



# Configuring Multiple Devices

---

As a network administrator, you have to make one or more configuration changes on multiple devices in your network. To accomplish this task, create a custom template containing these configuration commands, and then execute it against multiple devices. You can execute the commands immediately or schedule them to run later.

## What You Need—Prerequisites

In this scenario, you will use these applications:

- Configuration Management
- NetConfig

Before you begin creating a system-defined template, ensure that you have completed these tasks:

- Set the transport protocol order for the NetConfig job, to download and to fetch configurations.

For downloading the configurations, the protocols used are Telnet and SSH and the default order is:

- Telnet
- SSH (Secure Shell)

For fetching the configurations, the protocols used are Telnet, TFTP, SSH, and rcp, and the default order is:

- TFTP (Trivial File Transport Protocol)
- Telnet
- rcp (remote copy protocol)
- SSH (Secure Shell)

You can specify the transport protocol order in the Transport tab of the Configuration Job Setup dialog box. (To invoke the Configuration Job Setup dialog box, select **Resource Manager Essentials > Administration > Configuration Management > Configuration Job Setup.**)

- Specify the job password policy for the NetConfig job.

If you enable the job password policy, for NetConfig jobs, you have the option of entering a username and password for running a specific job.

If you enter a username and password, NetConfig uses this username and password to connect to the device, instead of taking these credentials from the Essentials database.

To use this option of entering a username and password for running a specific job, you should enable the job password policy for NetConfig jobs using the Password Policy tab of the Configuration Job Setup dialog box, in the Configuration Management application. To invoke the Configuration Job Setup dialog box, select **Resource Manager Essentials > Administration > Configuration Management > Configuration Job Setup.**

You can set the job password to be mandatory, or user configurable.

If you do not enable the job password policy, then NetConfig takes the device credentials from the Essentials database to connect to the device.

- Ensure that you have the appropriate permission to create a template.

To create a template using this application, you must have Network Administrator permissions. To execute a job using a template, you must have permission to use the template.

If you have Network Administrator permissions, you can use any template. If you do not, a network administrator must assign your permissions.

For a complete description of the required tasks, see the Essentials online help.

# How To Do It—Procedures

- [Create a Template](#)
- [Define a NetConfig Job](#)

The purpose of this scenario is to show you how you can use specific applications to perform these tasks. This will help you understand how to use the applications to perform similar tasks in your network.

## Create a Template

---

**Step 1** Select **Resource Manager Essentials > Configuration Management > NetConfig**.

The NetConfig application window opens.

**Step 2** Select **Admin > Create/Edit User Templates**.

The Create/Edit User Templates wizard appears.

**Step 3** Enter a name in the Name text box.

**Step 4** Select **IOS** from the Device Types drop-down list box.



---

**Note** Each NetConfig job can run on only one device category. You must create a separate job for each additional category of devices that you want to configure.

---

**Step 5** Select **Config** as the command mode.

**Step 6** Enter the commands in the Enter CLI Commands text box. (You can enter interactive or multiline commands here. See the Essentials online help for details.)

or

Import the file that contains the commands you wish to use. To do this:

- a. Click **Browse**.

The Browse dialog box appears.

- b. Locate the required file, then click **OK**.

- Step 7** Enter the rollback commands, if any, in the Enter Rollback Commands text box or  
Import the file that contains the commands you wish to use. To do this:
- Click **Browse**.  
The Browse dialog box appears.
  - Locate the required file, then click **OK**.
- Step 8** Click **Assign** to give permissions for the use of this template.  
The Assign Users dialog box appears.
- Step 9** Select the users to whom you wish to give permission, click the >> button, then click **Finish**.  
If there are no users available, select **Server Configuration > Setup > Security > Add Users**. Use the Add Users dialog box to add new users.
- Step 10** Click **Save**.  
The template appears in the left pane.
- 

## Define a NetConfig Job

- Step 1** Select **Resource Manager Essentials > Configuration Management > NetConfig**.  
The NetConfig application window opens.
- Step 2** Select **Jobs > New Job**.  
The New Job wizard appears with the Select Device Category dialog box open.
- Step 3** Select **IOS** from the Select Device Category drop-down list box, then click **Next**.  
The Select Devices dialog box appears.



---

**Note** Each NetConfig job can run on only one device category. You must create a separate job for each additional category of devices that you want to configure.

---

**Step 4** Select the required Cisco IOS devices in the inventory using the device selector, then click **Next**.

The Apply Template dialog box appears, unless you selected any devices whose configurations are not archived.

If you selected any devices whose configurations are not archived in the configuration archive, a dialog box appears listing those devices. Click one of these buttons:

- **Open Archive Status.** Opens the Archive Status dialog box in the CiscoWorks window, where you can troubleshoot devices and add their configurations to the archive.
- **Cancel.** Cancels device selection and returns you to Select Devices dialog box.
- **Continue.** Removes devices whose configurations are not archived and continues the New Job wizard from the Apply Templates dialog box.

**Step 5** From the Select Template drop-down list box, select the template you created in the previous procedure.

The commands contained in the template appear in the Commands text box.

**Step 6** Click **Add**.

The template and its corresponding configuration commands appear at the bottom of the dialog box.

**Step 7** Click **Next**.

The Job Properties dialog box appears.

**Step 8** Enter a description in the Description text box and any comments in the Config Comments text box.

**Step 9** Specify the job schedule.

If the Job Password option has been set and is user configurable, you can select it for this job (see the Essentials online help for details about using the Job Password option).

**Step 10** Select the other required options, then click **Next**.

- If Job Approval is enabled, the Set Approver dialog box appears. Select an approver list and enter any other optional information, then click **Next**.
- If Job Approval is not enabled, the Work Order dialog box appears.

- Step 11** Review the work order.
- If you had selected the Job Password option in the previous (Job Properties) dialog box, then enter your device username and password.
- If you need to edit the job, click **Back** to return to previous dialog boxes, make the necessary changes, then click **Next** until the Work Order dialog box appears.
- Step 12** Click **Finish**.
- The job is registered and runs, unless it is scheduled to run in the future.
- Step 13** Note the Job ID that appears.
- Step 14** Verify that the job runs successfully. See the section “[Where You Should End Up—Verification](#)” for more information.
- 

## Where You Should End Up—Verification

After the job runs, the device configuration of the selected devices are changed. You should verify that the process was successful:

- 
- Step 1** Select **Resource Manager Essentials > Configuration Management > NetConfig**.
- The NetConfig application window opens.
- Step 2** Select **Jobs > Job Browser**.
- The Job Browser dialog box appears.
- Step 3** Locate the job record and check its status entry to determine if it completed successfully.

**Step 4** Select the job record and click **Job Details**.

The Job Details dialog box appears.

- If the job failed, review the Download Summary page and the device details for each device to determine why it failed.
- If the job completed successfully, click Check Credentials button to verify that your commands are executed correctly on the devices.

For more information about browsing jobs and job details, refer to the online help.

---

