

# **Configuring a Multi-Node Setup**

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# Summary of Steps for Configuring a Multi-Node Setup

This procedure provides a high-level summary of the steps involved in configuring a multi-node setup.



Plan your multi-node setup carefully. You can only change a service node to a primary node. You cannot change any other type of node after you configure it. For example, you cannot reconfigure a primary node as a service node or an inventory database node as a monitoring database node.

Step 1

Deploy a Cisco UCS Director VM for each node in the multi-node setup. See Cisco UCS Director Installation on VMware vSphere.

For example, if your multi-node setup, includes a primary node, an inventory database, a monitoring database, and three service nodes, deploy six Cisco UCS Director VMs.

- **Step 2** In the Cisco UCS Director shelladmin, configure the nodes in the following order:
  - 1 Creating the Inventory Database, on page 3
  - 2 Creating the Monitoring Database, on page 4
  - **3** Creating the Primary Node, on page 5
  - 4 Creating a Service Node, on page 6
  - **Note** You must create and start the inventory database and the monitoring database nodes before you configure the primary node and any service nodes.
- Step 3Update the license file in the Cisco UCS Director node that will be the primary node.<br/>You do not need to update the license file on any other node. See the "Updating the License" topic in Cisco UCS Director<br/>Installation on VMware vSphere.
- **Step 4** In Cisco UCS Director on the primary node, configure the system tasks as follows:
  - a) Create one or more node pools if you want to control the assignment of system tasks by service node, or accept the default node pool.
     See Creating a Node Pool, on page 9.
  - b) Create one or more system task policies if you want to control the assignment of system tasks by service node, or accept the default task policy.
     See Creating a System Task Policy, on page 9.
  - c) Configure the service nodes.
  - d) Configure the primary node.
  - e) Assign the system tasks to system policies if you want to control the assignment of system tasks by service node. See Assigning a System Policy to a System Task, on page 11.

For more information, see System Tasks, on page 8.

# **Creating the Inventory Database**

- **Step 1** Log on to the Cisco UCS Director shelladmin on the inventory database node.
- Step 2 From the Cisco UCS Director Shell menu, choose Configure Multi-Node Setup and press Enter.
- Step 3 From the menu, choose Configure Multi-Node Setup (Advanced Deployment) and press Enter.
- **Step 4** From the menu, choose Current Node to configure the current node.
- **Step 5** When prompted, press y to continue with the configuration.
- **Step 6** From the menu, choose the appropriate deployment type option: Small, Medium, or Large.
- Step 7 From the menu, choose Configure as Inventory Database and press Enter.
- **Step 8** When prompted, press Enter to continue.
- **Step 9** To verify that the services for the inventory database are up and running, choose Display Services Status and press Enter.

You should see the following lines:

| Service      | State | PID   | %CPU   | %MEM | tELAPSED | #Threads |
|--------------|-------|-------|--------|------|----------|----------|
|              |       |       |        |      |          |          |
| broker       | UP    | 12358 | 0.5    | 0.8  | 06:11    | 32       |
| controller   | UP    | 12385 | 1.7    | 1.3  | 06:06    | 45       |
| eventmgr     | UP    | 12391 | 29.4   | 6.0  | 06:02    | 41       |
| client       | UP    | 12398 | 28.8   | 5.9  | 05:57    | 40       |
| idaccessmgr  | UP    | 12404 | 30.7   | 6.0  | 05:52    | 41       |
| inframgr     | UP    | 12415 | 69.1 2 | 24.4 | 05:47    | 121      |
| websock      | UP    | 12588 | 0.0    | 0.0  | 05:42    | 1        |
| tomcat       | UP    | 12461 | 12.8 1 | L1.6 | 05:37    | 34       |
| flashpolicyd | UP    | 12227 | 0.0    | 0.0  | 05:36    | 1        |

| Database  | IP Address   |      | State    | Clien | t        | Connections |
|-----------|--------------|------|----------|-------|----------|-------------|
|           |              |      |          |       |          |             |
| Inventory | 172.29.109.1 | 134  | UP       | 172.2 | 9.109.13 | 1 15        |
| Disk      | Size         | Used | Availabl | e     | %Use     | Usage       |
|           |              |      |          |       |          |             |
| /dev/sda1 | 477M         | 111M | 341M     |       | 25%      | NORMAL      |
| /dev/sdb  | 50G          | 28G  | 20G      |       | 59%      | NORMAL      |

Press return to continue ...

After you return to the shelladmin, the menu options change to those available for an inventory database node.

# **Creating the Monitoring Database**

- **Step 1** Log on to the Cisco UCS Director shelladmin on the monitoring database node.
- Step 2 From the Cisco UCS Director Shell menu, choose Configure Multi-Node Setup and press Enter.
- Step 3 From the menu, choose Configure Multi-Node Setup (Advanced Deployment) and press Enter.
- **Step 4** From the menu, choose Current Node to configure the current node.
- **Step 5** When prompted, press y to continue with the configuration.
- **Step 6** From the menu, choose the appropriate deployment type option: Small, Medium, or Large.
- Step 7 From the menu, choose Configure as Monitoring Database and press Enter.
- **Step 8** When prompted, press Enter to continue.
- **Step 9** To verify that the services for the monitoring database are up and running, choose Display Services Status and press Enter.

You should see the following lines:

| Service      | State | PID   | %CPU | %MEM | telapsed | #Threads |
|--------------|-------|-------|------|------|----------|----------|
|              |       |       |      |      |          |          |
| broker       | UP    | 12358 | 0.5  | 0.8  | 06:11    | 32       |
| controller   | UP    | 12385 | 1.7  | 1.3  | 06:06    | 45       |
| eventmgr     | UP    | 12391 | 29.4 | 6.0  | 06:02    | 41       |
| client       | UP    | 12398 | 28.8 | 5.9  | 05:57    | 40       |
| idaccessmgr  | UP    | 12404 | 30.7 | 6.0  | 05:52    | 41       |
| inframgr     | UP    | 12415 | 69.1 | 24.4 | 05:47    | 121      |
| websock      | UP    | 12588 | 0.0  | 0.0  | 05:42    | 1        |
| tomcat       | UP    | 12461 | 12.8 | 11.6 | 05:37    | 34       |
| flashpolicyd | UP    | 12227 | 0.0  | 0.0  | 05:36    | 1        |
|              |       |       |      |      |          |          |

| Database   | IP Address     |      | State Client |                  | 5    | Connections |
|------------|----------------|------|--------------|------------------|------|-------------|
|            |                |      |              |                  |      |             |
| Inventory  | 172.29.109.134 |      | UP           | P 172.29.109.131 |      | L 15        |
| Monitoring | 172.29.109.135 |      | UP           | 172.29.109.131   |      | L 12        |
| Disk       | Size           | Used | Available    | 9                | %Use | Usage       |
|            |                |      |              |                  |      |             |
| /dev/sda1  | 477M           | 111M | 341M         |                  | 25%  | NORMAL      |
| /dev/sdb   | 50G            | 28G  | 20G          |                  | 59%  | NORMAL      |

Press return to continue ...

After you return to the shelladmin, the menu options change to those available for a monitoring database node.

# **Creating the Primary Node**

### **Before You Begin**

The inventory and monitoring databases must be up and running before you create the primary node.



Do not run any daemons on the primary database.

- **Step 1** Log on to the Cisco UCS Director shelladmin on the primary node.
- Step 2 From the Cisco UCS Director Shell menu, choose Configure Multi-Node Setup and press Enter.
- Step 3 From the menu, choose Configure Multi-Node Setup (Advanced Deployment) and press Enter.
- **Step 4** From the menu, choose Current Node to configure the current node.
- **Step 5** When prompted, press y to continue with the configuration.
- **Step 6** From the menu, choose the appropriate deployment type option: Small, Medium, or Large.
- **Step 7** From the menu, choose Configure as Primary Node and press Enter.
- **Step 8** At the Provide Inventory DB IP prompt, enter the IP address assigned to the Cisco UCS Director VM for the inventory database.

This step registers the VM as a primary node with the inventory database.

**Step 9** At the Provide Monitoring DB IP prompt, enter the IP address assigned to the Cisco UCS Director VM for the monitoring database.

This step registers the VM as a primary node with the monitoring database.

- **Step 10** When prompted, press Enter to continue.
- Step 11 To verify that the services for the primary node are up and running, choose Display Services Status and press Enter.

You should see the following lines:

| Service      | State       | PID   | %CPU    | %MEM | tELAPSED       | #Threa | ads         |
|--------------|-------------|-------|---------|------|----------------|--------|-------------|
|              |             |       |         |      |                |        |             |
| broker       | UP          | 12358 | 0.5     | 0.8  | 06:11          | 32     |             |
| controller   | UP          | 12385 | 1.7     | 1.3  | 06:06          | 45     |             |
| eventmgr     | UP          | 12391 | 29.4    | 6.0  | 06:02          | 41     |             |
| client       | UP          | 12398 | 28.8    | 5.9  | 05:57          | 40     |             |
| idaccessmgr  | UP          | 12404 | 30.7    | 6.0  | 05:52          | 41     |             |
| inframgr     | UP          | 12415 | 69.1 2  | 24.4 | 05:47          | 121    |             |
| websock      | UP          | 12588 | 0.0     | 0.0  | 05:42          | 1      |             |
| tomcat       | UP          | 12461 | 12.8    | 11.6 | 05 <b>:</b> 37 | 34     |             |
| flashpolicyd | UP          | 12227 | 0.0     | 0.0  | 05:36          | 1      |             |
| Databaga     | TD Address  |       | 0 t o t | -    | Client         |        | loppostions |
| Database     | IF AUGLESS  |       | Sta     | Le   | CITEIIC        | (      | Jonnections |
| Towoptory    | 172 20 100  | 134   |         |      | 172 20 100     | 121 -  |             |
| THANKINGLA   | 172.29.109. | 134   | UP      |      | 112.29.109     |        | LJ          |
| Monitoring   | 172.29.109. | 135   | UP      |      | 172.29.109     | .131 1 | L2          |

| Disk      | Size | Used | Available | %Use | Usage  |
|-----------|------|------|-----------|------|--------|
|           |      |      |           |      |        |
| /dev/sda1 | 477M | 111M | 341M      | 25%  | NORMAL |
| /dev/sdb  | 50G  | 28G  | 20G       | 59%  | NORMAL |
|           |      |      |           |      |        |

Press return to continue ....

After you return to the shelladmin, the menu options change to those available for a primary node.

# **Creating a Service Node**

## **Before You Begin**

The inventory and monitoring databases must be up and running before you create the primary node.

- **Step 1** Log on to the Cisco UCS Director shelladmin on the service node.
- Step 2 From the Cisco UCS Director Shell menu, choose Configure Multi-Node Setup and press Enter.
- Step 3 From the menu, choose Configure Multi-Node Setup (Advanced Deployment) and press Enter.
- **Step 4** From the menu, choose Current Node to configure the current node.
- **Step 5** When prompted, press y to continue with the configuration.
- **Step 6** From the menu, choose the appropriate deployment type option: Small, Medium, or Large.
- **Step 7** From the menu, choose Configure as Service Node and press Enter.
- **Step 8** At the Provide Inventory DB IP prompt, enter the IP address assigned to the Cisco UCS Director VM for the inventory database.

This step registers the VM as a service node with the inventory database.

Step 9 At the Provide Monitoring DB IP prompt, enter the IP address assigned to the Cisco UCS Director VM for the monitoring database.
This step registers the VM as a corrige node with the monitoring database.

This step registers the VM as a service node with the monitoring database.

- **Step 10** When prompted, press Enter to continue.
- Step 11 To verify that the services for the service node are up and running, choose Display Services Status and press Enter.

You should see the following lines:

| Service     | State | PID   | %CPU | %MEM | tELAPSED       | #Threads |
|-------------|-------|-------|------|------|----------------|----------|
|             |       |       |      |      |                |          |
| broker      | UP    | 12358 | 0.5  | 0.8  | 06:11          | 32       |
| controller  | UP    | 12385 | 1.7  | 1.3  | 06:06          | 45       |
| eventmgr    | UP    | 12391 | 29.4 | 6.0  | 06:02          | 41       |
| client      | UP    | 12398 | 28.8 | 5.9  | 05 <b>:</b> 57 | 40       |
| idaccessmgr | UP    | 12404 | 30.7 | 6.0  | 05 <b>:</b> 52 | 41       |
|             |       |       |      |      |                |          |

| inframgr     | UP            | 12415 | 69 | 9.1  | 24.4   |       | 05:47  | 121 |            |
|--------------|---------------|-------|----|------|--------|-------|--------|-----|------------|
| websock      | UP            | 12588 | (  | 0.0  | 0.0    |       | 05:42  | 1   |            |
| tomcat       | UP            | 12461 | 12 | 2.8  | 11.6   |       | 05:37  | 34  |            |
| flashpolicyd | UP            | 12227 | (  | 0.0  | 0.0    |       | 05:36  | 1   |            |
|              |               |       |    |      |        |       |        |     |            |
|              |               |       |    |      |        |       |        |     |            |
| Database     | IP Address    |       |    | Sta  | te     | Clien | t      |     | Connection |
|              |               |       |    |      |        |       |        |     |            |
| Inventory    | 172.29.109.1  | 134   |    | UP   |        | 172.2 | 9.109. | 131 | 15         |
| Monitoring   | 172.29.109.1  | L35   |    | UP   |        | 172.2 | 9.109. | 131 | 12         |
|              |               |       |    |      |        |       |        |     |            |
| Disk         | Size          | Used  |    | Ava  | ilable | 9     | %Use   | τ   | Jsage      |
|              |               |       |    |      |        |       |        |     |            |
| /dev/sda1    | 477M          | 111M  |    | 3411 | М      |       | 25%    | 1   | NORMAL     |
| /dev/sdb     | 50G           | 28G   |    | 20G  |        |       | 59%    | 1   | NORMAL     |
|              |               |       |    |      |        |       |        |     |            |
| Press return | to continue . |       |    |      |        |       |        |     |            |

After you return to the shelladmin, the menu options change to those available for a service node.

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Step 12 Repeat this procedure for every service node.
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# Setting URL Redirection from a Service Node to Primary Node

You can enable automatic redirection from a service node to a primary node. Whenever users try to log on to the Cisco UCS Director appliance from a service node, the automatic redirection takes the user to the appliance in the primary node. To enable automatic redirection, do the following in the Cisco UCS Director appliance on the primary node. Specifically, add the primary node IP Address in the Mail Setup pane.

#### **Before You Begin**

Configure the primary node and the service nodes before setting URL redirection from a service node to a primary node.

| Ster | o 1 | On the menu bar, | choose Administration | > | System |
|------|-----|------------------|-----------------------|---|--------|
|------|-----|------------------|-----------------------|---|--------|

- **Step 2** Choose the **Mail Setup** tab.
- Step 3
- In the **Mail Setup** pane, complete the following fields:

| Name                               | Description                           |
|------------------------------------|---------------------------------------|
| Outgoing Email Server (SMTP) field | The outgoing SMTP server address.     |
| Outgoing SMTP Port field           | The outgoing SMTP server port number. |
| Outgoing SMTP User field           | The user ID.                          |

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| Name                                      | Description  |
|---|--|
| Outgoing SMTP Password field              | The user password.   |
| Outgoing Email Sender Email Address field | The sender's email address   |
| Server IP address field                   | The IP address or DNS name of the primary node. The redirection from the service node happens to the IP address provided here. |
| Send Test Email check box                 | Check this check box to test the current email settings.   |

# **System Tasks**

The **System Tasks** tab displays all the system tasks that are currently available in Cisco UCS Director. However, this list of system tasks is linked to the type of accounts that you have created in Cisco UCS Director. For example, if you have logged in for the first time, then only a set of general system-related tasks or VMware related tasks are visible on this page. When you add accounts, such as rack accounts or Cisco UCS Manager accounts, system tasks related to these accounts are populated on this page.

Following are the tasks that you can complete from the System Tasks page:

- View the available systems tasks—You can use the **Expand** and **Collapse** options to view all the system tasks that are available on this page. The tasks are categorized according to the accounts available in Cisco UCS Director. For example: Cisco UCS Tasks or NetApp Tasks.
- Disable and enable system tasks—In circumstances when there are multiple processes or tasks running on the appliance, you can choose to disable a system task. If you do so, then until such time that you manually enable it, the system task will not run. This will affect the data populated in other reports. For example, if you disable an inventory collection system task, then reports that require this data may not display accurate data. In this case, you will have to manually run an inventory collection process, or enable the system task.

For more information, see Disabling or Enabling a System Task, on page 12.

In a single-node setup, where there is only one server, all system tasks will run on this server. In a multi-node setup, where there are multiple servers configured, all system tasks, by default, run on the primary server. However, you can specify system tasks to run on the secondary servers. Following are the recommended steps to perform this task:

- 1 Ensure that the secondary servers are available in Cisco UCS Director as nodes. If the servers are not available, then you must add the servers as nodes. For more information, see Creating a Service Node, on page 10.
- 2 Create a node pool from the available servers. For more information, see Creating a Node Pool, on page 9.

- **3** Create a system task policy, and associate it with a node policy. For more information, see Creating a System Task Policy, on page 9.
- 4 Associate a node pool with the system task policy. For more information, see Assigning a Node Pool to a System Task Policy, on page 10.
- 5 Select a system task, and associate it with a system-task policy. For more information, see Assigning a System Policy to a System Task, on page 11.

## **Creating a Node Pool**

| Step 1 | On the menu bar, choose Administration > System.                                       |
|--------|--|
| Step 2 | Choose the Service Nodes tab.  |
| Step 3 | Click the Service Node Pools icon. The Service Node Pool dialog box displays.          |
| Step 4 | Click the + (plus) icon. The Add Entry to Service Node Pools dialog box displays.      |
| Step 5 | In the <b>Name</b> field, enter the node pool name.                                    |
| Step 6 | (Optional) In the <b>Description</b> field, enter a description of the node pool name. |
| Sten 7 | Click <b>Submit</b> The node pool is created   |

## **Creating a System Task Policy**

As an administrator, you can choose to combine a few policies and create a system task policy, in addition to the default system task policy. You can group system tasks into a system task policy to later determine which system tasks are running on which node.

- **Step 1** On the menu bar, choose **Administration** > **System**.
- Step 2 Choose the System Task Policy tab.
- **Step 3** Click the Add icon. The Add dialog box displays.
- **Step 4** In the Name field, enter the name that you gave the system task policy.
- **Step 5** (Optional) In the **Description** field, enter a description of the system task policy.
- Step 6 From the Node Pool drop-down list, choose the node pool to which this system task policy belongs.
- Step 7 Click Submit.

The selected node pool now belongs to the newly created system task policy.

## Assigning a Node Pool to a System Task Policy

| Step 1 | On the menu bar, choose Administration > System.  |   |  |
|--------|---|---|--|
| Step 2 | Choose the System Task Policy tab.  |   |  |
| Step 3 | Select<br>Note  | an existing system task policy from the <b>Name</b> column and click the <b>Edit</b> icon. The <b>Edit</b> dialog box displays.<br>If the default system task policy is used, you can assign service nodes to this policy. See Creating a System<br>Task Policy, on page 9, if you want to configure a policy that is different from the default. |  |
| Step 4 | From the Node Pool drop-down list, choose a node pool to which this System Task Policy belongs. |   |  |
| Step 5 | Click The se  | Submit.<br>elected node pool now belongs to the system task policy.   |  |

## **Creating a Service Node**

| Step 1 On the menu bar, choose Administration > System |
|--|
|--|

- **Step 2** Choose the **Service Nodes** tab.
- Step 3 Click the Add (+)
- Step 4

In the Service Node dialog box, complete the following fields:

| Name                             | Description   |
|----------------------------------|---|
| Node Name field                  | The name of the service node.   |
| Role field                       | You cannot edit this field. By default, this field displays <b>Service</b> as the role of this node.  |
| Service Node Pool drop-down list | By default, the <b>default-service-node-pool</b> is displayed.  |
| DNS Name field                   | <ul> <li>Enter either the DNS name or IP address of the service node.</li> <li>Note This field cannot use the Primary Node's IP address. Ensure that a valid Service Node DNS name or IP address is entered.</li> </ul> |
| Description field                | The description of the of the service node.   |
| Protocol drop-down list          | Choose either http (default) or https.  |
| Port field                       | The default TCP port for the Hypertext Transfer Protocol (HTTP) 80 is entered by default. Enter a different TCP port if necessary.  |

| Name           | Description  |
|----------------|--|
| UserName field | The <b>infraUser</b> user name is entered by default.  |
|                | The infraUser is a user account created by default. To find this user account on the menu bar, choose Administration > Users and Groups.   |
|                | Choose the <b>Login Users</b> tab to find the <b>infraUser</b> user account in the <b>Login Name</b> column.   |
|                | Note The InfraUser user name is not the default administrator user to login to the system.<br>Another user name can be added to this field. This user's API key is used to authenticate with the Service Node. |

Step 5 Click Submit.

## Assigning a System Policy to a System Task

| Step 1 | On the menu bar, choose Administration > System.   |  |
|--------|--|--|
| Step 2 | Choose the System Task tab.  |  |
| Step 3 | Choose a folder that contains system tasks. Click the folder arrow to expand its tasks.<br>Note 128 system tasks are<br>available. |  |
| Step 4 | Choose the task and click the <b>Manage Task</b> icon.<br>The <b>Manage Task</b> dialog box appears.                               |  |
| Step 5 | From the Task Execution drop-down list, choose Enable.   |  |
| Step 6 | From the System Task Policy drop-down list, choose a system policy.  |  |
| Step 7 | Click <b>Submit</b> .<br>The system task is assigned to the selected system policy.  |  |

## **Executing System Tasks**

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Cisco UCS Director includes a few system tasks that cannot be run remotely on a service node. Also, you can assign a system policy remotely from the local host or the primary node.

In addition, you can search and select a specific system task, and run it immediately in the system.

- Step 1On the menu bar, choose Administration > System.Step 2Choose the System Tasks tab.Step 3Choose a task from the list.
- Step 4Click Run Now.The result of the executed system task is updated in the user interface.

## **Disabling or Enabling a System Task**

| Step 1 | On the menu bar, choose Administration > System.   |  |  |
|--------|--|--|--|
| Step 2 | Choose the <b>System Task</b> tab.   |  |  |
| Step 3 | Choose a folder that contains one or more system tasks. Click the folder arrow to expand its tasks.<br>Note 128 system tasks are<br>available. |  |  |
| Step 4 | Choose the task and click the Manage Task icon.<br>The Manage Task dialog box appears.   |  |  |
| Step 5 | To disable a system task, from the Task Execution drop-down list, choose Disable.  |  |  |
| Step 6 | To enable a system task, from the Task Execution drop-down list, choose Enable.  |  |  |
| Step 7 | Click Submit.  |  |  |
|        |  |  |  |

# **Backing Up with a Multi-Node Setup**

This procedure provides a high-level summary of the steps required to back up a multi-node setup.

The backup procedure requires you to first stop the Cisco services. This must be done before you work with the Monitoring and Inventory databases. Then you back up the databases, after which you re-start the services, starting with the Primary node.

#### **Before You Begin**

To back up the databases, you use an FTP server, for which you will need:

- An FTP server account and the IP address
- The FTP server's login credentials
- Backup file name(s)

#### SUMMARY STEPS

- 1. Shut down the services for both the Primary and Service nodes. Use the, Stop Services Shell potion.
- 2. Back up the Monitoring database. Use the Backup Database Shell option.
- **3.** Backup the Inventory database. Use the Backup Database Shell option.
- 4. Start the Services (Service nodes first, followed by Primary node). Use the Start Services Shell option.

#### **DETAILED STEPS**

| Step 1 | Shut down the services for both the Primary and Service nodes. Use the, Stop Services Shell potion.      |
|--------|--|
| Step 2 | Back up the Monitoring database. Use the Backup Database Shell option.                                   |
| Step 3 | Backup the Inventory database. Use the Backup Database Shell option.                                     |
| Step 4 | Start the Services (Service nodes first, followed by Primary node). Use the Start Services Shell option. |
|        |  |

# **Restoring with a Multi-Node Setup**

This procedure provides a high-level summary of the steps required to restore a multi-node setup.

The restore procedure requires you to first stop the Cisco services. This must be done before you work with the Monitoring and Inventory databases. Then you restore the databases, after which you re-start the services, starting with the Primary node.

#### **Before You Begin**

To restore the databases, you use an FTP server, for which you will need:

- An FTP server account and the IP address
- The FTP server's login credentials
- Backup file name(s)

#### **SUMMARY STEPS**

- 1. Shut down the services for both the Primary and Service nodes. Use Shell option 3, Stop Services.
- 2. Restore the Monitoring database. Use the Shell Restore Database option.
- 3. Restore the Inventory database. Use the Shell Restore Database option.
- 4. Start the Services (Service nodes first, followed by Primary node). Use Shell option 4, Start Services.

#### **DETAILED STEPS**

- **Step 1** Shut down the services for both the Primary and Service nodes. Use Shell option 3, Stop Services.
- **Step 2** Restore the Monitoring database. Use the Shell Restore Database option.
- **Step 3** Restore the Inventory database. Use the Shell Restore Database option.
- **Step 4** Start the Services (Service nodes first, followed by Primary node). Use Shell option 4, Start Services.

# **Removing a Service Node**

This procedure provides a high-level summary of the steps required to remove a service node from a multi-node setup.

The removal procedure requires you to first stop the Cisco services. This must be done before you remove a service node from Monitoring and Inventory databases.

- **Step 1** Shut down the services for both the Primary node and the Service node(s). Use Shell option 3, Stop Services.
- **Step 2** Start the services on the Service node(s) that you want to be active and operational. Use Shell option 4, Start Services.
- **Step 3** Start the services on the Primary node. Use Shell option 4, Start Services.
- **Step 4** Using the Cisco UCS Director GUI, delete the Service node that you want to remove. This removes the respective Service node from the database.

# Migrating a Standalone Appliance Database to a Multi-Node Setup

This procedure backs up and restores only the selected database tables required for each of the inventory database and the monitoring database.

**Step 1** In the shelladmin, choose Login as Root to log in to the upgraded Cisco UCS Director.

- **Step 2** Back up the database tables required for the inventory database, as follows:
  - a) Navigate to the /opt/infra folder.

cd /opt/infra

- b) From Infra, run the dbInfraBackupRestore.sh script.
  - # ./dbInfraBackupRestore.sh backup

This script takes a database backup with the tables required for the inventory database.

- c) After the script has been executed, check for an output file in /tmp folder named infra\_database\_backup.tar.gz.
- **Step 3** Back up the database tables required for the monitoring database, as follows:
  - a) Navigate to the /opt/infra folder.

cd /opt/infra

b) From Infra, run the dbMonitoringBackupRestore.sh script.

# ./dbMonitoringBackupRestore.sh backup

This script takes a database backup with the tables required for the monitoring database.

- c) After the script has been executed, check for an output file in /tmp folder named monitoring database backup.tar.gz.
- Step 4 Deploy a Cisco UCS Director VM for each node in the multi-node setup. For example, if your multi-node setup, includes a primary node, an inventory database, a monitoring database, and three service nodes, deploy six Cisco UCS Director VMs.
- **Step 5** In the shelladmin, configure the nodes in the following order:
  - 1 Creating the Inventory Database, on page 3
  - 2 Creating the Monitoring Database, on page 4
  - **3** Creating the Primary Node, on page 5
  - 4 Creating a Service Node, on page 6
  - **Note** You must create and start the inventory database and the monitoring database nodes before you configure the primary node and any service nodes.
- **Step 6** In the shelladmin, choose Stop services to stop the Cisco UCS Director services on the primary node and all service nodes.
- **Step 7** Restore the database to the inventory database, as follows:
  - a) Copy the infra database backup.tar.gz to the /tmp folder on the node that hosts the inventory database.
  - b) On the inventory database node, navigate to the /opt/infra folder.

cd /opt/infra

c) From Infra, run the dbInfraBackupRestore.sh script.

# ./dbInfraBackupRestore.sh restore

The script restores the database backup from the backup file in the / tmp folder .

- **Step 8** Restore the database to the monitoring database, as follows:
  - a) Copy the monitoring\_database\_backup.tar.gz to the /tmp folder on the node that hosts the monitoring database.

b) Navigate to the /opt/infra folder.

cd /opt/infra

c) From Infra, run the dbMonitoringBackupRestore.sh script.

# ./dbMonitoringBackupRestore.sh restore

The script restores the database backup from the backup file in the /tmp folder.

**Step 9** Choose Start services on the primary node and all service nodes to start the Cisco UCS Director services. After you log in to the primary node, all data from the database in the Cisco UCS Director standalone appliance should be available.