

Setting Up a Unix Job Dependency

Overview

In many cases, a job should run only after some external requirements are satisfied. For example, a job may need data generated by another job, or it can run only after another job has completed successfully.

Enteprise Scheduler has the flexibility to encompass the different scheduling needs encountered in a business environment. You use job dependencies to prevent a job from running until the preceding job completes or enters a predefined status. You can also set jobs to run only when manually released.

In this chapter, we are going to define (add) a job called **Unix Test 2**. We will assign a calendar to this job, but we will also make it **Require operator release**. Even if according to its calendar, the job is due to run, it does not run until it is released from **Waiting on Operator** status. We will define a second job, **Unix Test 3**, which depends on **Unix Test 2**. **Unix Test 3** does not run until **Unix Test 2** completes normally. Finally, we release **Unix Test 2**, and both jobs end with a **Completed Normally** status.

Figure 4-1 Interdependence of Unix Test 2, Unix Test 3, and the Operator



The definition for the UNIX TEST Group 1 job group has the "Require operator release" option selected. For UNIX TEST Group 1 to complete successfully, both child jobs (UNIX TEST Group 4 and UNIX TEST Group 5) must complete successfully and the group must be manually released. Then, UNIX TEST Group 1 will have a status of Completed Normally.

Operator



Г

This chapter describes how to:

- Define a job that waits for an operator to release it
- Define a job that depends on the completion of another job
- Monitor jobs and job dependencies
- Release a job that requires operator intervention

Note

To complete the exercises in this tutorial, you need to: Install Enteprise Scheduler in the default directory Scheduler (or the examples in this tutorial will not work properly) Select the Super User option in your User definition Configure a default agent Create and have available the work day calendar

Defining a Job for Operator Release

You can define a job requiring an operator to release it manually before running, after all its other dependencies are satisfied. Before the job is released, it enters the **Waiting on Operator** status. The job definition can include instructions for the operator.

Requiring an operator release is a good technique when testing a job or a set of sequential jobs for the first time. This is also good for jobs requiring operators to verify an event, or perform a related operation external to Enteprise Scheduler.

Setting the Require Operator Release Option

	From the Navigator pane, select Definitions>Jobs to display the Jobs pane.					
2	Right-click in the Jobs pane of the console and select Add Job from the context menu, or click the Add Job button on the Enterprise Scheduler toolbar.					
	The Job Definition dialog displays.					
;	Set the following options:					
	a. In the Job Name field, enter the name Unix Test 2.					
	b. In the Command field, enter the full path to the file:					
	/UNIX_TEST_2.sh					
	Although the command executable has the same name as the job in this case, this is not required. The Job Name is any logical name that is meaningful to you. However, the command name refers to the physical file and must match the actual command.					
ļ	Click the Schedule tab.					
;	From the Calendar Name list, select work day.					

Step 6 Click the **Run** tab.

- Step 7 From the Runtime User list, select a runtime user who can use the Unix agent being used.
- Step 8 Click the **Options** tab.

	Job Name	Unix Test 2					(c	
	Job Class					Owner	Schedulers	
	Parent Group							
Program S	chedule Run Depe	ndencies Resource	s Job Events	Options	Run Book	Notes In	nages	
	Job Alias	; 396	5	ave Outpu	It Option			
	Job Priority	50		Discard				
If job	is currently running	Run Anyway	¥ (Append				
Base time r	needed to run job on	Estimated Duration	× (Replace				
(f not enough	time before outage	Defer 💌						
Allow unsc	heduled	Allow operator re	erun 🗌	For UNIX	, source us	er's profile	-	
Require op	erator release	Disable carryove	r					
History	Retention (in days)	30						
			Canada Canada C					

Figure 4-2 Job Definition Dialog, Options Tab

- Step 9 Select the **Require operator release** option.
- **Step 10** Click **OK** to save the job definition.
- Step 11 Click OK in the Effective Date dialog to submit the job into today's schedule.
- Step 12 From the Navigator pane, select Operations>Job Activity to display the Job Activity pane.

Unix Test 2 displays a Waiting On Operator status.

We will leave this job for now, and release it to the Production Schedule later after creating a second job with a dependency on **Unix Test 2** completing normally.

Adding a Job with a Dependency

We will now create the **Unix Test 3** job definition with a dependency on the **Unix Test 2** job already in the production schedule.

To create the Unix Test 3 job definition with a dependency on the Unix Test 2 job:

- Step 1 From the Navigator pane, select Definitions>Jobs to display the Jobs pane.
 Step 2 Right-click in the Jobs pane of the console and select Add Job from the context menu, or click the Add Job button on the toolbar.
 The Job Definition dialog displays.
- **Step 3** Set the following options:
 - a. In the Job Name field, type the name Unix Test 3.

b. In the **Command** field, enter the full path to the file:

/UNIX_TEST_3.sh

Step 4 Click the Schedule tab.

- Step 5 In the Calendar Name list, select the work day calendar.
- Step 6 Click the Run tab and in the Runtime User list, select a user that can access the Unix agent.
- **Step 7** Display the **Dependencies** tab, by clicking its tab on the **Job Definition** dialog.
- **Step 8** Click the **Add** button to display the list.
- Step 9 Select the Add Job Dependency option to display the Job Dependency Definition dialog.
- Step 10 Go to the Job/Group list, click the down arrow button and select Unix Test 2. It will display in the Job/Group field.
- **Step 11** Accept the defaults and click **OK**. The defaults are preset to satisfy the dependency when **Unix Test 2** completes normally.

Now Unix Test 2 shows as a dependency for Unix Test 3. The Unix Test 2 dependency is part of the job definition of Unix Test 3.

- Step 12 Click OK in the Job Definition dialog to close it.
- **Step 13** Click **OK** in the **Effective Date** dialog.

The Unix Test 3 job is added to the production schedule.

Monitoring Your Jobs

Both jobs are now scheduled and ready to run. Use the Job Activity pane to monitor them.

From the Navigator pane, select Operations>Job Activity to display your scheduled jobs.

Notice that both jobs are in waiting mode. Unix Test 2 needs manual intervention before it can run (Waiting On Operator) and Unix Test 3 is waiting for Unix Test 2 to complete normally (Waiting On Dependencies).

Viewing Dependencies from the Job Activity Pane

To view the dependence Unix Test 3 has on Unix Test 2:

- **Step 1** Double-click the **Unix Test 2** job in the **Job Activity** pane to display its **Job Detail** dialog.
- **Step 2** Click the **Dependencies** tab.

The dependency appears in the **Predecessors** field.

This shows that **Unix Test 3** is waiting for **Unix Test 2** to complete normally. Currently **Unix Test 2** is in **Waiting on Operator** status. **Unix Test 3** cannot run until **Unix Test 2** goes to **Completed Normally** status.

Step 3 Click OK.

Releasing the Jobs

To release the jobs:

- Step 1 Click the Unix Test 2 job in the Job Activity pane.
- **Step 2** Right-click the job to display the context menu.
- Step 3 Select the Job Control option and then choose the Release/Resume option to release the job.

901024 ⊿ Operations ay, Search Grid Parameters Cur Job No. , Name Status Job Activity Event Activity / Edit JobRun 2773 Agent J ndencies Alerts Refresh 2771 Agent J ator Filter S Logs 2576 4 Print Schedules t Þ 2575 JobsTh en Master Status Print Selected ♠ D 2574 Group5 View Time By... ally ⊿ 📝 Definitions ♠ ▷ 2573 Group4 Group Display ⊿ 了 Jobs ♠ ▷ 2572 Group3 Prior Day Business Views ♠ ▷ 2571 TimeWin Release/Resu Next Day Calendars Cancel/Abort ♠ ▷ 2570 Calenda Select Day Actions ♠ ▷ 2358 Graphical View Cancel Pending JobsTha D 🗱 Events Cancel/Abort All ♠ D 2357 Details JobsTha Job Classes Statistics **↑** D 2354 Goto Now Set Variables ♠ D 2353 TimeWin Job Control Agent Lists 2149 JobsTha **≜** ▷ Insert Job into Schedule - Queues **↑** D 2148 Remove Job(s) From Schedule ♠ D 2145 Resources Group3 Fiscal Calendars ♠ D 1956 JobsTha List Instances 363172 Y Administration >

Figure 4-3 Selecting the Release/Resume Menu Option

The Confirm dialog displays.

Step 4 Click Yes.

Now Unix Test 2 is free to run. Once complete, Unix Test 2 enters a Completed Normally status. The color of Unix Test 2 changes to green and then to blue (if using the default status colors), and then Unix Test 3 runs. Unix Test 3 displays similar status and color changes.

Step 5 Click **OK** when the **Information** dialog displays.

Congratulations! In this chapter, you have defined jobs requiring manual release and a job dependency. You have scheduled and monitored your jobs through the various states until completion.

Γ

Releasing the Jobs