Server Migration Service

Getting Started

Issue 11

Date 2024-07-24

Security Declaration

Vulnerability

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

Contents

1 Before You Start

Before using SMS, you must:

- **Confirm that you have the required permissions.**

  Your target account must have the **permissions** required to use SMS and its dependent cloud services.

- **Confirm that your source server OS is supported by SMS.**

  You can learn more about supported OSs from the following links:

  - **Supported Windows OSs**
  - **Supported Linux OSs**

- **Determine which region you want to migrate to.**

  You need to know which region you want to migrate to. When you create a migration task, the region specified in the default migration template is used as the target region. You need to confirm that the region is correct.

- **Read the SMS precautions.**

  SMS Precautions

- **Back up data on the target server disks, and ensure that the disks can be formatted.**

  Disks on the target server will be formatted and re-partitioned based on the source disk settings during the migration. If you choose to use an existing server on the cloud as the target server, make sure that any data on the target server has been backed up and that the disks can be formatted.

- **(Recommended) Disable any software in conflict with SMS on the source server.**

  Any antivirus or conflicting software on the server server may prevent the SMS-Agent from start. If you are not sure whether there is a software conflict with the SMS-Agent, back up your data before the migration.

- **Confirm that your account balance is enough.**

  - SMS is a free service, but you will still be billed for any other resources used during the migration. For details, see **Billing**.

- **Know when the target server can be operated.**

  Do not operate the target server before the migration is complete, such as renewing the target server or changing its billing mode.

- **Learn where to find the solutions to common migration issues.**

  If you encounter any problem during the migration, try to solve the problem by referring to **FAQs**.

2 Quick Start

The following figure shows the process of using SMS to migrate a server to Huawei Cloud.

Figure 2-1 Process of using SMS
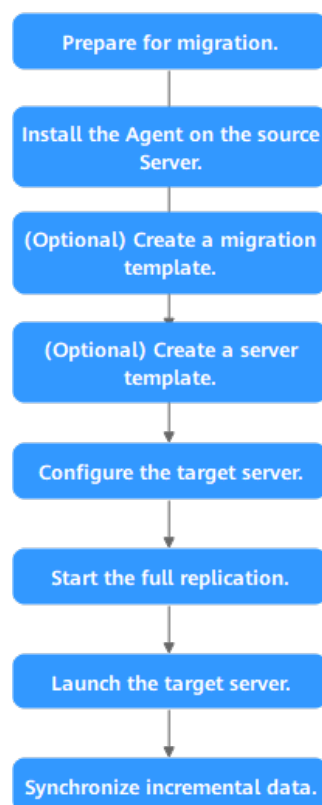
3 Preparing for Migration

Before using SMS, make the following preparations:

1. **Register a HUAWEI ID and enable Huawei Cloud services**.

   📖 **NOTE**

   > **Real-name authentication** is required for migrating servers to regions within the Chinese mainland.

2. Obtain the required permissions.

   If you use an account for migration, you have the required permissions by default. If you use an IAM user for migration, you need to obtain the required permissions. For more information, see **Creating a User Group and Assigning Permissions**.

3. Obtain an AK/SK pair for your target account.

   The AK/SK pair is used for authentication during the migration. To learn how to obtain an AK/SK pair, see **How Do I Create an AK/SK Pair for an Account?** or **How Do I Create an AK/SK Pair for an IAM User?**

   ⚠️ **CAUTION**

   SMS does not support AK/SK-based authentication for federated users (virtual users).

   ---

4. Ensure that the source server OS is supported by SMS.

   See **Supported Windows OSs** or **Supported Linux OSs**.

5. Ensure that the following network requirements are met:

   a. The source server can connect to the Huawei Cloud API Gateway over TCP port 443. For more information, see **Connecting Source Servers to Huawei Cloud API Gateway**.

      📖 **NOTE**

      > It is recommended that all outbound ports on the source server be opened.

   b. If you want to migrate over an IPv6 network, the source environment must support IPv4/IPv6 dual-stack networks.

    c. The source server can connect to the target server. For more information, see **Connecting Source Servers to Target Servers**.

- For a migration over the Internet, purchase EIPs in the region you are migrating to.

- For a migration over a private network, request a Direct Connect or VPN connection.

    d. The following ports are enabled in the security group associated with the target server to allow traffic to these ports:

- Windows: TCP ports 8899, 8900, and 22

- Linux: TCP port 22 for file-level migration, and ports 8900 and 22 for block-level migration

---

> ⚠ **CAUTION**
>
> - For security purposes, you are advised to open these ports only to the source server.
> - The firewall of the target server must allow traffic to these ports.

To learn how to open the ports, see **How Do I Configure Security Group Rules for Target Servers?**

6. Ensure that the following source server requirements are met:

Available Space

– Windows

- At least 320 MB of available space on a partition not smaller than 600 MB

- At least 40 MB of available space on a partition smaller than 600 MB

– Linux

At least 200 MB of available space on the root partition

Source Environment

– The system time of the source server must be consistent with the local standard time to avoid Agent registration failures.

– If the source server runs Linux, **rsync** must be installed on it. You can run the **rsync -v** command to check whether **rsync** is installed.

If it is not, install it by running the following command:

- CentOS: **yum -y install rsync**

- Ubuntu: **apt-get -y install rsync**

- Debian: **apt-get -y install rsync**

- SUSE: **zypper install rsync**

- For other distributions, refer to the official website documentation.

☐ NOTE

rsync comes preinstalled on most distributions by default.

4 Installing the Agent on the Source Server

4.1 Installing the Agent on Windows

Scenarios

You need to install the Agent on the source server to be migrated. During the installation, you need to enter the AK/SK pair of the Huawei Cloud account you are migrating to. After the Agent is started, it automatically reports source server information to SMS. The information is used for migration only. For details, see **What Information Does SMS Collect About Source Servers?**

There are two options for Windows:

- GUI-based Windows Agent (Python 3): Windows Server 2019/2016/2012 and Windows 10/8.1
- CLI-based Windows Agent (Python 2): Windows Server 2008 and Windows 7

⚠ CAUTION

You must log in to the source server as user **Administrator**.

Prerequisites

- You have obtained the AK/SK pair of your Huawei Cloud account.
  - If you use an IAM user for migration, obtain an AK/SK pair by referring to **How Do I Create an AK/SK Pair for an IAM User?**
  - If you use an account for migration, obtain an AK/SK pair by referring to **How Do I Create an AK/SK Pair for an Account?**
- You have obtained the administrator permissions for the source server.
- You have confirmed that the source server OS is supported by SMS. For details, see **Supported Windows OSs**.

- There is no antivirus software installed on the source server. Antivirus software may prevent the Agent from starting up.

  In case of Agent startup failures caused by antivirus software, see **How Do I Fix Error "Failed to start the I/O monitoring module" When I Start the Agent?**
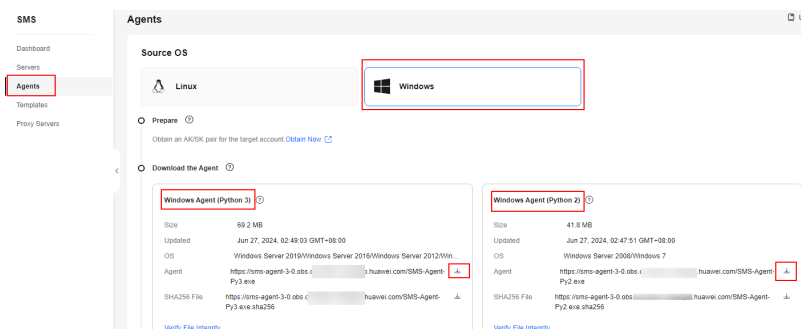
Downloading the Agent Installation File

Step 1 Log in to the **SMS console**.

Step 2 In the navigation pane on the left, choose **Agents**.

Step 3 Select the **Windows** card, locate the Agent that matches the source server OS, and click the ⬇ icon next to **Agent**.

- GUI-based Windows Agent (Python 3): Windows Server 2019, Windows Server 2016, Windows Server 2012, Windows 10, and Windows 8.1
- CLI-based Windows Agent (Python 2): Windows Server 2008 and Windows 7

Step 4 Read and agree to the service disclaimer, and click **Yes** to download the Agent installation package.

Step 5 Click the ⬇ icon next to **SHA256 File** to save the file that contains the hash value to a local directory. Verify the integrity of the Agent installation package. For details, see **How Do I Verify the Integrity of the Agent Installation File?**

----End
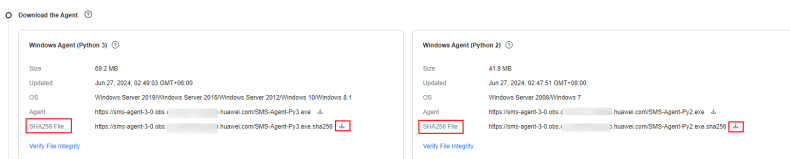
Installing the Windows Agent (Python 3)

Step 1 Transmit the **SMS-Agent-Py3.exe** file to the source server.

Step 2 Log in to the source server as user **Administrator** and double-click the **SMS-Agent-Py3.exe** file.

Step 3 Click **Install** and wait for the installation to complete.

Step 4 Click **Finish**. The SMS-Agent GUI is displayed.

Step 5 Enter the AK/SK pair of the Huawei Cloud account and the SMS domain name in the region you are migrating to. You can obtain the SMS domain name on the **Agents** page of the SMS console, as shown in **Figure 4-2**.

- If you do not need to use an HTTP/HTTPS proxy, select **Direct Connection**.
- If you need to use an HTTP/HTTPS proxy, select **Use Proxy** and enter the IP address, port number, username, and password of the proxy server.

📖 **NOTE**

- **Proxy Server IP**: Follow the format **https://**_your-proxy-addr_**.com**. Use the protocol configured for your proxy server. HTTPS is recommended. Replace _your-proxy-addr_ with the IP address of your proxy server, not that of the target server.
- **Port**: Enter the port used by the proxy server. The default port is 3128.
- **Proxy user name**: Enter the username required for using the proxy software. If none is required, leave this parameter blank.
- **Password**: Enter the password corresponding to the proxy username. If none is required, leave this parameter blank.
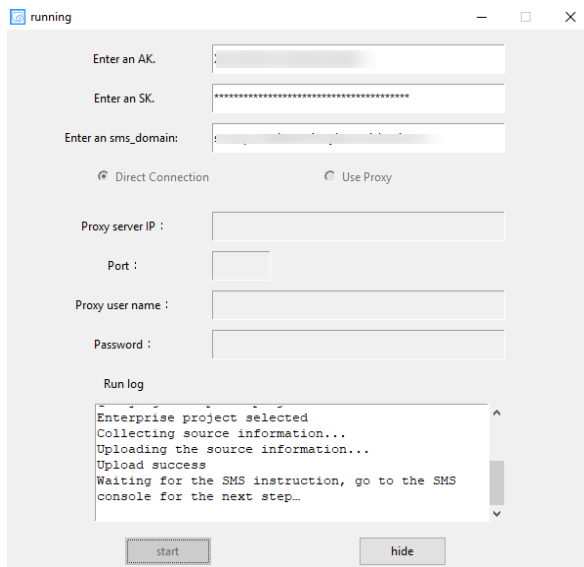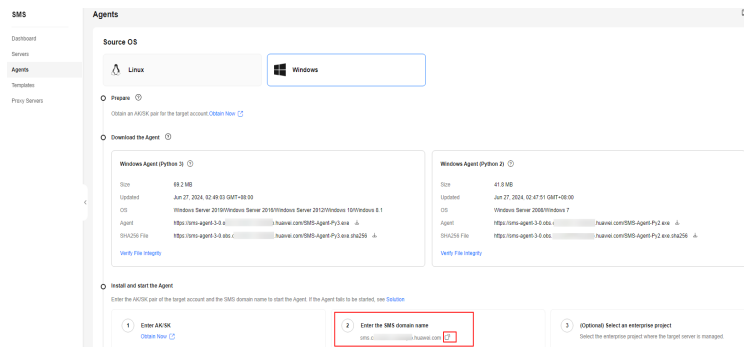
Figure 4-1 Starting the Agent

Figure 4-2 Obtaining the SMS domain name

Step 6 You must enable the EPS service for the Huawei Cloud account you migrate to. When you start the Agent installed on a source server, the Agent lists all enterprise projects the account is allowed to access. You can select the enterprise

you desire. Then the server will be migrated to the enterprise project. This enables you to isolate permissions, resources, and finance during the migration. For details, see **Migrating Servers into an Enterprise Project**.

Step 7 Click **Start**.

Step 8 Carefully review the **Privacy Statement** and click **Yes** if you want to continue.

When the message "Upload success. Waiting for the SMS instruction" is displayed, the Agent has been started. You need to log in to the SMS console and perform subsequent operations.

----End

Installing the Windows Agent (Python 2)

Step 1 Transmit the **SMS-Agent-Py2.exe** file to the source server.

Step 2 Log in to the source server as user **Administrator** and double-click the **SMS-Agent-Py2.exe** file.

Step 3 Click **Install** and wait for the installation to complete.

Step 4 Click **Finish**. The SMS-Agent CLI is displayed.

> 📖 **NOTE**
>
> To manually start the Agent when needed, double-click **agent-start.exe** in the directory **C:\SMS-Agent-Py2** where the Agent was installed.

Step 5 If you need to use an HTTP/HTTPS proxy, go to **Step 6**.

If you do not need to use an HTTP/HTTPS proxy, go to **Step 7**.

> 📖 **NOTE**
>
> - If your source server cannot access Huawei Cloud over the Internet, a proxy server can help you. You need to configure a proxy server by yourself.
> - The proxy is used for registering the source server with SMS when a Direct Connect or VPN connection is used. It is not used for data migration.

Step 6 Configure an HTTP/HTTPS proxy server.

Go to the directory where the Agent was installed (typically **C:\SMS-Agent-Py2\config**) and edit the **auth.cfg** file. Do not edit the **auth.cfg** file unless you need to use an HTTP/HTTPS proxy server.

```
[proxy-config]
enable = true
proxy_addr = https://your-proxy-addr.com
proxy_port = proxyport
proxy_user =
use_password = false
```

📖 **NOTE**

- **enable**: To use a proxy server, set this parameter to **true**.
- **proxy_addr**: Replace *your-proxy-addr* with the IP address of the proxy server, not that of the target server. Use the protocol configured for your proxy server. HTTPS is recommended.
- **proxy_user**: Enter the username for logging in to the proxy server. If no username is required, leave it blank.
- **use_password**: If a password is required for logging in to the proxy server, set it to **true**. If none is required, set it to **false**.

Step 7 When prompted, enter the AK/SK pair of the Huawei Cloud account and the SMS domain name in the region you are migrating to. You can obtain the SMS domain name on the **Agents** page of the SMS console, as shown in **Figure 4-3**.

You must enable the EPS service for the Huawei Cloud account you migrate to. When you start the Agent installed on a source server, the Agent lists all enterprise projects the account is allowed to access. You can select the enterprise you desire. Then the server will be migrated to the enterprise project. This enables you to isolate permissions, resources, and finance during the migration. For details, see **Migrating Servers into an Enterprise Project**.

Figure 4-3 Obtaining the SMS domain name
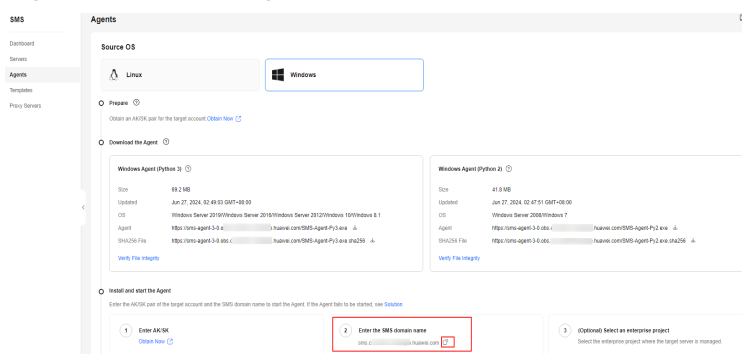
After the authentication succeeds, the Agent starts to report source server information to SMS, and the window is closed. You can go to the **Servers** page on the SMS console to view the record of the source server.

----End

Troubleshooting

- **How Do I Resolve Error "AK/SK authentication failed. Ensure that the system time is consistent with the standard time and the AK and SK are correct" When I Start the Agent?**
- **Why Wasn't My Source Server Added to the SMS Console After I Configured the Agent?**

4.2 Installing the Agent on Linux

Scenarios

You need to install the Agent on the Linux source server to be migrated. During the installation, you need to enter the AK/SK pair of the Huawei Cloud account you are migrating to. After the Agent is started, it automatically reports source server information to SMS. The information is used for migration only. For details, see **What Information Does SMS Collect About Source Servers?**

Prerequisites

- You have obtained the AK/SK pair of your Huawei Cloud account.
  - If you use an IAM user for migration, obtain an AK/SK pair by referring to **How Do I Create an AK/SK Pair for an IAM User?**
  - If you use an account for migration, obtain an AK/SK pair by referring to **How Do I Create an AK/SK Pair for an Account?**
- You have confirmed that the source server OS is supported by SMS. For details, see **Supported Linux OSs**.

Procedure

Step 1 Log in to the **SMS console**.

Step 2 In the navigation pane on the left, choose **Agents**.

Step 3 Select the **Linux** card, and in the **Linux Agent** download pane, click the ⧉ icon next to **Agent** to copy the Agent download command. Then download the Agent installation package from the source server.
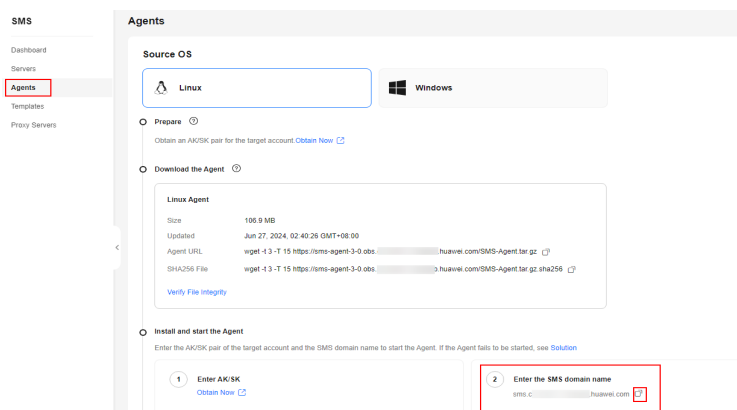
Step 4 In the Click **SHA256 File**. Copy the command for downloading the SHA256 file and run the command on the source server. Use the hash value contained in the SHA256 file to verify the integrity of the Agent installation package. For details, see **How Do I Verify the Integrity of the Agent Installation File?**
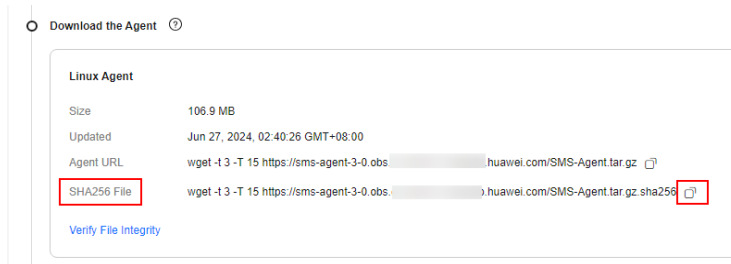
Step 5 Decompress the Agent software package.

```
tar -zxvf SMS-Agent.tar.gz
```

Step 6 Switch to the **SMS-Agent** directory on the source server.

```
cd SMS-Agent
```

Step 7 If you need to use an HTTP/HTTPS proxy, go to **Step 8**.

If you do not need to use an HTTP/HTTPS proxy, go to **Step 9**.

> ⚠️ **CAUTION**
>
> - If your source server cannot access Huawei Cloud over the Internet, a proxy server can help you. You need to configure a proxy by yourself.
> - The proxy is used for registering the source server with SMS when a Direct Connect or VPN connection is used. It is not used for data migration.

Step 8 Configure an HTTP/HTTPS proxy.

1. Go to the **config** directory.
   ```
   cd SMS-Agent/agent/config
   ```

2. Open and edit the **auth.cfg** file. Do not edit the **auth.cfg** file unless you need to use an HTTP/HTTPS proxy.
   ```
   vi auth.cfg
   ```

   The values shown here are for reference only.
   ```
   [proxy-config]
   enable = true
   proxy_addr = https://your-proxy-addr.com
   proxy_port = 3128
   proxy_user = root
   use_password = true
   ```

   📖 **NOTE**

   – **enable**: To use the proxy, set it to **true**.

   – **proxy_addr**: Enter the IP address of the proxy server. The proxy is used by the source server to access SMS. This IP address is different from the IP address of the target server. Use the protocol configured for your proxy server. HTTPS is recommended.

   – **proxy_user**: Enter the username for logging in to the proxy server. If no username is required, leave it blank.

   – **use_password**: If a password is required for logging in to the proxy server, set it to **true**. If none is required, set it to **false**.

3. Save the **auth.cfg** file and exit.
   ```
   :wq
   ```

Step 9 Start the Agent.

```
./startup.sh
```

Step 10 Carefully review what information will be collected by the Agent, enter **y**, and press **Enter**.

Figure 4-4 Entering y


```
After being started, the migration Agent collects system configuration information and uploads the
information to SMS for migration task creation. The information to be collected includes server IP
address and MAC address. For details, see the Server Migration Service User Guide. Are you sure you
 want to collect the information?(y/n)y
```

Step 11 Enter the AK/SK pair of the Huawei Cloud account and the SMS domain name in the region you are migrating to. You can obtain the SMS domain name on the **Agents** page of the SMS console, as shown in **Figure 4-6**.

Figure 4-5 Entering the AK/SK pair

Figure 4-6 Obtaining the SMS domain name
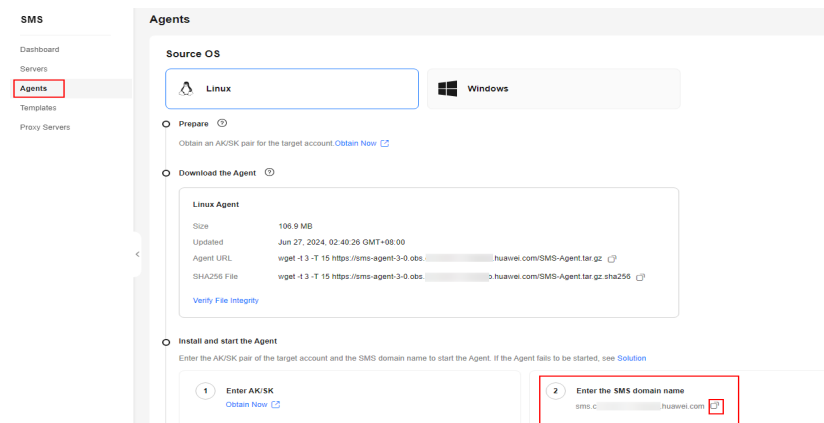
You must enable the EPS service for the Huawei Cloud account you migrate to. When you start the Agent installed on a source server, the Agent lists all enterprise projects the account is allowed to access. You can select the enterprise you desire. Then the server will be migrated to the enterprise project. This enables you to isolate permissions, resources, and finance during the migration. For details, see **Migrating Servers into an Enterprise Project**.

When the following information is displayed, the Agent has been started up and will start reporting source server information to SMS. You can go to the **Servers** page on the SMS console to view the record of the source server.

Figure 4-7 Agent running


```
Select an enterprise project to register this server(input index,like 0,1...):0
selected enterprise project:
0 0 default

check sms agent start ...

***************
sms agent start up successfully!
check the source server in Server Migration Service Console now!
***************
[root@ecs-migrate-to-hecs1 SMS-Agent]#
```

----End

Troubleshooting

- **How Do I Resolve Error "No such file or directory: 'rsync':'rsync" When I Start the Linux Agent?**

- **How Do I Resolve Error "AK/SK authentication failed. Ensure that the system time is consistent with the standard time and the AK and SK are correct" When I Start the Agent?**

- **Why Wasn't My Source Server Added to the SMS Console After I Configured the Agent?**

5 (Optional) Creating a Migration Template

SMS allows you to create migration templates for quick configuration. When you configure the migration settings, you can use a template to quickly configure parameters **Network**, **Migration Rate Limit**, **Continuous Synchronization Region**, and **Project**. For details, see **Creating a Migration Template**.

6 (Optional) Creating a Server Template

SMS allows you to create server templates for quick configuration. When you configure a target server, you can use a template to quickly configure parameters such as **VPC**, **Subnet**, and **Security Group**. For details, see **Creating a Server Template**.

7 Configuring the Target Server

Scenarios

Before starting the migration, you need to configure the target server. The target server is used to receive data from the source server. You can clone the target server for service testing, and launch the target server after you verify that your services can run properly on the target server.

Prerequisites

The migration task is in the **Ready** status.

Procedure

Step 1 Log in to the **SMS console**.

Step 2 In the navigation pane on the left, choose **Servers**.

Figure 7-1 Server list
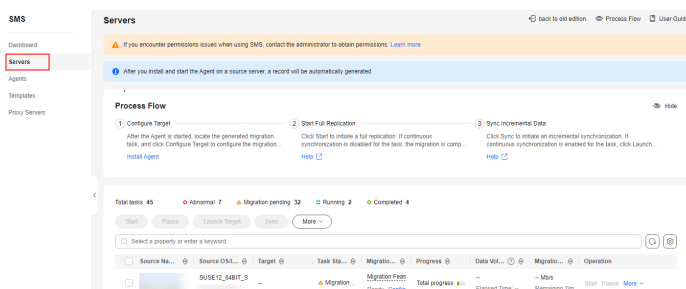
Step 3 In the server list, locate the source server to be migrated and click **Configure Target** in the **Migration Stage/Status** column.

You can also choose **More** > **Configure Target** in the **Operation** column.

NOTICE

If you do not find your source server, check whether you have logged in to the account you are migrating to.
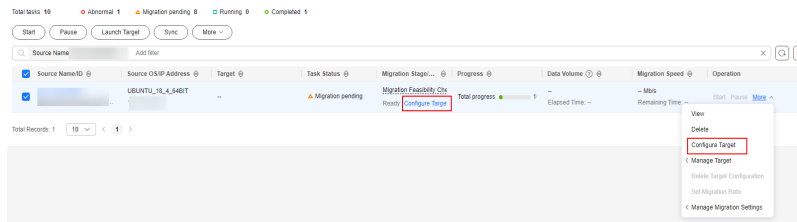
Step 4 On the **Configure Basic Settings** page, configure parameters by referring to **Table 7-1**.

Table 7-1 Basic parameter settings

Parameter	Option	Description
Migration Template	N/A	After you select a migration template, the system populates **Network**, **Migration Rate Limit**, **Migration Method**, **Continuous Synchronization**, **Partition Resizing**, **Region**, and **Project** based on the template. You can choose the default template created by the system or any one you created. To learn how to create a migration template, see **Creating a Migration Template**.
Network Type	Public	An EIP must be bound to the target server. **Public** is the default value of **Network Type**.
	Private	A Direct Connect connection, VPN connection, VPC peering connection, VPC subnet, or Cloud Connect connection must be provisioned. The private IP address of the target server will be used for migration.
Migration Rate Limit	-	You can configure the rate limiting based on the source bandwidth and service requirements. If you do not want to limit the migration rate, set this parameter to **0**. NOTE For a Linux migration, traffic limiting is done with Traffic Control (TC). If TC is not installed on the source server, the migration rate limit you configured here will not be applied during the migration. Some Linux distributions do not support traffic limiting. For example, CentOS 8 and other CentOS 8-based distributions do not come with the TC module preinstalled.

Parameter	Option	Description
CPU Limit	N/A	These options are only available for Linux migrations. For details, see **How Do I Set Resource Limits for SMS-Agent During a Linux Server Migration?**
Memory Limit	-	
Disk Throughput Limit	-	
Migration Method	Linux block-level	Migration and synchronization are performed by block. This method is efficient but the compatibility is poor.
	Linux file-level	Migration and synchronization are performed by file. This method is inefficient, but the compatibility is excellent.
	Windows block-level	Migration and synchronization are performed by block. This method is very efficient and is the only migration method available for Windows servers.
IP Address Version	IPv4	IPv4 can be used for data migration.
	IPv6	On a dual-stack network, IPv6 can be used for migration. For details about the preparations and precautions for migration over IPv6, see **Migrating Servers over an IPv6 Network**.
Continuous Synchronization	No	After the full replication is complete, SMS will automatically launch the target server without synchronizing incremental data. To synchronize incremental data, you will need to click **Sync** in the **Operation** column.
	Yes	After the full replication is complete, the migration will enter the continuous synchronization stage. During this stage, incremental data will be periodically synchronized from the source server to the target server, and you will be unable to use the target server since it has not been launched yet. To finish this stage, you will need to click **Launch Target** in the **Operation** column.
Partition Resizing	No	The disk and partition settings from the source server will be retained on the target server.
	Yes	You can resize the disks and partitions on the target server. For details, see **Resizing disks and partitions**.

Parameter	Option	Description
Start Target Upon Launch	No	The target server will be stopped after the migration is complete.
	Yes	The target server will be started after the migration is complete.
Measure Network Performance	No	Network performance will not be measured.
	Yes	Before the full migration starts, the packet loss rate, network jitter, network latency, bandwidth, memory usage, and CPU usage will be measured. For details, see **How Do I Measure the Network Performance Before the Migration?**
Enable Concurrency	No	By default, one process is used for migration and synchronization.
	Yes	You need to set **Max. Concurrent Migrations** and **Max. Concurrent Syncs**, which determine the maximum number of processes the Agent can start concurrently to execute migration and synchronization. This parameter is available for Linux file-level migrations. To learn how to configure it, see **How Do I Set the Number of Concurrent Processes for Linux File-Level Migrations?**

- Resizing disks and partitions

1. Select **Yes** for **Partition Resizing** and click **Resize Partition**. In the displayed dialog box, resize the disks and partitions on the target server as needed.

Figure 7-2 Resizing disks and partitions (Windows)
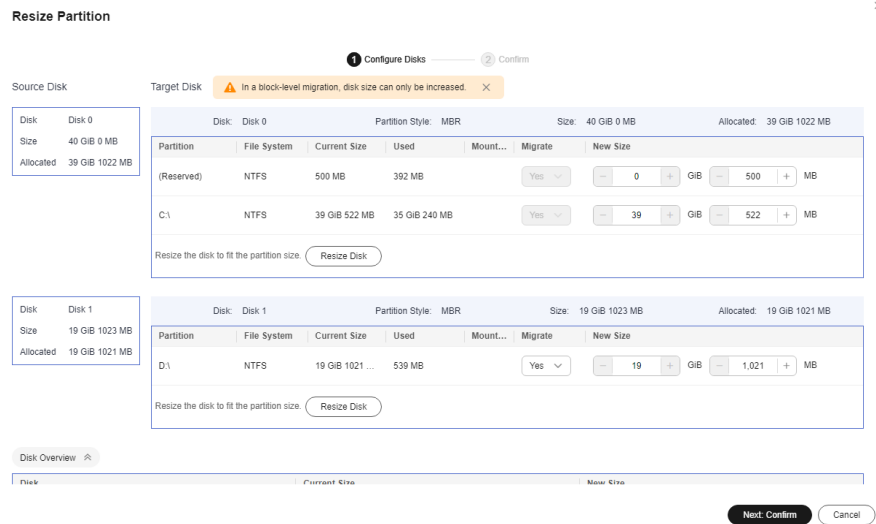
Figure 7-3 Resizing disks and partitions (Linux)
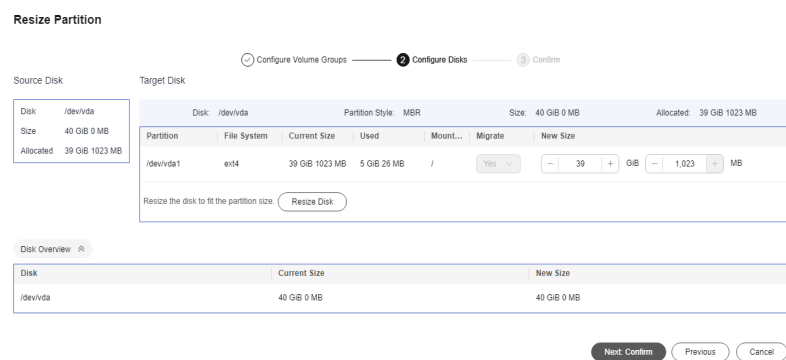
☐☐ **NOTE**

- You can choose whether to migrate source partitions and resize the paired target partitions.
- For a Linux server using LVM, you can choose whether to migrate physical or logical volumes and resize the paired target volumes.

⚠ CAUTION

- In a Windows migration, the system and boot partitions are migrated by default.
- In a Windows migration, you can increase the sizes of partitions, but you cannot decrease them.
- Partition resizing is not available for Btrfs partitions on Linux.
- In a Linux migration, the system and swap partitions are migrated by default.
- You can choose to migrate all or none volume groups by configuring **Migrate All Volume Groups**.
- If you choose to migrate none of the logical volumes in a volume group, their physical volumes will not be migrated by default.
- In a Linux block-level migration, you can increase the sizes of partitions, but you cannot decrease them.
- In a Linux file-level migration, you can increase or decrease size of each partition. The new partition size must be at least 1 GB larger than the used partition space. If the current partition size is not 1 GB larger than the used partition space, the partition size cannot be decreased. For details, see **What Are the Rules for Resizing Volume Groups, Disks, and Partitions?**
- If the total partition size after resizing is larger than the disk size, you need to expand the disk capacity to fit the partition size.
- If the total partition size after resizing is much smaller than the disk size, you can decrease the disk size as needed.

2. Click **Next: Configure Disks**. Resize the disks as needed. Then confirm the configurations and click **OK**.

⚠ CAUTION

After you click **OK**, the value of **Partition Resizing** cannot be changed from **Yes** to **No**. If you want to restore the disk partition settings as they were, locate the source server to be migrated and choose **More** > **Delete** in the **Operation** column. Then restart the Agent on the source server, configure the target server again, and set **Partition Resizing** to **No**.

Step 5 Click **Next: Configure Target** in the lower right corner.

Figure 7-4 Configure Target
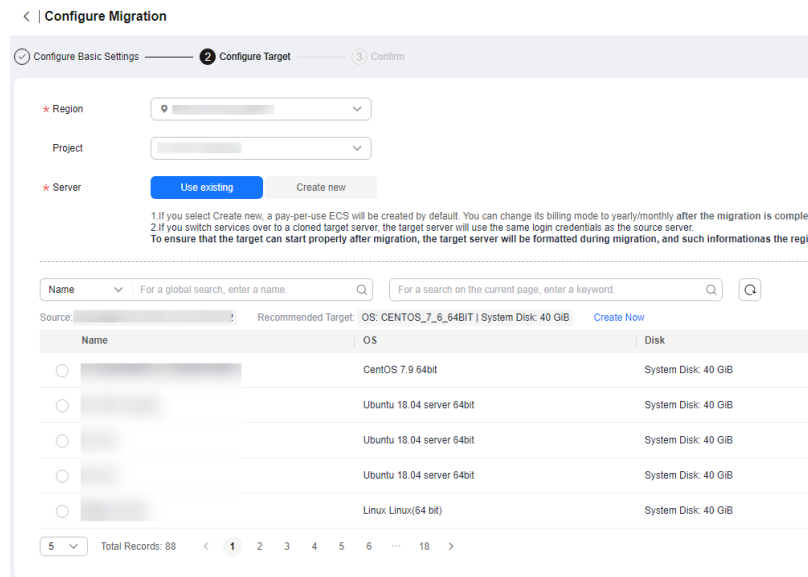
Step 6 On the **Configure Target** page, set parameters as prompted.

Table 7-2 Parameters for configuring a target server

Parameter	Option	Operation
Region	-	Select a region where you want to provision the target server. Consider your service requirements when selecting a region.
Project	-	Select a project in the region from the drop-down list. You can select a project only after a region is selected.
Server	Use existing	Select an existing server based on the recommended specifications above the server list. For details, see **Use existing**.
	Create new	Configure **VPC**, **Subnet**, **Security Group**, and the parameters in **Advanced Settings**. For details, see **Create new**.

● Use existing

The target server must meet requirements listed below. If no existing server meets the requirements, click **Create Now** to create one based on the recommended specifications. For details, see **Purchasing an ECS**.

📖 **NOTE**

> Source servers can be migrated to pay-per-use or yearly/monthly ECSs. You can select ECSs of whichever billing mode is appropriate.

- A target server running Windows must have at least 2 GB of memory.

- A target server must have at least as many disks as the source server, and each disk on the target server must be at least the size recommended by the system.

- A target server must run the same OS as the source server, or there will be a server name conflict or other problems.

- A target server must be reachable by the source server. An EIP must be bound to the target server, or a VPN or Direct Connect connection must be established between the source and target.

- The security group of the target server must be correctly configured. It must be configured to allow access on TCP ports 8899, 8900, and 22 for a Windows migration, on ports 8900 and 22 for a Linux block-level migration, or on port 22 for a Linux file-level migration.

⚠️ **CAUTION**

- For security purposes, you are advised to open these ports only to the source server.

- The firewall of the target server must allow traffic to these ports.

For details, see **How Do I Configure Security Group Rules for Target Servers?**

- Create new
  - If you select **Recommended** for **Server Template**, a VPC, subnet, and security group will be automatically created based on source settings. You can change the recommended settings as needed.

    Advanced options such as the server name, AZ, specifications, system disk, data disk and EIP are automatically configured. You can change the settings as needed.

Figure 7-5 Recommended

Figure 7-6 Advanced Settings

📖 NOTE

- Data disks must be either VBD or SCSI. VBD is the default device type for data disks. For details about disk device types, see **Device Types and Usage Instructions**.

- Data disks can be created as shared disks. For details about shared disks, see **Shared EVS Disks and Usage Instructions**.

  – If you select a custom template, the VPC, subnet, security group, AZ, and disk will be populated based on the template. You can change the settings as needed. To learn how to create a server template, see **Creating a Server Template**.

NOTE

If you select **Recommended** for **Server Template**, SMS will automatically:

- Create a VPC and subnet.

  If the source IP address is 192.168.*X.X*, SMS creates a VPC and a subnet that both belong to the network range 192.168.0.0/16.

  If the source IP address is 172.16.*X.X*, SMS creates a VPC and a subnet that both belong to the network range 172.16.0.0/12.

  If the source IP address is 10.*X.X.X*, SMS creates a VPC and a subnet that both belong to the network range 10.0.0.0/8.

- Create a security group and allow traffic to the target server over the ports required by SMS: ports 8899, 8900, and 22 for a Windows migration, ports 8900 and 22 for a Linux block-level migration, or port 22 for a Linux file-level migration.

Step 7 Click **Next: Confirm** in the lower right corner.

Figure 7-7 The configuration confirmation page
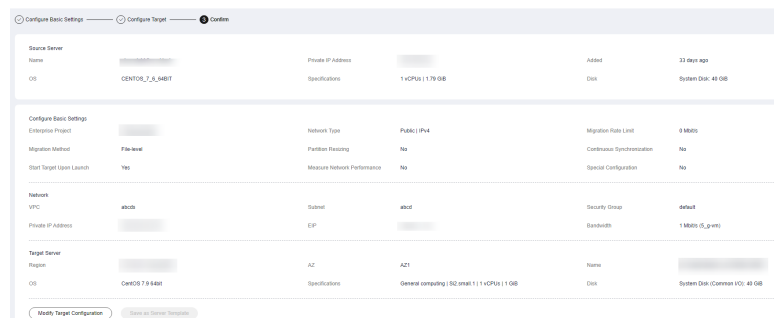
Step 8 (Optional) Click **Save as Server Template**. In the displayed **Create Server Template** dialog box, enter a template name and click **OK** to save the target server settings as a template.

NOTE

Save as Server Template is available only when you select **Create new** for **Server**.

Figure 7-8 Create Server Template

Step 9 Confirm the configuration and click **Save**. In the displayed dialog box, read the migration conditions and click **OK**.

If you want to start the migration immediately, click **Save and Start**. In the displayed dialog box, read the migration conditions and click **OK**.

Figure 7-9 Saving the configuration

Figure 7-10 Saving the configuration and starting the migration
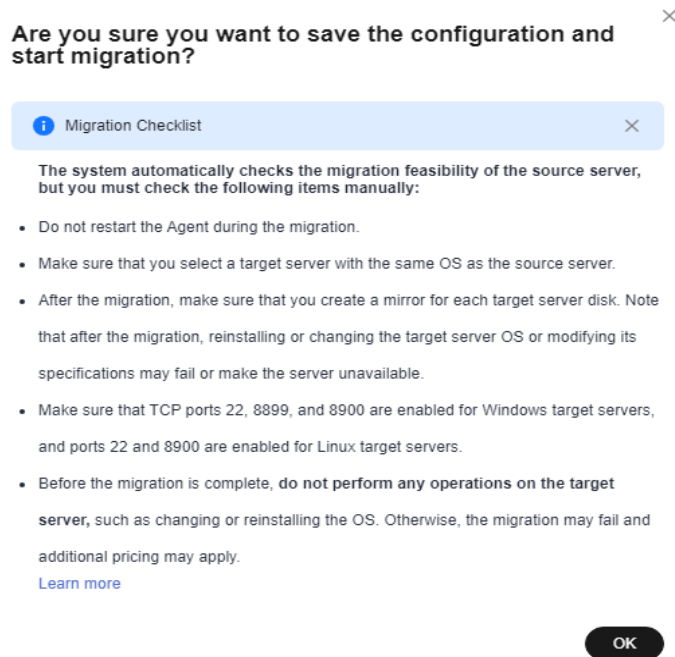
NOTE

If is displayed in the **Migration Stage** column, the target server has been configured.

----End

8 Starting the Full Replication

Scenarios

The full replication replicates all data from the source server to the target server. The replication speed depends on the outbound bandwidth of the source server or the inbound bandwidth of the target server, whichever is smaller.

Constraints

After a full replication starts, do not restart the source server or Agent, or the migration will fail.

Prerequisites

- A target server has been configured. For details, see **Configuring the Target Server**.
- The migration task is in the **Full Replication** stage and the status is **Ready**.

Procedure

Step 1 Log in to the **SMS console**.

Step 2 In the navigation pane on the left, choose **Servers**.

Step 3 Locate the source server to be migrated and click **Start** in the **Migration Stage/ Status** or **Operation** column. In the displayed **Start Migration** dialog box, click **Yes** to start a full replication.

You can also select the source server to be migrated and click **Start** above the server list. In the displayed **Start Migration** dialog box, click **Yes**.
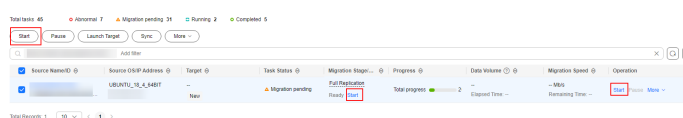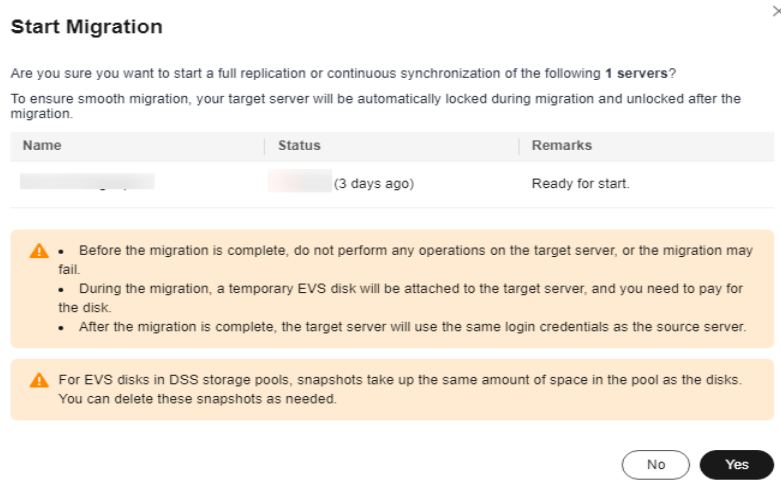
Figure 8-1 Starting a full replication

Figure 8-2 Confirmation

> **NOTE**
>
> During the full replication, the target server is locked by default and you are not allowed to perform any operations on it. After the migration is complete, SMS automatically unlocks the target server. If you need to perform operations on the target server during the replication, unlock the target server first by referring to **Unlocking a Target Server**.

Step 4 In the server list, click the name of the source server to view the migration progress.

Step 5 Wait for the full replication to complete.

- If you set **Continuous Synchronization** to **No** when you configure the migration settings, after the full replication is complete, the migration will go to the **Target Launch** stage, and the target server will be launched to complete the migration automatically.

- If you set **Continuous Synchronization** to **Yes** when you configure the migration settings, after the full replication is complete, the migration will be in the **Continuous sync** status, and any new or modified data will be automatically synchronized from the source server to the target server. You will need to manually launch the target server to complete the migration. For details, see **Launching the Target Server**.

----End

9 Launching the Target Server

If you set **Continuous Synchronization** to **Yes** when configuring the migration settings, after the full replication is complete, you will need to manually launch the target server to complete the migration.

📖 **NOTE**

If you set **Continuous Synchronization** to **No**, skip this section as the system will automatically launch the target server after the full replication is complete.

Scenarios

You can launch the target server when the migration is in the **Continuous sync** status, and continuous synchronization will be interrupted. After the target server is launched, you can start an incremental synchronization by clicking **Sync** in the operation column.

Before launching the target server, you can clone the target server for service testing, and only launch the target server after tests confirm there are no issues.

📖 **NOTE**

The cloned server must be in the same AZ as the target server, but can be in a different VPC.

Procedure

Step 1 Log in to the **SMS console**.

Step 2 In the navigation pane on the left, choose **Servers**.

Step 3 Locate the target server you want to launch, and click **Launch Target** in the **Migration Stage/Status** column.
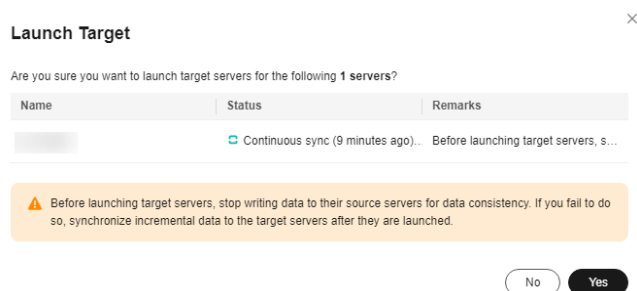
Alternatively, select the server you want to launch, and click **Launch Target** above the server list.
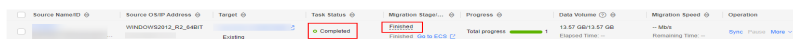
Figure 9-1 Launch Target
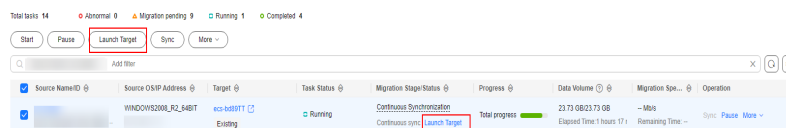
Step 4 In the displayed **Launch Target** dialog box, click **Yes**.

Figure 9-2 Confirmation

Step 5 Check whether **Finished** is displayed in the **Migration Stage/Status** column. If it is, the target server has been launched and the migration is complete.

Figure 9-3 Migration completed

----End

10 Synchronizing Incremental Data

Scenarios

After the target server is launched, if there are data changes on your source server, you can synchronize the incremental data from the source server to the target server.

The data changes on the target server will be overwritten by the data synchronized from the source server. For details, see .

📖 **NOTE**

Only tasks in the **Finished** status can be synchronized.

Procedure

Step 1 Log in to the **SMS console**.

Step 2 In the navigation pane on the left, choose **Servers**.

Step 3 In the server list, locate the source server you want to synchronize and click **Sync** in the **Operation** column.
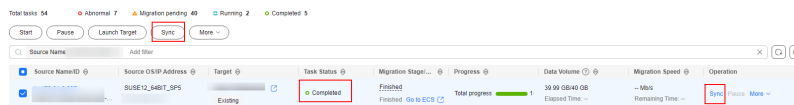
Step 4 In the **Sync Incremental Data** dialog box, carefully read the tips, enable **Verify Consistency** if needed, and click **OK**. For details about this option, see **How Do I Verify Data Consistency Between the Source and Target Servers?**

----End

11 Change History

Released On	What's New
2023-09-30	This issue is the first official release.