



CHAPTER 21

Enabling Approval and Approving Jobs Using Job Approval

Resource Manager Essentials (RME) applications, such as NetConfig, Config Editor, Archive Management, and Software Management, allow you to schedule jobs to perform their tasks. Job Approval allows you to require that one of a group of users designated as job Approvers approves each job before it can run.

Job Approval sends job requests through e-mail to users on a job's Approver list. If none of the Approvers approve the job before its scheduled run time, or if an Approver rejects the job, the job is moved to the rejected state and will not run.

When Job Approval is enabled, applications that use it, require you to schedule the job to run in the future, rather than immediately. Job approval cannot be enabled for jobs that run immediately.

A user with the appropriate privileges uses a CiscoWorks application to schedule jobs.

When you use Job Approval, different people can perform different tasks:



Note

View the Permission Report (**Common Services > Server > Reports**) to check whether you have the required privileges to perform job approval tasks.

Role	Responsibilities
System Administrator	Creates and maintains the Approver lists
Approver	Approves/rejects a job, or changes the schedule for a job.

For the new features in this release, see [What's New in this Release](#).

You can select the log level settings for the Job Approval application using the feature [Setting System-wide Parameters Using System Preferences](#) (**Resource Manager Essentials > Admin > System Preferences > Loglevel Settings**).

Job Approval is also referred to as Maker Checker in a few places within RME and Common Services. For example, in Loglevel Settings and Permission Report (**Common Services > Server > Reports**) it is mentioned as Maker Checker.

Job Approval Workflow

A typical job approval workflow may look like this:

A system administrator does the following:

1. Specifies user/Approver information (see [Specifying Approver Details](#).)
2. Creates one or more job Approver lists (see [Creating and Editing Approver Lists](#)).
3. Assigns Approver lists (see [Assigning Approver Lists](#)).
4. Sets up Job Approval (see [Setting Up Job Approval](#)).

The planner analyzes the network and prompts the network engineer to schedule a job to perform a needed network change.

The job creator uses a CiscoWorks application to create a job. The application must have an Approver list assigned to it before Job Approval is enabled. Also, it must be scheduled to run in the future (not immediately).

All *Approvers* on the Approver list receive an automatic email notification. The job *Approvers* approve or reject the job (see [Approving and Rejecting Jobs](#)) and give their comments.

The job creator and all Approvers on the Approver list receive an automatic e-mail notification.

A job that is not approved or rejected before its scheduled time is automatically moved to the Rejected state. E-mail notification is sent to all Approvers and the user who scheduled the job. If the job is approved, it runs as scheduled.

Specifying Approver Details

Use the option, Approver Details, to maintain information about users with Approver roles.



Note

View Permission Report (**Common Services > Server > Reports**) to check if you have the required privileges to perform this task.

To specify Approver details:

Step 1 Select **Resource Manager Essentials > Admin > Approval > Approver Details**.

The Approver Details dialog box appears.

Step 2 Click **Synchronize with CommonServices**.

All the approvers in Common Services, with valid E-mail IDs, will appear in the the Approvers list. The E-mails of the approvers will be the same as that added in Common Services.

(You can create a valid CiscoWorks user using the Local User Setup option under **Common Services > Security**).



Note

Every time an Approver is added to or deleted from Common Services, you should do a synchronize operation, by clicking **Synchronize with CommonServices**.

If you want to change the E-mail ID of any of the Approvers, select the Approver from the Approvers list, and change specifying the new e-mail ID in the E-mail Address field. You can add more than one e-mail, separated by commas

Step 3 Click **Save** to save your changes.

Only those approvers in the ACS mode, who are also approvers in Common Services, are added to RME upon clicking **Synchronize with CommonServices**. All other approvers in ACS, have to be manually added to RME.

To do this, enter the name of the Approver that you want to add in the New Approver field, enter a valid e-mail ID for that user in the E-mail Address field, and click **Save**.

The Approver that you added, appears in the Approvers box.

Creating and Editing Approver Lists

You can use the option Create/Edit Approver Lists to create, edit, or delete Approver lists. Before you create an Approver list, ensure that users have been added, through the Approver Details option (see [Specifying Approver Details](#)).



Note

View Permission Report (**Common Services > Server > Reports**) to check if you have the required privileges to perform this task.

To create and edit Approvers lists:

Step 1 Select **Resource Manager Essentials > Admin > Approval > Create/Edit Approver Lists**.

The Create/Edit Approver List dialog box appears.

Step 2 Go to the Approver List field and enter a name for an Approver list that you are creating. It can be an alphanumeric name.

Step 3 Click **Add**.

A message appears:

List *Listname* has no users. To save the list successfully, add users and click Save.

Step 4 Click **OK** to proceed.

The newly-created list appears in the lists box.

(If previously-created lists exist, you can highlight a list to see the List Members in the Users group of fields.)

Step 5 Add users to the newly-created list, by highlighting the list.

In the Users group of fields, the Available Users box lists users who have Approver permissions. Only these users can be added to Approver lists to approve jobs.

- To add a user to the Approver List, select the name from the Available Users list box, and click **Add**. The name appears in the List Members list box.
- To remove a user from the Approver list, select the name from the List Members list box, then click **Remove**.

The name is removed from the List Members list box.

Step 6 Click **Save**.

The Approver Lists box displays the name of the new Approver list and the users on this list appear in the box below Approver Lists.

To edit an Approver List:

- a. Select the list.

The approvers of the list appear in the List Members list box.

- b. Add new approvers, or remove existing ones in using the Add and Remove buttons in the Users group of fields.

To delete an Approver List:

- a. Select the list.
- b. Click **Delete**.

A message appears:

Are you sure you wish to delete? Approval will be disabled for applications to which the *Listname* is assigned!

- c. Click **OK** to delete the list.
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Assigning Approver Lists

You can assign an Approver list to each of the RME applications, from the available Approver lists.

**Note**

View Permission Report (**Common Services > Server > Reports**) to check if you have the required privileges to perform this task.

To assign an Approver list:

Step 1 Select **Resource Manager Essentials > Admin > Approval > Assign Approver Lists**.

The Assign Approver Lists dialog box appears.

Step 2 Select the required Approver list from the drop-down list box for that application. Repeat this for each of the applications listed here.**Step 3** Click **Assign**.

The selected Approver lists are assigned to the applications.

Setting Up Job Approval

The Approval Policies dialog box allows you to set up Job Approval for all applications for which you can set up job approval. The applications are:

- NetConfig
- NetShow
- Config Editor
- Archive Management. See [Using Job Approval for Archive Management](#) for details.
- Software Management. See [Using Job Approval for Software Management](#) for details

Prerequisite

Make sure the approver list is assigned to the application, before you enable approval for the application.



Note

View the Permission Report (**Common Services > Server > Reports**) to check whether you have the required privileges to perform this task.

To set up Job Approval:

Step 1 Select **Resource Manager Essentials > Admin > Approval > Approval Policies**.

The Approval Policies dialog box appears. You can enable or disable Job Approval for the following applications:

- NetConfig
- NetShow
- Config Editor
- Archive Management.
- Software Management.

Step 2 Set up Job Approval for the various applications that support job approval, by doing one of the following:

- Select the Enable check box that corresponds to an application, to enable Job Approval.
- Deselect the Enable check box that corresponds to an application, to disable Job Approval.
- Select the All check box to enable Job Approval, for all the applications to which it is applicable.
- Deselect the All check box to disable Job Approval, for all the applications to which it is applicable.

Step 3 Click **Apply** to apply your changes.

After you enable Job Approval, two additional fields appear in the job schedule wizard of the applications. These are:

- Maker Comments—Job creator's comments.
- Maker E-mail—Job creator's e-mail address.

Approving and Rejecting Jobs

Use the Approve or Reject Jobs option to approve or reject a job for which you are an Approver. The job will not run until you or another Approver approves it. If no Approver approves the job by its scheduled run time, or an Approver rejects it, the job is moved to the rejected state and will not run.

For periodic jobs, only one instance of the job needs to be approved. If one instance is approved all other instances are considered approved, and vice-versa.

When a job for which you are an Approver is created, you are notified by email.

An Approver can edit the job schedule at the time of approving the job.

The e-mail displays these details:

Details	Description
Job ID	ID of the job that has been put up for approval.
Job Description	Description of the job.
Job Schedule	Date and time for which the job has been scheduled.
Server Name	Name of the server.
Server Time-zone:	Time zone of the server.
Maker Comments	Comments for the Approver, entered by the job creator.
URLS	Two URLs to launch dialog boxes for: <ul style="list-style-type: none"> Viewing job details. Approving or rejecting jobs.

View the Permission Report (**Common Services > Server > Reports**) to check whether you have the required privileges to perform this task. You need to be a user with an Approver role.



Note

You will be able to select only those jobs for which you are a part of the Approver List. The other jobs, for which you are not a part of the Approver List, will be disabled.

To approve or reject jobs:

Step 1 Select **Resource Manager Essentials > Job Mgmt > Job Approval**.

The Jobs Pending Approval dialog box appears with the following information about the scheduled jobs on the system:

Column	Description
Job ID	Unique number assigned to the job when it is created. For periodic jobs such as Daily, Weekly, etc., the job IDs are in the number.x format. The x represents the number of instances of the job. For example, 1001.3 indicates that this is the third instance of the job ID 1001. Click the Job ID hyperlink to view the details of the job.
Owner	Job owner.

Column	Description
Job Type	Application that registered job.
Scheduled to Run at	When job is scheduled to run.
Approver List	Name of Approver list whose members can approve job.
Description	Job description, entered by job creator.

You can filter the pending jobs by any specified criteria using the Filter By drop-down list. Select your criteria and click **Filter**.

Step 2 Either:

- Select the job and click **Approve** to approve the job.
The job is approved.
Or
- Select **Next**.

The Job Details dialog box appears (For example, if the ID of the job awaiting approval is 1025, then the title of the dialog box appears as Job Details For Job 1025). You can view/ change the job details before approving or rejecting it.

Fields in the Job Details box are:

Field	Description
Job	
ID	ID of the job (display only). To see the detailed description of the job, click the View Job Details hyperlink.
Schedule Options	
Run Type	<p>The run type of the job. The Run Types could be any or all of these, depending on the type of the job:</p> <ul style="list-style-type: none"> • Immediate—Runs the report immediately. • 6 - hourly—Runs the report every 6 hours, starting from the specified time. • 12 - hourly—Runs the report every 12 hours, starting from the specified time. • Once—Runs the report once at the specified date and time. • Daily—Runs daily at the specified time. • Weekly—Runs weekly on the day of the week and at the specified time. • Monthly—Runs monthly on the day of the month and at the specified time. <p>The subsequent instances of periodic jobs will run only after the earlier instance of the job is complete.</p> <p>For example: If you have scheduled a daily job at 10:00 a.m. on November 1, the next instance of this job will run at 10:00 a.m. on November 2 only if the earlier instance of the November 1 job has completed. If the 10.00 a.m. November 1 job has not completed before 10:00 a.m. November 2, then the next job will start only at 10:00 a.m. on November 3.</p> <p>To change, select the required run type from the drop-down list.</p>

Field	Description
Current Schedule	
Date	Scheduled date and time of the job. Click Change Schedule to change the schedule of the job. You must click the Change Schedule button for the changed schedule to take effect. If you do not click this button, the changed schedule will not be set.
Approver	
Comments	Enter your comments. This field is mandatory only if you are rejecting a job.

Step 3 Click **Approve**.

The job is approved.

If you want to reject the job, enter comments in the Comments text box and then click **Reject**.

Job Management

The Job Management tab of RME allows you to view the status of all RME jobs using the RME Job Browser. See [RME Job Browser](#).

This page also enables you to view all the jobs that are pending approval, and approve or reject them. See [Approving and Rejecting Jobs](#).

You may not be able to use some of these functions if you do not have the required privileges.

RME Job Browser

The RME Job Browser enables you to view the status of all RME Jobs (NetConfig jobs, Device Credential, Archive Management jobs, reports jobs, Inventory collection or polling jobs, purge jobs, etc.).

The job details that you can view here include the job ID, the job type, the job status, the job description, the job owner, the time the job is scheduled to run at, the time of job completion, and the schedule type.

Select **Resource Manager Essentials > Job Mgmt > RME Jobs**.

The RME Job Browser appears.

You can filter the jobs by any specified criteria using the Filter by drop-down list. Select your criteria and click **Filter**.

The fields in the RME Job Browser are:

Column	Description
Job ID	Unique ID of the job. Click on the hyperlink to view the Job details. Some Job IDs have N.x format, which stands for the number of instances of that job. For example, 1003.3 indicates that the Job ID is 1003 and it is the third instance of that job.
Job Type	Type of job. The jobs include, Syslog and Change Audit purge jobs, Device Credential, Inventory collection or polling jobs (system jobs and user-run), NetConfig, Archive Management, or Report jobs.

Column	Description
Status	Status of the job—Scheduled, Successful, Failed, Partial Success, Cancelled, Stopped, Running, Missed Start, Rejected, Approved, Waiting for Approval, Pending, etc.
Description	Description of the job.
Owner	Username of the job creator.
Scheduled At	Date and time at which the job was scheduled.
Completed At	Date and time at which the job was completed.
Schedule Type	Type of job schedule—Immediate, 6- Hourly, 12-Hourly, Once, Daily, Weekly, Monthly, etc. For periodic jobs, the subsequent instances will run only after the earlier instance of the job is complete. For example, if you have scheduled a daily job at 10:00 a.m. on November 1, the next instance of this job will run at 10:00 a.m. on November 2, only if the earlier instance of the November 1 job has completed. If the 10.00 a.m. November 1 job has not completed before 10:00 a.m. November 2, then the next job will start only at 10:00 a.m. on November 3.
Refresh (Icon)	Click on this icon to refresh the RME Job Browser.

Use the Stop and Delete buttons to stop or delete jobs:

- Stop button—Stops or cancels a running job, or one awaiting approval. You can stop/cancel a running job. You will be asked to confirm the cancellation of the job.
However, the job is stopped only after the devices currently being processed are successfully completed. This is to ensure that no device is left in an inconsistent state.
- Delete button—Deletes the selected job from the job browser. You can select more than one job to delete. You will be asked to confirm the deletion.

If the job that you have selected for deletion is a periodic job, then you will be asked to confirm the deletion, as the instances of periodic jobs that are yet to run, would also be deleted.

You cannot delete a running job.

