-agent-cn-north-7.obs.cn-north-7.ulanqab.huawei.com:443/donwload-test/sdrs_linux_amd64_24.3.0.20240329230906.tar.gz
```

After you have copied the command, log in to the server, go to the directory where you want to install the proxy client, and paste and run the command.

Install plug-in
Install the plug-in according to Learn more.

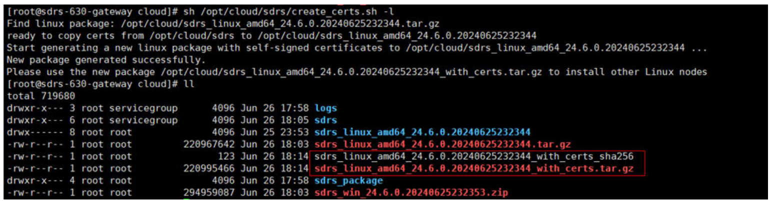
Next



```
[root@sdrs-630-gateway cloud]# ll /opt/cloud/
total 503856
drwxr-x--- 3 root servicegroup      4096 Jun 26 17:58 logs
drwxr-x--- 6 root servicegroup      4096 Jun 26 18:05 sdrs
-rw-r--r-- 1 root root         220967642 Jun 26 18:03 sdrs_linux_amd64_24.6.0.20240625232344.tar.gz
drwxr-x--- 4 root root              4096 Jun 26 17:58 sdrs_package
-rw-r--r-- 1 root root         294959087 Jun 26 18:03 sdrs_win_24.6.0.20240625232353.zip
[root@sdrs-630-gateway cloud]#
```

Step 2 Generate a new Linux installation package and a .sha256 file using the certificates on the gateway server.

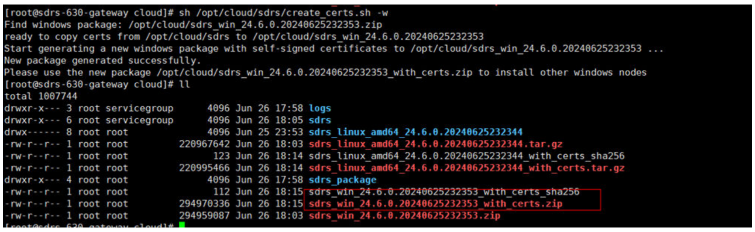
sh /opt/cloud/sdrs/create_certs.sh -l



```
[root@sdrs-630-gateway cloud]# sh /opt/cloud/sdrs/create_certs.sh -l
Find linux package: /opt/cloud/sdrs_linux_amd64_24.6.0.20240625232344.tar.gz
ready to copy certs from /opt/cloud/sdrs to /opt/cloud/sdrs_linux_amd64_24.6.0.20240625232344
Start generating a new linux package with self-signed certificates to /opt/cloud/sdrs_linux_amd64_24.6.0.20240625232344 ...
New package generated successfully.
Please use the new package /opt/cloud/sdrs_linux_amd64_24.6.0.20240625232344_with_certs.tar.gz to install other Linux nodes
[root@sdrs-630-gateway cloud]# ll
total 719680
drwxr-x--- 3 root servicegroup      4096 Jun 26 17:58 logs
drwxr-x--- 6 root servicegroup      4096 Jun 26 18:05 sdrs
drwx------ 8 root root              4096 Jun 25 23:53 sdrs_linux_amd64_24.6.0.20240625232344
-rw-r--r-- 1 root root         220967642 Jun 26 18:03 sdrs_linux_amd64_24.6.0.20240625232344.tar.gz
-rw-r--r-- 1 root root               123 Jun 26 18:14 sdrs_linux_amd64_24.6.0.20240625232344_with_certs_sha256
-rw-r--r-- 1 root root         220995466 Jun 26 18:14 sdrs_linux_amd64_24.6.0.20240625232344_with_certs.tar.gz
drwxr-x--- 4 root root              4096 Jun 26 17:58 sdrs_package
-rw-r--r-- 1 root root         294959087 Jun 26 18:03 sdrs_win_24.6.0.20240625232353.zip
```

Step 3 Generate a new Windows installation package and a .sha256 file using the certificates on the gateway server.

sh /opt/cloud/sdrs/create_certs.sh -w



```
[root@sdrs-630-gateway cloud]# sh /opt/cloud/sdrs/create_certs.sh -w
Find windows package: /opt/cloud/sdrs_win_24.6.0.20240625232353.zip
ready to copy certs from /opt/cloud/sdrs to /opt/cloud/sdrs_win_24.6.0.20240625232353
Start generating a new windows package with self-signed certificates to /opt/cloud/sdrs_win_24.6.0.20240625232353 ...
New package generated successfully.
Please use the new package /opt/cloud/sdrs_win_24.6.0.20240625232353_with_certs.zip to install other windows nodes
[root@sdrs-630-gateway cloud]# ll
total 1007744
drwxr-x--- 3 root servicegroup      4096 Jun 26 17:58 logs
drwxr-x--- 6 root servicegroup      4096 Jun 26 18:05 sdrs
drwx------ 8 root root              4096 Jun 25 23:53 sdrs_linux_amd64_24.6.0.20240625232344
-rw-r--r-- 1 root root         220967642 Jun 26 18:03 sdrs_linux_amd64_24.6.0.20240625232344.tar.gz
-rw-r--r-- 1 root root               123 Jun 26 18:14 sdrs_linux_amd64_24.6.0.20240625232344_with_certs_sha256
-rw-r--r-- 1 root root         220995466 Jun 26 18:14 sdrs_linux_amd64_24.6.0.20240625232344_with_certs.tar.gz
drwxr-x--- 4 root root              4096 Jun 26 17:58 sdrs_package
-rw-r--r-- 1 root root               112 Jun 26 18:15 sdrs_win_24.6.0.20240625232353_with_certs_sha256
-rw-r--r-- 1 root root         294970336 Jun 26 18:15 sdrs_win_24.6.0.20240625232353_with_certs.zip
-rw-r--r-- 1 root root         294959087 Jun 26 18:03 sdrs_win_24.6.0.20240625232353.zip
[root@sdrs-630-gateway cloud]#
```

📖 **NOTE**

Use **unzip** and **zip** when packaging the Windows installation package. If any of the following is return, install the command package and then try again:

```
...    unzip not installed.
```

Or

```
...    zip not installed.
```

----End

Installing the Proxy Client on a Linux Server

In the following example, **sdrs_*xxxx*_24.9.0.*xxxx*.tar.gz** is the package (24.9.0) used to install the proxy client on CentOS.

Step 1 Obtain the **sdrs_*xxxx*_24.9.0.*xxxx*_with_certs.tar.gz** package from the **/opt/cloud** directory of the gateway server and upload it to a directory on the target production server. Ensure the package integrity by comparing the SHA256 values.

Step 2 In the directory containing the package, run the following command as user **root** to decompress the package:

tar -zxvf sdrs_xxxx_24.9.0.xxxx_with_certs.tar.gz

Step 3 Go to the directory containing the installation script.

cd sdrs_xxxx_24.9.0.xxxx

Step 4 Install the proxy client.

sh install.sh --hostagent-ip=*hostagent_ip* **--drm-ip=***drm _ip* **--role=all**

In the preceding command, *hostagent_ip* indicates the IP address of the proxy client. Set it to the IP address of the primary NIC of the server you want to install the proxy client. *drm_ip* indicates the IP address of the cloud disaster recovery gateway.

If the command output contains the following information, the proxy client has been installed:

```
...
Installed SDRS successfully.
...
```

Step 5 After the installation is complete, delete the installation package and decompressed files.

----End

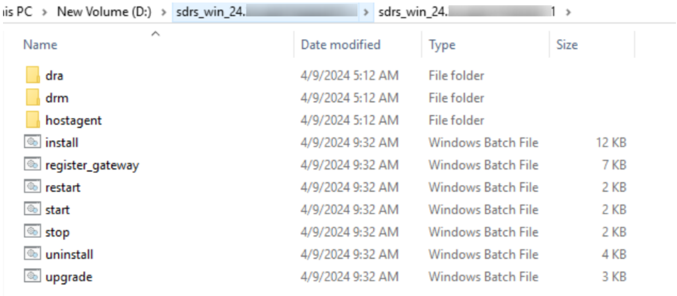
Installing the Proxy Client on a Windows Server

In the following example, **sdrs_*xxxx*_24.9.0.*xxxx*.zip** is the package (24.9.0) used to install the proxy client on Windows Server 2019.

Step 1 Obtain the **sdrs_*xxxx*_24.9.0.*xxxx*_with_certs.zip** package from the **/opt/cloud** directory of the gateway server and upload it to a directory on the target production server. Ensure the package integrity by comparing the SHA256 values.

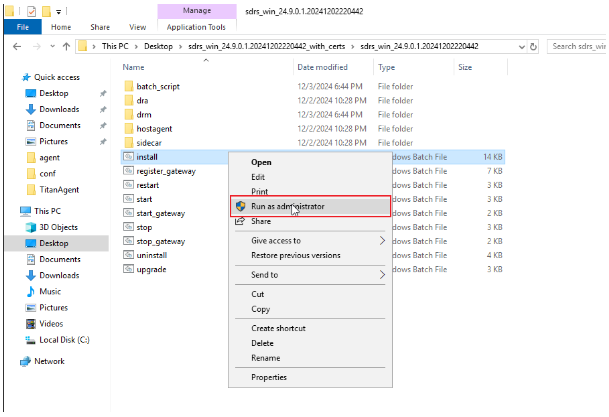
Step 2 In the directory containing the package, right-click the package to decompress it.

Step 3 Double-click the decompressed directory to go to the directory containing the installation script.


is PC › New Volume (D:) › sdrs_win_24.[redacted] › sdrs_win_24.[redacted]1 ›

Name	Date modified	Type	Size
dra	4/9/2024 5:12 AM	File folder	
drm	4/9/2024 5:12 AM	File folder	
hostagent	4/9/2024 5:12 AM	File folder	
install	4/9/2024 9:32 AM	Windows Batch File	12 KB
register_gateway	4/9/2024 9:32 AM	Windows Batch File	7 KB
restart	4/9/2024 9:32 AM	Windows Batch File	2 KB
start	4/9/2024 9:32 AM	Windows Batch File	2 KB
stop	4/9/2024 9:32 AM	Windows Batch File	2 KB
uninstall	4/9/2024 9:32 AM	Windows Batch File	4 KB
upgrade	4/9/2024 9:32 AM	Windows Batch File	3 KB

Step 4 Right-click **install.bat** and choose **Run as administrator**.

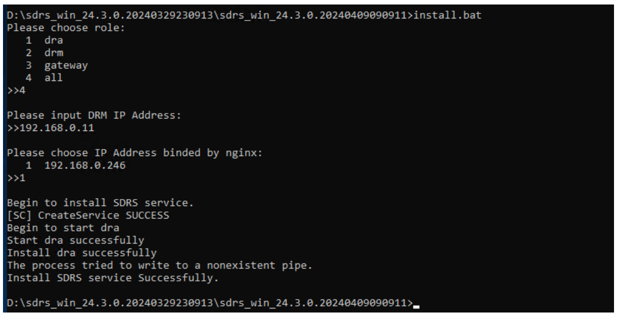


Name	Date modified	Type	Size
batch_script	12/3/2024 6:44 PM	File folder	
dra	12/2/2024 10:28 PM	File folder	
drm	12/3/2024 6:44 PM	File folder	
hostagent	12/2/2024 10:28 PM	File folder	
sidecar	12/2/2024 10:28 PM	File folder	
install		dows Batch File	14 KB
register_gateway		dows Batch File	7 KB
restart		dows Batch File	3 KB
start		dows Batch File	3 KB
start_gateway		dows Batch File	2 KB
stop		dows Batch File	3 KB
stop_gateway		dows Batch File	2 KB
uninstall		dows Batch File	4 KB
upgrade		dows Batch File	3 KB

Enter the parameters as prompted.

1. Select **all** for **role**.
2. Enter the gateway IP address for **DRM IP Address**.
3. If the production site server has multiple NICs, all the IP addresses bound by Nginx will be displayed, enter the serial number of the IP address you required.

Figure 2-18 Proxy client installation example



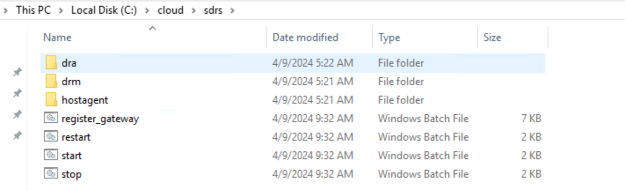
```
D:\sdrs_win_24.3.0.20240329230913\sdrs_win_24.3.0.20240409090911>install.bat
Please choose role:
   1  dra
   2  drm
   3  gateway
   4  all
>>4

Please input DRM IP Address:
>>192.168.0.11

Please choose IP Address binded by nginx:
   1  192.168.0.246
>>1

Begin to install SDRS service.
[SC] CreateService SUCCESS
Begin to start dra
Start dra successfully
Install dra successfully
The process tried to write to a nonexistent pipe.
Install SDRS service Successfully.

D:\sdrs_win_24.3.0.20240329230913\sdrs_win_24.3.0.20240409090911>
```

NOTICE

SDRS requires that jdk.8u261 or later is installed on the production site server. If the installed version is earlier than jdk.8u261, upgrade JDK first.

If JDK is not installed, it will be automatically installed during the SDRS installation. If JDK has been installed, it will not be installed again.

Step 5 The proxy client is installed in the **C:\cloud\sdrs** directory. After the installation is complete, manually delete the installation package and decompressed files.



This PC › Local Disk (C:) › cloud › sdrs ›

Name	Date modified	Type	Size
dra	4/9/2024 5:22 AM	File folder	
drm	4/9/2024 5:21 AM	File folder	
hostagent	4/9/2024 5:21 AM	File folder	
register_gateway	4/9/2024 9:32 AM	Windows Batch File	7 KB
restart	4/9/2024 9:32 AM	Windows Batch File	2 KB
start	4/9/2024 9:32 AM	Windows Batch File	2 KB
stop	4/9/2024 9:32 AM	Windows Batch File	2 KB

----End

2.5.5 Upgrading a Proxy client

Scenarios

When a new version of the proxy client is released, you need to upgrade the existing proxy client deployed.

Procedure

NOTICE

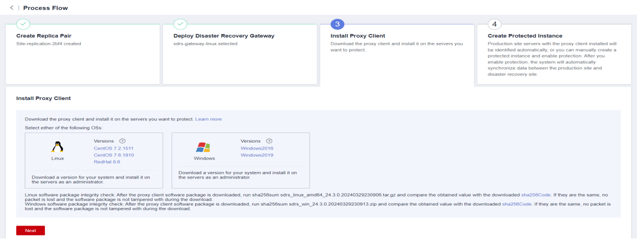
If the production services are running at the production site, upgrading the proxy client will resynchronize data.

Linux

In the following example, **sdrs_*xxxx*_24.9.0.*xxxx*.tar.gz** is the package (24.9.0) used to upgrade the proxy client.

Step 1 Obtain the proxy client package and upload it to a directory on the target server. Ensure the package integrity by comparing the SHA256 values in advance.

- **IDC-to-cloud**: Click the link on the console to download the package and upload it to the target server.



< | Process Flow

Create Replica Pair
Site-replication-2bf4 created

Deploy Disaster Recovery Gateway
sdrs-gateway-linux selected

3 Install Proxy Client
Download the proxy client and install it on the servers you want to protect.

4 Create Protected Instance
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Install Proxy Client

Download the proxy client and install it on the servers you want to protect. Learn more

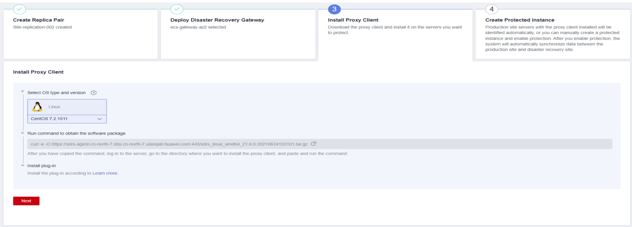
Select either of the following OSs:

Linux
Versions
CentOS 7.2.1511
CentOS 7.6.1810
RedHat 8.6
Download a version for your system and install it on the servers as an administrator.

Windows
Versions
Windows2016
Windows2019
Download a version for your system and install it on the servers as an administrator.

Linux software package integrity check: After the proxy client software package is downloaded, run sha256sum sdrs_linux_amd64_24.3.0.20240329230906.tar.gz and compare the obtained value with the downloaded sha256Code. If they are the same, no packet is lost and the software package is not tampered with during the download.
Windows software package integrity check: After the proxy client software package is downloaded, run sha256sum sdrs_win_24.3.0.20240329230913.zip and compare the obtained value with the downloaded sha256Code. If they are the same, no packet is lost and the software package is not tampered with during the download.

- **Cross-region** and **Cross-AZ**: Select the OS type and version of your production site server on the console and copy the command provided. Then, log in to the production server, go to the desired directory, and paste and run the command to obtain the package.



Create Replica Pair
Site-replication-002 created

Deploy Disaster Recovery Gateway
ecs-gateway-az2 selected

3 Install Proxy Client
Download the proxy client and install it on the servers you want to protect.

4 Create Protected Instance
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Install Proxy Client

Select OS type and version
Linux
CentOS 7.2.1511

Run command to obtain the software package

```
curl -k -O https://sdrs-agent-cn-north-7.obs.cn-north-7.ulanqab.huawei.com:443/sdrs_linux_amd64_21.6.0.20210624155101.tar.gz
```

After you have copied the command, log in to the server, go to the directory where you want to install the proxy client, and paste and run the command.

Install plug-in
Install the plug-in according to Learn more.

Step 2 In the directory containing the package, run the following command as user **root** to decompress the package:

tar -zxvf sdrs_xxxx_24.9.0.xxxx.tar.gz

Step 3 Go to the directory containing the upgrade script.

cd sdrs_xxxx_24.9.0.xxxx

Step 4 Upgrade the proxy client.

sh upgrade.sh

If the command output contains the following information, the proxy client has been upgraded:

```
...
Upgrade SDRS successfully.
```

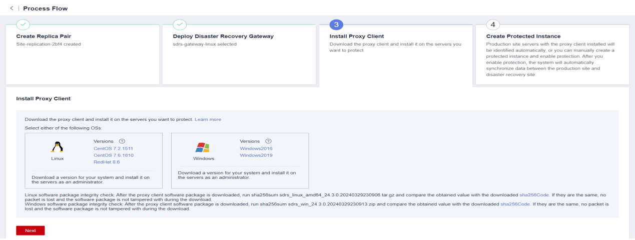
----End

Windows

In the following example, **sdrs_*xxxx*_24.9.0.*xxxx*.zip** is the package (24.9.0) used to upgrade the proxy client on Windows Server 2019.

Step 1 Obtain the proxy client package and upload it to a directory on the target server. Ensure the package integrity by comparing the SHA256 values in advance.

- **IDC-to-cloud**: Click the link on the console to download the package and upload it to the target server.



< | Process Flow

✓ **Create Replica Pair**
Site-replication-2bf4 created

✓ **Deploy Disaster Recovery Gateway**
sdrs-gateway-linux selected

3 **Install Proxy Client**
Download the proxy client and install it on the servers you want to protect.

4 **Create Protected Instance**
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Install Proxy Client

Download the proxy client and install it on the servers you want to protect. Learn more

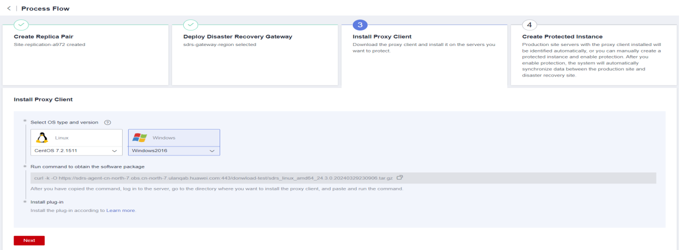
Select either of the following OSs:

Linux — Versions: CentOS 7.2.1511, CentOS 7.6.1810, RedHat 8.6
Download a version for your system and install it on the servers as an administrator.

Windows — Versions: Windows2016, Windows2019
Download a version for your system and install it on the servers as an administrator.

Linux software package integrity check: After the proxy client software package is downloaded, run sha256sum sdrs_linux_amd64_24.3.0.20240329230906.tar.gz and compare the obtained value with the downloaded sha256Code. If they are the same, no packet is lost and the software package is not tampered with during the download.
Windows software package integrity check: After the proxy client software package is downloaded, run sha256sum sdrs_win_24.3.0.20240329230913.zip and compare the obtained value with the downloaded sha256Code. If they are the same, no packet is lost and the software package is not tampered with during the download.

- **Cross-region** and **Cross-AZ**: Select the OS type and version of your production site server on the console and copy the command provided. Then, log in to the production server, go to the desired directory, and paste and run the command to obtain the package.



< | Process Flow

✓ **Create Replica Pair**
Site-replication-a972 created

✓ **Deploy Disaster Recovery Gateway**
sdrs-gateway-region selected

3 **Install Proxy Client**
Download the proxy client and install it on the servers you want to protect.

4 **Create Protected Instance**
Production site servers with the proxy client installed will be identified automatically, or you can manually create a protected instance and enable protection. After you enable protection, the system will automatically synchronize data between the production site and disaster recovery site.

Install Proxy Client

Select OS type and version
Linux: CentOS 7.2.1511
Windows: Windows2016

Run command to obtain the software package

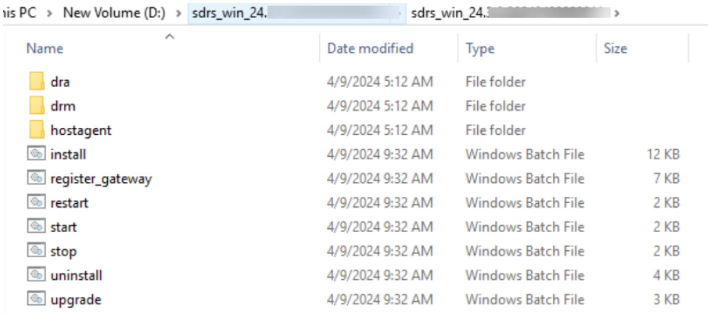
```
curl -k -O https://sdrs-agent-cn-north-7.obs.cn-north-7.ulanqab.huawei.com:443/donwload-test/sdrs_linux_amd64_24.3.0.20240329230906.tar.gz
```

After you have copied the command, log in to the server, go to the directory where you want to install the proxy client, and paste and run the command.

Install plug-in
Install the plug-in according to Learn more.

Step 2 In the directory containing the package, right-click the package to decompress it.

Step 3 Double-click the decompressed directory to go to the directory containing the upgrade script.

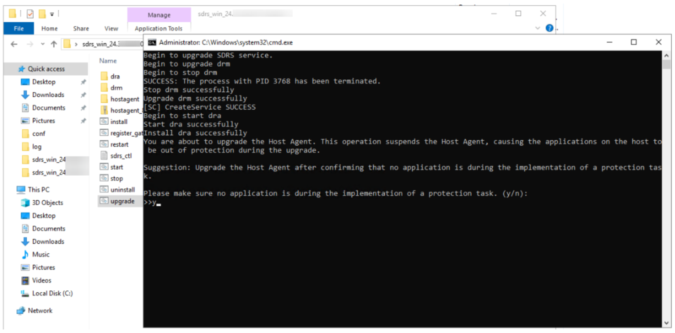


is PC › New Volume (D:) › sdrs_win_24.[redacted] › sdrs_win_24.[redacted] ›

Name	Date modified	Type	Size
dra	4/9/2024 5:12 AM	File folder	
drm	4/9/2024 5:12 AM	File folder	
hostagent	4/9/2024 5:12 AM	File folder	
install	4/9/2024 9:32 AM	Windows Batch File	12 KB
register_gateway	4/9/2024 9:32 AM	Windows Batch File	7 KB
restart	4/9/2024 9:32 AM	Windows Batch File	2 KB
start	4/9/2024 9:32 AM	Windows Batch File	2 KB
stop	4/9/2024 9:32 AM	Windows Batch File	2 KB
uninstall	4/9/2024 9:32 AM	Windows Batch File	4 KB
upgrade	4/9/2024 9:32 AM	Windows Batch File	3 KB

Step 4 Double-click **upgrade.bat** to run the script.

Step 5 Enter **y** to continue the upgrade if the confirmation information is displayed.



```
Begin to upgrade SDRS service.
Begin to upgrade drm
Begin to stop drm
SUCCESS: The process with PID 3768 has been terminated.
Stop drm successfully
Upgrade drm successfully
[SC] CreateService SUCCESS
Begin to start dra
Start dra successfully
Install dra successfully
You are about to upgrade the Host Agent. This operation suspends the Host Agent, causing the applications on the host to
 be out of protection during the upgrade.

Suggestion: Upgrade the Host Agent after confirming that no application is during the implementation of a protection tas
k.

Please make sure no application is during the implementation of a protection task. (y/n):
>>y
```

Step 6 If the command output contains the following information, the proxy client has been upgraded: (The cmd window automatically exits after the upgrade is complete.)

```
...
Upgrade SDRS successfully.
```

----End

2.5.6 Uninstalling a Disaster Recovery Gateway or Proxy Client

Scenarios

You can uninstall the proxy client from servers if you no longer require the SDRS service.

Prerequisites

You have deleted protected instances on the SDRS console.

Procedure

Linux

Log in to the target server and run the following command to uninstall the gateway or client:

sh /opt/cloud/sdrs/uninstall.sh

If the command output contains the following information, the proxy client has been uninstalled:

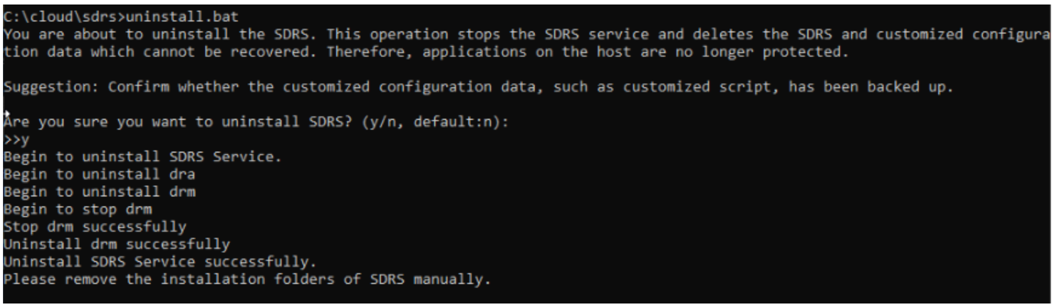
```
...
Uninstall SDRS successfully.
```

Windows

Step 1 Run **cmd** as the administrator and run the following command:

C:\cloud\sdrs\uninstall.bat

Step 2 Enter **y** to continue the uninstallation if the confirmation information is displayed.



```
C:\cloud\sdrs>uninstall.bat
You are about to uninstall the SDRS. This operation stops the SDRS service and deletes the SDRS and customized configura
tion data which cannot be recovered. Therefore, applications on the host are no longer protected.

Suggestion: Confirm whether the customized configuration data, such as customized script, has been backed up.

Are you sure you want to uninstall SDRS? (y/n, default:n):
>>y
Begin to uninstall SDRS Service.
Begin to uninstall dra
Begin to uninstall drm
Begin to stop drm
Stop drm successfully
Uninstall drm successfully
Uninstall SDRS Service successfully.
Please remove the installation folders of SDRS manually.
```

Step 3 If the command output contains the following information, the proxy client has been uninstalled:

```
...
Uninstall SDRS successfully.
```

Step 4 Delete the **C:\cloud\sdrs** directory.

----End

2.5.7 Batch Managing Proxy Clients

2.5.7.1 Batch Installing Linux Proxy Clients

Prerequisites

- It is recommended that you deploy the disaster recovery gateway and proxy client in the same security group and only allow ECSs within the security group to communication with each other. For details, see **Security Group Configuration Examples**.
- Ensure that the ports listed in **Port Description (Asynchronous Replication)** are not used.
- If the firewall is enabled on the ECS where you want to deploy the proxy client, enable port 59526 on the firewall.
- The disaster recovery gateway of 24.6.0 or later has been installed.
- The usernames, passwords, and port numbers used for logging in to the production site servers have been obtained. Ensure that all of the production site servers run Linux.
- The network between the gateway server and production site servers is connected. Remote login using SSH is available.
- The expect command is installed and supported on the gateway server.

Procedure

In the following example, **sdrs_*xxxx*_24.9.0.*xxxx*.tar.gz** is the proxy client package (24.9.0) used for illustration.

Step 1 Remotely log in to the gateway server and run the following command to check whether the expect command is available. If not, configure the yum source and obtain and install the command first.

```
/bin/expect -v
```

Step 2 Generate the Linux installation package **sdrs_*xxxx*_24.9.0.*xxxx*.tar.gz_with_certs.tar.gz** including the certificate file on the gateway server. For details, see section "Installing a Proxy Client."

Step 3 Use the following command to create the **linux-host-list.txt** file and add the private IP addresses, login ports, usernames, and passwords of the production site servers to the file.

Command format:

```
echo "IP address Port user userPassword rootPassword drmIp hostagentIp" >> linux-host-list.txt
```

Parameter description:

IP address: The IP address of the production site server used for remote login.

Port: The port for remote login.

user: The username for remote login.

userPassword: The password for remote login. If **root** is used for login, use the **rootPassword** value for **userPassword**.

rootPassword: The password of the **root** user.

drmIp: The IP address of the gateway server.

hostagentIp: The IP address of the primary NIC on the production site server.

A complete example command is as follows:

```
echo "192.168.0.1 22 user userPassword rootPassword 192.168.0.10 192.168.0.1" >> linux-host-list.txt
```

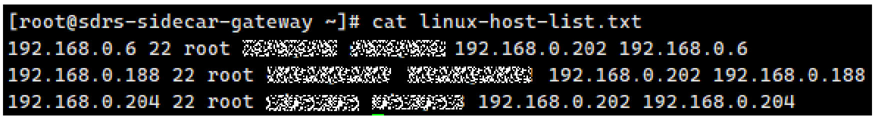
To add information of multiple production site servers, separate the information of each server with a line separator.

Example:

```
echo "192.168.0.6 22 user userPassword rootPassword 192.168.0.202 192.168.0.6" >> linux-host-list.txt
echo "192.168.0.188 22 user userPassword rootPassword 192.168.0.202 192.168.0.188" >> linux-host-list.txt
echo "192.168.0.204 22 user userPassword rootPassword 192.168.0.202 192.168.0.204" >> linux-host-list.txt
```

Step 4 Check whether all of the information is added.

```
cat linux-host-list.txt
```



```
[root@sdrs-sidecar-gateway ~]# cat linux-host-list.txt
192.168.0.6 22 root [redacted] [redacted] 192.168.0.202 192.168.0.6
192.168.0.188 22 root [redacted] [redacted] 192.168.0.202 192.168.0.188
192.168.0.204 22 root [redacted] [redacted] 192.168.0.202 192.168.0.204
```

Step 5 Run the following command as user **root** to install proxy clients in a batch:

/opt/cloud/sdrs/sidecar/script/cmd_tools.sh install --host-list=*host_list_file_path* **--package=***package_path* **--timeout=***cmd_timeout_in_s*

Parameter description:

--host-list: The path of the **linux-host-list.txt** file.

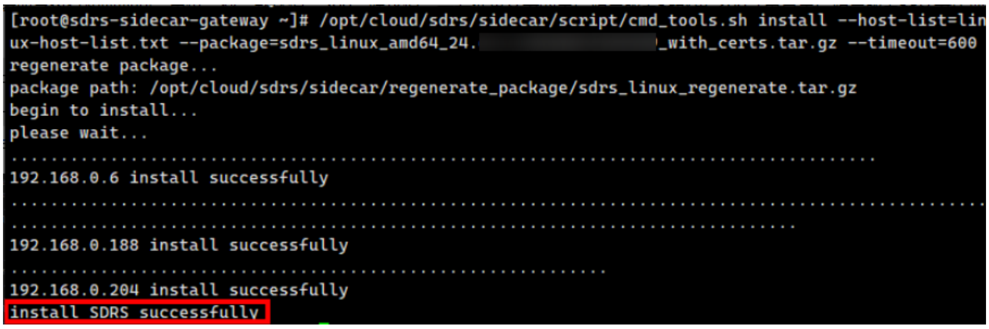
--package: The path of the Linux installation package **sdrs_***xxxx***_24.9.0.***xxxx***.tar.gz_with_certs.tar.gz**.

--timeout: The command timeout interval, in seconds. The default value is **300**. You are advised to set the timeout interval based on the number of production site servers. The formula is as follows: Number of production site servers x 200 (time required for installing a proxy client)

A complete example command is as follows:

```
/opt/cloud/sdrs/sidecar/script/cmd_tools.sh install --host-list=linux-host-list.txt --package=sdrs_xxxx_24.9.0.xxxx.tar.gz_with_certs.tar.gz --timeout=600
```

Step 6 Check the command output. If "install SDRS successfully" is returned, the proxy client is successfully installed on all production site servers.



```
[root@sdrs-sidecar-gateway ~]# /opt/cloud/sdrs/sidecar/script/cmd_tools.sh install --host-list=lin
ux-host-list.txt --package=sdrs_linux_amd64_24.[redacted]_with_certs.tar.gz --timeout=600
regenerate package...
package path: /opt/cloud/sdrs/sidecar/regenerate_package/sdrs_linux_regenerate.tar.gz
begin to install...
please wait...
.......................................................................................
192.168.0.6 install successfully
...................................................................................................
...............................................................................
192.168.0.188 install successfully
............................................................
192.168.0.204 install successfully
install SDRS successfully
```

Step 7 Delete the **linux-host-list.txt** file to prevent password leakage.

```
rm -rf linux-host-list.txt
```

----End

Troubleshooting

If "error: install SDRS timeout" is returned, the script execution timed out. Perform the following steps on the gateway server to troubleshoot the fault:

Step 1 Check whether the expect command is supported.

```
/bin/expect -v
```

Step 2 Check the "*IP address* install successfully" information in the command output for production site servers with proxy client successfully installed. For those whose client installation failed, check whether the usernames and passwords in **linux-host-list.txt** are correct. Use the following command to check whether a server can be logged in to:

/bin/ssh -t -p *Port Username* **@***IP address*

----End

2.5.7.2 Batch Installing Windows Proxy Clients

Prerequisites

- It is recommended that you deploy the disaster recovery gateway and proxy client in the same security group and only allow ECSs within the security group to communication with each other. For details, see **Security Group Configuration Examples**.
- Ensure that the ports listed in **Port Description (Asynchronous Replication)** are not used.
- If the firewall is enabled on the ECS where you want to deploy the proxy client, enable port 59526 on the firewall.
- The disaster recovery gateway of 24.9.0 or later has been installed.
- The passwords of administrators used for logging in to the production site servers have been obtained. Ensure that all of the production site servers run Windows.
- A Windows proxy client has been manually installed. For details, see **Installing a Proxy Client**.
- The network between the cloud disaster recovery gateway server and production site servers (regardless of whether the proxy client is installed or not) is connected, and all the servers on the network can be pinged.

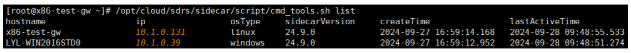
Procedure

In the following example, **sdrs_win_24.9.0.***xxxx***_with_certs.zip** is the proxy client package (24.9.0) used for illustration.

Step 1 Repackage the Windows installation package **sdrs_win_24.9.0.***xxxx***_with_certs.zip** by referring to **Installing a Proxy Client**, and manually install the client. After the installation is successful, log in to the cloud disaster recovery gateway and run the following command to check whether the connection between the client and the gateway has been established:

```
/opt/cloud/sdrs/sidecar/script/cmd_tools.sh list
```

In the following figure, **10.1.0.131** is the IP address of the gateway server, and **10.1.0.39** is the IP address of server where you have manually installed the proxy client.



```
[root@x86-test-gw ~]# /opt/cloud/sdrs/sidecar/script/cmd_tools.sh list
hostname                  ip                  osType     sidecarVersion     createTime                 lastActiveTime
x86-test-gw               10.1.0.131          linux      24.9.0             2024-09-27 16:59:14.168    2024-09-28 09:48:55.533
LYL-WIN2016STD0           10.1.0.39           windows    24.9.0             2024-09-27 16:59:12.952    2024-09-28 09:48:51.274
```

Step 2 Generate the Windows installation package **sdrs_win_24.9.0.*xxxx*_with_certs.zip**, including the certificate file, on the gateway server. For details, see section "Installing a Proxy Client."

Step 3 Use the following command to create the **windows-host-list.txt** file and add the private IP addresses and administrator passwords of the production site servers to the file.

Command format:

```
echo "IP address Administrator AdminPassword drmIP hostagentIP" >> windows-host-list.txt
```

Parameter description:

IP address: The IP address of the production site server used for remote login.

Administrator: The administrator username.

AdminPassword: The password of the administrator account.

drmIp: The IP address of the gateway server.

hostagentIp: The IP address of the primary NIC on the production site server.

A complete example command is as follows:

```
echo "10.1.0.76 Administrator AdminPassword 10.1.0.131 10.1.0.76">> windows-host-list.txt
```

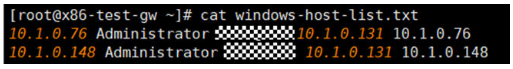
To add information of multiple production site servers, separate the information of each server with a line separator.

Example:

```
echo "10.1.0.76 Administrator AdminPassword 10.1.0.131 10.1.0.76">> windows-host-list.txt
echo "10.1.0.148 Administrator AdminPassword 10.1.0.131 10.1.0.148">> windows-host-list.txt
```

Step 4 Check whether all of the information is added to **windows-host-list.txt**.

```
cat windows-host-list.txt
```



```
[root@x86-test-gw ~]# cat windows-host-list.txt
10.1.0.76 Administrator [redacted] 10.1.0.131 10.1.0.76
10.1.0.148 Administrator [redacted] 10.1.0.131 10.1.0.148
```

Step 5 Run the following command as user **root** to install proxy clients in a batch:

```
/opt/cloud/sdrs/sidecar/script/cmd_tools.sh install --host-list=host_list_file_path --package=package_path --timeout=cmd_timeout_in_s
```

Parameter description:

--host-list: The path of the **windows-host-list.txt** file.

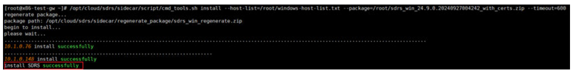
--package: The path of the Windows installation package **sdrs_win_24.9.0.*xxxx*_with_certs.zip**.

--timeout: The command timeout interval, in seconds. The default value is **300**. You are advised to set the timeout interval based on the number of production site servers. The formula is as follows: Number of production site servers x 300 (time required for installing a proxy client)

A complete example command is as follows:

```
/opt/cloud/sdrs/sidecar/script/cmd_tools.sh install --host-list=/root/windows-host-list.txt --package=/root/
sdrs_win_24.9.0.20240927004242_with_certs.zip --timeout=600
```

Step 6 Check the command output. If "install SDRS successfully" is returned, the proxy client is successfully installed on all production site servers.



```
[root@x86-test-gw ~]# /opt/cloud/sdrs/sidecar/script/cmd_tools.sh install --host-list=/root/windows-host-list.txt --package=/root/sdrs_win_24.9.0.20240927004242_with_certs.zip --timeout=600
regenerate package...
package path: /opt/cloud/sdrs/sidecar/regenerate_package/sdrs_win_regenerate.zip
begin to install...
please wait...
........................................................................................................................
10.1.0.76 install successfully
.......................................................................
10.1.0.148 install successfully
install SDRS successfully
```

Step 7 Delete the **windows-host-list.txt** file to prevent password leakage.

```
rm -rf windows-host-list.txt
```

----End

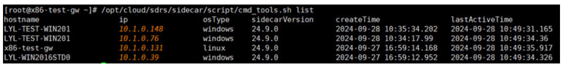
Troubleshooting

If "error: install SDRS timeout" is returned, the script execution timed out. Perform the following steps on the gateway server to troubleshoot the fault:

Step 1 Check the "*IP address* install successfully" information in the command output for production site servers with proxy client successfully installed.

Wait for several minutes and run this command again to check whether there are new servers displayed. If yes, the configured timeout interval is too short, but the background installation is successful. Wait for several more minutes and check whether the remaining servers are successfully installed.

```
/opt/cloud/sdrs/sidecar/script/cmd_tools.sh list
```



```
[root@x86-test-gw ~]# /opt/cloud/sdrs/sidecar/script/cmd_tools.sh list
hostname                ip                 osType     sidecarVersion     createTime                 lastActiveTime
LYL-TEST-WIN201         10.1.0.148         windows    24.9.0             2024-09-28 10:35:34.202    2024-09-28 10:49:31.165
LYL-TEST-WIN201         10.1.0.76          windows    24.9.0             2024-09-28 10:34:17.99     2024-09-28 10:49:34.36
x86-test-gw             10.1.0.131         linux      24.9.0             2024-09-27 16:59:14.168    2024-09-28 10:49:35.917
LYL-WIN2016STD0         10.1.0.39          windows    24.9.0             2024-09-27 16:59:12.952    2024-09-28 10:49:34.326
```

Step 2 If the client still cannot be found in the command output, check whether the client password specified in the **windows-host-list.txt** file is correct.

----End

2.5.7.3 Batch Upgrading Proxy Clients

Prerequisites

- The disaster recovery gateway has been installed. For Linux clients, the gateway version must be 24.6.0 or later. For Windows clients, the gateway version must be 24.9.0 or later.
- Proxy clients have been installed on target production site servers. For Linux clients, the client version must be 24.6.0 or later. For Windows clients, the client version must be 24.9.0 or later.
- Before upgrading the proxy client on a Linux server, run **getenforce** to check the SELinux mode. If the mode is **Enforcing**, change it to **Disabled** or **Permissive**. After the upgrade is complete, restore the SELinux setting.

Notes and constraints

Batch upgrading proxy clients on both Windows and Linux servers using one command is currently not supported.

Procedure

In the following example, **sdrs_*xxxx*_24.9.0.*xxxx*.tar.gz** is the proxy client package (24.9.0) used for illustration.

Step 1 Obtain the proxy client package **sdrs_*xxxx*_24.9.0.*xxxx*.tar.gz** from the gateway server.

Step 2 Run the following command as user **root** to upgrade proxy clients in batches:

```
/opt/cloud/sdrs/sidecar/script/cmd_tools.sh upgrade --ip=ip_list --package=package_path --timeout=cmd_timeout_in_s
```

Parameter description:

--ip: The private IP addresses of the production site servers you want to upgrade proxy clients. Separate multiple IP addresses with commas (,).

--package: The path of the Linux installation package **sdrs_*xxxx*_24.9.0.*xxxx*.tar.gz**.

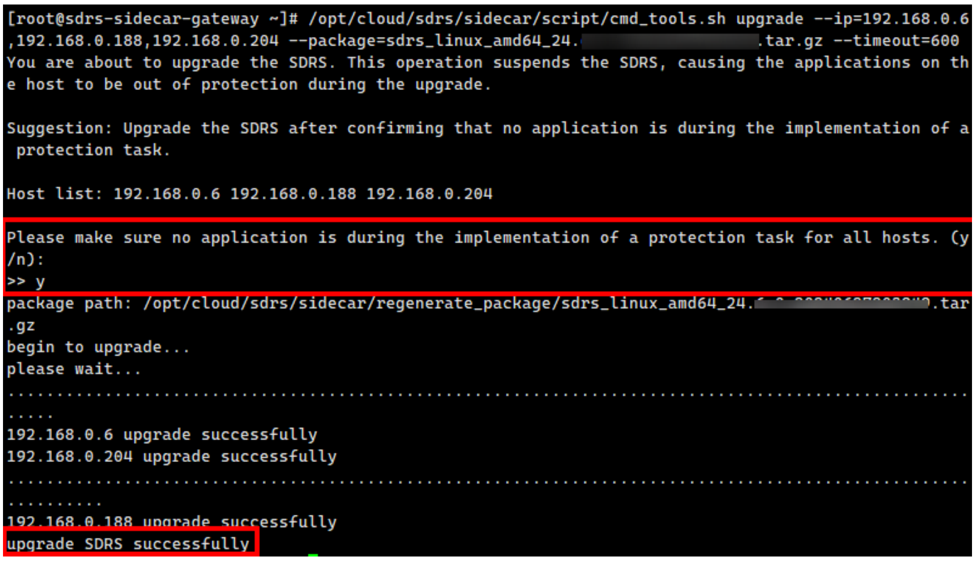
--timeout: The command timeout interval, in seconds. The default value is **300**. You are advised to set the timeout interval based on the number of production site servers. The formula is as follows: Number of production site servers x 200 (The time required for upgrading a proxy client. Use 300 for the client on a Windows server.)

A complete example command is as follows:

```
/opt/cloud/sdrs/sidecar/script/cmd_tools.sh upgrade --ip=192.168.0.6,192.168.0.188,192.168.0.204 --package=sdrs_xxxx_24.9.0.xxxx.tar.gz --timeout=600
```

Step 3 Enter **y** to continue the upgrade if the confirmation information is displayed.

Step 4 Check the command output. If "upgrade SDRS successfully" is returned, the proxy client is successfully upgraded on all production site servers.



```
[root@sdrs-sidecar-gateway ~]# /opt/cloud/sdrs/sidecar/script/cmd_tools.sh upgrade --ip=192.168.0.6
,192.168.0.188,192.168.0.204 --package=sdrs_linux_amd64_24.[redacted].tar.gz --timeout=600
You are about to upgrade the SDRS. This operation suspends the SDRS, causing the applications on th
e host to be out of protection during the upgrade.

Suggestion: Upgrade the SDRS after confirming that no application is during the implementation of a
 protection task.

Host list: 192.168.0.6 192.168.0.188 192.168.0.204

Please make sure no application is during the implementation of a protection task for all hosts. (y
/n):
>> y
package path: /opt/cloud/sdrs/sidecar/regenerate_package/sdrs_linux_amd64_24.[redacted].tar
.gz
begin to upgrade...
please wait...
...............................................................................................
.....
192.168.0.6 upgrade successfully
192.168.0.204 upgrade successfully
...............................................................................................
.........
192.168.0.188 upgrade successfully
upgrade SDRS successfully
```

----End

2.5.7.4 Batch Uninstalling Proxy Clients

Prerequisites

- The disaster recovery gateway has been installed. For Linux clients, the gateway version must be 24.6.0 or later. For Windows clients, the gateway version must be 24.9.0 or later.
- Proxy clients have been installed on target production site servers. For Linux clients, the client version must be 24.6.0 or later. For Windows clients, the client version must be 24.9.0 or later.

Procedure

In the following example, **sdrs_*xxxx*_24.9.0.*xxxx*.tar.gz** is the proxy client package (24.9.0) used for illustration.

Step 1 Log in to the gateway server and run the following command as user **root** to uninstall proxy clients in batches:

/opt/cloud/sdrs/sidecar/script/cmd_tools.sh uninstall --ip=*ip_list* **--timeout=***cmd_timeout_in_s*

Parameter description:

--ip: The private IP addresses of the production site servers you want to uninstall proxy clients. Separate multiple IP addresses with commas (,).

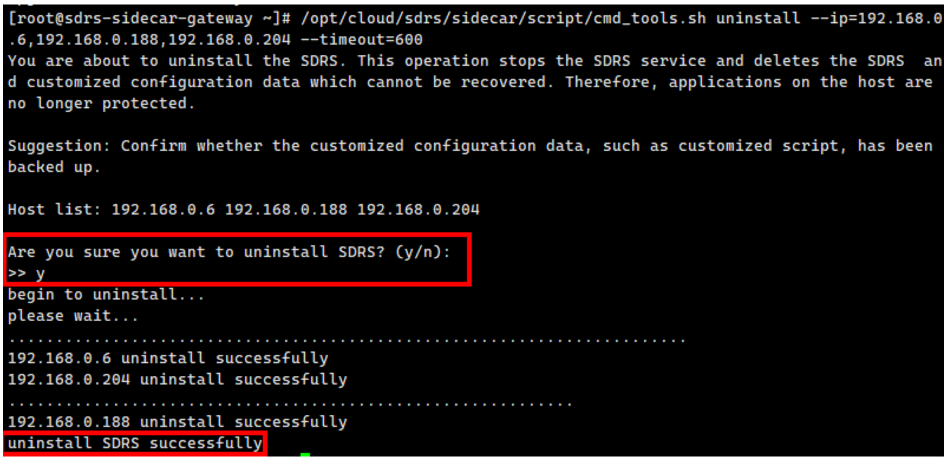
--timeout: The command timeout interval, in seconds. The default value is **300**. You are advised to set the timeout interval based on the number of production site servers. The formula is as follows: Number of production site servers x 200 (The time required for uninstalling a proxy client. Use 300 for the client on a Windows server.)

A complete example command is as follows:

```
/opt/cloud/sdrs/sidecar/script/cmd_tools.sh uninstall --ip=192.168.0.6,192.168.0.188,192.168.0.204 --
timeout=600
```

Step 2 Enter **y** to continue the uninstallation if the confirmation information is displayed.

Step 3 Check the command output. If "uninstall SDRS successfully" is returned, the proxy client is successfully uninstalled from all production site servers.



```
[root@sdrs-sidecar-gateway ~]# /opt/cloud/sdrs/sidecar/script/cmd_tools.sh uninstall --ip=192.168.0
.6,192.168.0.188,192.168.0.204 --timeout=600
You are about to uninstall the SDRS. This operation stops the SDRS service and deletes the SDRS  an
d customized configuration data which cannot be recovered. Therefore, applications on the host are
no longer protected.

Suggestion: Confirm whether the customized configuration data, such as customized script, has been
backed up.

Host list: 192.168.0.6 192.168.0.188 192.168.0.204

Are you sure you want to uninstall SDRS? (y/n):
>> y
begin to uninstall...
please wait...
.......................................................................
192.168.0.6 uninstall successfully
192.168.0.204 uninstall successfully
............................................................
192.168.0.188 uninstall successfully
uninstall SDRS successfully
```

----End

2.5.7.5 Collecting Logs

Prerequisites

- The disaster recovery gateway has been installed. For Linux clients, the gateway version must be 24.6.0 or later. For Windows clients, the gateway version must be 24.9.0 or later.
- Proxy clients have been installed on target production site servers. For Linux clients, the client version must be 24.6.0 or later. For Windows clients, the client version must be 24.9.0 or later.
- The total size of collected log files on a single client cannot exceed 400 MB.

Procedure

In the following example, **sdrs_*xxxx*_24.9.0.*xxxx*.tar.gz** is the proxy client package (24.9.0) used for illustration.

Step 1 Log in to the gateway server and run the following command as user **root** to collect logs in a batch:

```
/opt/cloud/sdrs/sidecar/script/cmd_tools.sh log --ip=ip_list --role=role
```

Parameter description:

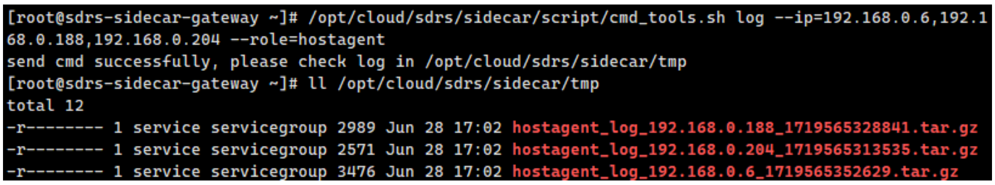
--ip: The private IP addresses of the production site servers you want to collect logs. Separate multiple IP addresses with commas (,).

--role: The role of the process whose logs need to be collected. The value can be **hostagent**, **drm**, **dra**, **sidecar**, or **all**.

A complete example command is as follows:

```
/opt/cloud/sdrs/sidecar/script/cmd_tools.sh log --ip=192.168.0.6,192.168.0.188,192.168.0.204 --
role=hostagent
```

Step 2 If "send cmd successfully" is returned, the command is successfully sent. View the collected log files in the **/opt/cloud/sdrs/sidecar/tmp** directory. Because the command is executed asynchronously, so wait for 2 minutes and then check the files.



```
[root@sdrs-sidecar-gateway ~]# /opt/cloud/sdrs/sidecar/script/cmd_tools.sh log --ip=192.168.0.6,192.1
68.0.188,192.168.0.204 --role=hostagent
send cmd successfully, please check log in /opt/cloud/sdrs/sidecar/tmp
[root@sdrs-sidecar-gateway ~]# ll /opt/cloud/sdrs/sidecar/tmp
total 12
-r-------- 1 service servicegroup 2989 Jun 28 17:02 hostagent_log_192.168.0.188_1719565328841.tar.gz
-r-------- 1 service servicegroup 2571 Jun 28 17:02 hostagent_log_192.168.0.204_1719565313535.tar.gz
-r-------- 1 service servicegroup 3476 Jun 28 17:02 hostagent_log_192.168.0.6_1719565352629.tar.gz
```

----End

3 Synchronous Replication Management (for Installed Base Operations)

3.1 Managing Protection Groups

3.1.1 Disabling Protection

Scenarios

Disable protection for all resources in a protection group.

After protection is disabled, data synchronization stops for all protected instances in this group.

Prerequisites

- The protection group contains replication pairs.
- The protection group status is **Protecting** or **Disabling protection failed**.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the desired protection group, click **Protected Instances**.

The protection group details page is displayed.

Step 4 In the upper right corner of the page, click **Disable Protection**.

Step 5 In the displayed dialog box, click **Yes**.

After protection is disabled, data synchronization between the production site and disaster recovery site for all protected instances in the protection group will stop.

----End

3.1.2 Performing a Switchover

Scenarios

After you perform a switchover, services at the production site are switched to the DR site, and services at the DR site are switched over to the production site. **Table 3-1** shows the direction change.

Table 3-1 DR direction change after a switchover

-	Production Site	DR Site
Before	AZ1	AZ2
After	AZ2	AZ1

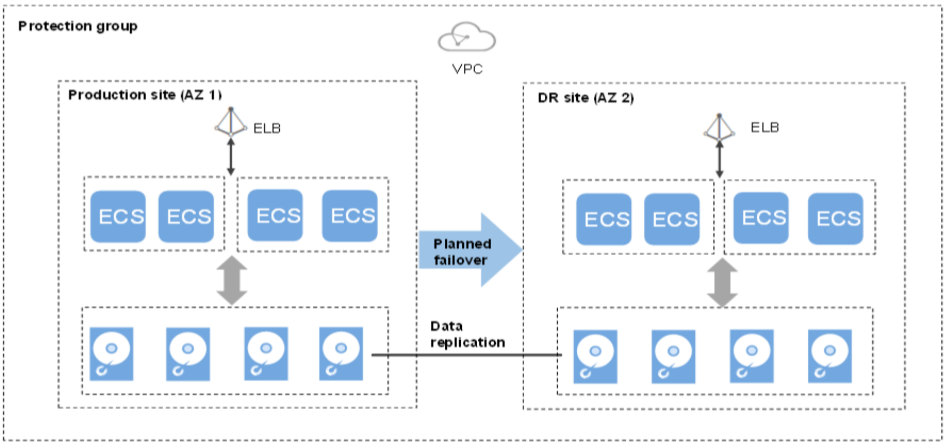
After the switchover, data synchronization continues, but the DR direction is changed from the DR site to the production site. You can perform a switchover when you are certain that the production site will encounter an interruption. For example, if the production site (AZ1) is going to encounter a power failure, you can perform a switchover to switch services in AZ1 to the DR site (AZ2). The switchover does not affect data synchronization of the protection group.

SDRS will migrate NICs on the server during the switchover. Once completed, the IP, EIP, and MAC addresses of the production site server will be migrated to the DR site server, so that the IP, EIP, and MAC addresses remain the same.

NOTE

- Check the status to ensure that all the servers in the protection group are stopped before a switchover.
- During a switchover, do not start the servers in the protection group. Otherwise, the switchover may fail.
- Once a switchover is complete, data synchronization will not stop, only the synchronization direction will reverse.
- Once a switchover is complete, the status of the protection group changes to **Protecting**. Then, you need to go to the protected instance details page and start the production site server.

Figure 3-1 Performing a switchover



Notes

For Linux servers with Cloud-Init installed, if you have changed **hostname** of the production site server before you perform a switchover for the first time, this modification will not synchronize to the DR site server.

To resolve this problem, see **What Can I Do If hostname of the Production Site Server and DR Site Server Are Different After a Switchover or Failover?**

Prerequisites

- All the servers in the protection group are stopped.
- The protection group has replication pairs.
- Protection is enabled for the protection group, and the protection group is in the **Protecting** or **Switchover failed** state.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the desired protection group, click **Protected Instances**.

Step 4 In the upper right corner of the page, click **Execute Switchover**.

Step 5 In the displayed dialog box, check whether all the servers in this protection group are stopped.

- If yes, go to step **Step 6**.
- If no, select the servers to be stopped and click **Stop**.

Step 6 In the displayed dialog box, click **Execute Switchover**.

NOTE

During a switchover, do not start the servers in the protection group. Or, the switchover may fail.

----End

3.1.3 Performing a Failover

Scenarios

When the servers and disks at the production site become faulty due to force majeure, you can perform a failover for them and enable the servers and disks at the DR site to ensure the service continuity.

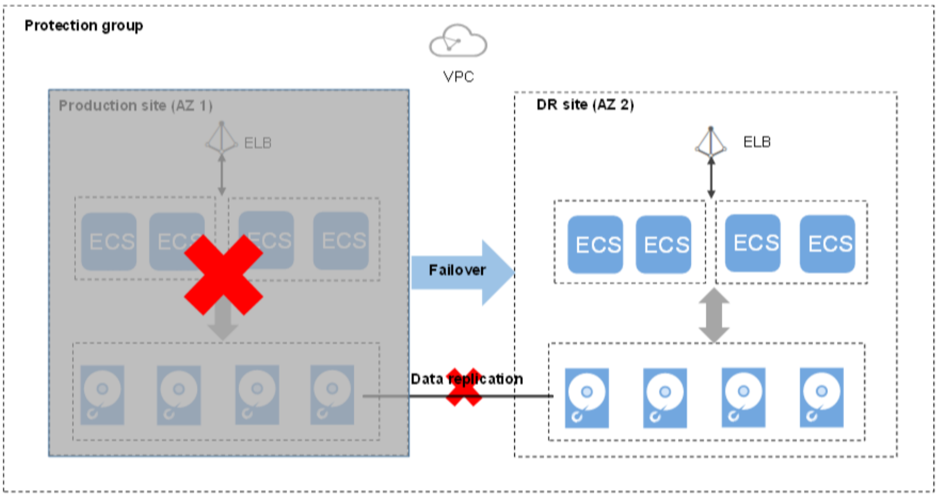
Once you perform a failover, the DR site servers and disks become available immediately. You can power on the servers, or use Cloud Server Backup Service (CSBS) or Volume Backup Service (VBS) to restore the data to a specified data recovery point.

SDRS will migrate NICs on the server during the failover. After the failover, the IP, EIP, and MAC addresses of the production site server will be migrated to the DR site server, so that the IP, EIP, and MAC addresses remain the same.

NOTE

- Once the failover is started, data synchronization stops.
- After the failover is complete, the status of the protection group changes to **Failover complete**, and **services are failed over to the DR site**. You need to go to the protected instance details page and **start the DR site server**.
- After the failover is complete, do not start **the production site server (which fails currently)**. Or, reprotection may fail.

Figure 3-2 Performing a failover



Notes

For Linux servers with Cloud-Init installed, if you have changed **hostname** of the production site server before you perform a failover for the first time, this modification will not synchronize to the DR site server.

To resolve this problem, see **What Can I Do If hostname of the Production Site Server and DR Site Server Are Different After a Switchover or Failover?**

Prerequisites

- You have confirmed that servers and disks in the production AZ are faulty, and the deployed services become unavailable. If you cannot confirm the information, **submit a service ticket** for help.
- The protection group contains replication pairs.
- Protection is enabled for the protection group, and the protection group is in the **Protecting**, **Switchover failed**, or **Failover failed** state.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the desired protection group, click **Protected Instances**.

The protection group details page is displayed.

Step 4 In the upper right corner of the page, click **More** and choose **Fail Over** from the drop-down list.

The **Fail Over** dialog box is displayed.

Step 5 Click **Fail Over**.

During the failover, do not start or stop the servers in the protection group. Otherwise, the failover may fail.

----End

Related Operations

- After the failover is complete, the status of the protection group changes to **Failover complete**. Then, you need to switch to the protected instance details page and manually start the DR site server.
- After the failover is complete, the protection group is in the **Protection disabled** state. You need to enable protection again to start data synchronization. For details, see **Performing Reprotection**.

3.1.4 Performing Reprotection

Scenarios

Once the failover is started, data synchronization stops. After the failover is complete, the protection group is in the **Protection disabled** state. To restart data synchronization, perform steps provided in this section.

Prerequisites

- The protection group has replication pairs.
- The protection group is in the **Failover complete** or **Re-enabling protection failed**.
- The DR site server is stopped.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the desired protection group, click **Protected Instances**.

Step 4 In the upper right corner of the page, click **More** and choose **Reprotect** from the drop-down list.

The **Reprotect** dialog box is displayed.

Step 5 Check whether all the DR site servers in this protection group are stopped.

- If yes, go to step **Step 6**.
- If no, select the servers to be stopped and click **Stop**.

Step 6 On the **Reprotect** dialog box, click **Reprotect**.

During the reprotection, do not start the DR site servers in the protection group. Otherwise, the reprotection may fail.

----End

3.1.5 Deleting a Protection Group

Scenarios

Delete protection groups that are no longer needed to release resources.

Prerequisites

All the protected instances, DR drills, and replication pairs have been deleted from the protection group.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the protection group to be deleted, click **More** and choose **Delete** from the drop-down list.

Step 4 In the displayed dialog box, confirm information and click **Yes**.

----End

3.2 Managing Protected Instances

3.2.1 Modifying Specifications of a Protected Instance

Scenarios

If the specifications of an existing protected instance cannot meet the service requirements, you can perform steps provided in this section to modify the server specifications, including the vCPU and memory.

The following scenarios may involve:

- Modifying the specifications of both the production and DR site servers
- Modifying the specifications of the production site server only
- Modifying the specifications of the DR site server only

Notes and constraints

- The specifications of the protected instance cannot be modified when **Server Type** of the protection group is set to **BMS**.
- Certain types of ECSs and those migrated to Huawei Cloud using SMS cannot have their specifications modified on the SDRS console after being used to create protected instances. To change their specifications, delete the protected instances, **modify specifications** on the ECS console, and then create protected instances again.

Prerequisites

- The protection group is in the **Available** or **Protecting state**.
- The protected instance is in the **Available**, **Protecting**, or **Modifying specifications failed**.
- Servers of which the specifications to be modified are stopped.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the protection group for which the protected instance specifications are to be modified, click **Protected Instances**.

The operation page for the protection group is displayed.

Step 4 On the **Protected Instances** tab, locate the row containing the target protected instance, click **More** in the **Operation** column, and choose **Modify Production Site Server Specifications** or **Modify DR Site Server Specifications** from the drop-down list.

Step 5 In the displayed dialog box, select new server type, vCPU, and memory specifications.

Step 6 (Optional) If you need to modify the specifications of both the production site server and DR site server, select **Modify the specifications of both the production and DR site servers**. After you select this item, the system will modify the specifications of both the production site server and DR site server to the same specifications.

NOTE

This item is deselected by default, indicating that the system modifies the specifications of only the production site server or DR site server.

Step 7 Click **OK**.

To ensure proper server running, do not perform any operations to the servers during specification modifications.

----End

3.2.2 Deleting a Protected Instance

Scenarios

If you do not need a protected instance, delete it to cancel the protection relationship between the servers and the protection group.

When you delete a protected instance, the production site server in the protected instance will not be deleted, and services at the production site will not be affected.

Prerequisites

The protected instance is in the **Available**, **Protecting**, **Failover complete**, **Creation failed**, **Enabling protection failed**, **Disabling protection failed**, **Switchover failed**, **Failover failed**, **Deletion failed**, **Re-enabling protection failed**, **Modifying specifications failed**, **Invalid**, or **Faulty** state.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the protection group for which the protected instance is to be deleted, click **Protected Instances**.

The protection group details page is displayed.

Step 4 On the **Protected Instances** tab, locate the row containing the protected instance to be deleted, click **More** in the **Operation** column, and choose **Delete** from the drop-down list.

To delete protected instances in batches, select the target protected instances and click **Delete** above the protected instance list.

The **Delete Protected Instance** page is displayed.

Step 5 On the **Delete Protected Instance** page, select the desired operation.

NOTE

- If you select **Delete DR site server**, do not perform any other operations on the DR site server or its related resources when the system is deleting the DR site server.

- Delete DR site server
  - If you do not select this option, the protection relationship between the protected instance and protection group will be canceled, but the DR site server and disks attached to the server will be retained.
  - If you select this option, the protection relationship between the protected instance and protection group will be canceled, and the DR site server and disks attached to the server will be deleted.
- Release the EIP bound to the following DR site server

  This parameter is displayed when you select **Delete DR site server**.

- If you do not select this option, the DR site server will be deleted, but the EIP bound to the server will be retained.
- If you select this option, the DR site server will be deleted, and the EIP bound to the server will be released.

Step 6 Click **Yes**.

----End

3.2.3 Creating a Replication Pair

Scenarios

Create replication pairs for desired disks of a specified protection group. When you create a replication pair:

- If the protection group status is **Available**, protection is disabled. Creating the replication pair only establishes the replication relationship between the production site disk and DR site disk, but data between the disks is not synchronized. To synchronize data, enable protection.
- If the protection group status is **Protecting**, protection is enabled. After a replication pair has been created, data synchronization automatically starts.

NOTE

In a replication pair, the name of the DR site disk is the same as that of the production site disk, but their IDs are different.

To change disk name, click the disk name on the replication pair details page to go to the disk details page and change it.

Prerequisites

- The protection group is in the **Available** or **Protecting** state.
- If the servers in the protection group are ECSs, ensure that the disks used to create replication pairs are in the **Available** state.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Locate the protection group where you want to add replication pairs and click **Replication Pairs**.

The protection group details page is displayed.

Step 4 On the **Replication Pairs** tab, click **Create Replication Pair**.

The **Create Replication Pair** page is displayed.

Step 5 Set the parameters by referring to **Table 3-2**.

Table 3-2 Parameter description

Parameter	Description	Example Value
Protection Group Name	Name of the protection group where you want to create replication pairs. You do not need to configure it.	Protection-Group-test
Protection Group ID	ID of the protection group	619c57e9-3927-48f8-ad14-3e293260b8a0
DR Direction	Replication direction of the protection group. You do not need to configure it.	-
Production Site	AZ where the production site resides	-
Production Site Disk	This parameter is mandatory. The following two options are available: ● **EVS** ● **DSS**	EVS
DR Site Disk	This parameter is mandatory. The following two options are available: ● **EVS** ● **DSS** **NOTE** Disks are classified as EVS and DSS disks based on whether the storage resources used by the disks are exclusive. DSS disks are provided for users exclusively. Determine whether to use DSS disks for the DR site. The disks at the production and DR site do not need to be of the same type.	EVS
Storage Pool	● If you select **EVS** for **DR Site Disk**, **Storage Pool** is not required. ● If you select **DSS** for **DR Site Disk**, **Storage Pool** is mandatory.	dss-01

Parameter	Description	Example Value
Replication Pair	Replication pair name. This parameter is mandatory. A replication pair name is defined for classification and future search.	replication_001

NOTE

DR Site Disk and **Storage Pool** are available only when **DSS** is selected.

Step 6 Click **Create Now**.

Step 7 On the **Confirm** page, confirm the replication pair information.

- If you do not need to modify the information, click **Submit**.
- If you need to modify the information, click **Previous**.

Step 8 Click **Back to Protection Group Details Page** and view the replication pair list.

If the replication pair status changes to **Available** or **Protecting**, it has been created successfully.

----End

3.2.4 Attaching a Replication Pair

Scenarios

You can attach a replication pair to a protected instance. Then, the production site disk is attached to the production site server, and the DR site disk is attached to the DR site server.

After protection is enabled for a protection group, when data is written into the production site disk, the same data is written into the DR site disk synchronously.

Restrictions and Limitations

- If there are five replication pairs that are not attached to any protected instance, you cannot create any new replication pair.

Prerequisites

- The protection group is in the **Available** or **Protecting** state.
- The protected instance is in the **Available** or **Protecting** state.
- The replication pair is in the **Available** or **Protecting** state.
- The non-shared replication pair has not been attached to any protected instance.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Locate the protection group where you want to attach replication pairs and click **Protected Instances**.

The protection group details page is displayed.

Step 4 On the **Protected Instances** tab, locate the row containing the desired protected instance and click **Attach** in the **Operation** column.

The **Attach Replication Pair** page is displayed.

Step 5 Select the replication pair, select a desired device name, and click **OK**.

The replication pair is attached to the specified protected instance.

----End

3.2.5 Detaching a Replication Pair

Scenarios

Detach replication pairs from protected instances. After a replication pair is detached from a protected instance, the replication relationship between the two disks remains, but the server data can no longer be written to the disks.

Prerequisites

- The protection group is in the **Available**, **Protecting**, **Failover complete**, **Enabling protection failed**, **Disabling protection failed**, **Switchover failed**, or **Failover failed** state.
- The protected instance is in the **Available**, **Protecting**, **Failover complete**, **Enabling protection failed**, **Disabling protection failed**, **Switchover failed**, **Failover failed**, **Deletion failed**, **Re-enabling protection failed**, **Modifying specifications failed**, **Invalid**, or **Faulty** state.
- The replication pair is in the **Available**, **Protecting**, **Failover complete**, **Attaching failed**, **Detaching failed**, **Enabling protection failed**, **Disabling protection failed**, **Switchover failed**, **Failover failed**, **Deletion failed**, **Re-enabling protection failed**, **Expansion failed**, **Invalid**, or **Faulty** state.
- The replication pair has been attached.
- Disks in the **In-use** state have been attached to the production and DR site servers.

NOTE

- A system disk (attached to **/dev/sda** or **/dev/vda**) can be detached only when the server is in the **Stopped** state. Therefore, stop the server before detaching the system disk.
- Data disks can be detached online or offline, which means that the server containing the disks can either be in the **Running** or **Stopped** state.

  For details about how to detach a disk online, see **Disk** > **Detaching an EVS Disk from a Running ECS** in the *Elastic Cloud Server User Guide*.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Locate the protection group where you want to detach replication pairs and click **Protected Instances**.

The protection group details page is displayed.

Step 4 On the **Protected Instances** tab, locate the row containing the desired protected instance and click **Detach** in the **Operation** column.

The **Detach Replication Pair** page is displayed.

Step 5 Select the replication pair to be detached and click **Yes**.

After the operation succeeds, the server data can no longer be written to the disks.

----End

3.2.6 Adding a NIC

Scenarios

If more NICs are required for your protected instance, you can perform steps provided in this section to add a NIC to the protected instance.

Prerequisites

- The protection group is in the **Available** or **Protecting** state.
- The protected instance is in the **Available** or **Protecting** state.
- The subnet of the NIC to be added must belong to the same VPC of the protection group and protected instance.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the protection group, click **Protected Instances**.

The operation page for the protection group is displayed.

Step 4 On the **Protected Instances** tab, click the protected instance.

The protected instance details page is displayed.

Step 5 Click the **NICs** tab and click **Add NIC**.

Step 6 Select the security group and subnet to be added.

NOTE

- You can select multiple security groups. When multiple security groups are selected, the access rules of all the selected security groups apply on the server.
- If you want to add a NIC with a specified IP address, enter an IP address into the **Private IP Address** field.

Step 7 Click **OK**.

----End

3.2.7 Deleting a NIC

Scenarios

A protected instance can have up to 12 NICs, including one primary NIC that cannot be deleted. You can perform steps provided in this section to delete a NIC other than the primary one.

Prerequisites

- The protection group is in the **Available** or **Protecting** state.
- The protected instance is in the **Available** or **Protecting** state.
- The primary NIC cannot be deleted.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the protection group for which a NIC is to be deleted from the protected instance, click **Protected Instances**.

The operation page for the protection group is displayed.

Step 4 On the **Protected Instances** tab, click the protected instance.

The protected instance details page is displayed.

Step 5 Click the **NICs** tab. Then, click **Delete** in the row that contains the NIC to be deleted.

Step 6 Click **Yes**.

----End

3.3 Managing Replication Pairs

3.3.1 Creating a Replication Pair

Scenarios

Create replication pairs for desired disks of a specified protection group. When you create a replication pair:

- If the protection group status is **Available**, protection is disabled. Creating the replication pair only establishes the replication relationship between the production site disk and DR site disk, but data between the disks is not synchronized. To synchronize data, enable protection.
- If the protection group status is **Protecting**, protection is enabled. After a replication pair has been created, data synchronization automatically starts.

NOTE

In a replication pair, the name of the DR site disk is the same as that of the production site disk, but their IDs are different.

To change disk name, click the disk name on the replication pair details page to go to the disk details page and change it.

Prerequisites

- The protection group is in the **Available** or **Protecting** state.
- If the servers in the protection group are ECSs, ensure that the disks used to create replication pairs are in the **Available** state.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Locate the protection group where you want to add replication pairs and click **Replication Pairs**.

The protection group details page is displayed.

Step 4 On the **Replication Pairs** tab, click **Create Replication Pair**.

The **Create Replication Pair** page is displayed.

Step 5 Set the parameters by referring to **Table 3-3**.

Table 3-3 Parameter description

Parameter	Description	Example Value
Protection Group Name	Name of the protection group where you want to create replication pairs. You do not need to configure it.	Protection-Group-test
Protection Group ID	ID of the protection group	619c57e9-3927-48f8-ad14-3e293260b8a0
DR Direction	Replication direction of the protection group. You do not need to configure it.	-
Production Site	AZ where the production site resides	-
Production Site Disk	This parameter is mandatory. The following two options are available: ● **EVS** ● **DSS**	EVS
DR Site Disk	This parameter is mandatory. The following two options are available: ● **EVS** ● **DSS** **NOTE** Disks are classified as EVS and DSS disks based on whether the storage resources used by the disks are exclusive. DSS disks are provided for users exclusively. Determine whether to use DSS disks for the DR site. The disks at the production and DR site do not need to be of the same type.	EVS
Storage Pool	● If you select **EVS** for **DR Site Disk**, **Storage Pool** is not required. ● If you select **DSS** for **DR Site Disk**, **Storage Pool** is mandatory.	dss-01

Parameter	Description	Example Value
Replication Pair	Replication pair name. This parameter is mandatory. A replication pair name is defined for classification and future search.	replication_001

NOTE

DR Site Disk and **Storage Pool** are available only when **DSS** is selected.

Step 6 Click **Create Now**.

Step 7 On the **Confirm** page, confirm the replication pair information.

- If you do not need to modify the information, click **Submit**.
- If you need to modify the information, click **Previous**.

Step 8 Click **Back to Protection Group Details Page** and view the replication pair list.

If the replication pair status changes to **Available** or **Protecting**, it has been created successfully.

----End

3.3.2 Expanding Capacity of a Replication Pair

Scenarios

If the replication pair capacity of your protection group cannot meet your service requirements, you can expand the capacities of replication pairs. Replication pair capacity cannot be reduced, and their capacity expansion cannot be rolled back.

After you expand the capacity of a replication pair, capacities of both the production and DR site disks are changed.

Prerequisites

- The replication pair must be in the **Available**, **Protecting**, or **Expansion failed** state.
- Disks in the replication pair are in the **Available** or **In-use** state.
- Capacity expansion is not supported for replication pairs consist of yearly/monthly disks. To expand the capacity of such a replication pair, delete the replication pair, expand the capacity of the production site disk, and then use the disk to create a new replication pair.

NOTE

- For replication pairs consist of non-shared disks:

  If the disk status is **In-use**, the replication pair capacity can be expanded only when online capacity expansion is supported. If online capacity expansion is not supported, the **Expand Capacity** button will be grayed out.
- For replication pairs consist of shared disks:

  Online capacity expansion is not supported.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 Locate the protection group where you want to expand the replication pair capacity and click **Replication Pairs**.

The protection group details page is displayed.

Step 4 On the **Replication Pairs** tab, locate the row containing the target replication pair and click **Expand Capacity** in the **Operation** column.

The **Expand Capacity** page is displayed.

Step 5 On the **Expand Capacity** page, confirm the replication pair information, configure **Add Capacity**, and click **Next**.

Step 6 Confirm the information and click **Submit**.

If you want to modify the configuration, click **Previous**.

----End

3.3.3 Deleting a Replication Pair

Scenarios

If a replication pair is no longer used, you can release the associated virtual resources by deleting the replication pair.

When you delete a replication pair, the production site disk in the replication pair will not be deleted. You can decide whether to delete the DR site disk.

Prerequisites

- The protection group is in the **Available**, **Protecting**, **Failover complete**, **Enabling protection failed**, **Disabling protection failed**, **Switchover failed**, **Failover failed**, Deletion failed, or **Re-enabling protection failed** state.
- The replication pair is in the **Available**, **Protecting**, **Failover complete**, **Creation failed**, **Enabling protection failed**, **Disabling protection failed**, **Switchover failed**, **Failover failed**, **Deletion failed**, **Re-enabling protection failed**, **Attaching failed**, **Expansion failed**, **Invalid**, or **Faulty** state.
- The replication pair is not attached to any protected instance. For details about how to detach a replication pair, see **Detaching a Replication Pair**.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the protection group, click **Replication Pairs**.

The protection group details page is displayed.

Step 4 On the **Replication Pairs** tab, locate the row containing the replication pair to be deleted and click **Delete** in the **Operation** column.

The **Delete Replication Pair** dialog box is displayed.

> NOTE
>
> When you delete a replication pair, the production site disk will not be deleted.

Step 5 Determine the subsequent operation.

Delete DR Site Disk

- If you do not select this option, the replication relationship between the production site disk and DR site disk will be canceled, and the DR site disk will be retained.
- If you select this option, the replication relationship between the production site disk and DR site disk will be canceled, and the DR site disk will be deleted.

Step 6 Click **Yes**.

----End

3.4 Managing DR Drills

3.4.1 Deleting a DR Drill

Scenarios

If a DR drill is no longer used, you can release the virtual resources by deleting the DR drill from the system. When you delete a DR drill, all the drill servers in it are automatically deleted.

Prerequisites

The DR drill is in the **Available**, **Creation failed**, or **Deletion failed** state.

Procedure

Step 1 Log in to the management console.

Step 2 Click **Service List** and choose **Storage** > **Storage Disaster Recovery Service**.

The **Storage Disaster Recovery Service** page is displayed.

Step 3 In the pane of the protection group from which a DR drill is to be deleted, click **DR Drills**.

The operation page for the protection group is displayed.

Step 4 On the **DR Drills** tab, locate the row containing the DR drill to be deleted and click **Delete** in the **Operation** column.

The **Delete DR Drill** dialog box is displayed.

> NOTE
>
> If you bind an EIP to a DR drill server, the EIP will be unbound from the DR drill server when you delete the DR drill but will not be deleted. You can bind the EIP to another server.

Step 5 Click **Yes**.

----End

3.5 Managing Quotas

What Is Quota?

Quotas can limit the number or amount of resources available to users, such as the maximum number of ECS or EVS disks that can be created.

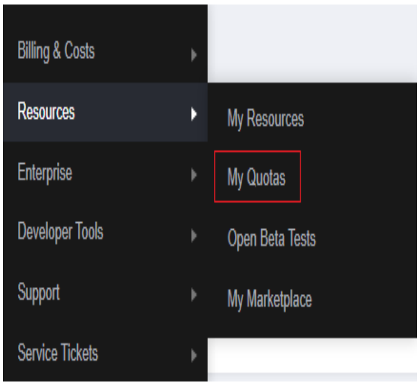
If the existing resource quota cannot meet your service requirements, you can apply for a higher quota.

How Do I View My Quotas?

1. Log in to the management console.
2. Click 📍 in the upper left corner and select the desired region and project.
3. In the upper right corner of the page, choose **Resources** > **My Quotas**.

   The **Service Quota** page is displayed.

   Figure 3-3 My Quotas

4. View the used and total quota of each type of resources on the displayed page.

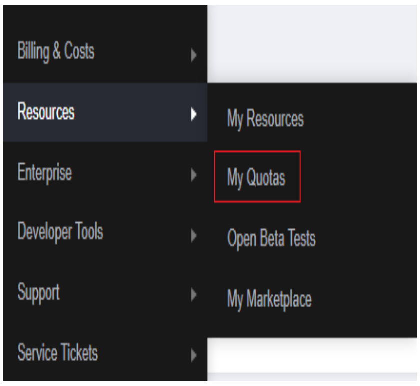
If a quota cannot meet service requirements, apply for a higher quota.

How Do I Apply for a Higher Quota?

1. Log in to the management console.
2. In the upper right corner of the page, choose **Resources** > **My Quotas**.

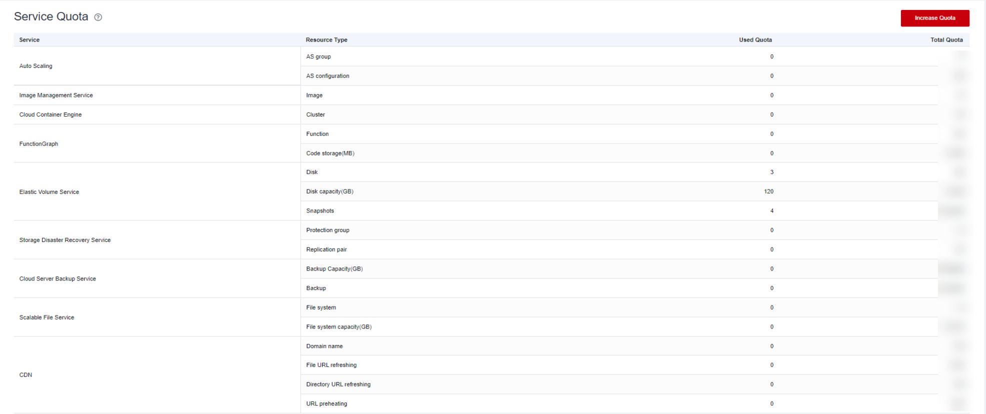
   The **Service Quota** page is displayed.

   Figure 3-4 My Quotas

3. Click **Increase Quota** in the upper right corner of the page.

   Figure 3-5 Increasing quota

   Service Quota

Service	Resource Type	Used Quota	Total Quota
Auto Scaling	AS group	0	[illegible]
	AS configuration	0	[illegible]
Image Management Service	Image	0	[illegible]
Cloud Container Engine	Cluster	0	[illegible]
FunctionGraph	Function	0	[illegible]
	Code storage(MB)	0	[illegible]
Elastic Volume Service	Disk	3	[illegible]
	Disk capacity(GB)	120	[illegible]
	Snapshots	4	[illegible]
Storage Disaster Recovery Service	Protection group	0	[illegible]
	Replication pair	0	[illegible]
Cloud Server Backup Service	Backup Capacity(GB)	0	[illegible]
	Backup	0	[illegible]
Scalable File Service	File system	0	[illegible]
	File system capacity(GB)	0	[illegible]
CDN	Domain name	0	[illegible]
	File URL refreshing	0	[illegible]
	Directory URL refreshing	0	[illegible]
	URL preheating	0	[illegible]

4. On the **Create Service Ticket** page, configure parameters as required.

   In the **Problem Description** area, fill in the content and reason for adjustment.
5. After all necessary parameters are configured, select **I have read and agree to the Ticket Service Protocol and Privacy Statement** and click **Submit**.

4 Appendixes

4.1 Configuring Disaster Recovery Site Servers

Scenarios

Configure disaster recovery site servers before you perform reverse reprotection for the protected instances on the console.

NOTE

This operation is only required in 24.6.0 and an earlier version. In 24.9.0 and later versions, the disaster recovery gateway can be automatically configured.

Procedure

Step 1 Log in to a disaster recovery site server.

Step 2 Run the require script to configure the gateway.

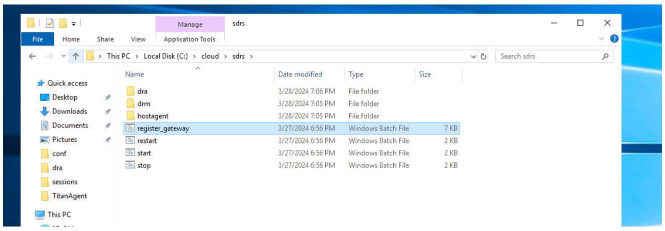
- Linux server:

  sh /opt/cloud/sdrs/register_gateway.sh

- Windows server:

  Go to the **C:\cloud\sdrs** directory and double-click **register_gateway.bat** to run the script.

  Figure 4-1 Windows configuration script

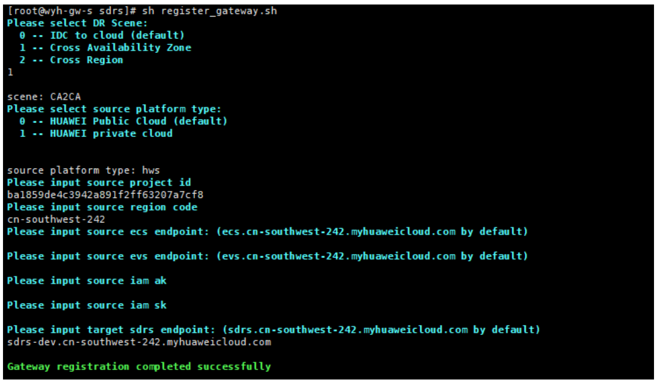


Name	Date modified	Type	Size
dra	3/28/2024 7:06 PM	File folder	
drm	3/28/2024 7:05 PM	File folder	
hostagent	3/28/2024 7:05 PM	File folder	
register_gateway	3/27/2024 6:56 PM	Windows Batch File	7 KB
restart	3/27/2024 6:56 PM	Windows Batch File	2 KB
start	3/27/2024 6:56 PM	Windows Batch File	2 KB
stop	3/27/2024 6:56 PM	Windows Batch File	2 KB

Step 3 Configure the script parameters.

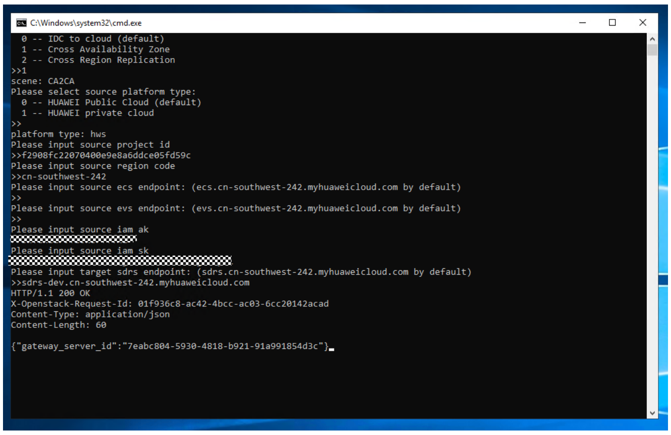
1. **Cross-AZ scenario:**

Figure 4-2 Example configuration in Linux



```
[root@wyh-gw-s sdrs]# sh register_gateway.sh
Please select DR Scene:
  0 -- IDC to cloud (default)
  1 -- Cross Availability Zone
  2 -- Cross Region
1

scene: CA2CA
Please select source platform type:
  0 -- HUAWEI Public Cloud (default)
  1 -- HUAWEI private cloud


source platform type: hws
Please input source project id
ba1859de4c3942a891f2ff63207a7cf8
Please input source region code
cn-southwest-242
Please input source ecs endpoint: (ecs.cn-southwest-242.myhuaweicloud.com by default)

Please input source evs endpoint: (evs.cn-southwest-242.myhuaweicloud.com by default)

Please input source iam ak

Please input source iam sk

Please input target sdrs endpoint: (sdrs.cn-southwest-242.myhuaweicloud.com by default)
sdrs-dev.cn-southwest-242.myhuaweicloud.com

Gateway registration completed successfully
```

Figure 4-3 Example configuration in Windows



```
  0 -- IDC to cloud (default)
  1 -- Cross Availability Zone
  2 -- Cross Region Replication
>>1
scene: CA2CA
Please select source platform type:
  0 -- HUAWEI Public Cloud (default)
  1 -- HUAWEI private cloud
>>
platform type: hws
Please input source project id
>>f2908fc22070400e9e8a6ddce05fd59c
Please input source region code
>>cn-southwest-242
Please input source ecs endpoint: (ecs.cn-southwest-242.myhuaweicloud.com by default)
>>
Please input source evs endpoint: (evs.cn-southwest-242.myhuaweicloud.com by default)
>>
Please input source iam ak
[redacted]
Please input source iam sk
[redacted]
Please input target sdrs endpoint: (sdrs.cn-southwest-242.myhuaweicloud.com by default)
>>sdrs-dev.cn-southwest-242.myhuaweicloud.com
HTTP/1.1 200 OK
X-Openstack-Request-Id: 01f936c8-ac42-4bcc-ac03-6cc20142acad
Content-Type: application/json
Content-Length: 60

{"gateway_server_id":"7eabc804-5930-4818-b921-91a991854d3c"}
```

Table 4-1 describes the variables in the command.

Table 4-1 Parameters for configuring cross-AZ disaster recovery

Site	Parameter	Description	How to Obtain	Example Value
Replication	replicationScene	Replication scenario. There are three replication scenarios.	– **0**: IDC-to-cloud – **1**: Cross-AZ – **2**: Cross-region	1

Site	Parameter	Description	How to Obtain	Example Value
Disaster recovery site on Huawei Cloud	platform_type	Platform type	– **0**: Huawei public cloud – **1**: Huawei private cloud	0
	sourceProjectId	Project ID	Log in to the console and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
	sourceEcs	ECS endpoint	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-
	sourceEvs	EVS endpoint	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-
	sourceIamAk	Access key ID	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-
	sourceIamSk	Secret access key		-
Disaster recovery site on Huawei Cloud	targetProjectId	Project ID	Log in to the console and choose **My Credentials** > **API Credentials** to view the project ID.	0605767cb280d5762fd6c0133d6bea3f
	targetSdrs	SDRS endpoint	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	sdrs.cn-east-2.myhuaweicloud.com
	targetIamAk	Access key ID	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	RZSAMHULWKKE71N0XHUT
	targetIamSk	Secret access key		K7bXplAT0pEpy4SAiN2fHUwEtxvgmK3IqyhqnMTA

2. Cross-region scenario:

Table 4-2 Parameters for configuring cross-region disaster recovery

Parameter	Description	How to Obtain	Example Value
DR Scene	Replication	– **0**: IDC-to-cloud – **1**: Cross-AZ – **2**: Cross-region	2

Parameter	Description	How to Obtain	Example Value
source/ target platform type	Type of the disaster recovery site	– **0**: Huawei public cloud – **1**: Huawei private cloud	0
source/ target project id	Project ID of the region where the disaster recovery site server resides	Log in to the console and choose **My Credentials** > **API Credentials** to view the project ID.	51af777371904892a49a0c3e3e53de44
source region code	Destination region ID	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	sdrs.cn-east-2.myhuaweicloud.com
source ecs endpoint	ECS endpoint in the region where the disaster recovery site server resides	Obtain the ECS endpoint by referring to **ECS Endpoints**.	-
source evs endpoint	EVS endpoint in the region where the disaster recovery site server resides	Obtain the EVS endpoint by referring to **EVS Endpoints**.	-
source/ target iam ak	Access key ID of the region where the disaster recovery site server resides	Obtain AK/SK by referring to **How Do I Obtain an Access Key (AK/SK)?**	-

Parameter	Description	How to Obtain	Example Value
source/ target iam sk	Secret access key of the region where the disaster recovery site server resides		-
target sdrs endpoint	SDRS endpoint in the region where the disaster recovery site server resides	Obtain the SDRS endpoint by referring to **SDRS Endpoints**.	sdrs.cn-east-2.myhuaweicloud.com

Step 4 Configure the gateway for the proxy client on the disaster recovery site server:

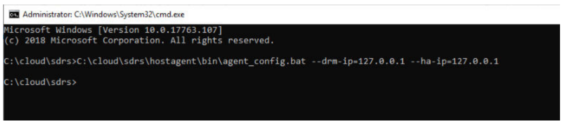
1. Linux disaster recovery server:

   su - service -c "**/opt/cloud/sdrs/hostagent/bin/agent_config.sh --drm-ip=127.0.0.1 --ha-ip=127.0.0.1**"

2. Windows disaster recovery server:

   Open the cmd window and run the following command:

   C:\cloud\sdrs\hostagent\bin\agent_config.bat --drm-ip=127.0.0.1 --ha-ip=127.0.0.1



Administrator: C:\Windows\System32\cmd.exe

```
Microsoft Windows [Version 10.0.17763.107]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\cloud\sdrs>C:\cloud\sdrs\hostagent\bin\agent_config.bat --drm-ip=127.0.0.1 --ha-ip=127.0.0.1

C:\cloud\sdrs>
```

----End

4.2 Configuring Production Site Servers

Scenarios

Configure production site servers before you reprotect the protected instances on the console.

NOTE

This operation is only required in 24.6.0 and an earlier version. In 24.9.0 and later versions, the disaster recovery gateway can be automatically configured.

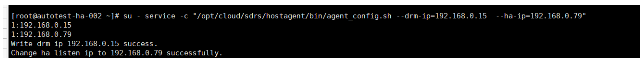
Procedure

Step 1 Log in to a production site server.

Step 2 Run the following commands in sequence to configure the gateway for the proxy client on the production site server:

1. Linux server:

   su - service -c "**/opt/cloud/sdrs/hostagent/bin/agent_config.sh --drm-ip=***drm ip* **--ha-ip=***HostAgentIp*"

   ```
   [root@autotest-ha-002 ~]# su - service -c "/opt/cloud/sdrs/hostagent/bin/agent_config.sh --drm-ip=192.168.0.15  --ha-ip=192.168.0.79"
   1:192.168.0.15
   1:192.168.0.79
   Write drm ip 192.168.0.15 success.
   Change ha listen ip to 192.168.0.79 successfully.
   ```

2. Windows server:

   Open the cmd window and run the following command:

   C:\cloud\sdrs\hostagent\bin\agent_config.bat --drm-ip=*drm ip* **--ha-ip=***HostAgentIp*

   NOTE

   - *drm ip*: IP address of the primary NIC of the cloud disaster recovery gateway
   - *HostAgentIp*: IP address of the primary NIC of the current server
   - Ensure that the gateway configured for production site servers is the same as that of the protected instances.

----End

4.3 Port Description (Asynchronous Replication)

Table 4-3 DR gateway port description

Port	Protocol	Description
29210	TCP	Used to communicate with proxy clients.
29211	TCP	Used to receive control commands.
7443	TCP	Used for API communication.

Table 4-4 Production and DR site server port description

Port	Protocol	Description
8091	TCP	Used to transfer messages between proxy clients.
59526	TCP	Used to communicate with the DR gateway.
29210	TCP	The local listening port used to communicate with proxy clients after a failover.

Port	Protocol	Description
29211	TCP	The local listening port used to receive control commands after a failover.
7443	TCP	The local listening port used for API communication after a failover.

4.4 Changing the Password of User rdadmin

Scenarios

- To improve O&M security, you are advised to change the user **rdadmin**'s password of the client OS regularly and disable this user's remote login permission.
- In Linux, user **rdadmin** does not have a password.
- This section describes how to change the password of user **rdadmin** in Windows 2016. Change the password according to actual situation in other versions.

Prerequisites

- The username and password for logging in to the console have been obtained.
- The username and password for logging in to a Windows ECS have been obtained.

Procedure

Step 1 Go to the ECS console and log in to the Windows ECS.

Step 2 Choose **Start** > **Control Panel**. In the **Control Panel** window, click **User Accounts**.

Step 3 Click **User Accounts** to open the **User Account Control** dialog box. Select **rdadmin** and click **Reset Password**.

Step 4 Enter the new password and click **OK**.

Step 5 In **Task Manager**, click the **Services** tab and then click **Open Service**.

Step 6 Select RdMonitor and RdNginx respectively. In the displayed dialog box, select **Login**, change the password to the one entered in **Step 4**, and click **OK**.

----End

4.5 SDRS Endpoints

Table 4-5 SDRS endpoints

Region Name	Region ID	Endpoint	Protocol
LA-Mexico City2	la-north-2	sdrs.la-north-2.myhuaweicloud.com	HTTPS
TR-Istanbul	tr-west-1	sdrs.tr-west-1.myhuaweicloud.com	HTTPS
LA-Santiago	la-south-2	sdrs.la-south-2.myhuaweicloud.com	HTTPS
AP-Bangkok	ap-southeast-2	sdrs.ap-southeast-2.myhuaweicloud.com	HTTPS
AP-Singapore	ap-southeast-3	sdrs.ap-southeast-3.myhuaweicloud.com	HTTPS
CN North-Beijing4	cn-north-4	sdrs.cn-north-4.myhuaweicloud.com	HTTPS
CN East-Shanghai1	cn-east-3	sdrs.cn-east-3.myhuaweicloud.com	HTTPS
CN South-Guangzhou	cn-south-1	sdrs.cn-south-1.myhuaweicloud.com	HTTPS
LA-Sao Paulo1	sa-brazil-1	sdrs.sa-brazil-1.myhuaweicloud.com	HTTPS
CN East-Shanghai2	cn-east-2	sdrs.cn-east-2.myhuaweicloud.com	HTTPS
AF-Johannesburg	af-south-1	sdrs.af-south-1.myhuaweicloud.com	HTTPS