

# Cisco UCS Director Upgrade Guide, Release 6.9

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## Upgrading Cisco UCS Director to Release 6.9

### Overview of the Upgrade to Cisco UCS Director, Release 6.9

The upgrade process to Cisco UCS Director, Release 6.9 depends on the current version of the software that is installed on your system. For information on supported upgrade paths, see [Supported Migration Paths to Cisco UCS Director, Release 6.9\(0.0\), on page 1](#).

Cisco UCS Director, Release 6.9 is installed on two disks in the virtual machine (VM). One disk hosts the operating system and the Cisco UCS Director application. The second disk hosts the Cisco UCS Director database. See [Prerequisites for Migrating to Cisco UCS Director Release 6.9, on page 4](#).



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**Note** While deploying the OVA in a **Customize template** window, if no default passwords are populated for root and shelladmin, please enter the default password **cisco123** for **root** and **changeme** for **shelladmin**.

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### Supported Migration Paths to Cisco UCS Director, Release 6.9(0.0)

The following are the supported migration paths for the Cisco UCS Director Release 6.9:

- From Release 6.7(4.3) to Release 6.9
- From Release 6.8(0.0) to Release 6.9
- From Release 6.8(1.0) to Release 6.9
- From Release 6.8(2.0) to Release 6.9
- From Release 6.8(3.0) to Release 6.9
- From Release 6.8(4.0) to Release 6.9
- From Release 6.8(5.0) to Release 6.9
- From Release 6.8(6.0) to Release 6.9
- From Release 6.8(7.0) to Release 6.9
- From Release 6.8(8.0) to Release 6.9



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**Note** Before migrating from Release 6.7(4.3)/6.8(x.x) to Release 6.9, in progress service requests (SRs) must be in completed state (no in progress service requests) because you cannot complete the service requests after migrating to Release 6.9.

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## Supported Migration Paths for Bare Metal Agent Release 6.9(0.0)

The following are the supported migration paths for the Bare Metal Agent Release 6.9:

- From Release 6.7(4.2) to Release 6.9(0.0)
- From Release 6.8(0.0) to Release 6.9(0.0)
- From Release 6.8(1.0) to Release 6.9(0.0)
- From Release 6.8(2.0) to Release 6.9(0.0)
- From Release 6.8(3.0) to Release 6.9(0.0)
- From Release 6.8(4.0) to Release 6.9(0.0)
- From Release 6.8(5.0) to Release 6.9(0.0)
- From Release 6.8(6.0) to Release 6.9(0.0)
- From Release 6.8(7.0) to Release 6.9(0.0)
- From Release 6.8(8.0) to Release 6.9(0.0)

## Digitally Signed Images

Cisco UCS Director images are delivered in digitally signed zip files. These signed zip files are wrapped in a container zip file that includes the following:

- Digitally signed zip file—Contains the Cisco UCS Director installation image
- Verification program—Verifies the certificate chain and signature. During certificate chain validation, the program verifies the authenticity of the end-entity certificate using Cisco's SubCA and root CA certificates. Then, the authenticated end-entity certificate is used to verify the signature.
- Digital signature file—Contains the signature that you can verify before installation.
- Certificate file—Enables you to verify the digital signature. This Cisco-signed x.509 end-entity certificate contains a public key that can be used to verify the signature. This certificate is chained to the Cisco root posted on <http://www.cisco.com/security/pki/certs/crcam2.cer>.
- ReadMe file—Provides the information and instructions required to verify the digitally signed zip file.

Verify the image offline. Once the image is verified, you can begin the installation of Cisco UCS Director.



**Note** For migrating to Release 6.9, you can verify the digital signature of the patch manually and then use the `Apply Patch` option. See [Verifying a Digitally Signed Image, on page 3](#).

## Requirements for Verifying Digitally Signed Images

Before you verify a Cisco UCS Director digitally signed image, ensure that you have the following on your local machine:

- Connectivity to <https://www.cisco.com> during the verification process
- Python 3.4.0 or later
- OpenSSL

## Verifying a Digitally Signed Image

### Before you begin

Download the Cisco UCS Director image from [Cisco.com](https://www.cisco.com).

### Procedure

**Step 1** Unzip the file you downloaded from [Cisco.com](https://www.cisco.com) and verify that it contains the following files:

- ReadMe file
- Digitally signed zip file, for example `CUCSD_6_9_0_0_69115_VMWARE_GA.zip` or `CUCSD_6_9_0_0_69115_HYPERV_GA.zip`
- Certificate file, for example `UCS_GENERIC_IMAGE_SIGNING-CCO_RELEASE.cer`
- Digital signature generated for the image, for example `CUCSD_6_9_0_0_69115_VMWARE_GA.zip.signature` or `CUCSD_6_9_0_0_69115_HYPERV_GA.zip.signature`
- Signature verification program, for example `cisco_x509_verify_release.py3`

**Step 2** Review the instructions in the ReadMe file.

**Note** If there are any differences between these instructions and those in the ReadMe, follow the ones in the ReadMe.

**Step 3** Run the signature verification program from the directory where you have unzipped the downloaded content.

Example: Signature Verification for VMware OVA Installation

```
python3 cisco_x509_verify_release.py3 -e UCS_GENERIC_IMAGE_SIGNING-CCO_RELEASE.cer -i
CUCSD_6_9_0_0_69115_VMWARE_GA.zip -s CUCSD_6_9_0_0_69115_VMWARE_GA.zip.signature -v dgst
-sha512
```

Example: Signature Verification for Hyper-V VHD Installation

```
python3 cisco_x509_verify_release.py3 -e UCS_GENERIC_IMAGE_SIGNING-CCO_RELEASE.cer -i
CUCSD_6_9_0_0_69115_HYPERV_GA.zip -s CUCSD_6_9_0_0_69115_HYPERV_GA.zip.signature -v dgst
-sha512
```

**Step 4** Review the output and ensure that the verification has succeeded.

Example: Expected Output for VMware OVA Installation

```
Retrieving CA certificate from http://www.cisco.com/security/pki/certs/crcam2.cer ...
Successfully retrieved and verified crcam2.cer.
Retrieving SubCA certificate from http://www.cisco.com/security/pki/certs/innerspace.cer
...
Successfully retrieved and verified innerspace.cer.
Successfully verified root, subca and end-entity certificate chain.
Successfully fetched a public key from UCS_GENERIC_IMAGE_SIGNING-CCO_RELEASE.cer.
Successfully verified the signature of CUCSD_6_9_0_0_69115_VMWARE_GA.zip using
UCS_GENERIC_IMAGE_SIGNING-CCO_RELEASE.cer
```

Example: Expected Output for Hyper-V VHD Installation

```
Retrieving CA certificate from http://www.cisco.com/security/pki/certs/crcam2.cer ...
Successfully retrieved and verified crcam2.cer.
Retrieving SubCA certificate from http://www.cisco.com/security/pki/certs/innerspace.cer
...
Successfully retrieved and verified innerspace.cer.
Successfully verified root, subca and end-entity certificate chain.
Successfully fetched a public key from UCS_GENERIC_IMAGE_SIGNING-CCO_RELEASE.cer.
Successfully verified the signature of CUCSD_6_9_0_0_69115_HYPERV_GA.zip using
UCS_GENERIC_IMAGE_SIGNING-CCO_RELEASE.cer
```

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### What to do next

Install or upgrade Cisco UCS Director.

## Migrating to Cisco UCS Director

### Prerequisites for Migrating to Cisco UCS Director Release 6.9




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**Important** Follow the migration process documented for Cisco UCSD 6.9, for migrating from Cisco UCSD Release 6.7(4.3)/6.8(x.x) to Cisco UCSD 6.9.

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Complete the following prerequisites before you upgrade your current Cisco UCS Director software to Release 6.9.

#### Plan a Maintenance Window

The upgrade to Release 6.9 requires that you stop all Cisco UCS Director services during the upgrade. We recommend that you plan a maintenance window of between 2 and 8 hours. Prior to upgrade, the length of the maintenance window depends on the size of your database. For example, if the infradb size is of 50GB, it will take approximately 3 hours to migrate (includes backup and restore), and if the infradb is 85GB, it will take approximately 4 hours to migrate (backup and restore).



**Note** Backup and restore depends upon the read and write speed of the disk.

### Download Cisco UCS Director, Release 6.9 and Verify the Signed Image

Download the Cisco UCS Director, Release 6.9 software patch from <http://www.cisco.com> and then verify the digitally signed image. See [Digitally Signed Images, on page 2](#).

### Verify that the Services and UI are Running

Ensure that the services and UI are up and running in Releases Release 6.7.4.3/6.8.x.x and Release 6.9.0.0. If the report indicates any compatibility issues, resolve these issues in your Release 6.9 system after migration. See [Upgrading Custom Tasks, on page 25](#).

To resolve the incompatibilities, refer to [Cisco UCS Director Troubleshooting Guide](#).

### Checking the Disk Size Requirements

#### Offline Standalone Migration--Backup

Before performing an offline backup Release 6.7.4.3/6.8.x.x, validate that the root (/) disk size has 6% more than infra-DB size. The following table provides examples of disk size requirements.

Used Infra-DB size (GB) in Release 6.7.4.3/6.8.x.x	Free space required in root disk size (GB) in Release 6.7.4.3/6.8.x.x
20	22
50	53
70	75
90	96
100	106

#### Offline Restore

Before performing an offline restore on UCSD 6.9.0.0, validate that the infra-DB (/infradb) disk size and root (/) disk size in UCSD 6.9.0.0 has 6% more than infra-DB size in UCSD 6.7.4.3/6.8.x.x. The following table provides examples of disk size requirements.

Used Infra-DB size (GB) in Release 6.7.4.3/6.8.x.x	Free space required in Infra-DB disk size (GB) in Release 6.9.0.0	Free space required in root disk size (GB) in Release 6.9.0.0
20	22	22
50	53	53
70	75	75
90	96	96
100	106	106

### Online Standalone Migration

Before performing online migration on Release 6.9.0.0, validate that the root (/) disk size in UCSD 6.7.4.3/6.8.x.x has 6% more than infra-DB size in Release 6.7.4.3/6.8.x.x. It must also be validated that the infra-DB (/infradb) disk size and root (/) disk size in UCSD 6.9.0.0 has 6% more than DB size in Release 6.7.4.3/6.8.x.x. The following table provides examples of disk size requirements.

Used Infra-DB size (GB) in Release 6.7.4.3/6.8.x.x	Free space required in root disk size (GB) in Release 6.7.4.3/6.8.x.x	Free space required in Infra-DB disk size (GB) in Release 6.9.0.0	Free space required in root disk size (GB) in Release 6.9.0.0
20	22	22	22
50	53	53	53
70	75	75	75
90	96	96	96
100	106	106	106

### Offline Dual Node Migration--Offline Backup

Before performing an offline backup on primary node of UCSD 6.7.4.3/6.8.x.x, validate if the root (/) disk size in primary node of Release 6.7.4.3/6.8.x.x has 6% more than infra-DB size in DB Node of Release 6.7.4.3/6.8.x.x. The following table provides examples of disk size requirements.

Used Infra-DB size (GB) in Release 6.7.4.3/6.8.x.x	Free space required in root disk size (GB) in Primary Node of Release 6.7.4.3/6.8.x.x
20	22
50	53
70	75
90	96
100	106

### Dual Node Offline Restore

Before performing offline restore on primary node of Release 6.9.0.0, validate if the infra-DB (/infradb) disk size in DB node of Release 6.9.0.0 and root (/) disk size in primary node of UCSD 6.9.0.0 has 6% more than infra-DB size in DB Node of Release 6.7.4.3/6.8.x.x.

Used Infra-DB size (GB) in Release 6.7.4.3/6.8.x.x	Free space required in Infra-DB disk size (GB) in Primary Node of Release 6.9.0.0	Free space required in root disk size (GB) in in DB Node of Release 6.9.0.0
20	22	22
50	53	53
70	75	75

Used Infra-DB size (GB) in Release 6.7.4.3/6.8.x.x	Free space required in Infra-DB disk size (GB) in Primary Node of Release 6.9.0.0	Free space required in root disk size (GB) in in DB Node of Release 6.9.0.0
90	96	96
100	106	106

### Online Dual Node Migration

Before performing an online migration on primary node of Release 6.9.0.0, validate if the root (/) disk size in DB and primary node of Release 6.7.4.3/6.8.x.x has 6% more than infra-DB size in DB node of UCSD 6.7.4.3/6.8.x.x. Validate that the infra-DB (/infradb) disk size in DB Node of Release 6.9.0.0 and root (/) disk size in primary node of Release 6.9.0.0 has 6% more than infra-DB size in DB node of Release 6.7.4.3/6.8.x.x.

Used Infra-DB size (GB) in Release 6.7.4.3/6.8.x.x	Free space required in root disk size (GB) in DB Node of Release 6.7.4.3/6.8.x.x	Free space required in root disk size (GB) in Primary Node of Release 6.7.4.3/6.8.x.x	Free space required in Infra-DB disk size (GB) in Primary Node of Release 6.9.0.0	Free space required in root disk size (GB) in DB Node of Release 6.9.0.0
20	22	22	22	22
50	53	53	53	53
70	75	75	75	75
90	96	96	96	96
100	106	106	106	106

### Expanding the Disk Space

Refer to this link [High Primary Disk Utilization](#) to perform the steps for root volume expansion.

Refer to this link [High Database Disk Utilization](#) to perform steps to expand the database volume.



**Important** Changes made to vCPU Allocation, Memory Allocation, Memory Reservation in Release 6.7.4.3/6.8.x.x must be made in Release 6.9 instance also. Any Release 6.7.4.3/6.8.x.x configuration changes made to InfraMgr Memory Allocation in the `/opt/infra/bin/inframgr.env` file and MySQL Parameters in the `/etc/my.cnf` file must be reconfigured in Release 6.9 to achieve the same performance.

## Data Migration

Data Migration script is used to migrate the data from UCSD 6.7.4.3/6.8.x.x to UCSD 6.9. Migration is supported for both standalone and optimised multi-node.

The supported migration paths are 6.7.4.3 and 6.8.0.0 (6.8.0.0, 6.8.1.0, 6.8.2.0, 6.8.3.0, 6.8.4.0, 6.8.5.0, 6.8.6.0, 6.8.7.0, 6.8.8.0).

Data Migration has two options

- **Online Migration** : The backup and restore will happen at the same time during online migration from 6.7.4.3/6.8.x.x to 6.9.0.0 using the command

**`./performMigration.sh`**




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**Note** In case of optimized multi-node migration, execute command **`/performmigration.sh`** in the primary node.

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- **Offline Migration** : The backup taken from 6.7.4.3/6.8.x.x, can be copied to any remote location and restored to 6.9.0.0. This can be followed by three steps.
  - Command to copy migration script to 6.7.4.3/6.8.x.x UCSD from 6.9.0.0 UCSD for taking the backup is **`./performMigration.sh offline copyMigrationScript`**
  - Command to copy to local or remote location and take the backup is **`./performMigration.sh offline backup`**
  - Command to restore the backup taken, from local or remote anytime is **`./performMigration.sh offline restore`**




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**Note**

- If any configuration changes for enabling HTTP are made in shelladmin using the **Enable/Disable HTTP** option in Cisco UCS Director, Release 6.7.4.3/6.8.x.x, you must enable HTTP again after migrating to Cisco UCS Director, Release 6.9.
- As part of migration, only UCSD hostname is migrated. Other hosts entries in the `/etc/hosts/` file must be updated manually by the user after migration in 6.9.0.0 appliance.

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## Data Migration Scripts

Following operations are to be followed for Data Migration

- DB backup from existing UCSD (6.7.4.3/6.8.x.x)
- Import into UCSD 6.9.0.0
- Backup and restore Open Automation and Script Modules, report builder
- Migrate Property Files (Compare and merge old and new values based on key)
  - `idaccessmgr/auth.properties`
  - `inframgr/vmware.properties`
  - `inframgr/ucsMaxSession.properties`
  - `idaccessmgr/service.properties`
  - `web_cloudmgr/apache-tomcat/bin/service.properties`
  - `controller/service.properties`
  - `eventmgr/service.properties`



- connectormgr/service.properties
  - networkServices/service.properties
  - usageMgr/service.properties
  - inframgr/service.properties
  - inframgr/apic.properties
  - inframgr/f5lb\_tls\_version.properties
  - inframgr/ucsCentralInventoryconfigurations.properties
  - inframgr/UcsCentralSessionPoolConfig.properties
  - inframgr/UCSFeatureTimeouts.properties
  - inframgr/ucsMaxSession.properties
  - inframgr/ucsServerAssociationTimeout.properties
  - inframgr/VMWareVNCKeyMap.properties
  - Backup and restore Open Automation and Script Modules, report builder.
- Migrate configuration files
    - /opt/infra/inframgr/networkCollector/deviceprofile/cisco\_asa\_device.xml
    - /opt/infra/inframgr/networkCollector/deviceprofile/cisco\_nexus\_device.xml
    - /opt/infra/inframgr/resources/MSM/multisite\_config.xml

## Standalone Node Migration Process

### Online Migration-Standalone Node

Steps for Online Migration

#### Procedure

- 
- Step 1** Deploy **UCSD 6.9.0.0**.
- Step 2** Login to UCSD 6.9.0.0 as root user.
- Step 3** Navigate to the folder `/opt/infra/migration` and run the migration script using the command `./performMigration.sh`
- Step 4** Provide IP address and root password for the UCSD 6.7.4.3/6.8.x.x application
- It will stop the services in 6.7.4.3/6.8.x.x & UCSD 6.9.0.0 application.
- It will take the DB backup form UCSD 6.7.4.3/6.8.x.x appliance and restore into UCSD 6.9.0.0 appliance.
- It will take the application configuration files, reports, open automation, script module from UCSD 6.7.4.3/6.8.x.x appliance to UCSD 6.9.0.0 appliance.

The following information will be displayed:

```
[root@localhost migration]# ./performMigration.sh
*****
***** UCS Director 6.9.0.0 Migration *****
*****

Current UCSD Version      : 6.9.0.0
Deployment Type           : standalone
Note: Before migrating to the latest version of Cisco UCS Director, ensure that you run the
      CSA tool in the current version to identify and resolve the incompatibilities.
Have you resolved the incompatibilities [y/n]?
```

**Step 5** Enter y and press Enter.

The following information will be displayed:

```
Services will be stopped before migration. Any existing data in this appliance database
will be deleted as part of migration.
Do you want to continue [y/n]? :
```

**Step 6** Enter y and press Enter.

The following information will be displayed:

```
Enter UCS-Director 6.7.4.3/6.8.x.x appliance IP address (Primary node in case of multi-node
installation) : xx.xx.xx.xx
```

**Step 7** Specify the IP address and press Enter.

```
Enter root password for xx.xx.xxx.xxx :
Trying to connect to database on xx.xx.xxx.xxx : UP

***** STARTING MIGRATION STEP (1/8) *****

Checking for available free disk space to take database backup in 6.7.4.3/6.8.x.x appliance
Disk space required for backup in partition "/dev/mapper/centos-root" : 2849 MB
Available free space in partition "/dev/mapper/centos-root" on xx.xx.xxx.xxx : 85692 MB

Checking for available free disk space to restore database backup in 6.9.0.0 appliance
Disk space required for restore in both partitions "/dev/mapper/infradb_vg-infradb_lv" and
"/dev/mapper/almalinux-root" : 2849
MB
Available free space in partition "/dev/mapper/almalinux-root" : 84826 MB
Available free space in partition "/dev/mapper/infradb_vg-infradb_lv" : 98906 MB

Initiating database backup on remote node. This process will take some time depending on
the database size.
..... done
Extracting the database backup archive file to validate the DB files.
. done

Validating the exported file is complete.
Exported database successfully.

***** COMPLETED MIGRATION STEP (1/8) *****
***** STARTING MIGRATION STEP (2/8) *****

Started decrypting connector properties file using dynamic AES key... This will take some
time. Please wait...

.....
..... done
```

```

***** COMPLETED MIGRATION STEP (2/8) *****
***** STARTING MIGRATION STEP (3/8) *****

Restoring database. This process will take some time depending on the database size.
Extracting database backup archive /opt/infra/migration/backup-ucsd/database_backup.tar.gz...
Initializing Database...
..... done
Restoring data from db_private_admin*.sql
..... done
Restoring data from confmgr_production.sql
. done
Database restored successfully.

***** COMPLETED MIGRATION STEP (3/8) *****
***** STARTING MIGRATION STEP (4/8) *****

Migrated property files successfully.
Updating multisite xml file...
Migration in progress... InventoryThreads data processing
Migration in progress... PodType data processing
Migration in progress... HttpTimeout data processing
Migration in progress... specialCharacters data processing
Migration in progress... HttpDelay data processing
Migration in progress... PatchAPIUpdate data processing
Migration in progress... ToggleUpdatePatch data processing
Migration in progress... ReadWriteVersion data processing
Updating multisite xml file... completed
Restore Open automation files...
Changing Hostname for the appliance from localhost.localdomain to localhost.localdomain
Changed Hostname Successfully
Hosts file updated successfully with localhost.localdomain

***** COMPLETED MIGRATION STEP (4/8) *****
***** STARTING MIGRATION STEP (5/8) *****

Running database migration scripts [ Source : 6.8.1.0 ]
Upgrading database query..
Ending database upgrade process...

***** COMPLETED MIGRATION STEP (5/8) *****
***** STARTING MIGRATION STEP (6/8) *****

The database schema initialization has been triggered. This will take some time. Please
wait until schema initialization is complete.
.....
done
Schema Initialization has been completed.

***** COMPLETED MIGRATION STEP (6/8) *****
***** STARTING MIGRATION STEP (7/8) *****

Started encrypting all password field using dynamic AES key.
.....
done
Completed encrypting all password field using dynamic AES Key.

***** COMPLETED MIGRATION STEP (7/8) *****
***** STARTING MIGRATION STEP (8/8) *****

Started updating DB Table MAILSETTINGS.
Completed updating DB Table MAILSETTINGS.

```

Starting services. Use the "Display Services Status" option to check the status.

```
***** COMPLETED MIGRATION STEP (8/8) *****
```

Migration completed successfully.  
Migration log file available at /var/log/ucsd/migrateAlmaLinux9.log

## Offline Migration-Standalone Node

### Before you begin

Steps for Offline Migration

### Procedure

**Step 1** Deploy UCSD 6.9.0.0.

**Step 2** Login to UCSD 6.9.0.0 as root user.

**Step 3** Navigate to the folder /opt/infra/migration and run the migration script using the **./performMigration.sh offline copyMigrationScript**

**Step 4** Copy migration scripts to UCSD 6.7.4.3/6.8.x.x using the command.

The following information will be displayed

```
[root@localhost migration]# ./performMigration.sh offline copyMigrationScript
*****
***** UCS Director 6.9.0.0 Migration *****
*****
```

```
Current UCSD Version      : 6.9.0.0
```

```
Deployment Type           : standalone
```

Note: Before migrating to the latest version of Cisco UCS Director, ensure that you run the CSA tool in the current version to identify and resolve the incompatibilities.

```
Have you resolved the incompatibilities [y/n]?
```

**Step 5** Enter y and press **Enter**.

The following information will be displayed.

```
Have you resolved the incompatibilities [y/n]? y
Please proceed to migration.....
Enter UCS-Director 6.7.4.3/6.8.x.x appliance IP address (Primary node in case of multi-node
installation) : xx.xx.xxx.xxx
Enter root password for xx.xx.xxx.xxx :
***** STARTING MIGRATION STEP (1/1) *****
```

```
Transferred Almalinux 9 migration files successfully.
```

```
***** COMPLETED MIGRATION STEP (1/1) *****
```

**Step 6** Login as root user in UCSD 6.7.4.3/6.8.x.x appliance.

**Step 7** Run the script **./performMigration.sh offline backup** from the location /opt/infra/migration.

The script will stop the services, take the DB backup, application configuration files, reports, open automation, script module UCSD 6.7.4.3/6.8.x.x appliance and store in **tar.gz** format.

The script provides an option to copy the **backup.tar.gz** in UCSD 6.9.0.0 or any remote location by SFTP/SCP/FTP.

### CLI Information for Offline Backup via SFTP

```
[root@UCSD6810-SR279 migration]# ./performMigration.sh offline backup
*****
***** UCS Director 6.9.0.0 Migration *****
*****
Current UCSD Version      : 6.8.8.0
Deployment Type           : standalone
Note: Before migrating to the latest version of Cisco UCS Director, ensure that you run the
      CSA tool in the current version to identify and resolve the incompatibilities.
Have you resolved the incompatibilities [y/n]?
```

**Step 8** Enter y and press Enter.

The following information will be displayed

```
Please proceed to migration.....
Services will be stopped before migration. Do you want to continue [y/n]? :
```

**Step 9** Enter y and press Enter.

The following information will be displayed.

```
Services will be stopped before migration. Do you want to continue [y/n]? : y
***** STARTING MIGRATION STEP (1/2) *****

hostname Stored Successfully
Copying config files...
Starting config file migration...
No Open Automation feature found in existing appliance.
Disk space required in partition "/dev/mapper/centos-root" : 3404 MB
Available free space in partition "/dev/mapper/centos-root" : 78571 MB
Initiating database backup on remote node. This process will take some time depending on
the database size.
Taking backup of db_private_admin database..... done
Taking backup of confmgr_production database.... done
Creating database backup archive... done
Database backup archive: /opt/infra/migration/backup-ucsd/database_backup.tar.gz
LOG_FILE=/var/log/ucsd/migrateAlmaLinux9.log
Extracting the database backup archive file to validate the DB files.
.. done

Validating the exported file is complete.
Exported database successfully.
Migrating script module process...
Generated /opt/infra/migration/backup-ucsd/backup-ucsd.tar.gz file with the backup contents.

***** COMPLETED MIGRATION STEP (1/2) *****
***** STARTING MIGRATION STEP (2/2) *****

Do you want to copy the UCSD backup file to a remote location [y/n]? :
```

**Step 10** Enter y and press Enter.

The following information will be displayed

```
Specify the transfer mode [FTP/SFTP/SCP]: SFTP
Specify the login credentials
Server IP Address: xx.xx.xx.xx
Server Login: root
```

```
Server Password:
Sub-directory (from Home directory) to store the file. Press enter to select the Home
directory: /tmp
File is copied successfully
```

```
***** COMPLETED MIGRATION STEP (2/2) *****
```

**Step 11** Login as root user in UCSD 6.9.0.0 appliance.

**Step 12** Provide IP address and root password for the UCSD 6.9.0.0 application.

- It will stop the services in UCSD 6.7.4.3/6.8.x.x & UCSD 6.9.0.0 application.
- It will take the DB backup form UCSD 6.7.4.3/6.8.0.0 appliance, and restore it in UCSD 6.9.0.0 appliance.
- It will take application configuration files, reports, open automation, script module from UCSD 6.7.4.3/6.8.x.x appliance to UCSD 6.9.0.0 appliance.

**Step 13** Run the script “./performMigration.sh offline restore” from the location /opt/infra/migration in UCSD 6.8.0.0 pointing to the backup.tar.gz

#### CLI Information for Offline Restore via SFTP

```
[root@localhost migration]# ./performMigration.sh offline restore
*****
***** UCS Director 6.9.0.0 Migration *****
*****

Current UCSD Version      : 6.9.0.0
Deployment Type           : standalone
Note: Before migrating to the latest version of Cisco UCS Director, ensure that you run the
      CSA tool in the current version to identify and resolve the incompatibilities.
Have you resolved the incompatibilities [y/n]?
```

**Step 14** Enter y and press Enter.

The following information will be displayed.

```
Please proceed to migration.....
```

```
Services will be stopped before migration. Any existing data in this appliance database
will be deleted as part of migration.
Do you want to continue [y/n]? :
```

**Step 15** Enter y and press Enter.

The following information will be displayed.

```
Do you want to copy the UCSD backup file from a remote location [y/n]? :
```

**Step 16** Enter n and press Enter.

The following information will be displayed.

```
Specify the transfer mode [FTP/SFTP/SCP]: sftp
```

```
Specify the login credentials
```

```
Server IP Address: xx.xx.xx.xx
```

```
Server Login: root
```

```
Server Password:
```

```
Remote Backup File (Absolute Path to File backup-ucsd.tar.gz ): /tmp/backup-ucsd.tar.gz
```

```

Warning: Permanently added 'xx.xx.xx.xx' (ED25519) to the list of known hosts.
File is fetched successfully.
Extracting the backup archive file...
Disk space required for restore in both partitions "/dev/mapper/infradb_vg-infradb_lv" and
"/dev/mapper/almalinux-root" : 2849 MB
Available free space in partition "/dev/mapper/infradb_vg-infradb_lv" : 98880 MB
Available free space in partition "/dev/mapper/almalinux-root" : 84809 MB

*****          COMPLETED MIGRATION STEP (1/8)          *****
*****          STARTING MIGRATION STEP (2/8)           *****

Started decrypting connector properties file using dynamic AES key... This will take some
time. Please wait...

.....
done

*****          COMPLETED MIGRATION STEP (2/8)          *****
*****          STARTING MIGRATION STEP (3/8)           *****

Restoring database. This process will take some time depending on the database size.
Extracting database backup archive /opt/infra/migration/backup-ucsd/database_backup.tar.gz...
Initializing Database...
.... done
Restoring data from db_private_admin*.sql
..... done
Restoring data from confmgr_production.sql
. done
Database restored successfully.
Migrating config files...
Migrating open automation files...
Migration in progress... InventoryThreads data processing
Migration in progress... PodType data processing
Migration in progress... HttpTimeout data processing
Migration in progress... specialCharacters data processing
Migration in progress... HttpDelay data processing
Migration in progress... PatchAPIUpdate data processing
Migration in progress... ToggleUpdatePatch data processing
Migration in progress... ReadWriteVersion data processing
Multisite merge ... completed
Changing Hostname for the appliance from localhost.localdomain to localhost.localdomain
Changed Hostname Successfully
Hosts file updated successfully with localhost.localdomain

*****          COMPLETED MIGRATION STEP (3/8)          *****
*****          STARTING MIGRATION STEP (4/8)           *****

Running database migration scripts [ Source : 6.8.1.0 ]
Upgrading database query...
Ending database upgrade process...

*****          COMPLETED MIGRATION STEP (4/8)          *****
*****          STARTING MIGRATION STEP (5/8)           *****

The database schema initialization has been triggered. This will take some time. Please
wait until schema initialization is complete.

.....
done
Schema Initialization has been completed.

*****          COMPLETED MIGRATION STEP (5/8)          *****
*****          STARTING MIGRATION STEP (6/8)           *****

Imported workflow successfully

```

```

*****          COMPLETED MIGRATION STEP (6/8)          *****
*****          STARTING MIGRATION STEP (7/8)            *****

Started encrypting all password field using dynamic AES key.

-----
done
Completed encrypting all password field using dynamic AES Key.

*****          COMPLETED MIGRATION STEP (7/8)          *****
*****          STARTING MIGRATION STEP (8/8)            *****

Started updating DB Table MAILSETTINGS.
Completed updating DB Table MAILSETTINGS.
Starting services. Use the "Display Services Status" option to check the status.

*****          COMPLETED MIGRATION STEP (8/8)          *****
Migration completed successfully.
Migration log file available at /var/log/ucsd/migrateAlmaLinux9.log

```

## Optimized Multi-Node Migration Process

### Online Migration-Optimized Multi-Node

Steps for Optimized Multi-Node Online Migration

#### Procedure

- 
- Step 1** Deploy optimized multi-node setup from **UCSD 6.9.0.0 OVA**.
- Step 2** Login to Primary Node of UCSD 6.9.0.0 as root user .
- Step 3** Navigate to the folder with the following command
- ```
/opt/infra/migration
```
- Step 4** Run the script **performMigration.sh** or **./performMigration.sh**
- Step 5** Provide IP address and root password for the UCSD 6.7.4.3/6.8.x.x application
- It will stop the services in UCSD 6.7.4.3/6.8.x.x & UCSD 6.9.0.0 application.
- It will take the DB backup form Database Node in UCSD 6.7.4.3/6.8.x.x appliance and restore it to the Database Node in UCSD 6.9.0.0 appliance.
- It will take the application configuration files, reports, open automation, script module from UCSD 6.7.4.3/6.8.x.x appliance to UCSD 6.9.0.0 appliance.
- The following information will be displayed
- ```
[root@localhost migration]# ./performMigration.sh
*****
*****          UCS Director 6.9.0.0 Migration          *****
*****
```



```

Current UCSD Version      : 6.9.0.0
Deployment Type           : Primary
Note: Before migrating to the latest version of Cisco UCS Director, ensure that you run the
    CSA tool in the current version to identify and resolve the incompatibilities.
Have you resolved the incompatibilities [y/n]?

```

**Step 6** Enter y and press Enter.

The following information will be displayed

```
Please proceed to migration.....
```

```

Services will be stopped before migration. Any existing data in this appliance database
will be deleted as part of migration.
Do you want to continue [y/n]? :

```

**Step 7** Enter y and press Enter.

The following information will be displayed

```

Enter UCS-Director 6.7.4.3/6.8.x.x appliance IP address (Primary node in case of multi-node
installation) :

```

**Step 8** Specify the UCSD 6.7.4.3/6.8.x.x Primary Node IP address, root password and press Enter.

```

Enter UCS-Director 6.7.4.3/6.8.x.x appliance IP address (Primary node in case of multi-node
installation) : xx.xx.xx.xx
Enter root password for xx.xx.xx.xx

```

**Step 9** Specify the root password for UCSD 6.7.4.3/6.8.0.0 Database Node and press Enter.

```

***** STARTING MIGRATION STEP (1/8) *****
Checking for available free disk space to take database backup in 6.7.4.3/6.8.x.x appliance

Disk space required for backup in partition "/dev/mapper/centos-root" : 5467 MB
Available free space in partition "/dev/mapper/almalinux-root" : 84815 MB
Available free space in partition "/dev/mapper/centos-root" on xx.xx.xxx.xxx : 88157 MB

Trying to connect to database on xx.xx.xx.xx : UP

```

**Step 10** Specify the root password for UCSD 6.9.0.0 Database Node and press Enter.

```

Enter root password for UCSD 6.9.0.0 database node (xx.xx.xx.xx):
Checking for available free disk space to restore database backup in 6.9.0.0 appliance

Disk space required for restore in both partitions "/dev/mapper/infradb_vg-infradb_lv" and
"/dev/mapper/almalinux-root" : 5467 MB
Available free space in partition "/dev/mapper/infradb_vg-infradb_lv" on xx.xx.xxx.xxx:
98863 MB
Available free space in partition "/dev/mapper/almalinux-root" on xx.xx.xxx.xxx: 84818 MB

Initiating database backup on remote node. This process will take some time depending on
the database size.
.....
done
Extracting the database backup archive file to validate the DB files.
..... done

Validating the exported file is complete.
Exported database successfully.
Trying to connect to database on xx.xx.xxx.xxx : UP

***** COMPLETED MIGRATION STEP (1/8) *****
***** STARTING MIGRATION STEP (2/8) *****

```

Started decrypting connector properties file using dynamic AES key... This will take some time. Please wait...

.....  
done

\*\*\*\*\* COMPLETED MIGRATION STEP (2/8) \*\*\*\*\*  
\*\*\*\*\* STARTING MIGRATION STEP (3/8) \*\*\*\*\*

Restoring database. This process will take some time depending on the database size.

.....  
Validating Legacy hostname of DB Node  
Hostname is not changed as Legacy xx.xx.xx.xx contains default hostname

\*\*\*\*\* COMPLETED MIGRATION STEP (3/8) \*\*\*\*\*  
\*\*\*\*\* STARTING MIGRATION STEP (4/8) \*\*\*\*\*

Migrated property files successfully.  
Updating multisite xml file...  
Migration in progress... InventoryThreads data processing  
Migration in progress... PodType data processing  
Migration in progress... HttpTimeout data processing  
Migration in progress... specialCharacters data processing  
Migration in progress... HttpDelay data processing  
Migration in progress... PatchAPIUpdate data processing  
Migration in progress... ToggleUpdatePatch data processing  
Migration in progress... ReadWriteVersion data processing  
Updating multisite xml file... completed  
Restore Open automation files...  
Starting to update database node IP...  
Hostname is not changed as Legacy xx.xx.xxx.xxx contains default hostname

\*\*\*\*\* COMPLETED MIGRATION STEP (4/8) \*\*\*\*\*  
\*\*\*\*\* STARTING MIGRATION STEP (5/8) \*\*\*\*\*

Running database migration scripts [ Source : 6.7.4.3 ]  
Upgrading database query...  
Ending database upgrade process...

\*\*\*\*\* COMPLETED MIGRATION STEP (5/8) \*\*\*\*\*  
\*\*\*\*\* STARTING MIGRATION STEP (6/8) \*\*\*\*\*

The database schema initialization has been triggered. This will take some time. Please wait until schema initialization is co

.....  
done

Schema Initialization has been completed.

\*\*\*\*\* COMPLETED MIGRATION STEP (6/8) \*\*\*\*\*  
\*\*\*\*\* STARTING MIGRATION STEP (7/8) \*\*\*\*\*

Started encrypting all password field using dynamic AES key.

.....  
done

Completed encrypting all password field using dynamic AES Key.

\*\*\*\*\* COMPLETED MIGRATION STEP (7/8) \*\*\*\*\*  
\*\*\*\*\* STARTING MIGRATION STEP (8/8) \*\*\*\*\*

Started updating DB Table MAILSETTINGS.  
Completed updating DB Table MAILSETTINGS.  
Starting services. Use the "Display Services Status" option to check the status.

```
***** COMPLETED MIGRATION STEP (8/8) *****
Migration completed successfully.
Migration log file available at /var/log/ucsd/migrateAlmaLinux9.log
```

## Offline Migration-Optimized Multi-Node

### Procedure

- Step 1** Deploy Optimized Multi-Node from UCSD 6.9.0.0.
- Step 2** Login to Primary Node of UCSD 6.9.0.0 as root user.
- Step 3** Navigate to the folder using the following command:
- ```
/opt/infra/migration
```
- Step 4** Copy migration scripts from Primary Node of UCSD 6.9.0.0 to Primary Node of UCSD 6.7.4.3/6.8.x.x using the command “**./performMigration.sh offline copyMigrationScript**”.

The following information will be displayed:

```
[root@localhost migration]# ./performMigration.sh offline copyMigrationScript
*****
***** UCS Director 6.9.0.0 Migration *****
*****

Current UCSD Version      : 6.9.0.0
Deployment Type           : primary
Note: Before migrating to the latest version of Cisco UCS Director, ensure that you run the
    CSA tool in the current version to identify and resolve the incompatibilities.
Have you resolved the incompatibilities [y/n]? y
Please proceed to migration.....
Enter UCS-Director 6.7.4.3/6.8.x.x appliance IP address (Primary node in case of multi-node
    installation) : xx.xx.xx.xx
Enter root password for xx.xx.xxx.xxx          :
Transferred Almalinux 9 migration files successfully.
```

- Step 5** Login to Primary Node of UCSD 6.7.4.3/6.8.x.x appliance as root user.
- Step 6** Run the script **./performMigration.sh offline backup** from the location **/opt/infra/migration**.

The script will stop the services, take the DB backup, application configuration files, reports, open automation, script module UCSD 6.7.4.3/6.8.x.x appliance and store in **tar.gz** format.

The script provides an option to copy the **backup.tar.gz** in Primary Node of UCSD 6.9.0.0 or any remote location by SFTP/SCP/FTP options.

### CLI Information for Offline Backup via SFTP

```
[root@localhost migration]# ./performMigration.sh offline restore
*****
***** UCS Director 6.9.0.0 Migration *****
*****

Current UCSD Version      : 6.9.0.0
Deployment Type           : standalone
Note: Before migrating to the latest version of Cisco UCS Director, ensure that you run the
    CSA tool in the current version to identify and resolve the incompatibilities.
```

Have you resolved the incompatibilities [y/n]?

**Step 7** Enter y and press Enter.

The following information will be displayed.

Please proceed to migration.....

**Step 8** Enter y and press Enter.

The following information will be displayed.

Services will be stopped before migration. Do you want to continue [y/n]? :

**Step 9** Enter y and press Enter.

The following information will be displayed.

```
***** STARTING MIGRATION STEP (1/2) *****
hostname Stored Successfully
Copying config files...
Starting config file migration...
No Open Automation feature found in existing appliance.
Enter root password for database node (xx.xx.xx.xx):
```

**Step 10** Enter root password for Database Node and press Enter.

The following information will be displayed.

```
Trying to connect to database on xx.xx.xx.xx : UP
Checking for available free disk space for database backup for database node

Disk space required for backup in partition "/dev/mapper/centos-root" : 4270 MB
Available free space in partition "/dev/mapper/almalinux-root": 85443 MB
Available free space in partition "/dev/mapper/centos-root" on xx.xx.xx.xx : 85854 MB

Initiating database backup on remote node. This process will take some time depending on
the database size.
..... done
Extracting the database backup archive file to validate the DB files.
..... done

Validating the exported file is complete.
Exported database successfully.
Migrating script module process...
Generated /opt/infra/migration/backup-ucsd/backup-ucsd.tar.gz file with the backup contents.

***** COMPLETED MIGRATION STEP (1/2) *****
***** STARTING MIGRATION STEP (2/2) *****

Do you want to copy the UCSD backup file to a remote location [y/n]? :
```

**Step 11** Enter y and press Enter.

The following information will be displayed.

```
Specify the transfer mode [FTP/SFTP/SCP]: SFTP
Specify the login credentials
Server IP Address: xx.xx.xx.xx
Server Login: root
Server Password:
Sub-directory (from Home directory) to store the file. Press enter to select the Home
```

```
directory: /tmp
Warning: Permanently added 'xx.xx.xx.xx' (ECDSA) to the list of known hosts.
File is copied successfully
```

```
***** COMPLETED MIGRATION STEP (2/2) *****
```

**Step 12** Login to Primary Node of UCSD 6.8.0.0 appliance as root user.

**Step 13** Run the script “./performMigration.sh offline restore” from the location /opt/infra/migration in UCSD 6.8.0.0 pointing to the backup.tar.gz

**CLI Information for Offline Restore via SFTP**

```
[root@localhost migration]# ./performMigration.sh offline restore
*****
***** UCS Director 6.9.0.0 Migration *****
*****

Current UCSD Version      : 6.9.0.0
Deployment Type           : standalone
Note: Before migrating to the latest version of Cisco UCS Director, ensure that you run the
    CSA tool in the current version to identify and resolve the incompatibilities.
Have you resolved the incompatibilities [y/n]?
```

**Step 14** Enter y and press Enter.

The following information will be displayed.

```
Please proceed to migration.....

Services will be stopped before migration. Any existing data in this appliance database
will be deleted as part of migration.
Do you want to continue [y/n]? :
```

**Step 15** Enter y and press Enter.

The following information will be displayed

```
***** STARTING MIGRATION STEP (1/8) *****

Do you want to copy the UCSD backup file from a remote location [y/n]? :
```

**Step 16** Enter y and press Enter.

The following information will be displayed

```
Specify the transfer mode [FTP/SFTP/SCP]: sftp

Specify the login credentials

Server IP Address: xx.xx.xx.xx
Server Login: root
Server Password:
Remote Backup File (Absolute Path to File backup-ucsd.tar.gz ):
/opt/infra/migration/backup-ucsd/backup-ucsd.tar.gz

File is fetched successfully.
Extracting the backup archive file...
Enter root password for UCSD 6.9.0.0 database node (xx.xx.xx.xx):
Checking for available free disk space for database restore for database node

Disk space required for restore in both partitions "/dev/mapper/infradb_vg-infradb_lv" and
"/dev/mapper/almalinux-root" : 4270 MB
Available free space in partition "/dev/mapper/infradb_vg-infradb_lv" on xx.xx.xxx.xxx:
```

```

95316 MB
Available free space in partition "/dev/mapper/almalinux-root" on xx.xx.xxx.xxx: 84827 MB

***** COMPLETED MIGRATION STEP (1/8) *****
***** STARTING MIGRATION STEP (2/8) *****

Started decrypting connector properties file using dynamic AES key... This will take some
time. Please wait...

.....
done

***** COMPLETED MIGRATION STEP (2/8) *****
***** STARTING MIGRATION STEP (3/8) *****

Restoring database. This process will take some time depending on the database size.
.....
done
Validating Legacy hostname of DB Node
Changing Hostname for xx.xx.xxx.xxx from localhost.localdomain to localhost.localdomain
Changed Hostname for DB Node SuccessfullyHosts file updated successfully with
localhost.localdomain
Migrating config files...
Migrating open automation files...
Migration in progress... InventoryThreads data processing
Migration in progress... PodType data processing
Migration in progress... HttpTimeout data processing
Migration in progress... specialCharacters data processing
Migration in progress... HttpDelay data processing
Migration in progress... PatchAPIUpdate data processing
Migration in progress... ToggleUpdatePatch data processing
Migration in progress... ReadWriteVersion data processing
Multisite merge ... completed
Changing Hostname for the appliance from localhost.localdomain to localhost.localdomain
Changed Hostname Successfully
Hosts file updated successfully with localhost.localdomain
Starting to update database node IP...

***** COMPLETED MIGRATION STEP (3/8) *****
***** STARTING MIGRATION STEP (4/8) *****

Running database migration scripts [ Source : 6.8.1.0 ]
Upgrading database query...
Ending database upgrade process...

***** COMPLETED MIGRATION STEP (4/8) *****
***** STARTING MIGRATION STEP (5/8) *****

The database schema initialization has been triggered. This will take some time. Please
wait until schema initialization is complete.

.....
done
Schema Initialization has been completed.

***** COMPLETED MIGRATION STEP (5/8) *****
***** STARTING MIGRATION STEP (6/8) *****

Imported workflow successfully

***** COMPLETED MIGRATION STEP (6/8) *****
***** STARTING MIGRATION STEP (7/8) *****

Started encrypting all password field using dynamic AES key.

```

```

.....^CSignal INT received and
ignored.
.....
done
Completed encrypting all password field using dynamic AES Key.

*****          COMPLETED MIGRATION STEP (7/8)          *****
*****          STARTING MIGRATION STEP (8/8)            *****

Started updating DB Table MAILSETTINGS.
Completed updating DB Table MAILSETTINGS.
Starting services. Use the "Display Services Status" option to check the status.

*****          COMPLETED MIGRATION STEP (8/8)          *****
Migration completed successfully.
Migration log file available at /var/log/ucsd/migrateAlmaLinux9.log

```

---

## Upgrading Cisco UCS Director PowerShell Agent

### Downloading PowerShell Agent from Cisco UCS Director

Download the installer for PowerShell Agent from Cisco UCS Director to your native Windows machine.

#### Procedure

- 
- Step 1** Choose **Administration > Virtual Accounts**.
  - Step 2** Click **PowerShell Agents**.
  - Step 3** Click **Download Installer**.
  - Step 4** Review the list of installation requirements on the **Download Agent Installer** page. Ensure that you have them available on the Windows machine where you plan to install the PowerShell Agent.
  - Step 5** Click **Submit**.
- The PSASetup.exe file is downloaded to your native Windows machine default download folder.
- 

#### What to do next

Install Cisco UCS Director PowerShell Agent on your Windows machine.

## Installing Cisco UCS Director PowerShell Agent



**Note** If you get the **Error 1001** error message while uninstalling the PowerShell agent, delete the PSA registry folders.

To delete the PSA registry folders, do the following:

1. Open the Windows Registry Editor (**Start > Run > regedit.exe**).
2. In the left pane of the Registry Editor, right-click and choose **Find**.
3. In the **Find What** field, enter **PSAServiceNew** and click **Find Next** to view the PSA registry folders.
4. Right-click and choose **Delete** to delete the PSA registry folders.



**Note** If you do not install the current version of PowerShell Agent for Cisco UCS Director on the Windows machine, some tasks or options on the **PowerShell Agents** tab are not available.

### Before you begin

- You need system administrator privileges to complete this task.
- Enable WinRM.
- Configure Firewall.

### Procedure

**Step 1** If necessary, copy the `PSASetup.exe` file that you downloaded from Cisco UCS Director to your target Windows machine.

**Step 2** Double-click the `PSASetup.exe` file.

**Step 3** In the **Cisco PSA Service - InstallShield Wizard** screen, click **Next**.

**Step 4** In the **Ready to install the Program** screen, click **Install**.

The **Installing Cisco PSA Service** screen displays during the installation. When the installation is complete, the **InstallShield Wizard Completed** message is displayed.

**Step 5** Click **Finish**.

The PowerShell Agent is installed to the `C:\Program Files (x86)\Cisco Systems\Cisco PSA Service` folder. This folder is referred to as `%AGENT_INSTALL_FOLDER%` in the remainder of the document.

**Step 6** Verify that the Cisco PSA Service is running on the Windows machine by checking the Resource Monitor.



# Upgrading Cisco UCS Director SDKs

## Upgrading Cisco UCS Director Open Automation to Release 6.9

The following procedure assumes that you are using an Eclipse development environment. If you use a different development environment for your Open Automation projects, perform the appropriate steps for that environment.

### Procedure

---

- Step 1** Download the Cisco UCS Director SDK Bundle, Release 6.9 from Cisco.com.
  - Step 2** Import the project into Eclipse.
  - Step 3** Execute the examples available to understand the Open Automation execution. The examples are located at `com.cisco.cuic.api.examples`.
- 

## Upgrading Cisco UCS Director REST API to Release 6.9

The following procedure assumes that you are using an Eclipse development environment. If you use a different development environment for your REST API projects, perform the appropriate steps for that environment.

### Procedure

---

- Step 1** Download the Cisco UCS Director SDK Bundle, Release 6.9 from Cisco.com.
  - Step 2** Import the project into Eclipse.
  - Step 3** Execute the examples available to understand the REST API execution. You can download the OA zip file from the CCO link, unzip the file, and import the OA examples into eclipse.
- 

# Upgrading Custom Tasks

## Custom Task Script Analyzer

The Custom Task Script Analyzer analyses all the classes and methods in the Cloupiascripts that are embedded in a custom task, and provides complete signatures for the methods being used in the Cloupiascript. The analyzer evaluates all the custom scripts in the Cisco UCS Director database without executing any tasks, and then it outputs an analysis report.

The analysis report includes the custom task status (for example, Executed or Not executed), a list of methods used in the custom task, and a list of methods that are not compatible with the methods of the current version. You can use the analysis file to detect potential incompatibilities in the Cloupiascripts before you upgrade.

## Configuring the Custom Task Script Analyzer

The Custom Task Script Analyzer is included with Cisco UCS Director as a zipped tar file named `script-analyzer.tgz`.

### Procedure

**Step 1** Download the `script-analyzer.tgz` tar file from the [Cisco software download](#) area.

**Step 2** Copy the `script-analyzer.tgz` tar file to the `/opt` directory.

**Note** If you chose to copy the tar file to any directory other than `/opt`, ensure that you create the folders for saving the tar file and generated report under the same directory.

**Step 3** Create a folder (for example, `csatool`) under the `/opt` directory.

**Step 4** Untar the `script-analyzer.tgz` tar file into the `csatool` folder using the following command:

```
[root@localhost opt]# tar -zxvf script-analyzer.tgz -C csatool
```

The following files are unpacked into the `csatool` folder:

- `data` folder—This folder contains the API definition file in the JSON format. The Custom Task Script Analyzer uses this file to identify the methods that are not compatible with the methods of the current version.
- `jre1.8.0_121` folder
- `lib` folder
- `analyzer_config.properties` file
- `run-analyzer.sh` file
- `script-analyzer.jar` file

**Important** From Cisco UCS Director, Release 6.8(3.0), you can skip Step 5 and Step 6 and directly run the `run-analyzer.sh` file. For more information, see [Analyzing Custom Tasks with the Custom Task Script Analyzer, on page 27](#).

**Step 5** Edit the `analyzer_config.properties` file and configure the following properties:

```
# Path for the inframgr.jar file
inframgrJarPath=/opt/infra/inframgr/inframgr.jar
# Path for the lib directory where all dependencies could be found.
# From Cisco UCS Director release 6.5, the libDirPath is /opt/infra/lib.
# For releases prior to 6.5, the libDirPath is /opt/infra/inframgr.
libDirPath=/opt/infra/inframgr
# Path for the API definition file in the JSON format which is available in the data folder.
# For releases prior to 6.5, the inframgr_6500.json file is the API definition file.
# For the release 6.5.0.2, the inframgr_6502.json file is the API definition file.
inframgrJSONDefinitionPath=data/inframgr_6502.json
# Directory where the generated analysis report would be written
reportDirPath=output
# Directory for the JavaScript files. The JavaScript files containing the
ClouplaScripts are fetched using the --fetch-scripts command.
jsFileOrDirPath=javascripts
# JDBC connection URL
db.url=jdbc:mysql://localhost:3306/db_private_admin?verifyServerCertificate=false&useSSL=true
```

```
# Database user
db.username=root
# For releases prior to 6.5, use the default database password cloupia.
# For Cisco UCS Director release 6.5, use the reset MySQL password.
# You have to reset the database password in Cisco UCS Director Shell as a shell admin,
after bringing up all the services and first successful login to Cisco UCS Director.
db.password=cloupia
# JDBC driver
db.driver=com.mysql.jdbc.Driver
```

**Note** This is supported only for version prior to Cisco UCS Director, Release 6.5.0.2.

**Note** To run the analyzer on a Primary Node on a Multi Node Environment, edit the analyzer\_config.properties file and configure the following :

```
# JDBC connection URL
```

```
db.url=jdbc:mysql://<ip address of the inventory node>:3306/db_private_admin
```

**Step 6** Save and close the analyzer\_config.properties file.

## Analyzing Custom Tasks with the Custom Task Script Analyzer

You can connect to Cisco UCS Director through a terminal and then run the Custom Task Script Analyzer from the terminal. To view the commands that are available to run the Custom Task Script Analyzer, run the following command:

```
[root@localhost csatool]# ./run-analyzer.sh --help
```

The following commands are available:

- `fetch-scripts`—Fetches scripts from the database. By default, this option is set to True.
- `file`—Specify the path of the JavaScript file to be processed.
- `help`—Displays the command line menu options.

### Procedure

**Step 1** Open a terminal and connect to Cisco UCS Director.

**Step 2** To generate an analysis report for all custom tasks, execute the Custom Task Script Analyzer with the `--fetch-scripts` command as follows:

```
[root@localhost csatool]# ./run-analyzer.sh --fetch-scripts
```

On execution of this command, you will get:

- JavaScript files for all CloupiaScripts in your custom tasks and any tasks that were created with the Execute Cloupia Script library task. The JavaScript files are saved along with the corresponding byte code text files in the `javascripts` folder identified in the `jsFileOrDirPath` key of the `analyzer_config.properties` file.
- The analysis report in the `output` folder identified in the `reportDirPath` key of the `analyzer_config.properties` file.

By default, these folders are created in `/opt/csatool/`, or whichever path you configured in the `analyzer_config.properties` file.

**Note** The javascripts and the reports within the `output` folder are suffixed with the time stamp if:

- The `--fetch-scripts` command is executed more than once.
- The javascripts and output folders already exist in the `csatool` folder and the folders are not empty.

**Step 3** To generate an analysis report for all JavaScript files in the `javascripts` folder, execute the Custom Task Script Analyzer with the `--file` command as follows:

```
[root@localhost csatool]# ./run-analyzer.sh --file javascripts
```

This command generates an analysis report for all JavaScripts in the `javascripts` folder and saves the analysis report in the output folder as configured in the `analyzer_config.properties` file.

**Step 4** To generate an analysis report for a JavaScript file in the `javascripts` folder, execute the Custom Task Script Analyzer with the `--file` command as follows:

```
[root@localhost csatool]# ./run-analyzer.sh --file javascripts/Change_VM_Max_Boot_Wait_Time.js
```

Where, the `Change_VM_Max_Boot_Wait_Time.js` is a javascript file in the `javascripts` folder. This command generates an analysis report for the `Change_VM_Max_Boot_Wait_Time.js` in the `javascripts` folder and saves the analysis report in the output folder as configured in the `analyzer_config.properties` file.

---

The analysis report includes the following details:

- `taskLabel`—Name of the custom task that was analyzed by the Custom Task Script Analyzer.
- `workflowList`—List of workflows in which the custom task is used.
- `status`—Executed or Not executed. If any of the workflows in the `workflowList` was executed at least once, the status is displayed as Executed.
- `usedMethodsList`—List of methods that are used in the custom task.
- `incompatibleMethodsList`—List of methods that are not compatible with the methods of the current version.

The following is a sample analysis report:

```
{
  "taskLabel": "Change_VM_Max_Boot_Wait_Time",
  "workflowList": [
    "Provision_VM",
    "UpdateVM"
  ],
  "status": NotExecuted,
  "usedMethodsList": [
    "public static com.cloupia.service.cIM.inframgr.profiles.PrivateCloudSystemProfile
com.cloupia.service.cIM.inframgr.InfraPersistenceUtil.getPrivateCloudSystemProfile(java.lang.String)
throws java.lang.Exception",
    "public int
```

```

com.cloupia.service.cIM.inframgr.profiles.PrivateCloudSystemProfile.getLinuxVMMaxBootTime()",
    "public void
com.cloupia.service.cIM.inframgr.profiles.PrivateCloudSystemProfile.setWindowsVMMaxBootTime(int)",
    "public static boolean
com.cloupia.service.cIM.inframgr.InfraPersistenceUtil.modifyPrivateCloudSystemProfile
(com.cloupia.service.cIM.inframgr.profiles.PrivateCloudSystemProfile) throws
java.lang.Exception",
    "public void
com.cloupia.service.cIM.inframgr.profiles.PrivateCloudSystemProfile.setLinuxVMMaxBootTime(int)"
],
    "incompatibleMethodsList": [
        "public static com.cloupia.service.cIM.inframgr.profiles.PrivateCloudSystemProfile
com.cloupia.service.cIM.inframgr.InfraPersistenceUtil.getPrivateCloudSystemProfile(java.lang.String)
throws java.lang.Exception",
        "public void
com.cloupia.service.cIM.inframgr.profiles.PrivateCloudSystemProfile.setWindowsVMMaxBootTime(int)"
    ]
}

```

The following is a sample analysis report:

```

{
  "taskLabel" : "ReadFromCSVFile",
  "workflowList" : [ ],
  "status" : "Notexecuted",
  "usedMethods" : [
    "public void
com.cloupia.service.cIM.inframgr.customactions.CustomActionLogger.addError(java.lang.String)",
    "public void
com.cloupia.service.cIM.inframgr.customactions.CustomActionTriggerContext.setFailed(java.lang.String)",
    "public void
com.cloupia.service.cIM.inframgr.customactions.CustomActionLogger.addInfo(java.lang.String)",
    "public void com.cloupia.service.cIM.inframgr.customactions.CustomActionTriggerContext.exit()"
  ],
  "incompatibleMethods" : [
    "Note:UCSD 6.8 Inframgr running as non-root user - This custom task might not succeed due
to the recent security measures to disallow a custom task from performing operations that
require root privileges.
For information about operations that require root privileges, please refer to the UCS
Director Troubleshooting Guide."
  ],
  "warningMethods" : { },
  "fileOperationFlag" : true
},

```

---

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