



## Managing Backup and Restore

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## Backup and Import in Cisco UCS Central

Cisco UCS Central enables you to backup and restore Cisco UCS Central itself and the registered UCS domains. You can schedule backup and restore policy or, you can perform an immediate backup operation. There are two types of scheduled and immediate backup operations:

You can schedule the following backup policies separately for both Cisco UCS Central and Cisco UCS domains:

- **Full state backup policy:** Backs up database.
- **Config all export policy:** Backs up the configuration in XML format.

For a UCS domains, these policies can either be defined locally or defined in Cisco UCS Central

Scheduled backup policies are disabled by default. If you want to backup Cisco UCS Central or the registered UCS domains, you must enable the backup state for both. Backup process does not interrupt or impact any server or network traffic. You can perform a backup while the domain is up and running. The backup operation saves information from the management plane.

Remotely configured policies are restricted to use the Cisco UCS Central repository for backups which is internally mounted by Cisco UCS Manager.

When you schedule regular backup, the backup repository can start accumulating data. To manage the backup archives, you can specify the maximum number of backup versions that are saved. Use policy specifications to indicate the number of backups to maintain for each Cisco UCS domain.

**Note**


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The maximum number does not impact the number of backup image files you can store on a remote location.

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You can view the list of backups for each Cisco UCS domain from the Cisco UCS Central GUI and you can also delete saved or unused backup directories and configurations.

**Important**

- You must have a user account that includes the admin role to create and run backup and import operations.
  - You can delete backups only after a Cisco UCS domain (from which the backup has been taken) has been unregistered.
  - Config-all, config-logical and config-system type backups are only supported in Cisco UCS Central on demand back up.
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**Backup Image Files**

You can save the database or configuration backup files in the following locations:

- **Local File System:** In a local file system.
- **Remote Location:** Remote locations using any one of the protocol such as, TFTP, FTP, SCP, or SFTP.

**Important**


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You must have Cisco UCS Manager, release 2.2(2x) in registered Cisco UCS domains to specify a global backup policy with the option to store the image file in a remote location. If you do not have Cisco UCS Manager, release 2.2(2x) in the Cisco UCS domain, the global backup policy with remote backup will not work.

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When you schedule the backup, you can also specify the maximum number of backup files you want to save either for system.

**Restoring Configuration**

You can use the saved configuration from backup repository to restore and configure any of the managed Cisco UCS domain. Make sure to use full-state backup for recovery situations. Use TFTP protocol to access the backup configurations. You can use both Cisco UCS Central GUI or CLI to copy the backup file URL and use it to configure a new domain.

## 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 Central 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 Central 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 can create a backup operation in advance and leave the admin state disabled until you are ready to run the backup. Cisco UCS Central 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 Cisco UCS Manager or Cisco UCS Central.

### Encryption of Full State Backups

Full state backups are encrypted so that passwords and other sensitive information are not exported as clear text.

## Backup Types

You can perform one or more of the following types of backups in Cisco UCS Central:

- **full-state**— You can specify full state backup only during installation. Full state backup is 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. You cannot use this file for an import.



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**Note** You can only use a full state backup file to restore a system that is running the same version as the system from which the backup file was exported.

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- **config-all**— All configuration back up is an XML file that includes all system and logical configuration settings. You cannot use this file for a system restore during installation.
- **config-logical**— Logical configuration back up is an XML file that includes all logical configuration settings. These include service profiles, VLANs, VSANs, pools, policies, users, locales, LDAP, NTP, DNS authentication and administration settings. You can use the file generated from this backup to import these configuration settings. You cannot use this file for a full state system restore during installation.

- **config-system**— System configuration back up is an XML file that includes statistics configuration and scheduler information. You can use the file generated from this backup to import these configuration settings. You cannot use this file for a full state system restore during installation.

## 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. The file does not need to have been exported from Cisco UCS 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. For more information, see the appropriate *Cisco UCS Central Installation and Upgrade Guide*.



### Note

You can only use a full state backup file to restore a system that is running the same version as the system from which the backup file was exported.

## Enabling Backup in Cisco UCS Central

By default the backup operation is disabled. You must enable the backup policy for Cisco UCS Central back up and Cisco UCS Domains backup to automatically backup the database or system configuration.



### Note

This procedure describes the process to enable Cisco UCS Central backup. You will do the same for Cisco UCS Domains from **Operations Management > Domain Groups root** or the specific **Domain Group**.

### Procedure

- Step 1** On the menu bar, click **Administration** tab.
- Step 2** In the Navigation pane, click **General** tab.
- Step 3** In the work pane, click **Full-State Backup Policy** or **Config-All Backup Policy**.
- Step 4** In **Backup State**, click **Enable**.
- Step 5** Click **Save**.  
Cisco UCS Central takes a snapshot of the configuration type that you selected and exports the file to the specified location. To view the progress of the backup operation, click the **Task** tab in the **Properties** dialog box.

# Backing up and Restoring Cisco UCS Central

You can back up Cisco UCS Central database or configuration using scheduled backup policies and on creating on demand backup of the system. The following are two types of scheduled backup policies for Cisco UCS Central from the **Administration** tab:

- **Full-State Backup Policy:** This policy backs up complete Cisco UCS Central database based on the specified schedule. You can store the backup image file either in a local system or on a remote location using protocols such as SCP, SFTP, FTP, and TFTP. The full state backup retains the management interfaces in the complete state.
- **Config-All Export Policy:** The config-all export policy backs up only the system configuration in XML format.

You can also create an on demand backup for Cisco UCS Central at anytime from the **Operations Management > Backup and Import > UCS Central > Create System Backup**.

## Creating a Full-State Backup Policy for Cisco UCS Central

Make sure to enable Backup state to trigger backup on specified schedule.

**Note**

If you specify a remote location, make sure that location exists. You must have an absolute remote path ready when you select the remote location.

### Procedure

- Step 1** On the menu bar, click **Administration** tab.
- Step 2** In the Navigation pane, click **General**.
- Step 3** In the work pane, click **Full-State Backup Policy** tab.
  - a) Provide a description for this backup.
  - b) In **Location of the Image File**, select the appropriate radio button to save the image file .
  - c) In **Schedule(Inline)** drop-down, select the frequency you want to schedule the backup for.  
You can define a backup schedule from **Operations Management > Domain Groups** at the domain group root or at a domain group level. You can use the **Schedule** drop down to select and associate that schedule with this back-up policy. You can only use one type of schedule in any backup policy.
  - d) In **Max Files**, specify the maximum number of files you want to save in this location for this system.
- Step 4** Click **Save**.

Based on the schedule, Cisco UCS Central takes a snapshot of the database and exports the file to the specified location. To view the progress of the backup operation, click the **Task** tab in the **Properties** dialog box.

## Creating a Config-all Backup Policy for Cisco UCS Central

Make sure to enable Backup state to trigger backup on specified schedule.



**Note** If you specify a remote location, make sure that location exists. You must have an absolute remote path ready when you select the remote location.

### Procedure

- Step 1** On the menu bar, click **Administration** tab.
- Step 2** In the Navigation pane, click **General**.
- Step 3** In the work pane, click **Config-all Export Policy** tab.
  - a) Provide a description for this backup.
  - b) In **Location of the Image File**, select the appropriate radio button to save the image file .
  - c) In **Schedule(Inline)** drop-down, select the frequency you want to schedule the backup for.  
You can define a backup schedule from **Operations Management > Domain Groups** at the domain group root or at a domain group level. You can use the **Schedule** drop down to select and associate that schedule with this back-up policy. You can only use one type of schedule in any backup policy.
  - d) In **Max Files**, specify the maximum number of files you want to save in this location for ths system.
- Step 4** Click **Save**.

Based on the schedule, Cisco UCS Central takes a snapshot of the database and exports the file to the specified location. To view the progress of the backup operation, click the **Task** tab in the **Properties** dialog box.

## Creating an On Demand Backup for Cisco UCS Central

### Before You Begin

Obtain the backup server IPv4 or IPv6 address and authentication credentials.

### Procedure

- Step 1** Click **Operations Management** and in the Navigation pane, expand **Backup and Import**.
- Step 2** Click the **UCS Central** node.
- Step 3** In the work pane, click **Create System Backup**.
- Step 4** In the **Create System Backup** dialog box, fill in the required fields.
- Step 5** Click **OK**.
- Step 6** If Cisco UCS Central displays a confirmation dialog box, click **OK**.

If you set the Backup State to enabled, Cisco UCS Central 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 7** (Optional) To view the progress of the backup operation or the individual module export operation, in the work pane, click **Properties** and then click the **Status** tab.
- Step 8** 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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## Creating a Backup Schedule for Cisco UCS Central

You can create a backup schedule for both full state backup policy and config-all back up policy and save the image file either in a network location or in a remote file system. The **Backup State** must be in **Enable** for Cisco UCS Central to trigger backup at the scheduled time.

### Procedure

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- Step 1** On the menu bar, click **Administration** tab.
- Step 2** In the Navigation pane, click **General** tab.
- Step 3** In the work pane, click **Full-State Backup Policy** or **Config-All Backup Policy** and do the following:
- Provide a description for this backup.
  - In **Backup Location**, select the appropriate radio button to save the image file .
  - In **Schedule in-line** drop-down, select the frequency you want to schedule the backup for.
  - In **Max Files**, specify the maximum number of files you want to save in this location for ths system.
- Step 4** Click **Save**.  
Based on the specified schedule, Cisco UCS Central takes a snapshot of the configuration type that you selected and exports the file to the specified location. To view the progress of the backup operation, click the **Task** tab in the **Properties** dialog box.
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## Deleting a Cisco UCS Central Backup Operation

### Procedure

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- Step 1** On the menu bar, click **Operations Management**.
- Step 2** In the Navigation pane, expand **Backup and Import**.
- Step 3** Click the **UCS Central System** node.
- Step 4** In the **Backup** table, click the backup operation that you want to delete.  
You cannot click a backup operation in the table if the admin state of the operation is set to **Enabled**.

- Step 5** In the **Backup Operations** table of the **Backup Configuration** dialog box, click the backup operations that you want to delete.  
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 Cisco UCS Central GUI displays a confirmation dialog box, click **Yes**.
- Step 8** In the **Backup Configuration** dialog box, click **Yes** to delete the backup operation.
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## Backing up and Restoring Cisco UCS Domains

You can create global backup policies for registered UCS domains in Cisco UCS Central at the domain group root or at the domain group levels.

When you create a global backup policy, Cisco UCS domains that are part of the domain group inherit the policy creating, update and deletion events. Deleting these policies remotely resets the admin state to disabled in Cisco UCS Manager since these are global policies that cannot be completely deleted. You can schedule a backup and restore operation or you can perform an immediate backup and restore operation.



### Important

Backing up UCS domains to a remote locations is supported only from Cisco UCS Manager, release 2.2(2x) and above. Trying to backup a UCS domain that is running on any earlier Cisco UCS Manager release versions will not work.

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### Recommendations

- Make sure to enable **Backup & Export Polices to Global** in Cisco UCS Manager.
- You must register a Cisco UCS Domain under a domain group to enable the global backup policy.
- When you have multiple Cisco UCS Manager release versions in your setup, make sure to same release versions of UCS Manager are registered under one domain group.
- You cannot specify multiple backup policies under different domain groups. All of the backup policies must be named default.

## Creating a Full-State Backup Policy for Cisco UCS Domains

You can specify global full-state backup policy for the Cisco UCS domains at the domain group root and at the domain groups level. This policy will apply to all domain groups under the root.



### Note

If you specify a remote location, make sure that location exists. You must have an absolute remote path ready when you select the remote location.

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## Procedure

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- Step 1** On the menu bar, click **Operations Management**.
- Step 2** In the Navigation pane, expand **Domain Groups > Domain Group root** or click **Domain Group root** and expand to navigate to a specific domain group.
- Step 3** Click the **Backup/Export Policy** node.
- Step 4** In the work pane, click **Full-State Backup Policy**.
- Provide a description for this backup.
  - In **Location of the Image File**, select the appropriate radio button to save the image file .
 

**Note** You must have Cisco UCS Manager, release 2.2(2x) to use a remote location to save the backup image file.
  - In **Schedule(Inline)** drop-down, select the frequency you want to schedule the backup for. You can define a backup schedule from **Operations Management > Domain Groups** at the domain group root or at a domain group level. You can use the **Schedule** drop down to select and associate that schedule with this back-up policy. You can only use one type of schedule in any backup policy.
  - In **Max Files**, specify the maximum number of files you want to save in this location for ths system.
- Step 5** Click **Save**.
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Based on the schedule, Cisco UCS Central takes a snapshot of the Cisco UCS domain database and exports the file to the specified location. To view the progress of the backup operation, click the **Task** tab in the **Properties** dialog box.

## Creating a Config-All Export Policy for Cisco UCS Domains

You can specify global config-all backup policy for Cisco UCS domains at the domain group root or at the domain group level. This policy will apply to all domain groups under the root.



- Note** If you specify a remote location, make sure that location exists. You must have an absolute remote path ready when you select the remote location.
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## Procedure

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- Step 1** On the menu bar, click **Operations Management**.
- Step 2** In the Navigation pane, expand **Domain Groups > Domain Group root** or click **Domain Group root** and expand to navigate to a specific domain group.
- Step 3** Click the **Backup/Export Policy** node.
- Step 4** In the work pane, click **Config-All Export Policy**.
- Provide a description for this backup.
  - In **Location of the Image File**, select the appropriate radio button to save the image file .
 

**Important** You must have Cisco UCS Manager, release 2.2(2x) to use a remote location to save the backup image file.

- c) In **Schedule(Inline)** drop-down, select the frequency you want to schedule the backup for. You can define a backup schedule from **Operations Management > Domain Groups** at the domain group root or at a domain group level. You can use the **Schedule** drop down to select and associate that schedule with this back-up policy. You can only use one type of schedule in any backup policy.
- d) In **Max Files**, specify the maximum number of files you want to save in this location for this system.

**Step 5** Click **Save**.

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Based on the schedule, Cisco UCS Central takes a snapshot of the Cisco UCS domain configuration and exports the file to the specified location. To view the progress of the backup operation, click the **Task** tab in the **Properties** dialog box.

## Import Configuration

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



### Note

You cannot import configuration from a higher release to a lower release.

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 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:

- **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.

## Importing Cisco UCS Central Configuration

You cannot import a Full State backup 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

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- Step 1** On the menu bar, click **Operations Management**.
  - Step 2** In the Navigation pane, expand **Backup and Import**.
  - Step 3** Click the **UCS Central System** node.
  - Step 4** In the work pane, click the **Import** tab.
  - Step 5** Click **Create Import Operation**.
  - Step 6** In the **Create Import Operation** dialog box, complete the following fields:
  - Step 7** (Optional) If you select Local File System, you will need to download the file after the task is finished. Click **Download into backup file library**.
  - Step 8** (Optional) Click **Choose file** to browse to the file that you want to upload and import in the backup file library.
  - Step 9** Click **OK**.
  - Step 10** In the confirmation dialog box, click **OK**.  
If you set the **Import State** to enabled, Cisco UCS Central 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 11** 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.
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## Importing Cisco UCS Manager Configuration

### Procedure

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- Step 1** On the menu bar, click **Operations Management**.
  - Step 2** In the Navigation pane, expand **Backup and Import**.
  - Step 3** Click the **UCS System** node.
  - Step 4** In the work pane, click the **Import** tab.
  - Step 5** Click **+Create Import Operation**.
  - Step 6** In the **Create Import Operation** dialog box, complete the following fields:
  - Step 7** Click **Ok**.
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## Running an Import Operation

Choose the **UCS Central System** option to run an import operation for Cisco UCS Central. Use the **UCS Central** option to run an import operation for Cisco UCS Manager.

### Procedure

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- Step 1** On the menu bar, click **Operations Management**.
  - Step 2** In the Navigation pane, expand **Backup and Import**.
  - Step 3** Click the **UCS Central System** node to run an import operation for Cisco UCS Central.
  - Step 4** (Optional) Click the **UCS Central** node to run the import operation for Cisco UCS Manager .
  - Step 5** In the **Import** table, click the hostname and remote file name that you want to import.
  - Step 6** Click **Properties**.
    - a) Click the **General** tab and click the **Enabled** radio button.
    - b) Click the **merge** or **replace** radio button.
  - Step 7** Click **Ok**.

Cisco UCS Central imports the backup configuration file that you selected. To view the progress of the backup operation, click the **Task** tab in the **Properties** dialog box.
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## Deleting Import Operations

### Procedure

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- Step 1** On the menu bar, click **Operations Management**.
  - Step 2** In the Navigation pane, expand **Backup and Import**.
  - Step 3** Click the **UCS Central System** node.
  - Step 4** In the work pane, click the **Import** tab.
  - Step 5** In the **Import** table, click the import operation that you want to delete. You cannot click a backup operation in the table if the admin state of the operation is set to **Enabled**.
  - Step 6** In the **Import** table, click the import operation 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 7** Click the **Delete** icon in the icon bar of the **Import** table.
  - Step 8** If Cisco UCS Central GUI displays a confirmation dialog box, click **Yes**.
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