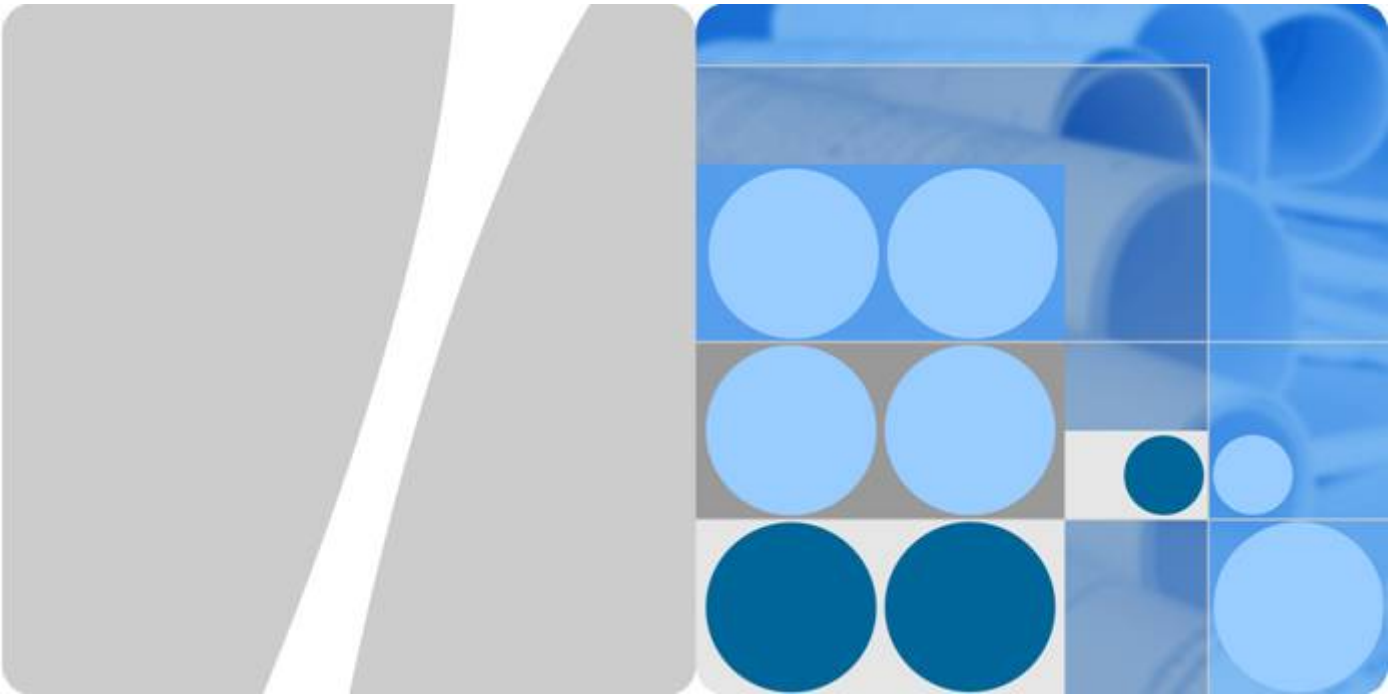

OceanStor Toolkit

V2R3C00

InfoGrab Tool Operation Guide

Issue 01

Date 2017-11-08

HUAWEI TECHNOLOGIES CO., LTD.

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About This Document

Purpose

This document describes basic information, operating environment, installation and uninstallation methods, usage, collection items, as well as commands related to the InfoGrab tool.

Intended Audience

This document is intended for:

- Technical support engineers
- Maintenance engineers

Symbol Conventions

The symbols that may be found in this document are defined as follows:

Symbol	Description
DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. NOTICE is used to address practices not related to personal injury.

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Symbol	Description
NOTE	Calls attention to important information, best practices and tips. NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

Change History

Changes between document issues are cumulative. The latest document issue contains all the changes made in earlier issues.

Issue 01 (2017-11-08)

First released official version.

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1 Quick Start

About This Chapter

This chapter introduces the basic information and requirements on operation environments about the InfoGrab tool.

1.1 Overview
The InfoGrab tool enables host or database information to be collected by one click. You can make a specific and operable solution based on the information collected, which automates and standardizes the information collection process.

1.2 Operating Environment Requirements
Before installing the InfoGrab tool, ensure that the system meets the operating environment requirements.

1.1 Overview

The InfoGrab tool enables host or database information to be collected by one click. You can make a specific and operable solution based on the information collected, which automates and standardizes the information collection process.

Before the information collection, the InfoGrab tool performs a performance pre-check on some devices running Linux, AIX, HP-UX, and Solaris. The InfoGrab tool stops collecting information when the device is occupied (the CPU usage is greater than 80%, or the IOWait value is greater than 20%).

The InfoGrab tool can either be imported into the Toolkit, or independently used.

- JRE is not required when the InfoGrab tool is imported into the Toolkit.

  For how to import tool, see *OceanStor Toolkit V2R2C00 User Guide*.
- JPE is required when the tool is independently used.

  For the details about how to download the JRE, see chapter **3 Before You Start**.

The InfoGrab tool customizes information collection items according to the device type. **Table 1-1** lists the specific information collection items.

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Table 1-1 Information collection items

Device Type	Device Subtype	Collection Item
Host	Linux	Operating system information, HBA card information, multipathing information, disk management information, logical volume information, host cluster information, file system information, virtualized information (KVM, RHEV, Xen, etc), host resource application, component information, StorageFoundation information, multipathing status of a host, mapping relationship between the multipath software and the storage, link specifications of the application server, and information about the kernel of the Linux operating system.
	AIX	Operating system information, HBA card information, multipathing information, disk management information, logical volume information, cluster information, virtualization information, host resource usage, StorageFoundation information, multipathing status of a host, file system information, and mapping relationship between the multipath software and the storage.

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Device Type	Device Subtype	Collection Item
	HP-UX	Operating system information, HBA card information, multipathing information, disk management information, logical volume information, cluster information, virtualization information, host resource usage, StorageFoundation information, and multipathing status of a host.
	Solaris	Operating system information, HBA card information, multipathing information, disk management information, logical volume information, file system information, cluster information, virtualization information, StorageFoundation information, multipathing status of a host, information about the kernel of the Solaris operating system, mapping relationship between the multipath software and the storage, and link specifications of the application server.
	VMware	Operating system information, HBA card information, multipathing information, disk management information, data storage information, virtualization information, host cluster information, and link specifications of the application server .
	Windows	Operating system information, HBA card information.

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Device Type	Device Subtype	Collection Item
	FusionSphere	Operating system information, HBA card information, logical volume information, multipathing information, disk management information, file system information, resource usage information, component information, StorageFoundation information, link specifications of the application server, and information about the kernel of the Linux operating system.
	XenServer	Operating system information, file system information, data storage information, disk management information, HBA information, multipathing information, VM information, and host cluster information.
Database	Oracle	Database version, database ASM information, archive information, database data file information, database control file information, database log file information, cluster information, database temporary file information, database OCR information, database VOTE information, database character set information, tablespace size, data file size, rollback segment information, trigger information, invalid object information, sequence information, index information, view information, function, progress, progress column, package information, mode, and table.

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Device Type	Device Subtype	Collection Item
	MySQL	Information about the versions, names of databases, system variables, engines, resources and status, data storage paths, data tables, constraints, triggers, sp1 storage process of databases, indexes, character sets, plug-in catalog, storage engines, data table status of each database, states, functions, storage procedure, trigger information, events, and the path for saving data files.
	SQLServer	Information about the versions, server configurations, databases, users, and system tables.
	DB2	Database management and configuration information, database name, directory information, version information, application information, table space information, packet information, storage process, constraints, associated tables, buffer pools, indexes, user modes, table space, sequence information, trigger information, version, view information, database functions, database library, data type, and database version.
Switch	Brocade	Switch basic information, version information, zone information, port configuration information and HBA information.
	Cisco	Switch version information, zone/vlan information, port configuration information, and HBA information.

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Table 1-2 lists the compatibility list.

Table 1-2 Compatibility List

Component	Product Name	Supported Version Range
Service Host Device	Windows	Windows 7 32/64bit Windows Server 2003 R2 SP2 Standard Edition 32/64bit Windows Server 2003 R2 SP2 Enterprise Edition 32/64bit Windows Server 2003 R2 SP2 Datacenter Edition 32/64bit Windows Server 2008 R2 SP1 Standard Edition Windows Server 2008 R2 SP1 Enterprise Edition Windows Server 2008 R2 SP1 Datacenter Edition Windows Server 2012 R2 Standard Edition Windows Server 2012 R2 Datacenter Edition Windows Server 2003 SP2 Standard Edition 32/64bit Windows Server 2003 SP2 Enterprise Edition 32/64bit Windows Server 2003 SP2 Datacenter Edition 32/64bit Windows Server 2008 SP1 Standard Edition Windows Server 2008 SP1 Enterprise Edition Windows Server 2008 SP1 Datacenter Edition Windows Server 2012 Standard Edition Windows Server 2012 Datacenter Edition

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Component	Product Name	Supported Version Range
	Linux	SLES 10 (x86,x86_64) SLES 10 SP1(x86,x86_64) SLES 10 SP2(x86,x86_64) SLES 10 SP3(x86,x86_64) SLES 10 SP4(x86,x86_64) SLES 11 (x86,x86_64) SLES 11 SP1(x86,x86_64) SLES 11 SP2(x86,x86_64) SLES 11 SP3(x86,x86_64) Red Hat Enterprise Server 4(x86, x86_64) Red Hat Enterprise Server 5(x86, x86_64) Red Hat Enterprise Server 6(x86, x86_64) CentOS 5(x86,x86_64) CentOS 6(x86,x86_64) CentOS 7(x86,x86_64) Asianux 3.x,4.x (x86,x86_64) oracle Linux5.x, 6.x, 7.X Ubuntu10.x, 11.x, 12.x, 13.x,14.x debian6.x, 7.x
	HP-UX	B.11.31
	AIX	AIX 5300-03 and above, 6100-00 and above, 7100-00 and above
	Solaris	Solaris 9, Solaris 10, Solaris 11
	VMware	VMware Sphere 4.0 VMware Sphere 4.1 VMware Sphere 5.0 VMware Sphere 5.1 VMware Sphere 5.5 VMware Sphere 6.0
	FusionSphere	V100R003C00 V100R003C10

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Component	Product Name	Supported Version Range
Service Database Device	Oracle	Oracle 9 Oracle 10 Oracle 11 Oracle 12
	MySQL	MySQL 5
	DB2	DB2 V8 V9 V10
	SQLServer	Sqlserver 2000 Sqlserver 2005 Sqlserver 2008 Sqlserver 2008 R2 Sqlserver 2012 Sqlserver 2014
Serving Switch Device	Brocade	Brocade
	Cisco	Cisco
Storage Array	EMC	VNX5400 VNX5300
	HP	HP_3Par7200

The InfoGrab tool can be used to perform the following operations:

- Creating a collection task
- Adding a device
- Setting information collection
- Deleting a device
- Batch importing devices
- Executing information collection
- Stopping information collection
- Previewing reports
- Deleting a collection task
- Viewing information collection results
- Setting a result directory

You can understand how to install and use the InfoGrab tool using this operation guide. Obtain this operation guide by using the following method:

Log in to Huawei technical support website for enterprise users at **http://support.huawei.com/enterprise/?lang=en**, enter **MigrationDirector** in the search bar, select the suggested path to go to the corresponding document page. Select the latest version to download this operation guide.

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1.2 Operating Environment Requirements

Before installing the InfoGrab tool, ensure that the system meets the operating environment requirements.

Table 1-3 lists the operating environment requirements.

Table 1-3 Operating environment requirements

Configuration Item	Configuration Requirement	Description
Supported Operating System	● Windows7 32–bit ● Windows Server 2003 32–bit ● Windows Server 2008 32–bit ● Windows7 64–bit ● Windows Server 2003 64–bit ● Windows Server 2008 64–bit	-
Recommended JRE Version	JRE 1.7.0.51 32-bit	-
CPU	Dual-core 2.4 GHz or higher	If the InfoGrab tool is installed on a VM, the minimum CPU dominant frequency used by the VM should be 2.4 GHz.
Memory	At least 400 MB of available memory space	If the InfoGrab tool is installed on a VM, the minimum memory used by the VM must be at least 400 MB.
Disk Space	At least 2 GB of available disk space in the owning disk partition	-
Screen Resolution	1024*768 or higher	-
Web Browser	IE8/IE9/IE10	-
Maximum Number of Managed Devices	256	Suggestion:about 25.
Maximum Number of Concurrent Data Collection Devices	25	-

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Table 1-4 lists the package verification requirements.

Table 1-4 Package verification requirements

Name	Description
SHA256 Verification	Download an **SHA256** verification tool to verify the package to be installed, and compare the check code with the string in the verification file corresponding to the package. ● If the check code and the string are the same, the package is correct. The package can be installed. ● If the two are different, obtain the installation package again.

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2 Tool Installation and Uninstallation

About This Chapter

You can install or uninstall the tool as required. Tools can be installed into the Toolkit through offline import or online installation.

2.1 Installation Based on Scenarios
This section introduces how to install and update tools based on scenarios.

2.2 Independent Installation
Tools can be independently installed online by choosing **ToolStore** > **Install** on the main window of **OceanStor Toolkit** or imported offline.

2.3 Uninstalling the Tool
You can uninstall the tool as required from ToolStore of Toolkit.

2.1 Installation Based on Scenarios

This section introduces how to install and update tools based on scenarios.

2.1.1 Installing Tools by One Click

This chapter introduces how to install all tools by one click based on scenarios. Two one-click tool installation methods are available. One method is applicable only to storage tools based on scenario tasks.

Method One

Step 1 Start **OceanStor Toolkit**.

Step 2 Go to the **ToolStore** tab page and select a scenario. Choose **ToolStore** > **Storage** > **Upgrade Patches**.

Step 3 In the function pane, click **One-Click Download**.

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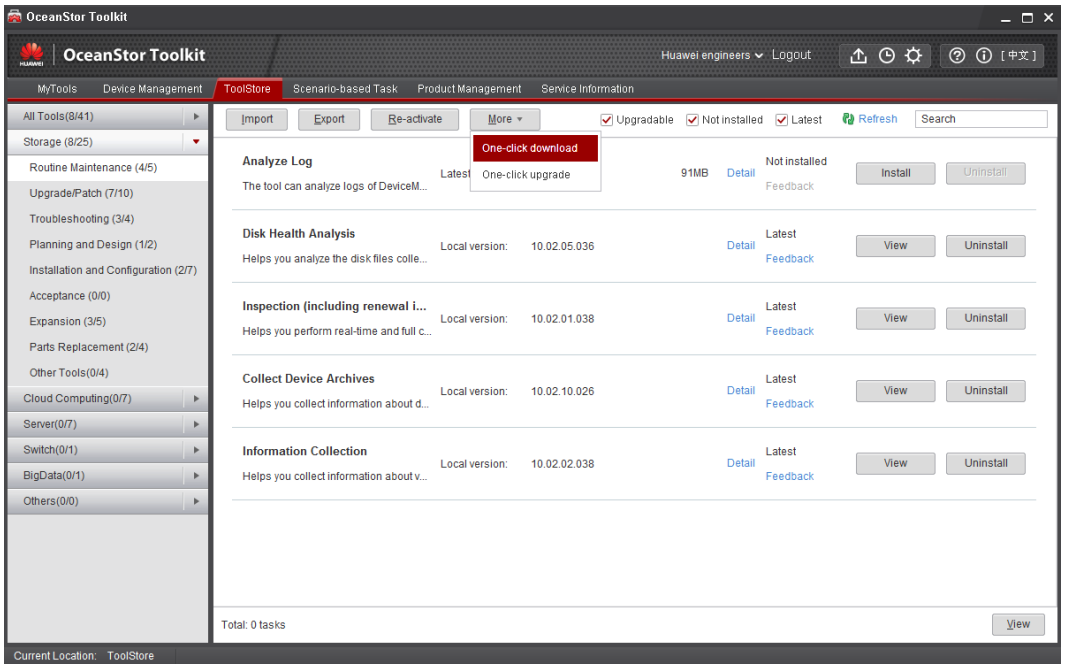


----End

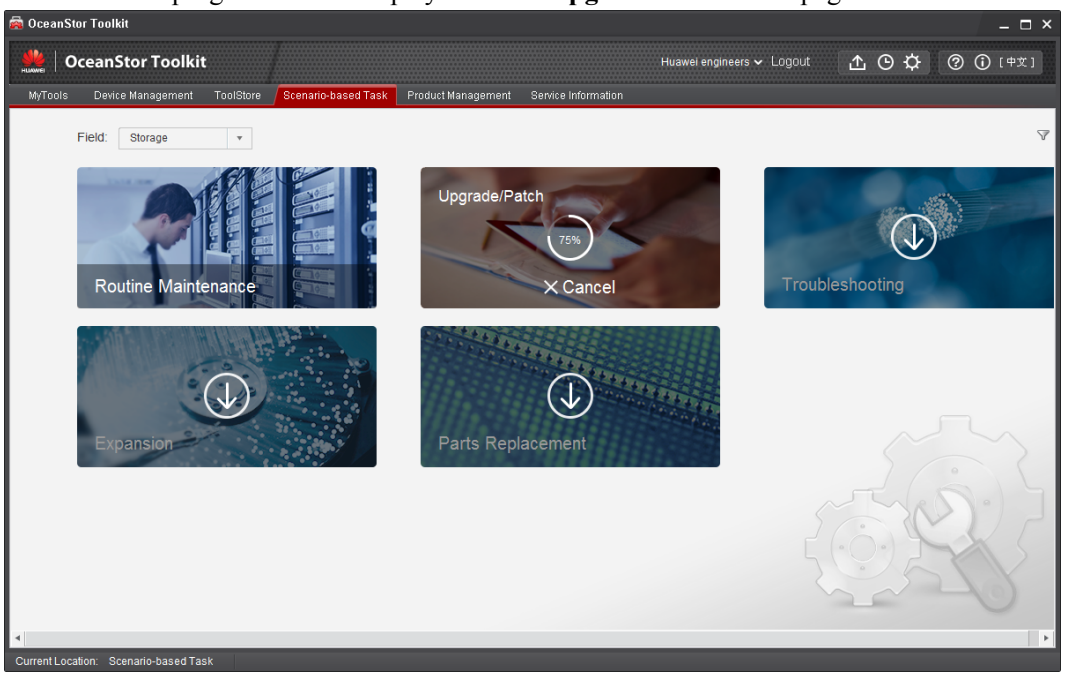
Method Two

Step 1 Start **OceanStor Toolkit**.

Step 2 Go to the **ToolStore** tab page and select a scenario. Choose **Scenario-based Task** > **Upgrade/Patches**.

Step 3 On the **Upgrade/Patches** tab page, click the download icon.

The download progress will be displayed on the **Upgrade/Patches** tab page.



----End

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2.1.2 Updating Tools By One Click

This chapter introduces how to update tools installed in different scenarios by one click.

Prerequisites

- Tools to be updated have been installed in Toolkit.
- The tool running environment is ready.

Procedure

Step 1 Start **OceanStor Toolkit**.

Step 2 Go to the **ToolStore** tab page and select a scenario. Choose **Scenario-based Task** > **Upgrade/Patches**.

Step 3 On the **Upgrade/Patches** tab page, click the update button.

Tools displayed on the **Upgrade/Patches** tab page will be updated to the latest versions.

----End

2.1.3 Upgrading Tools Independently

This section introduces how to update tools installed in different scenarios one by one.

Prerequisites

- Tools to be updated have been installed in Toolkit.
- A physical environment for running tools has been prepared.

Procedure

Step 1 Start **OceanStor Toolkit**.

Step 2 Go to the **ToolStore** tab page and select a scenario. Choose **ToolStore** > **Storage** > **Upgrade Patches**.

Step 3 In the function pane, click **Upgrade** on the right of the InfoGrab tool.

The tool will be updated to the latest version.

----End

2.2 Independent Installation

Tools can be independently installed online by choosing **ToolStore** > **Install** on the main window of **OceanStor Toolkit** or imported offline.

2.2.1 Installing the Tool Offline

If the maintenance terminal used for tool installation cannot access the Huawei enterprise support website directly, you can install the tool by importing the corresponding tool package to Toolkit.

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Prerequisites

You have applied for an account with download permission. For information about the permission level, contact the administer.

1. Log in to Huawei technical support website for enterprise users at **http://support.huawei.com/enterprise/?lang=en**.
2. Enter **MigrationDirector** in the search bar. Select the suggested path to go to the corresponding document page.
3. Click **Downloads**. Select the latest version and go to the software downloading page.
4. Download and decompress the installation package to a local directory.

   NOTE

   The local directory can only contain letters, digits, underscores (_), and spaces (excluding consecutive spaces).

Procedure

Step 1 Run the Toolkit.

The **Activating** page is displayed.

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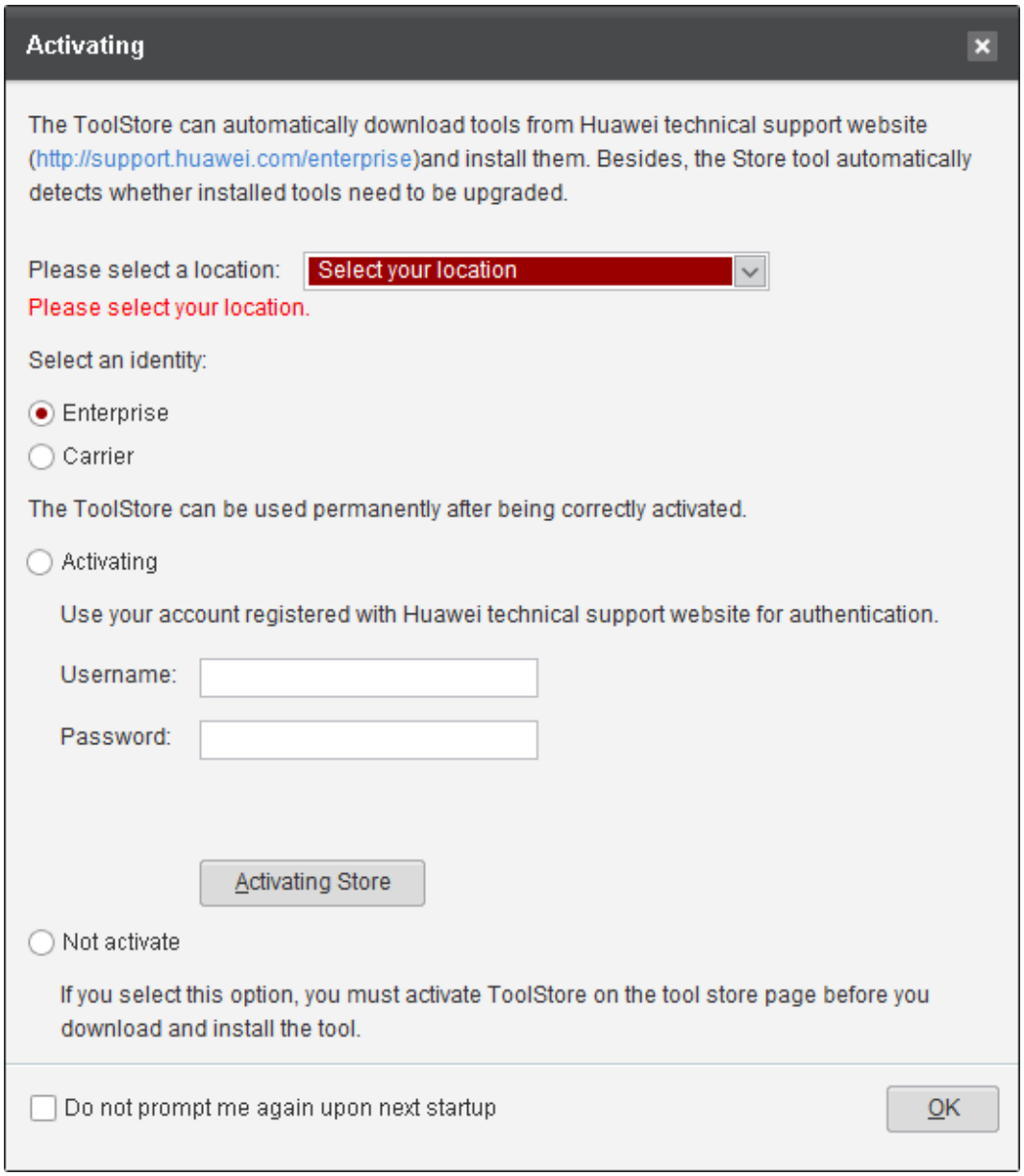

Step 2 Select your location.

Step 3 Choose **Not activate**.

Step 4 Click **OK**.

The **Operation Safety Precautions** page is displayed.

Step 5 Read the precautions carefully, and click **Close**.

NOTE

You can choose your location and click **Download Letter of Authority** to download the letter of authority.

Step 6 Click the **ToolStore** tab.

Step 7 Install the tool software package.

1. Click **Import**.

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2. Select the tool software package you want to install and click **Open**.

   The **Verification and Installation** dialog box is displayed.

   NOTE

   - ToolStore supports batch importing software packages or a whole directory.
   - The tool software package has integrated the corresponding service package, so you do not need to install the corresponding service package during new installation. You need to install the service package only when upgrading the tool.
   - The Import Path cannot contain consecutive spaces.

3. Select the package to be installed, and click **Install**.

   The **Information** dialog box is displayed indicating that the package is imported successfully.

   NOTE

   You can also click **View** to view details about the package.

4. Click **OK**.

----End

Follow-up Procedure

- After the installation is completed, you can open and use the tool in **MyTools**.
- After the installation is completed, you can use the **One-Click Export** function offered by **Support** page of the Toolkit to export Toolkit, installed and updated tools into compressed file and save it locally, so as to implement an entire immigration to an offline environment.

2.2.2 Installing the Tool Online

If the maintenance terminal used for the tool installation can access the Huawei enterprise support website, you can obtain the latest tool updates from the website through Toolkit. The tool can be directly downloaded and installed in ToolStore of Toolkit.

Prerequisites

Before the tool installation, ensure Toolkit is installed and ToolStore is activated. For details about how to install Toolkit and activate ToolStore, see the *OceanStor Toolkit V2R2C00 User Guide*.

Procedure

Step 1 Start Toolkit.

Step 2 Click the **ToolStore** tab.

Step 3 On the left navigation bar, choose the corresponding tool category.

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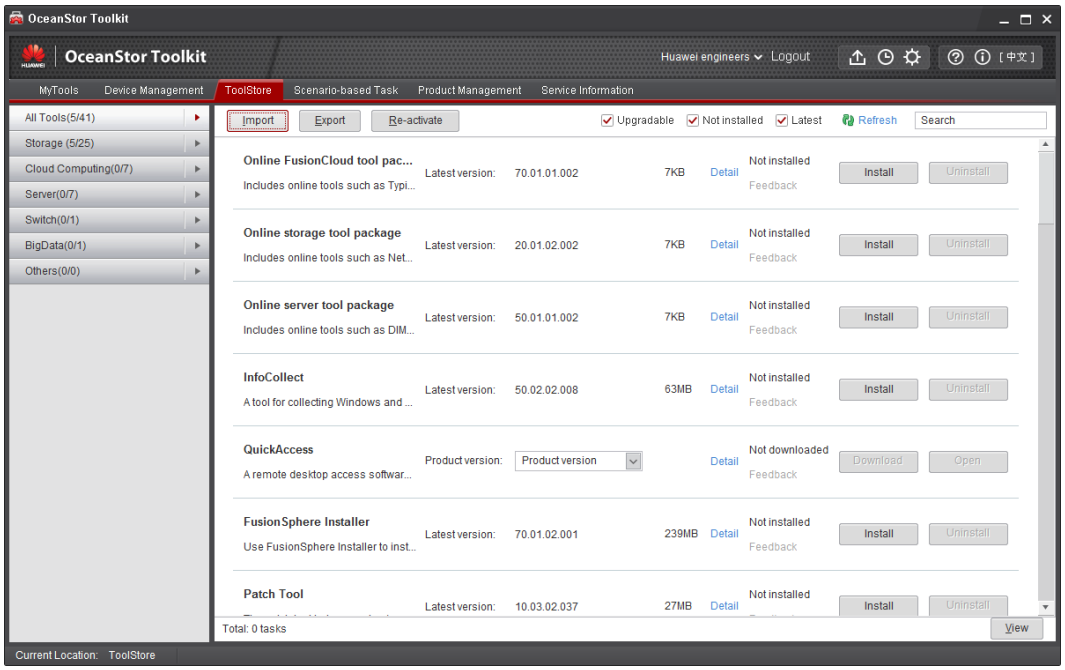

Step 4 Click **Refresh**. ToolStore automatically synchronizes the latest tool updates from the Huawei enterprise support website.

Step 5 Locate the tool that you want to install from the tool list, and click **Install**.

Step 6 Enter your login user name and password on the Huawei enterprise support website and click **Login**.

The tool will be automatically downloaded and installed in **ToolStore** of Toolkit.

----End

Follow-up Procedure

After the tool is installed, you can use it in **MyTools** of Toolkit.

2.3 Uninstalling the Tool

You can uninstall the tool as required from ToolStore of Toolkit.

Prerequisites

Before a tool upgrade, ensure that Toolkit is installed and ToolStore is activated. For details about how to install Toolkit and activate ToolStore, see the *OceanStor Toolkit V2R2C00 User Guide*.

Procedure

Step 1 Start Toolkit.

Step 2 Click the **ToolStore** tab.

Step 3 Locate the tool that you want to uninstall from the tool list and then click **Uninstall**.

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The **Information** dialog box is displayed.

Step 4 Click **OK** to uninstall the tool.

Step 5 Click **OK**.

----End

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3 Before You Start

If the InfoGrab tool is independently used, you need to install Java SE Runtime Environment (JRE) 1.7.0_17 32–bit or later in the operating system.

To download the JRE, do as follows:

- Log in to **http://www.oracle.com/technetwork/java/javase/archive-139210.html**.
- Select the related Java SE version in the Java SE list.
- Click the JRE version.
- Download the JRE version based on the current operating system.

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4 How to Use

About This Chapter

This chapter describes the details about how to use the tool.

4.1 Tool Guide Based on Task Scenarios
This section describes the operations performed by using InfoGrab, a device archive collection tool, in different scenarios and the operation differences, allowing you to efficiently complete related operations in specific task scenarios.

4.2 Independent Use Guide
This chapter describes the procedure about how to use InfoGrab tools independently.

4.1 Tool Guide Based on Task Scenarios

This section describes the operations performed by using InfoGrab, a device archive collection tool, in different scenarios and the operation differences, allowing you to efficiently complete related operations in specific task scenarios.

In different task scenarios, the operations performed by using InfoGrab may be different, as shown in the following table.

Table 4-1 Comparison of operations performed in different scenarios

Scenario	Sub-Task	Procedure	Description
Tool used independently	—	Add a device > set an information grab task > set the result directory > grab information > view the collection result	For details, see **4.2 Independent Use Guide**.

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Scenario	Sub-Task	Procedure	Description
Tool used in upgrade/patches tasks	Pre-upgrade site survey	Add a device > set an information grab task > grab information > view the collection result	For operation details, see the corresponding steps in independent scenario.

4.2 Independent Use Guide

This chapter describes the procedure about how to use InfoGrab tools independently.

4.2.1 InfoGrab Process

This section describes the process of InfoGrab.

Figure 4-1 shows the inspection process.

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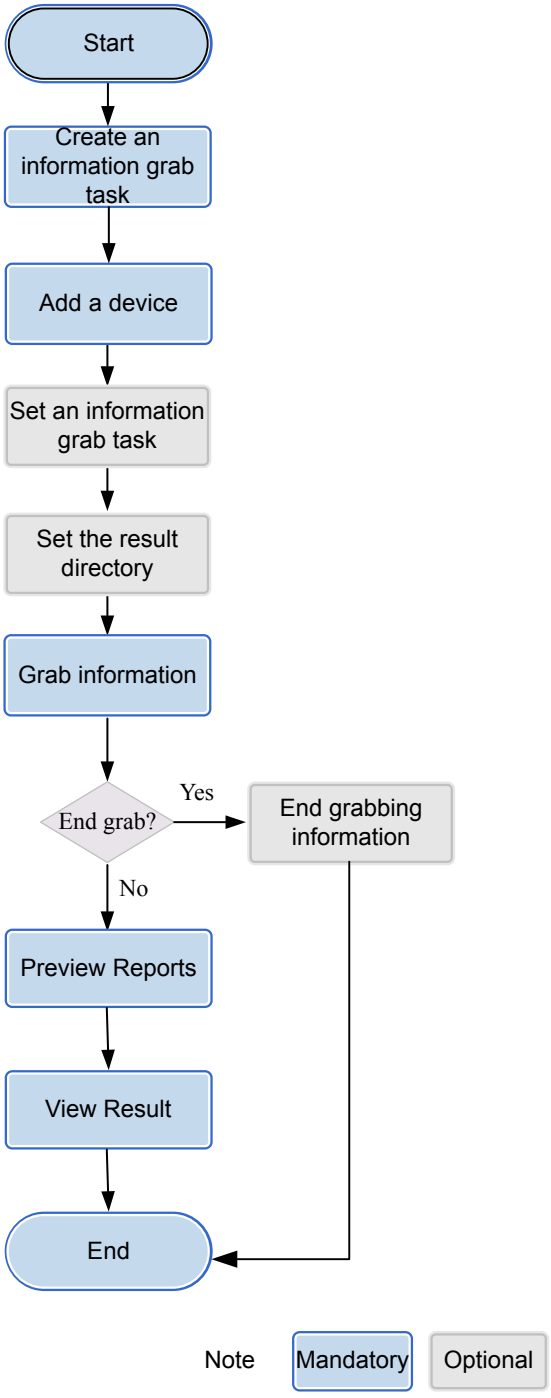
Figure 4-1 InfoGrab Process



4.2.2 Creating a Collection Task

This operation enables you to create different collection tasks based on information types and scenarios.

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Prerequisites

You have obtained the user account, password, port, and IP address or IP address segment of the device. If the device to be added is a database, you need to know the database name.

Procedure

Step 1 Double-click start.exe to run the tool.

Step 2 On the **MyTools** page, click . The information collection page is displayed.

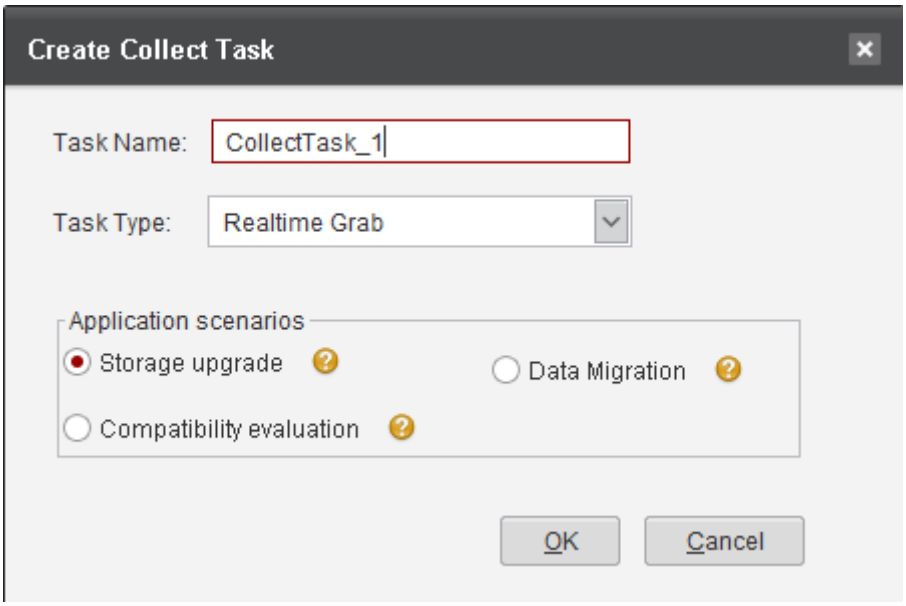
Step 3 Click **Create Task**. A dialog box of creating a collection task is displayed.

NOTE

The system automatically generates a task name. For example, the default name of the collection task created for the first time is **CollectTask_1**. You can change the task name as required.

Step 4 Select **Task Type**. There are two task types for your selection.

1. Select **Realtime Grab**.



Select a device scenario for collection and click **OK**. The tool will perform collection tasks based on your selection.

NOTE

- The system supports three application scenarios: **Storage upgrade**, **Data Migration**, and **Compatibility evaluation**.
- **Storage upgrade**: Collects information about storage upgrade and generates a report to evaluate the compatibility between a host, database, switch, and storage device before the storage upgrade.
- **Data Migration**: Collects information about data migration and generates a report to evaluate whether data migration is feasible.
- **Compatibility evaluation**: Collects information about storage compatibility and generates a report to evaluate the compatibility between a host and storage device.
- You can select one of the three application scenarios.

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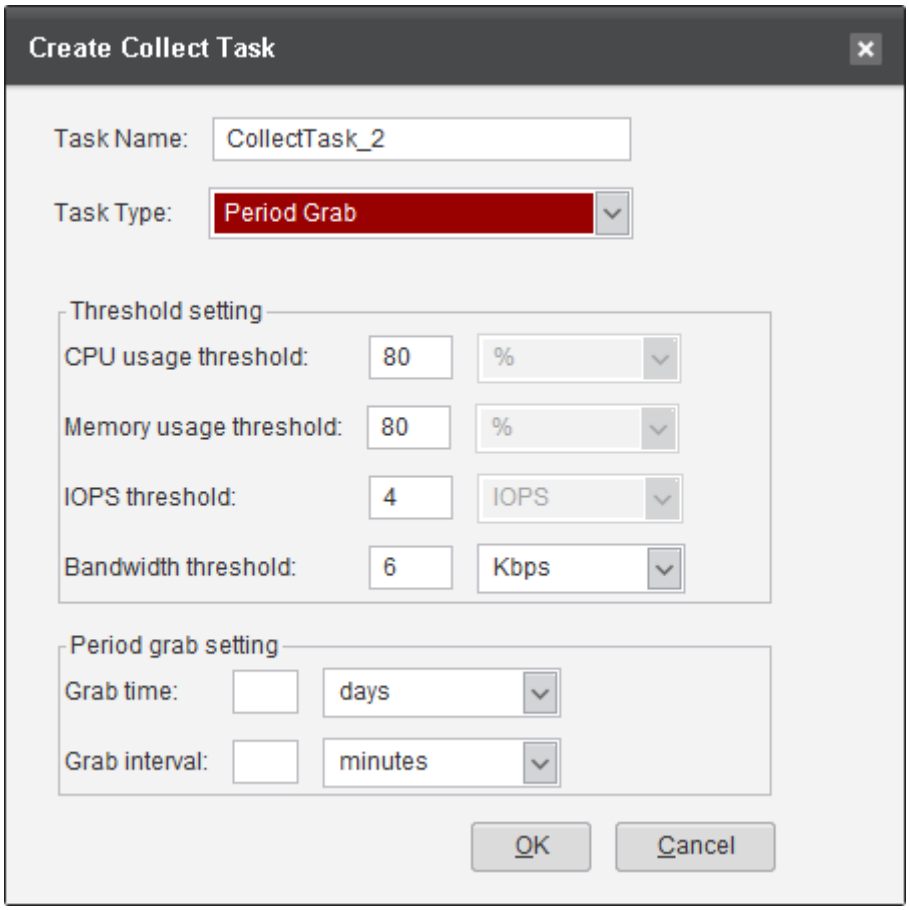
2. Select **Period Grab**.



Configure **CPU usage threshold**, **Memory usage threshold**, **IOPS threshold**, and **Bandwidth threshold**. Set **Grab time** and **Grab interval** as you required and click **OK**.

Step 5 On the collection task page, click **Add Dev**. The dialog box of adding a device is displayed.

NOTE

- You can add storage device types for real-time collection tasks only in the data migration scenario.
- Periodic collection tasks support only hosts.

- Add hosts.

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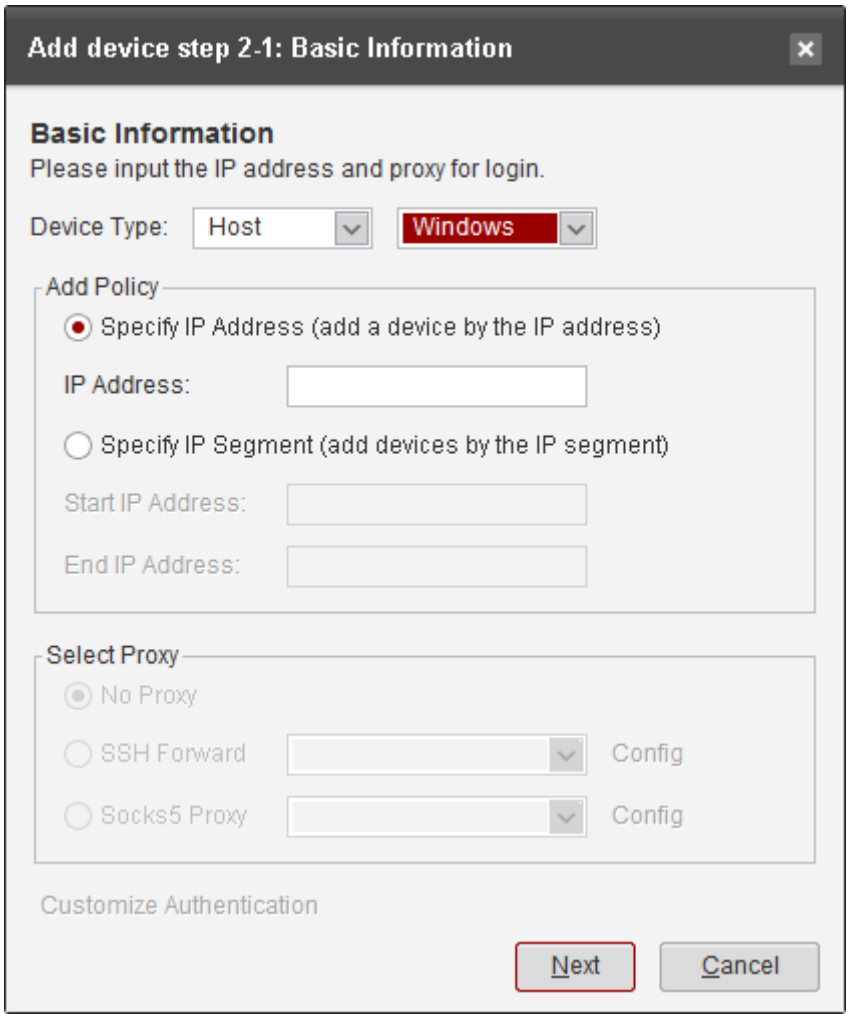

NOTE

- If you select Windows as a host type, the login user must be **Administrator**.
- If you add a Linux, AIX, HP-UX, Solaris, or VMware host, user **root** is recommended.
- Do not change the default value of **PS1** of a Linux host to be collected. If you perform this operation, the device may not be connected.
- Do not change the default value of **/etc/*-release** of a Linux host to be collected. If you perform this operation, an exception may occur during the Linux version judgment.
- Before you collect FusionSphere host information, connect the system IP address of a CNA node, but not the IP address of a BMC port.
- Before you collect Questions host information, log in to the host as user **gandalf**, and then switch to user **root** in **Setting** of the host.
- If you need to manually collect FusionSphere host information, log in to FusionManager using a FusionManager account for information collection.

- Add a database.

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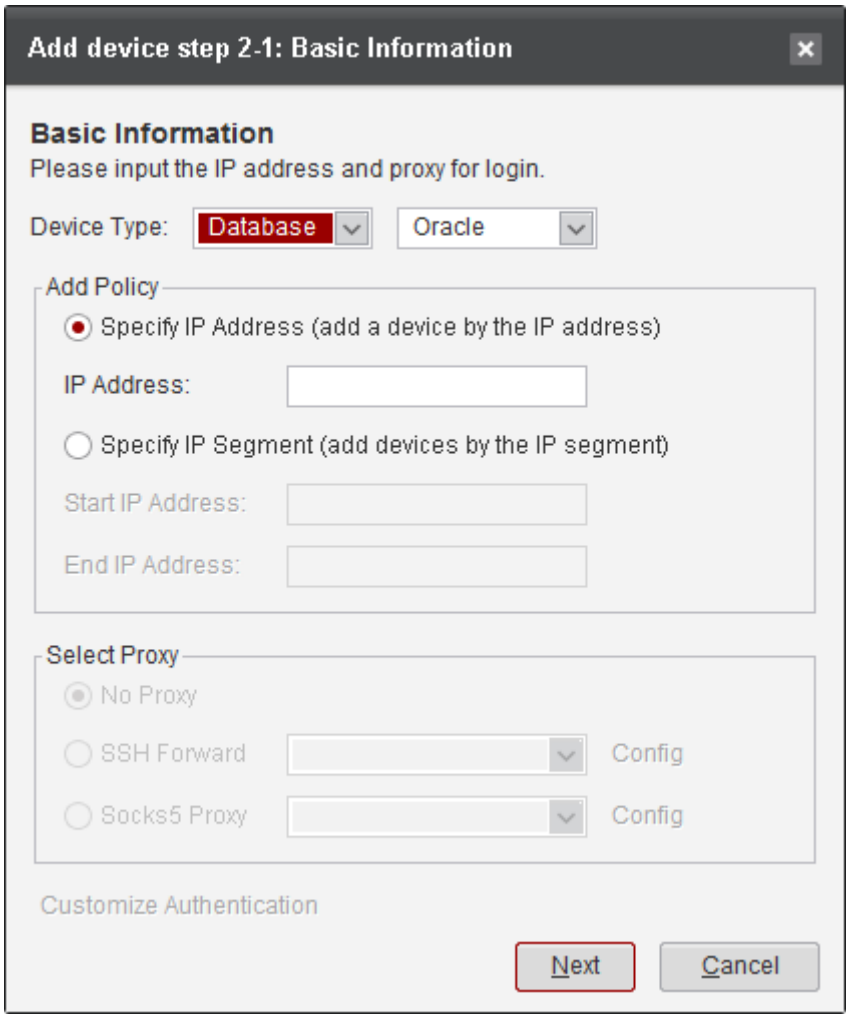

- Add a switch.

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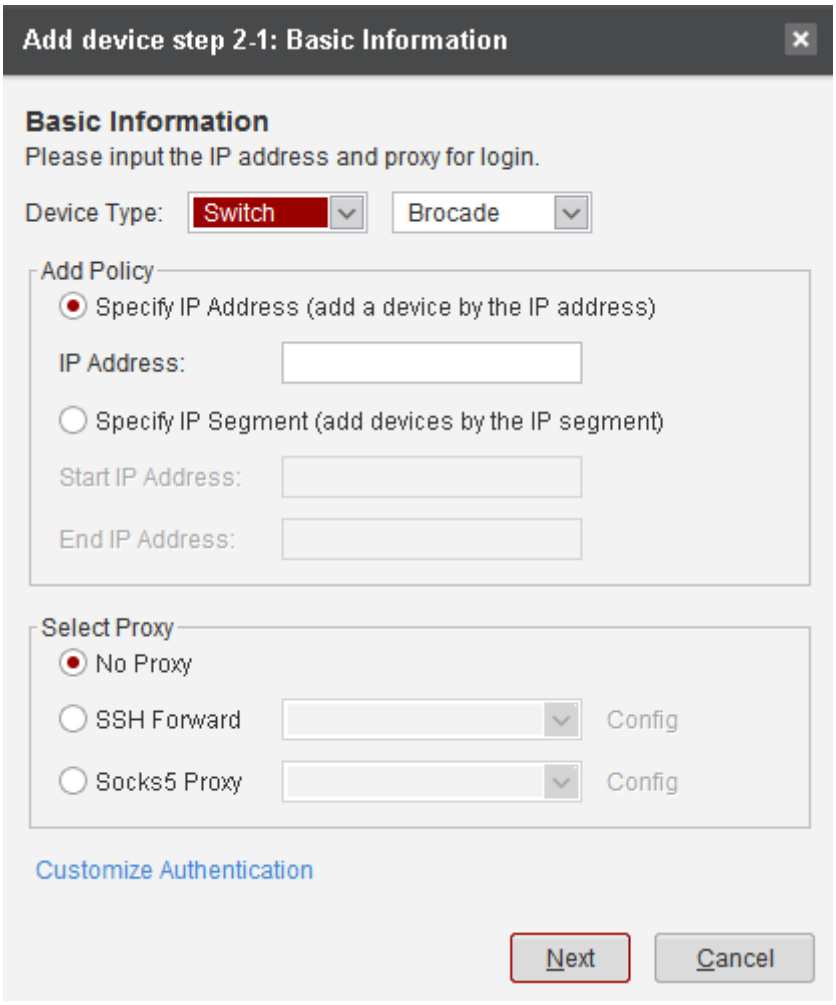

- Add a storage array.

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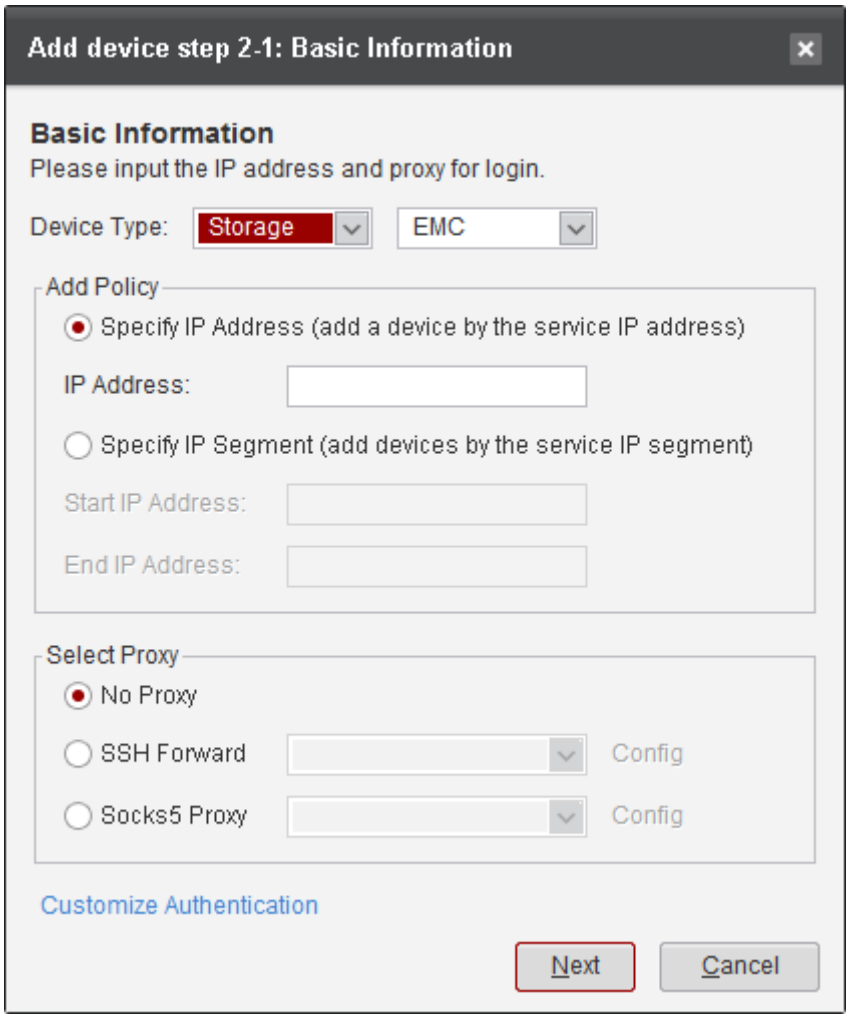

NOTE

If the device type of a collection object is a storage array, before the collection, you need to install the **EMC Navisphere Secure CLI** software.

1. In **Add Policy** of the basic information page, select a mode to add IP addresses.
   - **Specify IP Address**: add a device by the IP address.
   - **Specify IP Segment**: add devices by the IP address segment.

   NOTE

   - In this version, only IPv4 is supported, while IPv6 is not supported.
   - If the device to be added has multiple IP addresses, the device can be added to the device list repeatedly through different IP addresses.
2. **Optional:** In **Select Proxy**, select **No Proxy**, **SSH Forward**, or **Socks5 Proxy**.

   - Configure the SSH forward.

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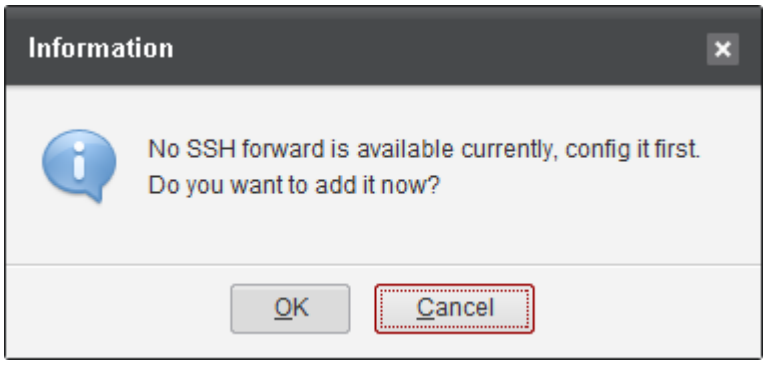
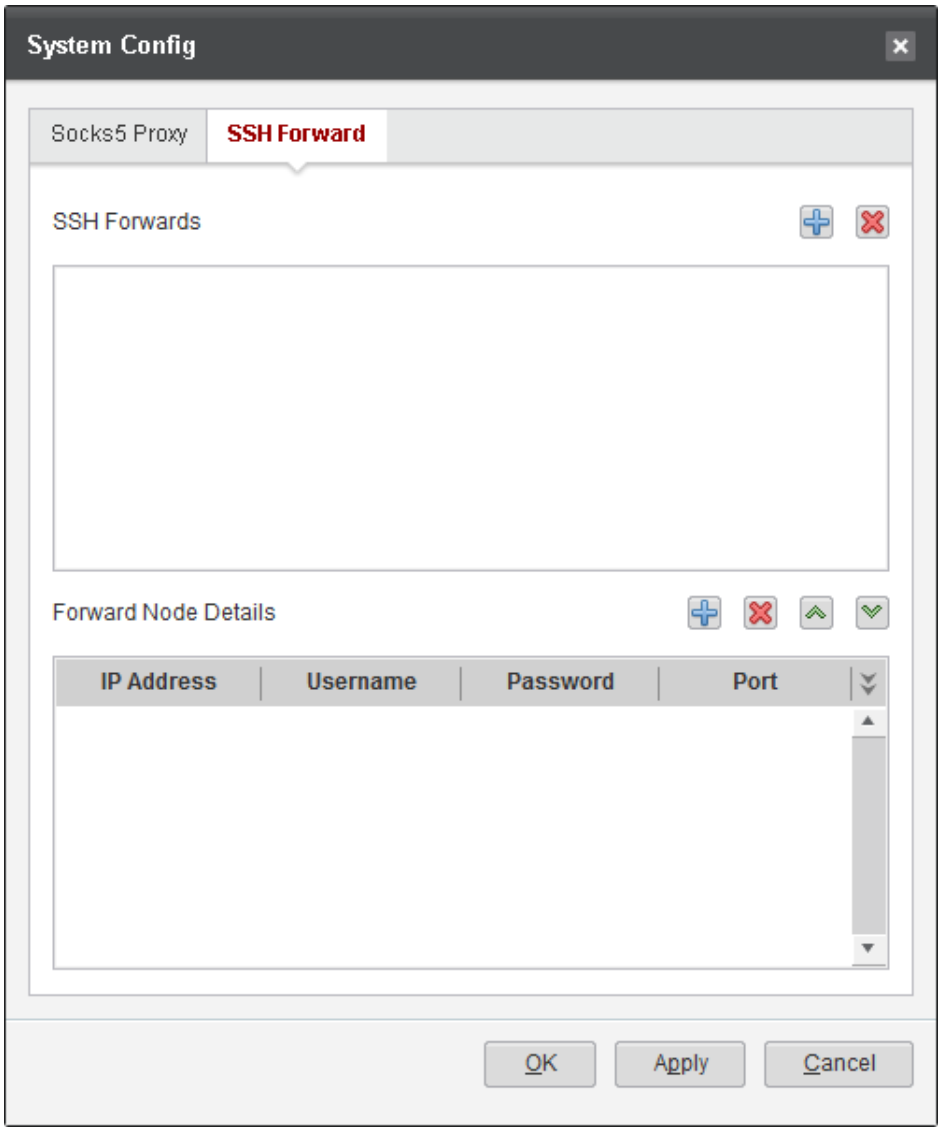
i. Select **SSH Forward**. The **Information** dialog box is displayed.



ii. Click **OK**.

The **System Config** dialog box is displayed.



iii. Click **Create** to the right of the SSH forward list. Then enter the SSH forward name.

Click **OK**.

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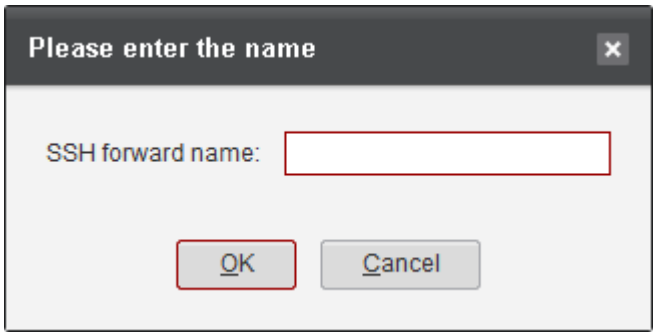


NOTE

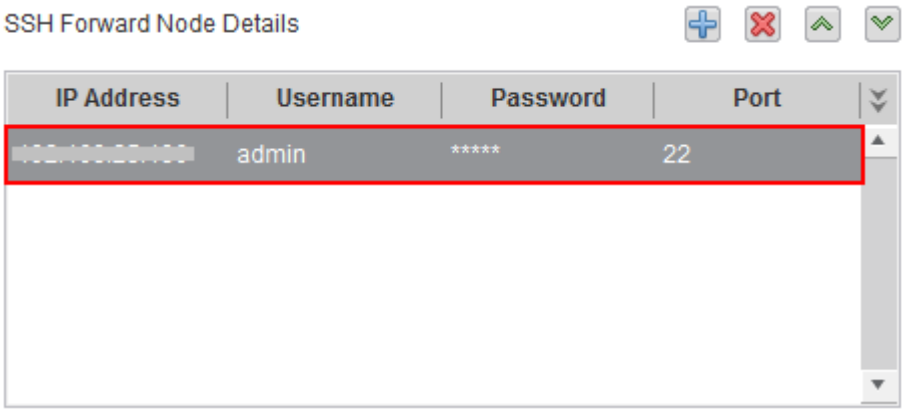
Alternatively, you can select an existing SSH forward and click to delete it.

iv. Click **Add Node** to the right of the details of the forward node.

Then enter the IP address, user name, password, and port number.

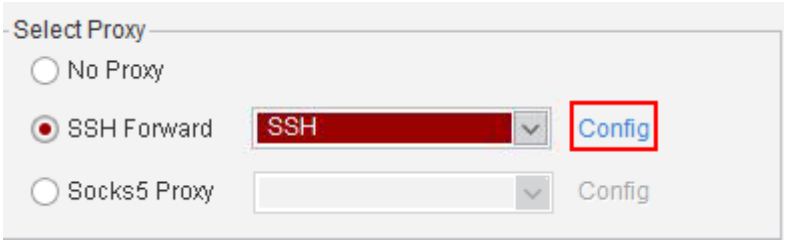
NOTE

Alternatively, you can select an existing node and click to delete it.



v. Click **OK**. The SSH forward configuration is completed.

You can click **Config** to modify the SSH forward information.



- Configure the Socks5 proxy.

i. Select **Socks5 Proxy**. The **Information** dialog box is displayed.

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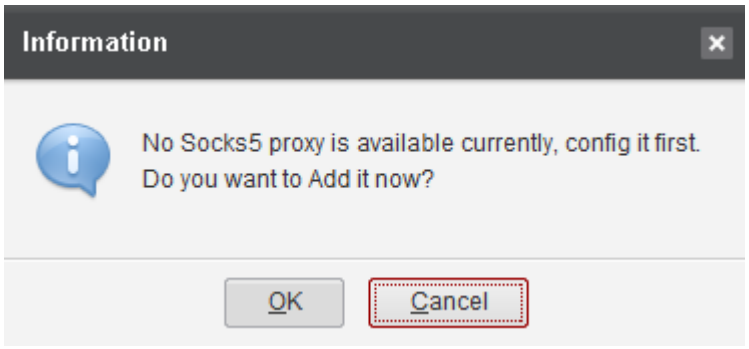
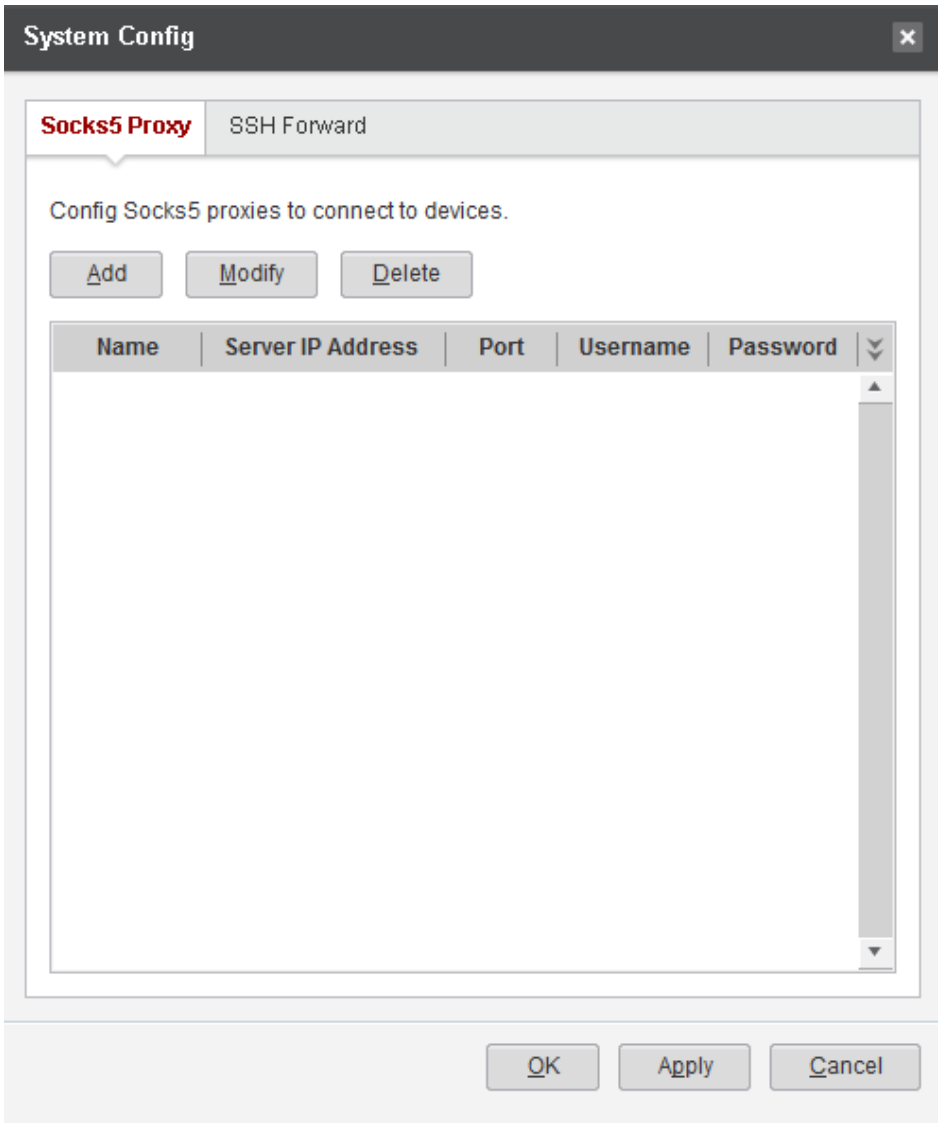


ii. Click **OK**. The **System Config** dialog box is displayed.



iii. Click **Add**. The **Add Socks5 Proxy** dialog box is displayed.

Enter the name, server IP address, and port number. You can choose whether to enable authentication. If authentication is required, select the **Need authentication** check box and enter the user name and password.

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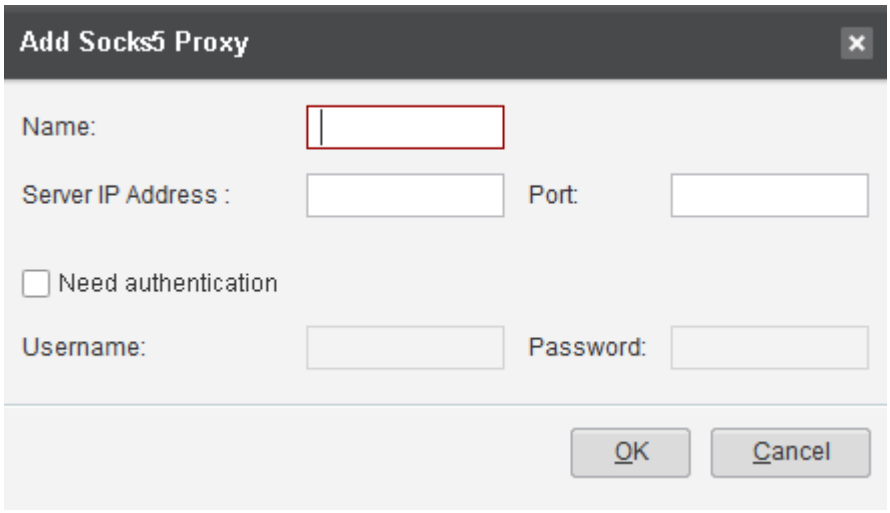


NOTE

- You can select the added Socks5 proxy and click **Modify** to update it.
- You can select the added Socks5 proxy and click **Delete** to delete it.

iv. Click **OK**. The Socks5 proxy is successfully configured.

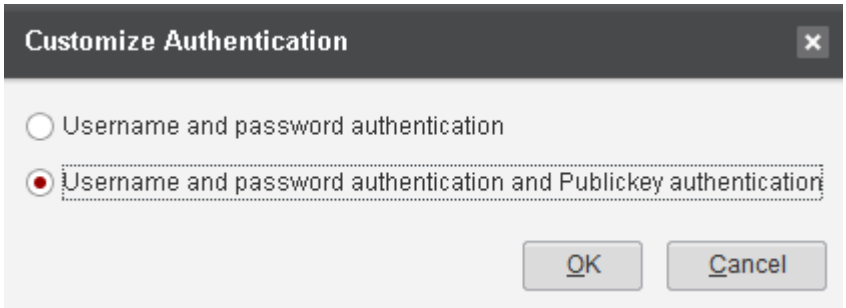
You can click **Config** to modify the Socks5 Proxy information.

NOTE

- Only Linux, AIX, HP-UX, Solaris, and VMware support the Socks5 proxy.
- If you need the SSH forward or Socks5 proxy, select **SSH Forward** or **Socks5 Proxy** in **Select Proxy**. Otherwise, select **No Proxy**.
- Socks5 is not a security protocol and may cause disclosure of the authentication password. Therefore, **SSH Forward** is recommended.

v. **Optional:** In the lower left corner of the page, click **Customize Authentication** to select an authentication method.

The default value is **Username and password authentication**. If you want to add the public key authentication, select **Username and password authentication and Publickey authentication** and click **OK**.



NOTE

Only Linux, AIX, HP-UX, Solaris, and VMware support customized authentication.

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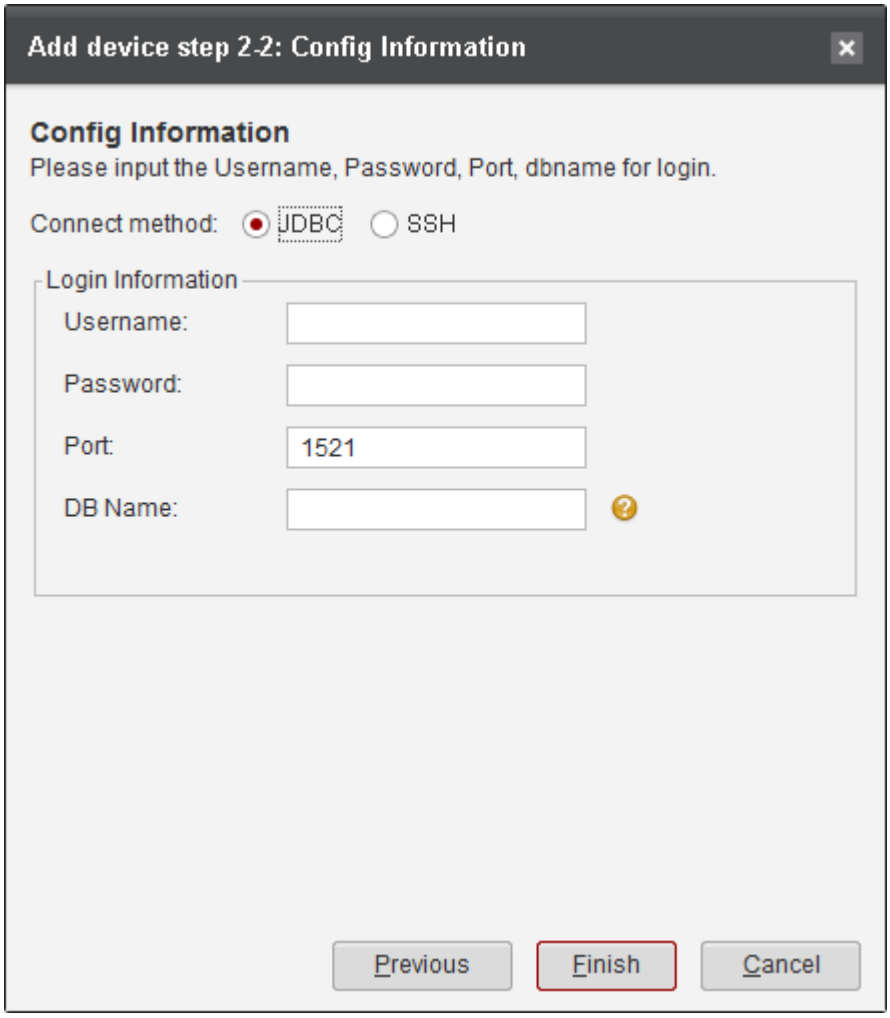
3. Click **Next**. The **Add device** page is displayed.
   - If the device to be added is an Oracle database, you must select a connection mode.



     - If you select the Java database connectivity (JDBC) mode, the login information is the JDBC connection information of the Oracle database.
     - If you select the SSH connection mode, the login information is the SSH connection information of the host.
       - The username for the SSH connection must be user **root**.
       - The Oracle database must be installed on the Linux system using the Oracle account.

     NOTE

     - If you select the JDBC mode, **cluster information**, **OCR information**, and **VOTE information** of the device cannot be collected. In this case, the SSH connection mode is recommended for such information collection items.
     - If the command output is of poor readability, you are advised to select the JDBC mode to collect databases.
     - If you select the JDBC mode, place the cursor on the question mark to the right of the **DB Name**text box. The system prompts you to enter the ASM instance name and provides you the method to obtain the ASM instance name.
   - If the added device is not an Oracle system, in **Login information**, configure **Username**, **Password**, and **Port** of the device.

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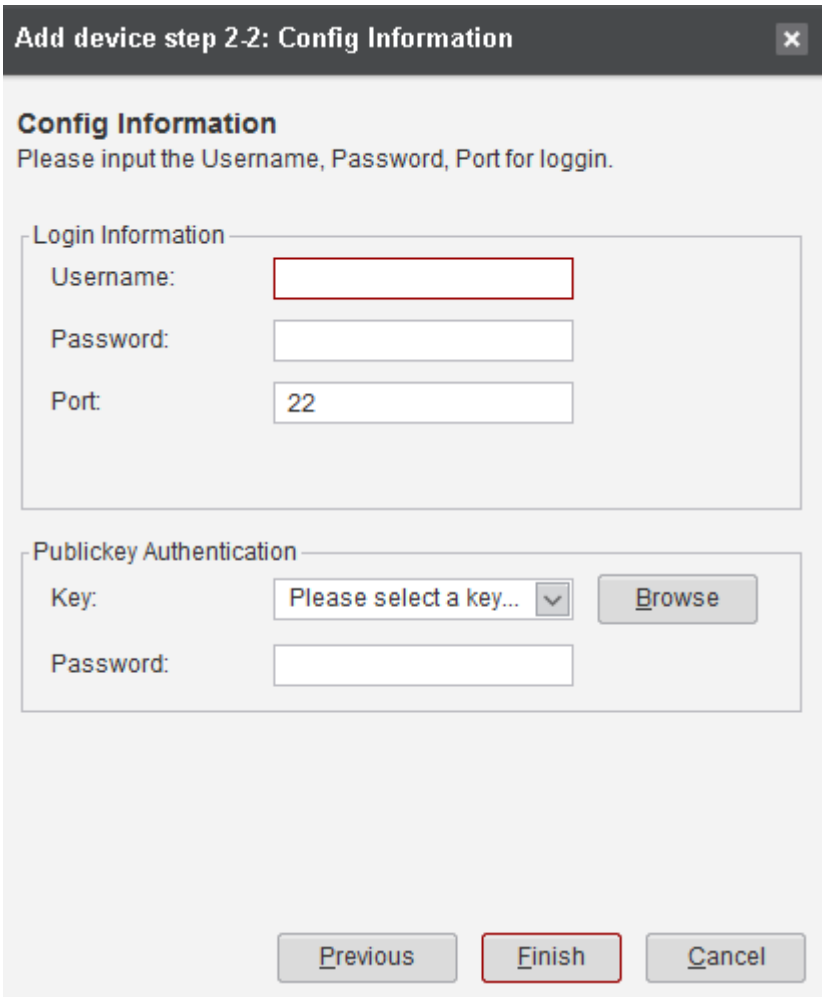


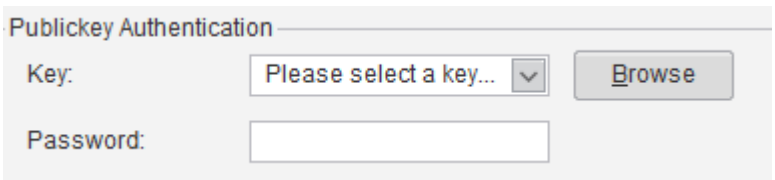
NOTE

- Obtain the default login user name and password from the device administrator or corresponding product document.
- If the device is a database, you must enter the database name. The default ports are as follows:
  - Oracle: 1521
  - MySQL: 3306
  - SQLServer: 1433
  - DB2: 50000.
- If the device is a Linux, AIX, HP-UX, Solaris, or VMware host, the port number is 22.
- If the device is a Windows system, the TCP:135 port and RPC dynamic ports (1024 to 65535) of the host must be enabled.

In **PublicKey Authentication**, configure **Key** and **Password**.

NOTE

When **PublicKey Authentication** is selected, items **Username**, **Password**, and **Port** in **Login Information** and item **Key** in **PublicKey Authentication** are all mandatory.



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4. Click **Finish**. Device adding is completed.

   You can add 256 devices in maximum.

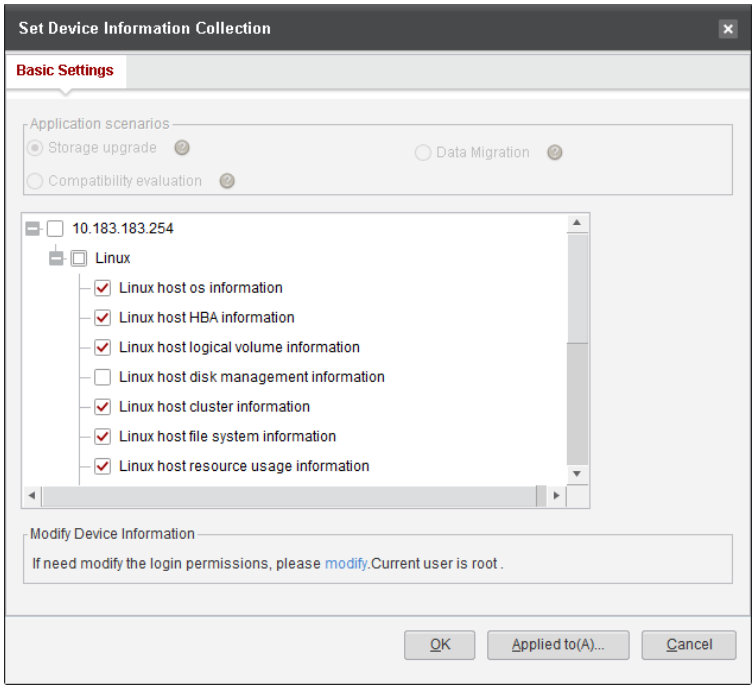
   NOTE

   The causes for a failure in adding devices are as follows:

   – The IP address is invalid.
   – The login information is incorrect.
   – The devices have been added in the existing device list.
   – The device type is incorrect.

Step 6 **Optional:** In the right part of the added device, click the link of **Setting**. You can modify the collection items of a device.

1. Real-time collection



   a. Select a scenario for selection and then select the collection items based on your requirements.

   b. Click **modify**. In the dialog box that is displayed, modify **Username**, **Password**, and **Port** of the device.

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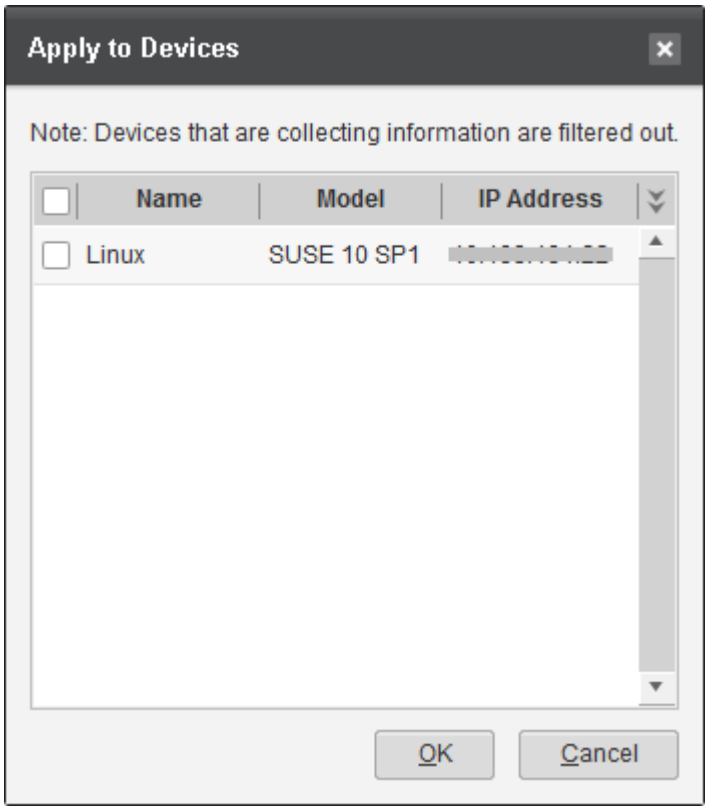
c. Click **OK**. The device information is successfully modified. Click **Apply To** to select one or more devices and then click **OK**. The modified device information is applied to the selected devices.



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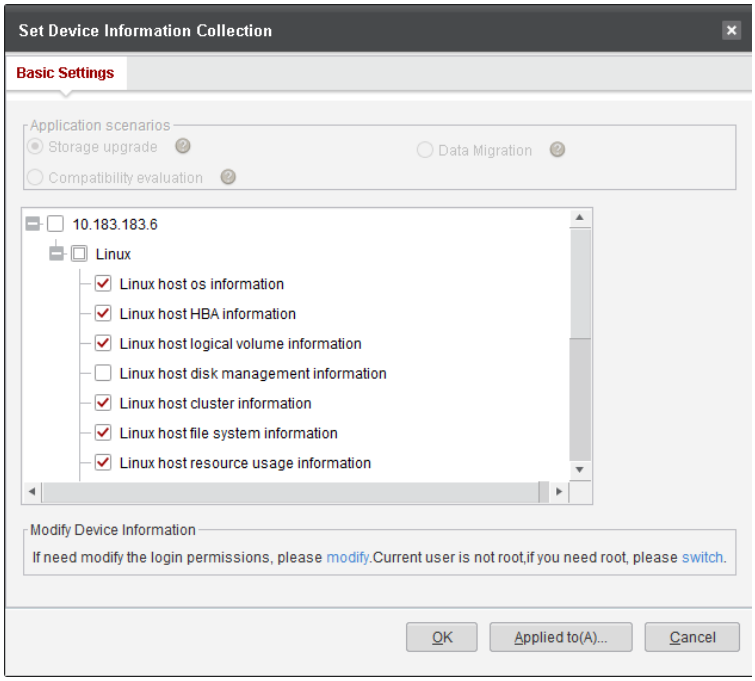
NOTE

- The sub-category of applied devices must be the same. For example, the device information in **Windows** can be applied only to Windows devices.
- The parameters in the device list can be customized by clicking to the right of the parameter.

d. If the current login user is not user **root** and wants to switch to user **root**, in the lower right corner of the **Set Device Information Collection** page, click the **switch** link. In the **Switch Root Account** dialog box that is displayed, enter the password of user **root** and click **OK**.



2. Periodical collection

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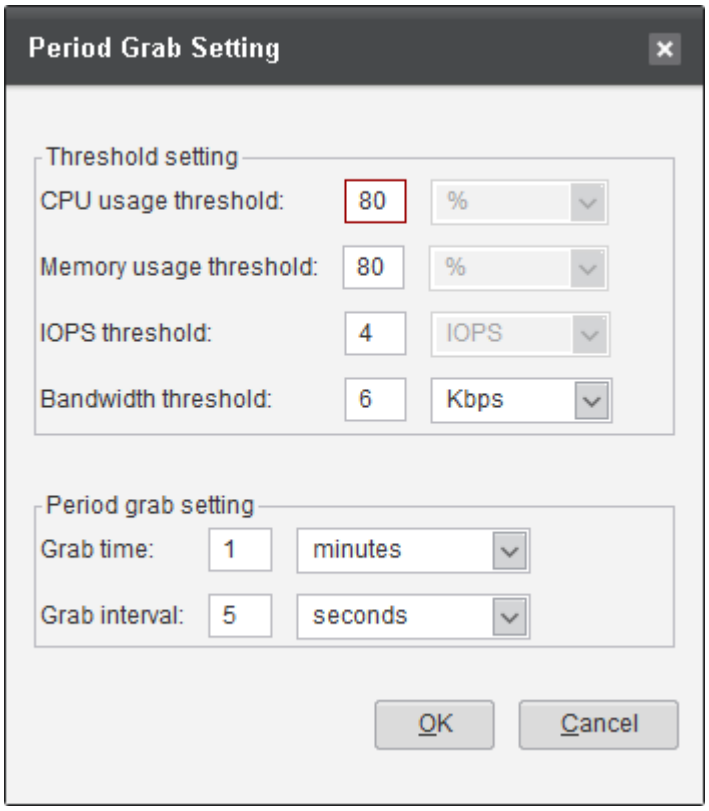

Modify values of **CPU usage threshold**, **Memory usage threshold**, **IOPS threshold**, and **Bandwidth threshold**. Set **Grab time** and **Grab interval** again and click **OK**.

3. Click **OK**. You have finished configuring the device information collection.

Step 7 **Optional:** Select a device in the list and click **Delete Device**. A dialog box is displayed asking you whether to delete the selected device.

Click **OK**. The device is about to be deleted from the list.

Step 8 Click **Batch Import**.

The **Batch Import** window is displayed.

1. Select a template that you want to import and click **Open**.

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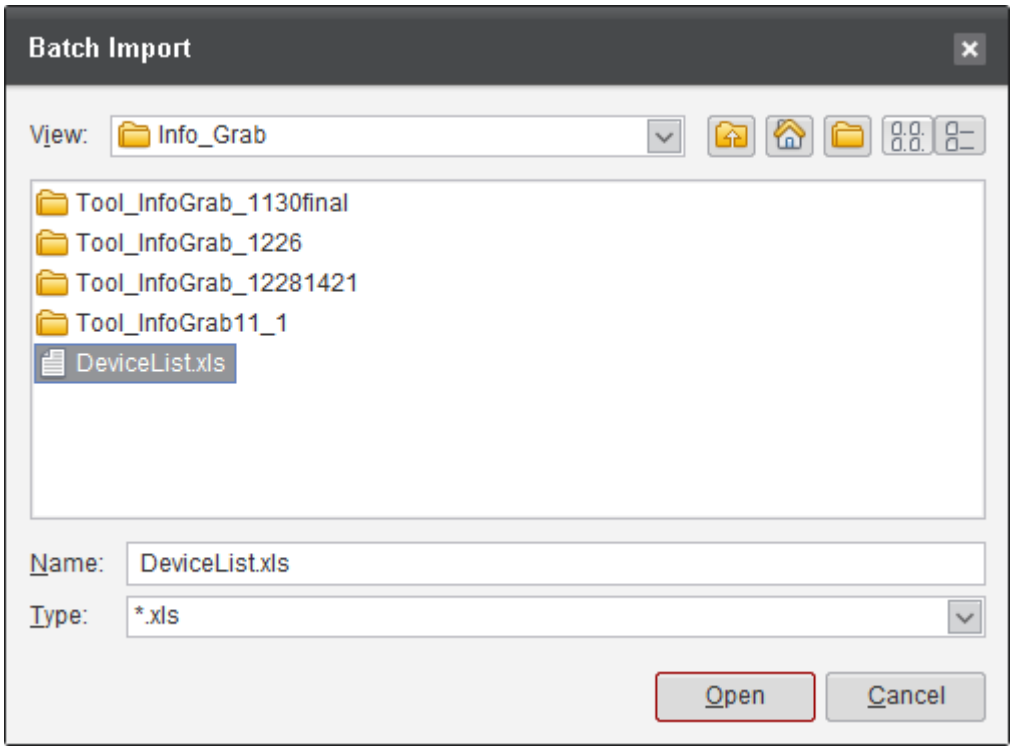
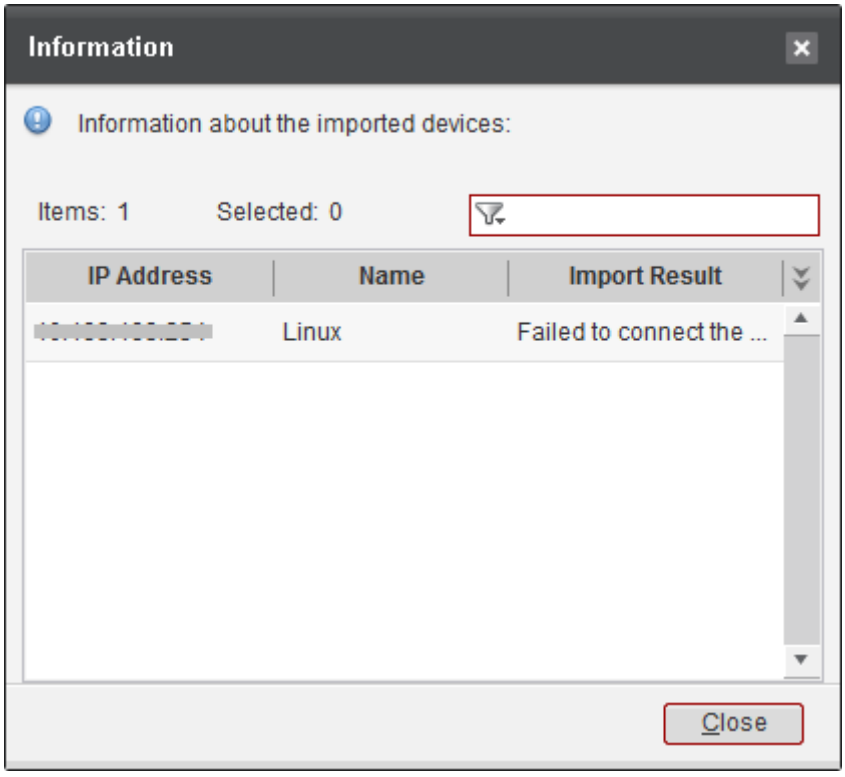


NOTE

You can click **Click to obtain the batch import template** to obtain a path for saving the template, and fill device information in the template to import devices. The template is named **DeviceList_Template.xls** by default. You can change the name based on actual requirements.

2. On the **Information** page that is displayed, view information about the added devices.



3. Click **Close**. You have finished importing devices in a batch.

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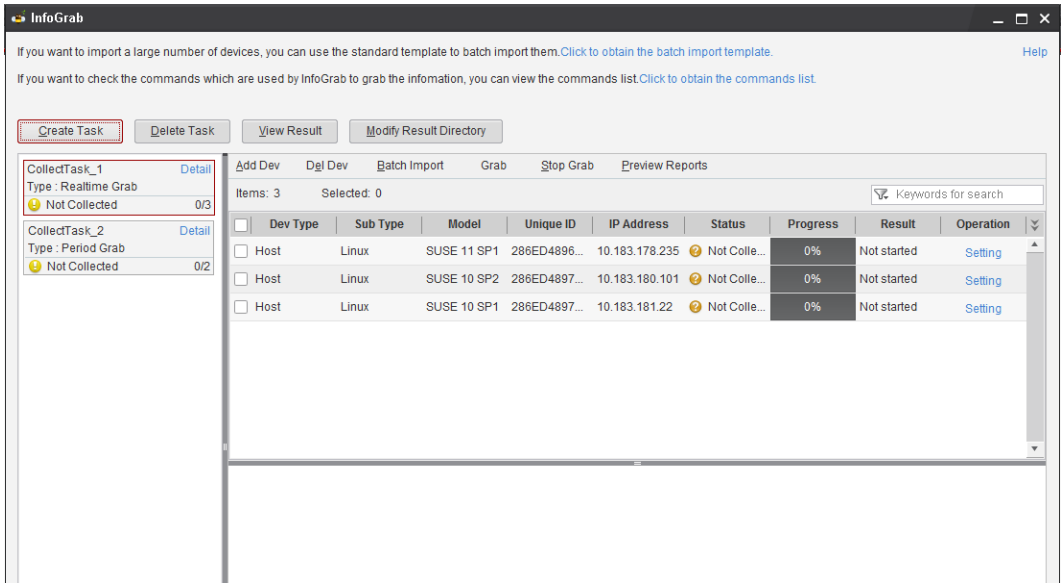
The causes for a failure in batch importing devices are as follows:

- IP addresses are invalid.
- IP addresses are left blank.
- The login information is incorrect.
- The devices have been added in the existing device list.
- Device types are incorrect.
- The device types are not configured.

Step 9 Click a device in the list and click **Grab**.



NOTE

- In the storage upgrade scenario, if two or more devices are added to the device list but you have selected only one device, you can click **Grab**. The **Information** dialog box indicating **You must select at least one grab node!** is displayed. Click **OK**. The system automatically selects all devices in the list.
- In the storage upgrade scenario, select all devices in the list and click **Grab**. The **Warning** dialog box indicating **In the storage upgrade scenario, an evaluation can be performed accurately only after information about all hosts and switches that connect to the storage device, as well as Oracle databases on the hosts (including databases on VMs) is collected. If any host, switch, or database is not added, the evaluation result may be unreliable. As a result, incompatibility issues may occur after the upgrade. Make sure that all devices are added and click OK to collect information. If any device is not added, click Cancel and add this device.** is displayed.

1. Before collecting device information, the information collection tool will check the disk space. The check policies are as follows:
   a. The system makes statistics on the number of devices whose information is to be collected. By default, the size of each collection report is 5 MB. The system calculates the space required based on the number of devices. The formula is: Space Required = Number of devices x 5 MB.
   b. If the disk space is greater than or equal to the estimated space for storing the collection reports, the collection goes smoothly. If the disk space is smaller than the estimated space, an alarm is generated.

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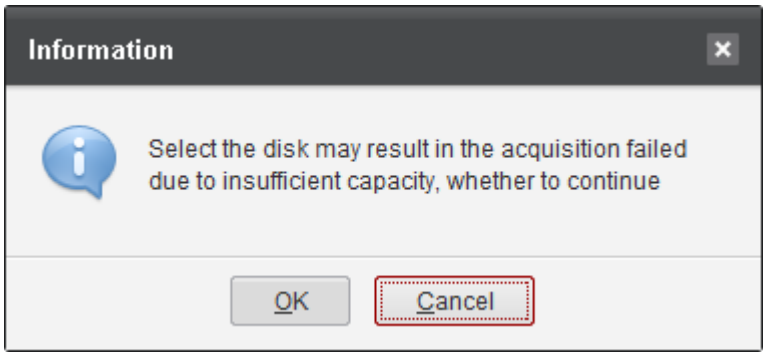


c. Select whether to continue the collection.
   - If you click **Cancel**, the collection task is canceled.
   - If you click **OK**, the collection task continues. The system checks the disk space size before collecting information about each device. If the disk space is insufficient, the collection fails.

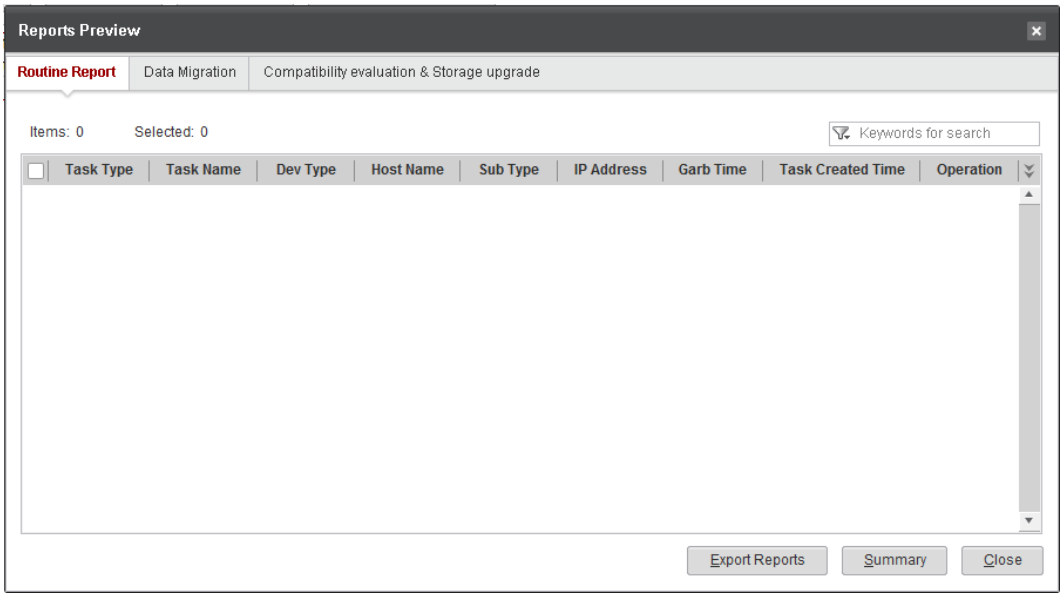
2. After information is collected, you can click **Complete** to view the result.

Step 10 **Optional:** Click a device whose information is being collected in the list and click **Stop Grab**. A message box is displayed. Click **OK** to stop the collection task.

NOTE

If a device is in the **waiting for collection** or **being collected** status, the information collection can be stopped. Otherwise, the collection task cannot be stopped.

Step 11 Click **Preview Reports**. The **Reports Preview** page is displayed. You can view reports based on collection scenarios.



NOTE

Only tasks of the **Realtime Grab** type support the **Preview Reports** function.

1. Click **Detail** to view details about reports of the corresponding host.
2. Click **Export Reports**. In the dialog box that is displayed, click **OK** to go to the directory for saving the information collection reports.

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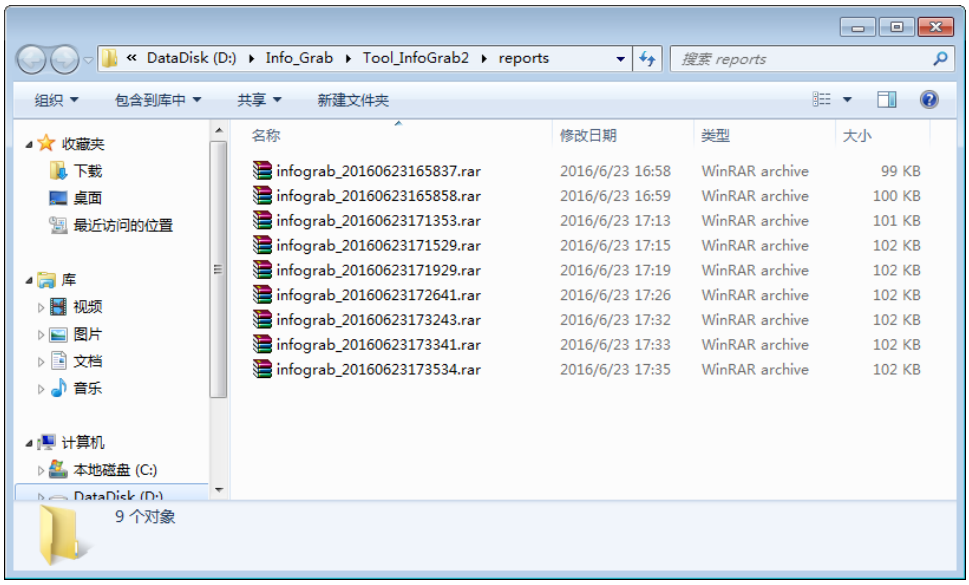
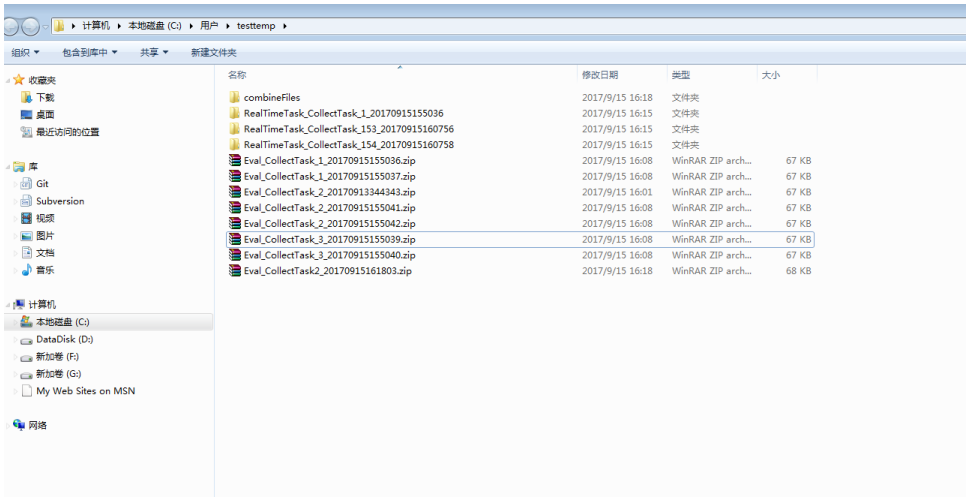


NOTE

By default, information collection reports are saved in the **reports** folder under the installation directory of the InfoGrab tool.

3. Click **Summary**. In the dialog box that is displayed, click **OK** to enter the directory that saves the summary report.



4. Click **Export Migration Reports**. In the dialog box that is displayed, click **OK**. The **Export Reports** page is displayed with an Excel file opened, which lists details about the current devices.

   a. On the **Export Reports** page that is displayed, click **view** to view information report details about different types of devices.

   b. View details about devices in the Excel file.

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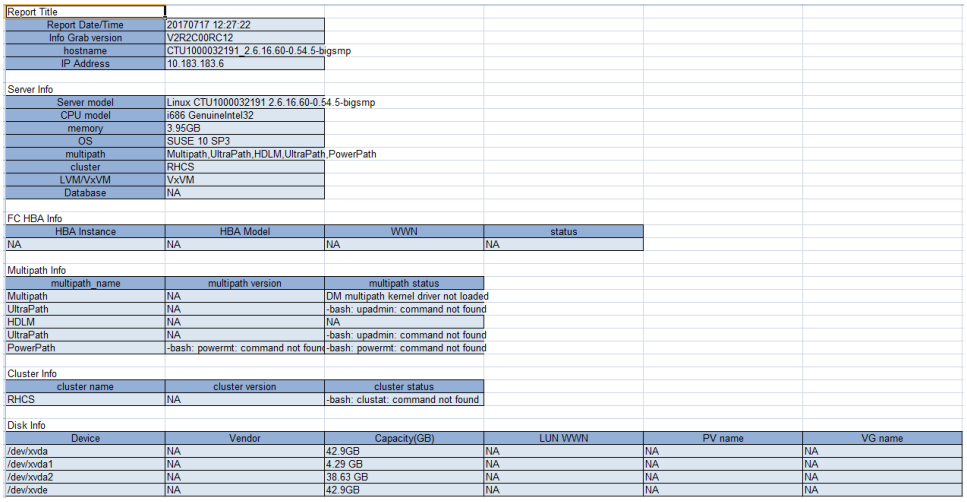

Report Title					
Report Date/Time	20170717 12:27:22				
Info Grab version	V2R2C00RC12				
hostname	CTU1000032191_2.6.16.60-0.54.5-bigsmp				
IP Address	10.183.183.6				
Server Info					
Server model	Linux CTU1000032191 2.6.16.60-0.54.5-bigsmp				
CPU model	i686 GenuineIntel32				
memory	3.95GB				
OS	SUSE 10 SP3				
multipath	Multipath,UltraPath,HDLM,UltraPath,PowerPath				
cluster	RHCS				
LVM/VxVM	VxVM				
Database	NA				
FC HBA Info					
HBA Instance	HBA Model	WWN	status		
NA	NA	NA	NA		
Multipath Info					
multipath_name	multipath version	multipath status			
Multipath	NA	DM multipath kernel driver not loaded			
UltraPath	NA	-bash: upadmin: command not found			
HDLM	NA	NA			
UltraPath	NA	-bash: upadmin: command not found			
PowerPath	-bash: powermt: command not found	-bash: powermt: command not found			
Cluster Info					
cluster name	cluster version	cluster status			
RHCS	NA	-bash: clustat: command not found			
Disk Info					
Device	Vendor	Capacity(GB)	LUN WWN	PV name	VG name
/dev/xvda	NA	42.9GB	NA	NA	NA
/dev/xvda1	NA	4.29 GB	NA	NA	NA
/dev/xvda2	NA	38.63 GB	NA	NA	NA
/dev/xvde	NA	42.9GB	NA	NA	NA

5. Click **Close** to close the **Reports Preview** page.

----End

4.2.3 Deleting a Collection Task

This operation enables you to delete an unneeded information collection task from a list.

Prerequisites

You have created a collection task. In addition, the task to be deleted is not in information collection status.

Procedure

Step 1 Select a collection task and click **Delete Task**.

Step 2 In the dialog box that is displayed, click **OK**. You have finished deleting the task.

----End

4.2.4 Viewing Information Collection Results

You can click **View Result** to view files of information collection results.

Procedure

Step 1 You can view the collection results in the files.

1. On the **InfoGrab** page, click **View Result** to go to the directory for saving the information collection results.
   - In the directory, a folder is created and named in the format of **collection type + information collection task name + information collection time** to save the device information collected in each task.
   - After execution information collection tasks in the storage upgrade scenarios, the system automatically generates a collection result summary in the **.zip** format.

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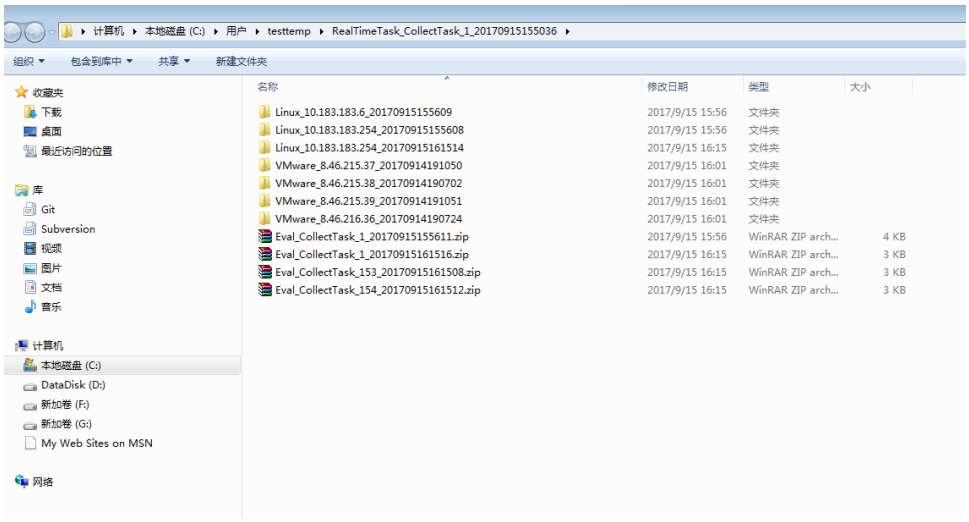

2. Double-click any folder that saves the information collection results.
3. The information collected in each information collection task involves three types of files: **.txt**, **.html**, and **.xls**.
   - **.txt** file:

     All collection results are displayed in a **.txt** file.
   - **.html** file:

     All collection results are displayed in an **.html** file.

     NOTE

     - If Internet Explorer pops up a message saying "To protect safety, Internet Explorer has restricted the page to access to the script or ActiveX control of the computer. Please click here to obtain option..., right-click on the note and select **Allow the restricted content**.
     - If the execution result of a command in a collection report exceeds 1000 lines, see the corresponding **.txt** file for the complete result.

       ```
       \==+PCI Device :
          |----Segment.....0x0000
          |----Bus.....0x00
          |----Slot.....0x1e
          |----Function.....0x00
          |----Runtime Owner.....vmkernel
          |----Has Configured Owner.....false
          |----Configured Owner.....
          |----Vendor Id.....0x8086
          |----Device Id.....0x244e
          |----Sub-Vendor Id.....0x0000
          |----Sub-Device Id.....0x0000
          |----Vendor Name.....
          |----Device Name.....
          |----Device Class.....1540
          |----Device Class Name.....
          |----PIC Line.....255
          |----Old IRQ.....255
       ... ...(The CMD result is too long to display, please check the TXT result document for detail message!!!)
       ```
   - **.xls** file:

     The collected keyword information is displayed in an **.xls** file. For details, see **6 Excel Keyword List**.

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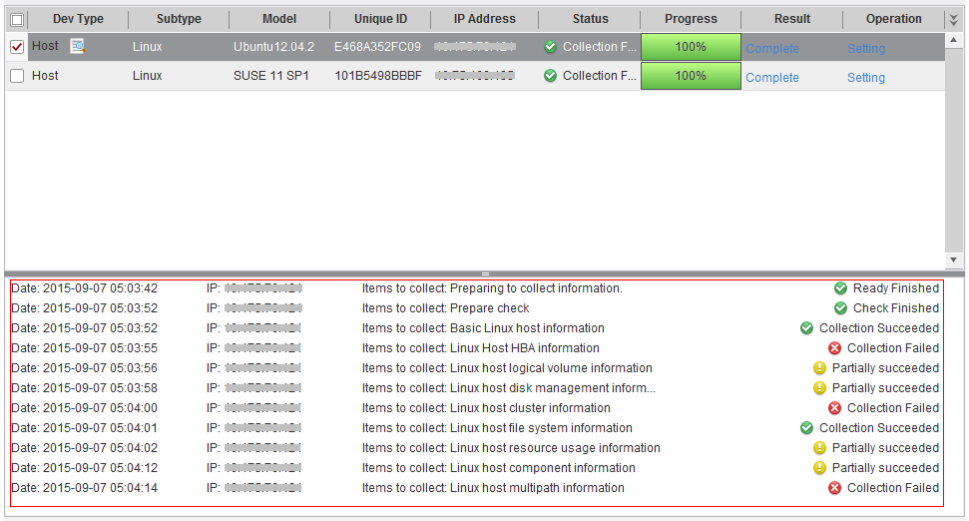
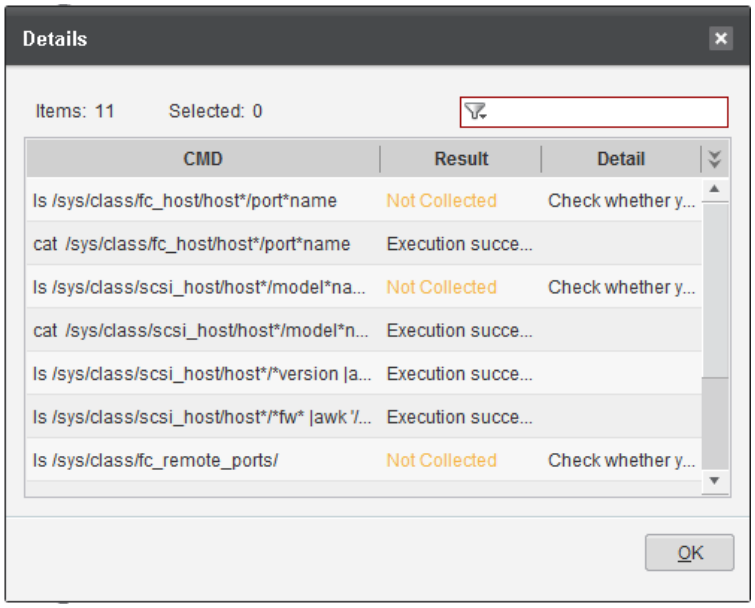
Step 2 View the collection result of a single item.

1. In the device list, select the device whose information has been successfully collected.
2. Click any collection item below the list to view the results.



3. In the **Detail Info** window, you can view the details about this collection item. Click **OK**.



----End

4.2.5 Setting a Result Directory

You can customize the save directory for the information collection results.

Procedure

Step 1 On the **InfoGrab** page, click **Set Result Directory**. The **Select Directory** dialog box is displayed.

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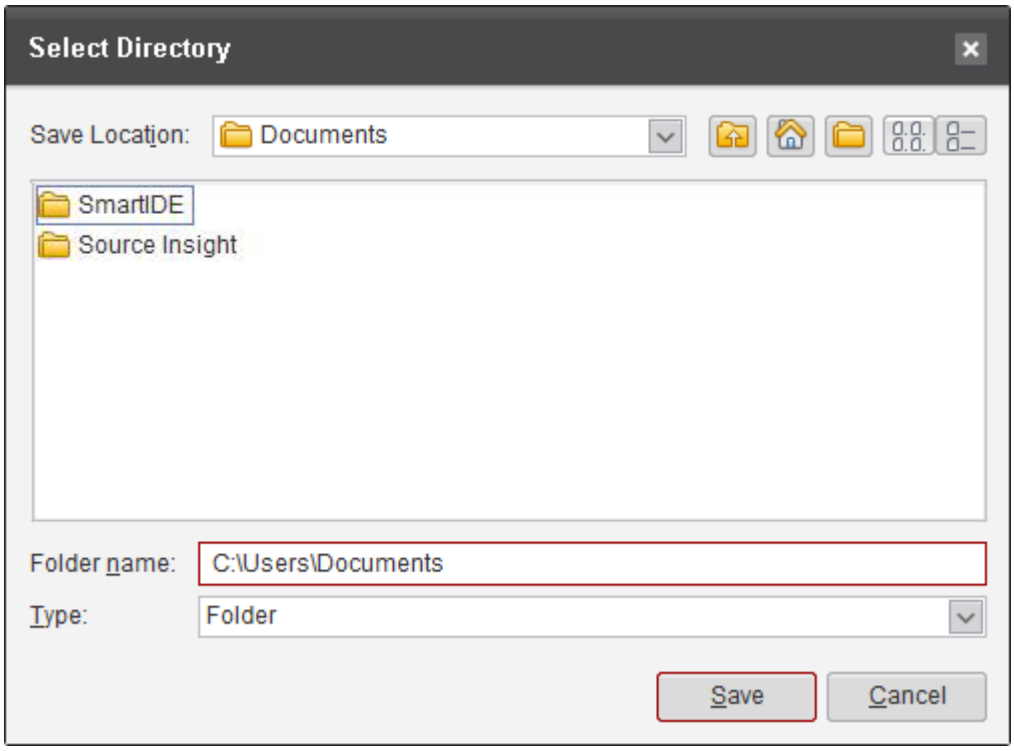

Step 2 Customize the save directory for the information collection results.

Step 3 Click **Save** to complete the settings.

NOTE

A directory contains only letters, digits, underscores (_), periods (.), and a single space.

----End

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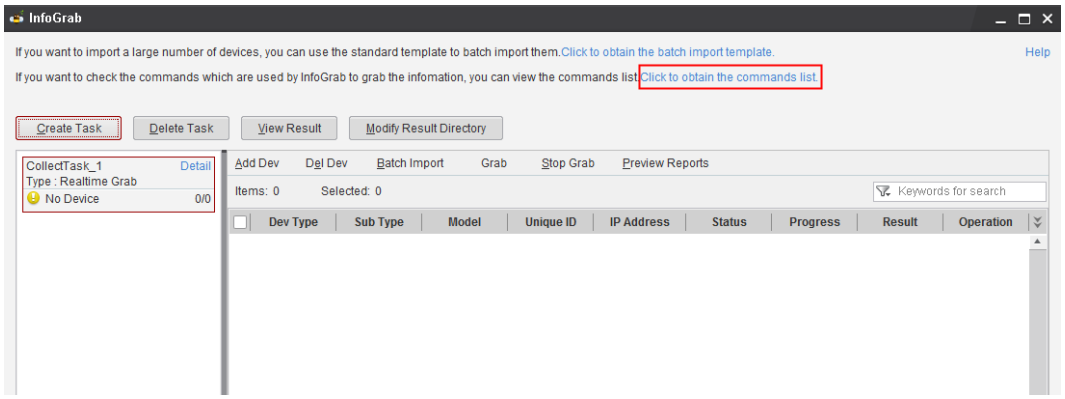
5 Command List

Command list contains all commands that are used in information collection.

You can click **Click to obtain the commands list** to save and view it.



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6 Excel Keyword List

Excel keyword lists contain all keyword information collected by InfoGrab and collection item support details.

The following tables show the Excel keywords extracted using InfoGrab.

Table 6-1 Excel host keyword list

Host Type	Linux	AIX	Hp-ux	Solaris	Windows	VMware	Fusionsphere	XenServer
Host Name	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Hardware Vendor	Supported	Supported	Not supported	Not supported	Supported	Supported	Supported	Supported
Model	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Operating System	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Operating System Bit Version	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Architecture	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
CPU Model	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Number of CPUs	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Memory Capacity	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported

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Host Type	Linux	AIX	Hp-ux	Solaris	Windows	VMware	Fusionsphere	XenServer
Current CPU Usage	Supported	Supported	Supported	Supported	Not supported	Not supported	Supported	Supported
Current Memory Usage	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
IP Address	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
File system type	Supported	Supported	Supported	Supported	Not supported	Supported	Supported	Supported
HBA card type	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Not supported
HBA card driver	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Not supported
HBA card firmware	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Not supported
HBA card timeout	Supported	Supported	Not supported	Not supported	Not supported	Supported	Supported	Not supported
Multipath parameter	Supported	Supported	Supported	Supported	Not supported	Supported	Supported	Supported
Multipath configuration	Supported	Supported	Supported	Not supported	Not supported	Supported	Supported	Supported
Cluster version	Supported	Supported	Supported	Supported	Not supported	Supported	Not supported	Not supported
Iscsi Timeout	Supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported
Application scenarios	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported

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Host Type	Linux	AIX	Hp-ux	Solaris	Windows	VMware	Fusionsphere	XenServer
Networking	Supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported
WWPN	Supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported
Target IP address of iSCIS	Supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported
Multipath software edition	Supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported
NOT_UPDATE_WWPN	Supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported
MetaDate key	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported

Table 6-2 Excel database keyword list

Database Type	Database Name	Database Version	Disk Timeout Check	Disk Usage Mode	Cluster Name	Application Scenario	MetaDate key
Oracle	Supported	Supported	Supported	Supported	Supported	Supported	Supported
MySQL	Supported	Supported	Not supported	Not supported	Not supported	Not supported	Supported
SQLServer	Supported	Supported	Not supported	Not supported	Not supported	Not supported	Supported
DB2	Supported	Supported	Not supported	Not supported	Not supported	Not supported	Supported

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Table 6-3 Excel switch keyword list

Switch Type	Product Model	Firmware Version	Port Speed	Zone/ VLAN	Application Scenario	Device Type ID	MetaDate key
Brocade	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Cisco	Supported	Supported	Supported	Supported	Supported	Supported	Supported

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7 FAQ

About This Chapter

This chapter answers some frequently asked questions.

7.1 How Can I Manually Add a Self-Defined Output End Sign to the Tool Dictionary Since the Sign May Cause a Device Connection Failure?

7.1 How Can I Manually Add a Self-Defined Output End Sign to the Tool Dictionary Since the Sign May Cause a Device Connection Failure?

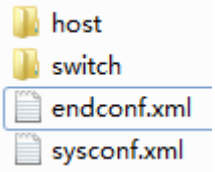
Question

A self-defined end sign may cause a device connection failure. How can I manually add a self-defined output end sign to the tool dictionary.

Answer

If the output contains a self-defined end sign that is not included in the output end sign dictionary, the information collection tool may fail to identify the end sign, causing a device connection failure. Therefore, you need to manually add the self-defined end sign to the dictionary by performing the following steps:

1. Compress the software package of the information collection tool to a local path and find **endconf.xml** under the **Installation package\packages\toolkit** path.



2. Use the XML editor to open **endconf.xml**. The following figure shows the structure of the file:

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```
<?xml version="1.0" encoding="UTF-8" ?>
<config>
    <endingJudges>
        <endingJudge>></endingJudge>
        <endingJudge>:/></endingJudge>
        <endingJudge>:/</endingJudge>

    </endingJudges>

</config>
```

3. Add the self-defined output end sign to the list. For example, if you need to add output end sign **11** to the dictionary, you only need to add **<endingJudge>11</endingJudge>** to the list in the following figure:

```
<?xml version="1.0" encoding="UTF-8" ?>
<config>
    <endingJudges>
        <endingJudge>></endingJudge>
        <endingJudge>:/></endingJudge>
        <endingJudge>:/</endingJudge>
        <endingJudge>11</endingJudge>

    </endingJudges>

</config>
```

4. If the previous steps are performed successfully, the self-defined output end sign is added to the dictionary successfully. You need to restart the Infograb tool to make adding take effect. If you encounter problems or abnormalities, or have doubts, contact Huawei R&D engineers of the product for help.

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