Setting Up a Unix Job Dependency

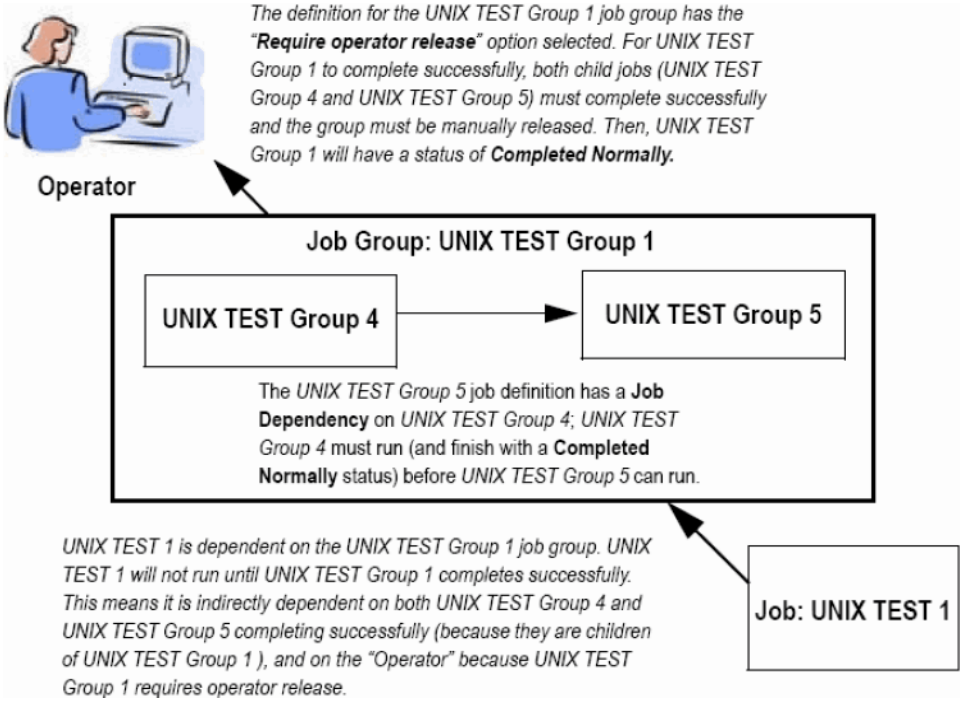
Overview

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



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

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 Enterprise Scheduler toolbar.

The **Job Definition** dialog displays.

Step 3 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
```

Note 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.

Step 4 Click the **Schedule** tab.

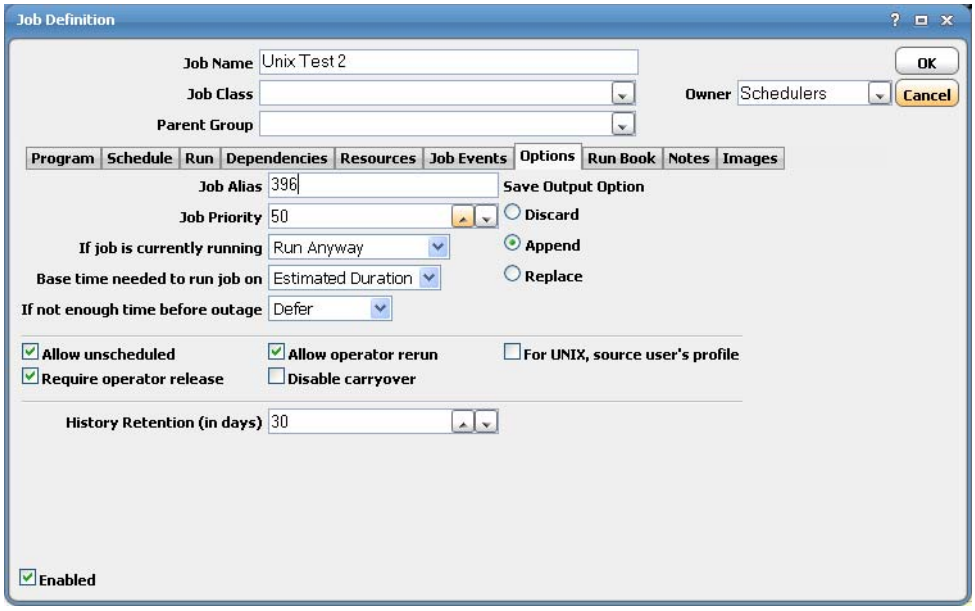
Step 5 From the **Calendar Name** list, select **work day**.

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.

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

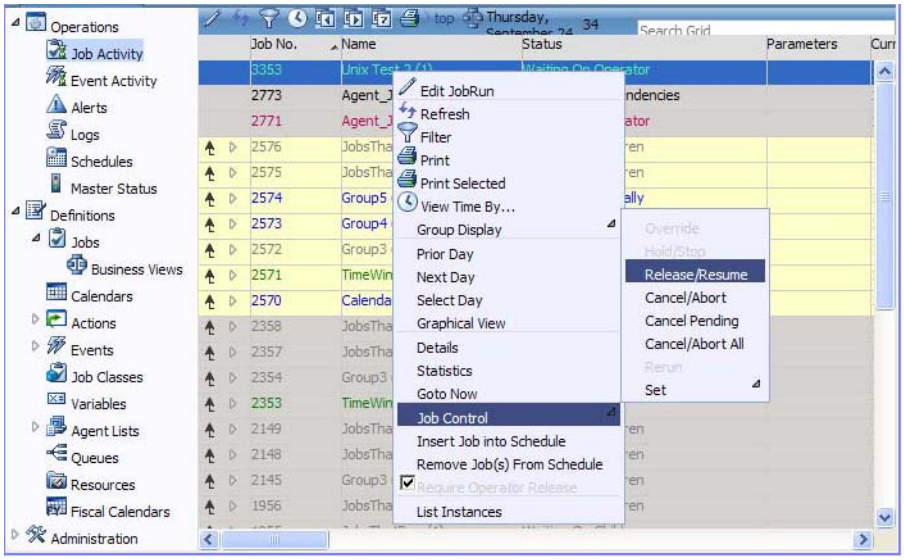
To release the jobs:

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.

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.