



## Setting Up a Job Dependency

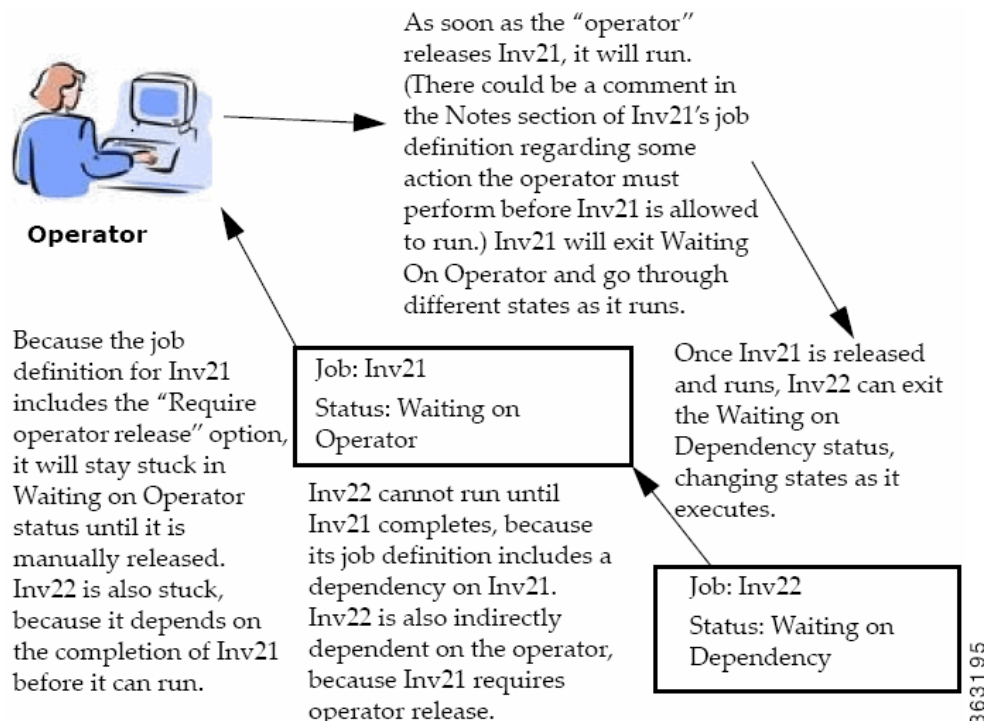
### Overview

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.

Enterprise 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 **Inv21**. 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, **Inv22**, which depends on **Inv21**. **Inv22** does not run until **Inv21** completes normally. Finally, we release **Inv21**, and both jobs end with a **Completed Normally** status.

**Figure 5-1** *Interdependence of Inv21, Inv22, 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 Enterprise 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 Enterprise Scheduler.

## Setting the Require Operator Release Option

To set the Require Operator Release option:

1. 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.

3. Set the following options:
  - a. In the **Job Name** field, enter the name **Inv21**.
  - b. In the **Command** field, enter the full path to *Inv21.bat*.



#### 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.

4. Click the **Schedule** tab.
5. In the **Calendar Name** list and select the **work day** calendar.

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

**Inv21** 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 **Inv21** completing normally.

## Adding a Job with a Dependency

We will now create the **Inv22** job definition with a dependency on the **Inv21** job already in the production schedule.

To create the **Inv22** job definition with a dependency on the **Inv21** job:

1. 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 Scheduler toolbar.

The **Job Definition** dialog displays.

3. Set the following options:
  - a. In the **Job Name** field, type the name **Inv22**.
  - b. In the **Command** field, enter the full path to *Inv22.bat*.
4. Click the **Schedule** tab.
5. In the **Calendar Name** list, select the **work day** calendar.
6. Display the **Dependencies** tab, by clicking its tab on the **Job Definition** dialog.
7. Click the **Add** button to display the list.
8. Select the **Add Job Dependency** option to display the **Job Dependency Definition** dialog.
9. Go to the **Job/Group** list, click the down arrow button and select **Inv21**. It will appear in the **Job/Group** field.
10. Accept the defaults and click **OK**. The defaults are preset to satisfy the dependency when **Inv21** completes normally.

Now **Inv21** shows as a dependency for **Inv22**. The **Inv21** dependency is part of the job definition of **Inv22**.

11. Click **OK** in the **Job Definition** dialog to close it.
12. Click **OK** in the **Effective Date** dialog.

The **Inv22** 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.

**Figure 5-2** Job Activity Pane

| Job No. | Name                 | Status                  | Parameters |
|---------|----------------------|-------------------------|------------|
| 2       | Group01 (1)          | Waiting On Children     |            |
| 3       | TimeWindowTests (1)  | Waiting On Children     |            |
| 4       | CalendarTests (1)    | Waiting On Children     |            |
| 28      | Workdays DE (1)      | Completed Normally      | 10         |
| 29      | Workdays FK (1)      | Completed Normally      | 10         |
| 30      | Workdays UK (1)      | Completed Normally      | 10         |
| 31      | Workdays US (1)      | Completed Normally      | 10         |
| 36      | Tuesday_Job (1)      | Completed Normally      | 10         |
| 38      | Qtr3_Job (1)         | Completed Normally      | 10         |
| 39      | Monday_to_Friday_Job | Waiting On Resource     | 10         |
| 40      | Daily_Job (1)        | Completed Normally      | 10         |
| 5       | Group02 (1)          | Waiting On Dependencies |            |
| 6       | Group03 (1)          | Waiting On Dependencies |            |
| 2044    | Inv 21 (1)           | Waiting On Operator     |            |
| 2048    | Inv22 (1)            | Waiting On Dependencies |            |

Notice that both jobs are in waiting mode. **Inv21** needs manual intervention before it can run (Waiting On Operator) and **Inv22** is waiting for **Inv21** to complete normally (Waiting On Dependencies).

## Viewing Dependencies from the Job Activity Pane

To view the dependence **Inv22** has on **Inv21**:

1. Double-click the **Inv22** job in the **Job Activity** pane to display its **Job Detail** dialog.
2. Click the **Dependencies** tab. The dependency appears in the **Predecessors** field.

This shows that **Inv22** is waiting for **Inv21** to complete normally. Currently **Inv21** is in **Waiting on Operator** status. **Inv22** cannot run until **Inv21** goes to **Completed Normally** status.

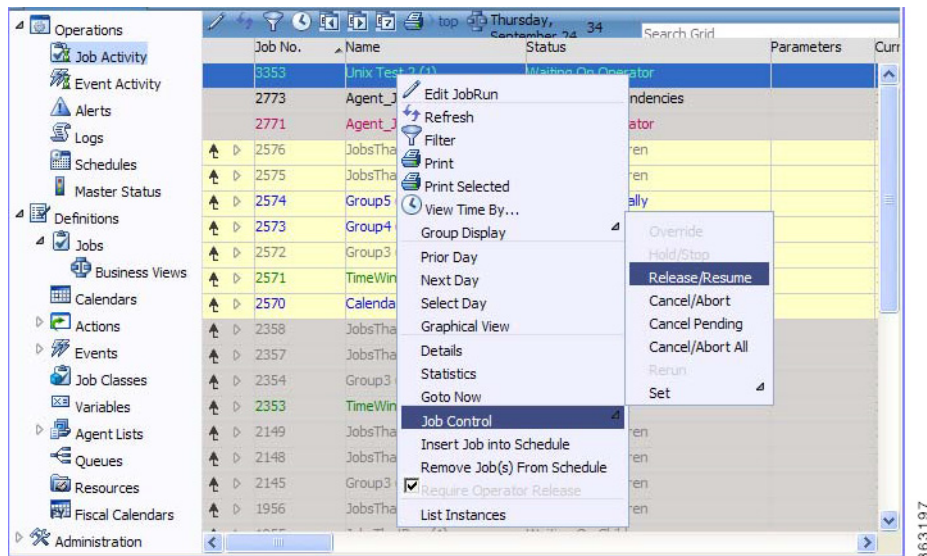
3. Click **OK**.

## Releasing the Jobs

To release the jobs:

1. Click the **Inv21** job in the **Job Activity** pane.
2. Right-click the job to display the context menu.
3. Select the **Job Control** option and then choose the **Release/Resume** option to release the job.

**Figure 5-3** Selecting the Release/Resume Menu Option



The **Confirm** dialog displays.

4. Click **Yes**.

Now **Inv21** is free to run. Once complete, **Inv21** enters a **Completed Normally** status. The color of **Inv21** changes to green and then to blue (if using the default status colors), and then **Inv22** runs. **Inv22** displays similar status and color changes.

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.

