



Backing Up and Restoring the Configuration

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Backup and Export Configuration

When you perform a backup through Cisco UCS Manager, you take a snapshot of all or part of the system configuration and export the file to a location on your network. You cannot use Cisco UCS Manager to back up data on the servers.

You can perform a backup while the system is up and running. The backup operation only saves information from the management plane. It does not have any impact on the server or network traffic.

Backup Types

You can perform one or more of the following types of backups through Cisco UCS Manager:

- **Full state**—A binary file that includes a snapshot of the entire system. You can use the file generated from this backup to restore the system during disaster recovery. This file can restore or rebuild the configuration on the original fabric interconnect, or recreate the configuration on a different fabric interconnect. You cannot use this file for an import.

- **All configuration**—An XML file that includes all system and logical configuration settings. You can use the file generated from this backup to import these configuration settings to the original fabric interconnect or to a different fabric interconnect. You cannot use this file for a system restore. This file does not include passwords for locally authenticated users.
- **System configuration**—An XML file that includes all system configuration settings such as usernames, roles, and locales. You can use the file generated from this backup to import these configuration settings to the original fabric interconnect or to a different fabric interconnect. You cannot use this file for a system restore.
- **Logical configuration**—An XML file that includes all logical configuration settings such as service profiles, VLANs, VSANs, pools, and policies. You can use the file generated from this backup to import these configuration settings to the original fabric interconnect or to a different fabric interconnect. You cannot use this file for a system restore.

Considerations and Recommendations for Backup Operations

Before you create a backup operation, consider the following:

Backup Locations

The backup location is the destination or folder on the network where you want Cisco UCS Manager to export the backup file. You can maintain only one backup operation for each location where you plan to save a backup file.

Potential to Overwrite Backup Files

If you rerun a backup operation without changing the filename, Cisco UCS Manager overwrites the existing file on the server. To avoid overwriting existing backup files, change the filename in the backup operation or copy the existing file to another location.

Multiple Types of Backups

You can run and export more than one type of backup to the same location. You need to change the backup type before you rerun the backup operation. We recommend that you change the filename for easier identification of the backup type and to avoid overwriting the existing backup file.

Scheduled Backups

You cannot schedule a backup operation. You can, however, create a backup operation in advance and leave the admin state disabled until you are ready to run the backup. Cisco UCS Manager does not run the backup operation, save, or export the configuration file until you set the admin state of the backup operation to enabled.

Incremental Backups

You cannot perform incremental backups of the Cisco UCS Manager system configuration.

Backwards Compatibility

Starting with Release 1.1(1) of the Cisco UCS Manager, full state backups are encrypted so that passwords and other sensitive information are not exported as clear text. As a result, full state backups made from Release 1.1(1) or later cannot be restored to a Cisco UCS domain running an earlier software release.

Import Configuration

You can import any configuration file that was exported from Cisco UCS Manager. The file does not need to have been exported from the same Cisco UCS Manager.

The import function is available for all configuration, system configuration, and logical configuration files. You can perform an import while the system is up and running. An import operation modifies information on the management plane only. Some modifications caused by an import operation, such as a change to a vNIC assigned to a server, can cause a server reboot or other operations that disrupt traffic.

You cannot schedule an import operation. You can, however, create an import operation in advance and leave the admin state disabled until you are ready to run the import. Cisco UCS Manager will not run the import operation on the configuration file until you set the admin state to enabled.

You can maintain only one import operation for each location where you saved a configuration backup file.

Import Methods

You can use one of the following methods to import and update a system configuration through Cisco UCS Manager:

- **Merge**—The information in the imported configuration file is compared with the existing configuration information. If there are conflicts, the import operation overwrites the information on the Cisco UCS domain with the information in the import configuration file.
- **Replace**—The current configuration information is replaced with the information in the imported configuration file one object at a time.

System Restore

You can use the restore function for disaster recovery.

You can restore a system configuration from any full state backup file that was exported from Cisco UCS Manager. The file does not need to have been exported from the Cisco UCS Manager on the system that you are restoring. When restoring using a backup file that was exported from a different system, we strongly recommend that you use a system with the same or similar system configuration and hardware, including fabric interconnects, servers, adapters, and I/O module or FEX connectivity. Mismatched hardware and/or system configuration can lead to the restored system not fully functioning. If there is a mismatch between the I/O module links or servers on the two systems, acknowledge the chassis and/or servers after the restore operation.

The restore function is only available for a full state backup file. You cannot import a full state backup file. You perform a restore through the initial system setup.

Required User Role for Backup and Import Operations

You must have a user account that includes the admin role to create and run backup and import operations.

Backup Operations

Creating a Backup Operation

Before You Begin

Obtain the backup server IP address and authentication credentials.

Procedure

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- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** Click the **All** node.
- Step 3** In the **Work** pane, click the **General** tab.
- Step 4** In the **Actions** area, click **Backup**.
- Step 5** In the **Backup Configuration** dialog box, click **Create Backup Operation**.
- Step 6** In the **Create Backup Operation** dialog box, complete the following fields:

Name	Description
Admin State field	This can be one of the following: <ul style="list-style-type: none"> • Enabled—Cisco UCS Manager runs the backup operation as soon as you click OK. • Disabled—Cisco UCS Manager does not run the backup operation when you click OK. If you select this option, all fields in the dialog box remain visible. However, you must manually run the backup from the Backup Configuration dialog box.

Name	Description
Type field	<p>The information saved in the backup configuration file. This can be one of the following:</p> <ul style="list-style-type: none"> • Full state—A binary file that includes a snapshot of the entire system. You can use the file generated from this backup to restore the system during disaster recovery. This file can restore or rebuild the configuration on the original fabric interconnect, or recreate the configuration on a different fabric interconnect. You cannot use this file for an import. • All configuration—An XML file that includes all system and logical configuration settings. You can use the file generated from this backup to import these configuration settings to the original fabric interconnect or to a different fabric interconnect. You cannot use this file for a system restore. This file does not include passwords for locally authenticated users. • System configuration—An XML file that includes all system configuration settings such as usernames, roles, and locales. You can use the file generated from this backup to import these configuration settings to the original fabric interconnect or to a different fabric interconnect. You cannot use this file for a system restore. • Logical configuration—An XML file that includes all logical configuration settings such as service profiles, VLANs, VSANs, pools, and policies. You can use the file generated from this backup to import these configuration settings to the original fabric interconnect or to a different fabric interconnect. You cannot use this file for a system restore.
Preserve Identities check box	<p>If this check box is checked, the backup file preserves all identities derived from pools, including the MAC addresses, WWPN, WWNN, and UUIDs.</p>
Location of the Backup File field	<p>Where the backup file should be saved. This can be one of the following:</p> <ul style="list-style-type: none"> • Remote File System—The backup XML file is saved to a remote server. Cisco UCS Manager GUI displays the fields described below that allow you to specify the protocol, host, filename, username, and password for the remote system. • Local File System—The backup XML file is saved locally. Cisco UCS Manager GUI displays the Filename field with an associated Browse button that let you specify the name and location for the backup file. <p>Note Once you click OK, the location cannot be changed.</p>

Name	Description
Protocol field	<p>The protocol to use when communicating with the remote server. This can be one of the following:</p> <ul style="list-style-type: none"> • FTP • TFTP • SCP • SFTP
Hostname field	<p>The hostname or IP address of the location where the backup file is stored. This can be a server, storage array, local drive, or any read/write media that the fabric interconnect can access through the network.</p> <p>Note If you use a hostname rather than an IP address, you must configure a DNS server in Cisco UCS Manager.</p>
Remote File field	<p>The full path to the backup configuration file. This field can contain the filename as well as the path. If you omit the filename, the backup procedure assigns a name to the file.</p>
User field	<p>The username the system should use to log in to the remote server. This field does not apply if the protocol is TFTP.</p>
Password field	<p>The password for the remote server username. This field does not apply if the protocol is TFTP.</p> <p>Cisco UCS Manager does not store this password. Therefore, you do not need to enter this password unless you intend to enable and run the backup operation immediately.</p>

Step 7 Click **OK**.

Step 8 If Cisco UCS Manager displays a confirmation dialog box, click **OK**.

If you set the **Admin State** field to enabled, Cisco UCS Manager takes a snapshot of the configuration type that you selected and exports the file to the network location. The backup operation displays in the **Backup Operations** table in the **Backup Configuration** dialog box.

Step 9 (Optional) To view the progress of the backup operation, do the following:

- a) If the operation does not display in the **Properties** area, click the operation in the **Backup Operations** table.
- b) In the **Properties** area, click the down arrows on the **FSM Details** bar.
The **FSM Details** area expands and displays the operation status.

Step 10 Click **OK** to close the **Backup Configuration** dialog box.

The backup operation continues to run until it is completed. To view the progress, re-open the **Backup Configuration** dialog box.

Running a Backup Operation

Procedure

- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** Click the **All** node.
- Step 3** In the **Work** pane, click the **General** tab.
- Step 4** In the **Actions** area, click **Backup**.
- Step 5** In the **Backup Operations** table of the **Backup Configuration** dialog box, click the backup operation that you want to run.
The details of the selected backup operation display in the **Properties** area.
- Step 6** In the **Properties** area, complete the following fields:
- In the **Admin State** field, click the **Enabled** radio button.
 - For all protocols except TFTP, enter the password for the username in the **Password** field.
 - (Optional) Change the content of the other available fields.
- Step 7** Click **Apply**.
Cisco UCS Manager takes a snapshot of the configuration type that you selected and exports the file to the network location. The backup operation displays in the **Backup Operations** table in the **Backup Configuration** dialog box.
- Step 8** (Optional) To view the progress of the backup operation, click the down arrows on the **FSM Details** bar.
The **FSM Details** area expands and displays the operation status.
- Step 9** Click **OK** to close the **Backup Configuration** dialog box.
The backup operation continues to run until it is completed. To view the progress, re-open the **Backup Configuration** dialog box.
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Modifying a Backup Operation

You can modify a backup operation to save a file of another backup type to that location or to change the filename and avoid overwriting previous backup files.

Procedure

- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** Click the **All** node.
- Step 3** In the **Work** pane, click the **General** tab.
- Step 4** In the **Actions** area, click **Backup**.
- Step 5** In the **Backup Operations** area of the **Backup Configuration** dialog box, click the backup operation that you want to modify.

The details of the selected backup operation display in the **Properties** area. If the backup operation is in a disabled state, the fields are dimmed.

- Step 6** In the **Admin State** field, click the **enabled** radio button.
- Step 7** Modify the appropriate fields.
You do not have to enter the password unless you want to run the backup operation immediately.
- Step 8** (Optional) If you do not want to run the backup operation immediately, click the **disabled** radio button in the **Admin State** field.
- Step 9** Click **OK**.

Deleting One or More Backup Operations

Procedure

- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** Click the **All** node.
- Step 3** In the **Work** pane, click the **General** tab.
- Step 4** In the **Actions** area, click **Backup**.
- Step 5** In the **Backup Operations** table of the **Backup Configuration** dialog box, click the backup operations that you want to delete.
- Tip** You cannot click a backup operation in the table if the admin state of the operation is set to **Enabled**.
- Step 6** Click the **Delete** icon in the icon bar of the **Backup Operations** table.
- Step 7** If the Cisco UCS Manager GUI displays a confirmation dialog box, click **Yes**.
- Step 8** In the **Backup Configuration** dialog box, click one of the following:

Option	Description
Apply	Deletes the selected backup operations without closing the dialog box.
OK	Deletes the selected backup operations and closes the dialog box.

Import Operations

Creating an Import Operation

You cannot import a Full State configuration file. You can import any of the following configuration files:

- All configuration

- System configuration
- Logical configuration

Before You Begin

Collect the following information that you will need to import a configuration file:

- Backup server IP address and authentication credentials
- Fully qualified name of a backup file

Procedure

- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** Click the **All** node.
- Step 3** In the **Work** pane, click the **General** tab.
- Step 4** In the **Actions** area, click **Import Configuration**.
- Step 5** In the **Import Configuration** dialog box, click **Create Import Operation**.
- Step 6** In the **Create Import Operation** dialog box, complete the following fields:

Name	Description
Admin State field	This can be one of the following: <ul style="list-style-type: none"> • Enabled—Cisco UCS runs the import operation as soon as you click OK. • Disabled—Cisco UCS does not run the import operation when you click OK. If you select this option, all fields in the dialog box remain visible. However, you must manually run the import from the Import Configuration dialog box.
Action field	This can be one of the following: <ul style="list-style-type: none"> • Merge—The configuration information is merged with the existing information. If there are conflicts, the system replaces the information on the current system with the information in the import configuration file. • Replace—The system takes each object in the import configuration file and overwrites the corresponding object in the current configuration.

Name	Description
Location of the Import File field	Where the backup file that you want to import is located. This can be one of the following: <ul style="list-style-type: none"> • Remote File System—The backup XML file is stored on a remote server. Cisco UCS Manager GUI displays the fields described below that allow you to specify the protocol, host, filename, username, and password for the remote system. • Local File System—The backup XML file is stored locally. Cisco UCS Manager GUI displays the Filename field with an associated Browse button that let you specify the name and location for the backup file to be imported.
Protocol field	The protocol to use when communicating with the remote server. This can be one of the following: <ul style="list-style-type: none"> • FTP • TFTP • SCP • SFTP
Hostname field	The hostname or IP address from which the configuration file should be imported. <p>Note If you use a hostname rather than an IP address, you must configure a DNS server in Cisco UCS Manager.</p>
Remote File field	The name of the XML configuration file.
User field	The username the system should use to log in to the remote server. This field does not apply if the protocol is TFTP.
Password field	The password for the remote server username. This field does not apply if the protocol is TFTP. <p>Cisco UCS Manager does not store this password. Therefore, you do not need to enter this password unless you intend to enable and run the import operation immediately.</p>

Step 7 Click **OK**.

Step 8 In the confirmation dialog box, click **OK**.
 If you set the **Admin State** to enabled, Cisco UCS Manager imports the configuration file from the network location. Depending upon which action you selected, the information in the file is either merged with the existing configuration or replaces the existing configuration. The import operation displays in the **Import Operations** table of the **Import Configuration** dialog box.

Step 9 (Optional) To view the progress of the import operation, do the following:

- a) If the operation does not automatically display in the **Properties** area, click the operation in the **Import Operations** table.
- b) In the **Properties** area, click the down arrows on the **FSM Details** bar. The **FSM Details** area expands and displays the operation status.

Step 10 Click **OK** to close the **Import Configuration** dialog box. The import operation continues to run until it is completed. To view the progress, re-open the **Import Configuration** dialog box.

Running an Import Operation

You cannot import a Full State configuration file. You can import any of the following configuration files:

- All configuration
- System configuration
- Logical configuration

Procedure

Step 1 In the **Navigation** pane, click the **Admin** tab.

Step 2 Click the **All** node.

Step 3 In the **Work** pane, click the **General** tab.

Step 4 In the **Actions** area, click **Import Configuration**.

Step 5 In the **Import Operations** table of the **Import Configuration** dialog box, click the operation that you want to run.

The details of the selected import operation display in the **Properties** area.

Step 6 In the **Properties** area, complete the following fields:

- a) In the **Admin State** field, click the **Enabled** radio button.
- b) For all protocols except TFTP, enter the password for the username in the **Password** field.
- c) (Optional) Change the content of the other available fields.

Step 7 Click **Apply**.

Cisco UCS Manager imports the configuration file from the network location. Depending upon which action you selected, the information in the file is either merged with the existing configuration or replaces the existing configuration. The import operation displays in the **Import Operations** table of the **Import Configuration** dialog box.

Step 8 (Optional) To view the progress of the import operation, click the down arrows on the **FSM Details** bar. The **FSM Details** area expands and displays the operation status.

Step 9 Click **OK** to close the **Import Configuration** dialog box.

The import operation continues to run until it is completed. To view the progress, re-open the **Import Configuration** dialog box.

Modifying an Import Operation

Procedure

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- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** Click the **All** node.
- Step 3** In the **Work** pane, click the **General** tab.
- Step 4** In the **Actions** area, click **Import Configuration**.
- Step 5** In the **Import Operations** area of the **Import Configuration** dialog box, click the import operation that you want to modify.
The details of the selected import operation display in the **Properties** area. If the import operation is in a disabled state, the fields are dimmed.
- Step 6** In the **Admin State** field, click the **enabled** radio button.
- Step 7** Modify the appropriate fields.
You do not have to enter the password unless you want to run the import operation immediately.
- Step 8** (Optional) If you do not want to run the import operation immediately, click the **disabled** radio button in the **Admin State** field.
- Step 9** Click **OK**.
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Deleting One or More Import Operations

Procedure

-
- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** Click the **All** node.
- Step 3** In the **Work** pane, click the **General** tab.
- Step 4** In the **Actions** area, click **Import Configuration**.
- Step 5** In the **Import Operations** table of the **Backup Configuration** dialog box, click the import operations that you want to delete.
Tip You cannot click an import operation in the table if the admin state of the operation is set to **Enabled**.
- Step 6** Click the **Delete** icon in the icon bar of the **Import Operations** table.
- Step 7** If the Cisco UCS Manager GUI displays a confirmation dialog box, click **Yes**.
- Step 8** In the **Import Configuration** dialog box, click one of the following:

Option	Description
Apply	Deletes the selected import operations without closing the dialog box.

Option	Description
OK	Deletes the selected import operations and closes the dialog box.

Restoring the Configuration for a Fabric Interconnect

Before You Begin

Collect the following information that you will need to restore the system configuration:

- Fabric interconnect management port IP address and subnet mask
- Default gateway IP address
- Backup server IP address and authentication credentials
- Fully qualified name of a Full State backup file



Note You must have access to a Full State configuration file to perform a system restore. You cannot perform a system restore with any other type of configuration or backup file.

Procedure

- Step 1** Connect to the console port.
- Step 2** If the fabric interconnect is off, power on the fabric interconnect.
You will see the power on self-test message as the fabric interconnect boots.
- Step 3** At the installation method prompt, enter gui.
- Step 4** If the system cannot access a DHCP server, you may be prompted to enter the following information:
 - IP address for the management port on the fabric interconnect
 - Subnet mask for the management port on the fabric interconnect
 - IP address for the default gateway assigned to the fabric interconnect
- Step 5** Copy the web link from the prompt into a web browser and go to the Cisco UCS Manager GUI launch page.
- Step 6** On the launch page, select **Express Setup**.
- Step 7** On the **Express Setup** page, select **Restore From Backup** and click **Submit**.
- Step 8** In the **Protocol** area of the **Cisco UCS Manager Initial Setup** page, select the protocol you want to use to upload the full state backup file:
 - **SCP**
 - **TFTP**

- FTP
- SFTP

Step 9 In the **Server Information** area, complete the following fields:

Name	Description
Server IP	The IP address of the computer where the full state backup file is located. This can be a server, storage array, local drive, or any read/write media that the fabric interconnect can access through the network.
Backup File Path	The file path where the full state backup file is located, including the folder names and filename.
User ID	The username the system should use to log in to the remote server. This field does not apply if the protocol is TFTP.
Password	The password for the remote server username. This field does not apply if the protocol is TFTP.

Step 10 Click **Submit**.

You can return to the console to watch the progress of the system restore.

The fabric interconnect logs in to the backup server, retrieves a copy of the specified full-state backup file, and restores the system configuration.

For a cluster configuration, you do not need to restore the secondary fabric interconnect. As soon as the secondary fabric interconnect reboots, Cisco UCS Manager synchronizes the configuration with the primary fabric interconnect.
