

Oracle® Manufacturing Scheduling

User's Guide

Release 11i

January 2000

Part No. A77021-01

ORACLE®

Oracle Project Manufacturing User's Guide, Release 11i

Part No. A77021-01

Copyright © 2000, Oracle Corporation. All rights reserved.

Primary Author: Richard J. Kuyasa

Contributing Authors: Michael Unterkofler

Contributors: Biju Baby, Joseph Epstein, Serena Lee, Tara McLaughlin, Jiesang Song

The Programs (which include both the software and documentation) contain proprietary information of Oracle Corporation; they are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright, patent, and other intellectual and industrial property laws. Reverse engineering, disassembly, or decompilation of the Programs is prohibited.

Program Documentation is licensed for use solely to support the deployment of the Programs and not for any other purpose.

The information contained in this document is subject to change without notice. If you find any problems in the documentation, please report them to us in writing. Oracle Corporation does not warrant that this document is error free. Except as may be expressly permitted in your license agreement for these Programs, no part of these Programs may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of Oracle Corporation.

If the Programs are delivered to the U.S. Government or anyone licensing or using the programs on behalf of the U.S. Government, the following notice is applicable:

Restricted Rights Notice Programs delivered subject to the DOD FAR Supplement are 'commercial computer software' and use, duplication and disclosure of the Programs including documentation, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement. Otherwise, Programs delivered subject to the Federal Acquisition Regulations are 'restricted computer software' and use, duplication and disclosure of the Programs shall be subject to the restrictions in FAR 52.227-19, Commercial Computer Software - Restricted Rights (June, 1987). Oracle Corporation, 500 Oracle Parkway, Redwood City, CA 94065.

The Programs are not intended for use in any nuclear, aviation, mass transit, medical, or other inherently dangerous applications. It shall be licensee's responsibility to take all appropriate fail-safe, back up, redundancy and other measures to ensure the safe use of such applications if the Programs are used for such purposes, and Oracle disclaims liability for any damages caused by such use of the Programs.

Oracle is a registered trademark, and Context, Financial Analyzer, Oracle7, Oracle8, Oracle8i, Oracle Alert, Oracle Applications, Oracle Discoverer, Oracle Financials, Object Library, Oracle Work in Process, Oracle Workflow, SmartClient, PL/SQL, SQL*Calc, SQL*Forms, SQL*Loader, SQL*Menu, SQL*Net, SQL*Plus, SQL*Report, SQL*ReportWriter, Oracle Web Employees, and SQL*QMX are trademarks or registered trademarks of Oracle Corporation. All other company or product names mentioned are used for identification purposes only and may be trademarks of their respective owners.

Contents

1 Manufacturing Scheduling Application

Overview of Application.....	1-2
Features.....	1-2
Constraint-Based Scheduling.....	1-3
Scheduling Single Discrete Jobs	1-3
Rescheduling All Jobs or Pending Scheduling Jobs	1-3
Manufacturing Scheduling Workbench.....	1-4
Tree Hierarchy Pane.....	1-5
Gantt Chart Pane	1-5
Select Resource(s) Pane.....	1-5
Resource Load Versus Capacity Pane	1-5
Scrolling and Resizing the Panes.....	1-6
Workbench Menus	1-7
Workbench Toolbar.....	1-8

2 Setting Up

Overview of Setting Up.....	2-2
Related Product Setup Steps	2-2
Setup Flowchart	2-2
Setup Checklist.....	2-3
Setup Steps.....	2-3
Defining WIP Parameters	2-5
Defining WIP Profile Options	2-6
Defining WIP Resource Definition.....	2-7

Defining WIP Scheduling Priority	2-9
3 Using the Manufacturing Scheduling Workbench	
Overview of Workbench.....	3-3
Launching the Workbench	3-3
Filtering Jobs.....	3-4
Expanding Jobs or Operations	3-6
Collapsing Operations or Jobs	3-7
Changing the Timeline	3-7
Viewing a Property Window.....	3-8
Job Property Window	3-8
Operation Property Window	3-9
Resource Property Window	3-10
Showing Select Resource(s) and Resource Load Versus Capacity Panes.....	3-10
Selecting a Resource	3-11
Rescheduling Jobs, Operations, and Resources in the Gantt Chart	3-12
Manually Rescheduling Start and End Dates.....	3-13
Automatically Rescheduling Jobs and Operations.....	3-15
4 Creating and Scheduling Jobs	
Overview of Creating and Scheduling Jobs	4-1
Creating and Scheduling a New Job	4-1
5 Creating Final Assembly Orders	
Overview of Creating Final Assembly Orders.....	5-1
6 Importing Jobs and Schedules	
Overview of Importing Jobs and Schedules	6-1
7 Rescheduling Discrete Jobs	
Overview of Rescheduling Discrete Jobs	7-1
Rescheduling All Jobs or Pending Scheduling Jobs.....	7-2

A Windows and Navigator Paths

Glossary

Index

Send Us Your Comments

Oracle Manufacturing Scheduling User's Guide, Release 11i

Part No. A77021-01

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most about this manual?

If you find any errors or have any other suggestions for improvement, please indicate the chapter, section, and page number (if available). You can send comments to us in the following ways:

- E-mail - your_product@us.oracle.com
- FAX - telephone number. Attn.: Oracle Your Product Name Here
- Postal service:
Oracle Corporation
Oracle Your Product Name Here Documentation
Street Address, Mailstop
City, State Postal Code
Country

If you would like a reply, please give your name, address, and telephone number below.

If you have problems with the software, please contact your local Oracle Support Services.

Preface

Welcome to the *Oracle® Manufacturing Scheduling User's Guide, Release 11i*.

This user's guide includes the information you need to work with Oracle Manufacturing Scheduling effectively. It contains detailed information about the following:

- Overview and reference information
- Specific tasks you can accomplish using Oracle Manufacturing Scheduling
- Oracle Manufacturing Scheduling setup
- Oracle Manufacturing Scheduling functions and features
- Oracle Manufacturing Scheduling windows
- Oracle Manufacturing Scheduling processes
- Implementation Suggestions

This preface explains how this user's guide is organized and introduces other sources of information that can help you.

About This User's Guide

This guide contains overviews as well as task and reference information about Oracle Manufacturing Scheduling. This guide includes the following chapters:

- Chapter 1 describes the constraint-based scheduling engine and the Oracle Manufacturing Scheduling Workbench, which are components of the Oracle Manufacturing Scheduling Application.
- Chapter 2 provides setup procedures for both Oracle Manufacturing Scheduling and Work in Process Applications.

Note: Implementation information and procedures are contained in this chapter.

- Chapter 3 explains how to use the Oracle Manufacturing Scheduling Workbench to manually or automatically reschedule jobs, operations, and resources.
- Chapter 4 explains how to create and schedule a new job.
- Chapter 5 explains how Oracle Manufacturing Scheduling accepts Assemble to Order jobs from Oracle Work in Process.
- Chapter 6 explains how Oracle Manufacturing Scheduling accepts all jobs and schedules from Oracle Work in Process
- Chapter 7 explains how Oracle Manufacturing Scheduling lets you reschedule the entire shop floor.

Audience for This Guide

This guide assumes you have a working knowledge of your business area's processes and tools. It also assumes you are familiar with Oracle Manufacturing Scheduling. If you have never used Oracle Manufacturing Scheduling, we suggest you attend one or more of the Oracle Manufacturing Scheduling training classes available through World Wide Education. For more information about Oracle Manufacturing Scheduling and Oracle training, see: Other Information Sources.

Do Not Use Database Tools to Modify Oracle Applications Data

Because Oracle Applications tables are interrelated, any change you make using Oracle Applications can update many tables at once. But when you modify Oracle Applications data using anything other than Oracle Applications, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle Applications.

When you use Oracle Applications to modify your data, Oracle Applications automatically checks that your changes are valid. Oracle Applications also keeps track of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL*Plus and other database tools do not keep a record of changes.

Consequently, we STRONGLY RECOMMEND that you never use SQL*Plus or any other tool to modify Oracle Applications data unless otherwise instructed.

Other Information Sources

Here are some other ways you can increase your knowledge and understanding of Oracle Manufacturing Scheduling.

Online Documentation

All Oracle Applications documentation is available online on CD-ROM, except for technical reference manuals. There are two online formats, HyperText Markup Language (HTML) and Adobe Acrobat (PDF).

All user's guides are available in HTML, PDF, and paper. Technical reference manuals are available in paper only. Other documentation is available in PDF and paper.

The *content* of the documentation does not differ from format to format. There may be slight differences due to publication standards, but such differences do not affect content. For example, page numbers and screen shots are not included in HTML.

The HTML documentation is available from all Oracle Applications windows. Each window is programmed to start your web browser and open a specific, context-sensitive section. Once any section of the HTML documentation is open, you can navigate freely throughout all Oracle Applications documentation. The HTML documentation also ships with Oracle Information Navigator (if your national language supports this tool), which enables you to search for words and phrases throughout the documentation set.

Related User's Guides

Oracle Manufacturing Scheduling shares business and setup information with other Oracle Applications products. Therefore, you may want to refer to other user's guides when you set up and use Oracle Manufacturing Scheduling.

If you do not have the hardcopy versions of these manuals, you can read them online using the Applications Library icon or Help menu command.

Country-Specific User's Guides

These manuals document functionality developed to meet specific legal and business requirements in more than 25 countries. You should use the appropriate user's guide, such as the Oracle Financials for Germany User's Guide, for more information about using Oracle Financials in a specific country. Consult your country-specific user's guide, Oracle Financials Regional User's Guide, and your financial product's manual to effectively use Oracle Financials in your country.

Oracle Applications User's Guide

This guide explains how to enter data, query, run reports, and navigate using the graphical user interface (GUI) available with this release of Oracle Manufacturing Scheduling (and any other Oracle Applications products). This guide also includes information on setting user profiles, as well as running and reviewing reports and concurrent processes.

You can access this user's guide online by choosing "Getting Started with Oracle Applications" from any Oracle Applications help file.

Oracle Applications Demonstration User's Guide

This guide documents the functional storyline and product flows for Vision Enterprises, a fictional manufacturer of personal computers products and services. As well as including product overviews, the book contains detailed discussions and examples across each of the major product flows. Tables, illustrations, and charts summarize key flows and data elements.

Oracle Bills of Material User's Guide

This guide describes how to create various bills of materials to maximize efficiency, improve quality and lower cost for the most sophisticated manufacturing environments. By detailing integrated product structures and processes, flexible product and process definition, and configuration management, this guide enables you to manage product details within and across multiple manufacturing sites.

Oracle Capacity User's Guide

This guide describes how to validate a material plan by verifying that there are resources sufficient to perform the planned work for repetitive and discrete jobs. Using finite capacity planning techniques, you learn how to use rough-cut capacity planning to validate a master schedule and capacity planning to validate the material plan.

Oracle Cost Management User's Guide

This guide describes how to use Oracle Cost Management in either a standard costing or average costing organization. Cost Management can be used to cost inventory, receiving, order entry, and work in process transactions. It can also be used to collect transaction costs for transfer to Oracle Projects. Cost Management supports multiple cost elements, multiple subelements, and activity-based costing. It also provides comprehensive valuation and variance reporting.

Oracle Engineering User's Guide

This guide enables your engineers to utilize the features of Oracle Engineering to quickly introduce and manage new designs into production. Specifically, this guide details how to quickly and accurately define the resources, materials and processes necessary to implement changes in product design.

Oracle Inventory User's Guide

This guide describes how to define items and item information, perform receiving and inventory transactions, maintain cost control, plan items, perform cycle counting and physical inventories, and set up Oracle Inventory.

Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide

This guide describes how to anticipate and manage both supply and demand for your items. Using a variety of tools and techniques, you can create forecasts, load these forecasts into master production schedules, and plan your end-items and their component requirements. You can also execute the plan, releasing and rescheduling planning suggestions for discrete jobs, repetitive schedules, and flow schedules.

Oracle Order Entry/Shipping User's Guide

This guide describes how to enter sales orders and returns, copy existing sales orders, schedule orders, release orders, plan departures and deliveries, confirm shipments, create price lists and discounts for orders, and create reports.

Oracle Product Configurator User's Guide

This guide describes how to improve order taking and fulfillment productivity by eliminating errors in new sales orders and bills of materials. You can use Oracle Product Configurator to verify product configurations, automatically select configuration options, and generate manufacturing bills of materials according to configuration constraints.

Oracle Purchasing User's Guide

This guide describes how to create and approve purchasing documents, including requisitions, different types of purchase orders, quotations, RFQs, and receipts. This guide also describes how to manage your supply base through agreements, sourcing rules and approved supplier lists. In addition, this guide explains how you can automatically create purchasing documents based on business rules through integration with Oracle Workflow technology, which automates many of the key procurement processes.

Oracle Quality User's Guide

This guide describes how Oracle Quality can be used to meet your quality data collection and analysis needs. This guide also explains how Oracle Quality interfaces with other Oracle Manufacturing applications to provide a closed loop quality control system.

Oracle Work in Process User's Guide

This guide describes how Oracle Work in Process provides a complete production management system. Specifically this guide describes how discrete, repetitive, assemble-to-order, project, flow, and mixed manufacturing environments are supported.

Oracle General Ledger User's Guide

This guide explains how to plan and define your chart of accounts, accounting period types and accounting calendar, functional currency, and set of books. It also describes how to define journal entry sources and categories so you can create journal entries for your general ledger. If you use multiple currencies, use this manual when you define additional rate types, and enter daily rates. This manual also includes complete information on implementing Budgetary Control.

Reference Manuals

Oracle Applications Message Reference Manual

This manual describes all Oracle Applications messages. This manual is available in HTML format on the documentation CD-ROM for Release 11i.

Installation and System Administration

Oracle Applications Flexfields Guide

This guide provides flexfields planning, setup and reference information for the Oracle Manufacturing Scheduling implementation team, as well as for users responsible for the ongoing maintenance of Oracle Applications product data. This manual also provides information on creating custom reports on flexfields data.

Oracle Applications Product Update Notes

If you are upgrading your Oracle Applications, refer to the product update notes appropriate to your update and product(s) to see summaries of new features as well as changes to database objects, profile options and seed data added for each new release.

Oracle Applications Upgrade Preparation Manual

This guide explains how to prepare your Oracle Applications products for an upgrade. It also contains information on completing the upgrade procedure for each product. Refer to this manual and the *Oracle Applications Installation Manual* when you plan to upgrade your products.

Oracle Applications System Administrator's Guide

This manual provides planning and reference information for the Oracle Manufacturing Scheduling System Administrator.

Other Sources

Training

We offer a complete set of formal training courses to help you and your staff master Oracle Manufacturing Scheduling and reach full productivity quickly. We organize these courses into functional learning paths, so you take only those courses appropriate to your job or area of responsibility.

You have a choice of educational environments. You can attend courses offered by Oracle Education Services at any one of our many Education Centers, or you can arrange for our trainers to teach at your facility. In addition, Oracle training professionals can tailor standard courses or develop custom courses to meet your needs. For example, you may want to use your organization structure, terminology, and data as examples in a customized training session delivered at your own facility.

Support

From on-site support to central support, our team of experienced professionals provides the help and information you need to keep Oracle Manufacturing Scheduling working for you. This team includes your Technical Representative, Account Manager, and Oracle's large staff of consultants and support specialists with expertise in your business area, managing an Oracle8 server, and your hardware and software environment.

About Oracle

Oracle Corporation develops and markets an integrated line of software products for database management, applications development, decision support, and office automation, as well as Oracle Applications, an integrated suite of more than 45 software modules for financial management, supply chain management, manufacturing, project systems, human resources and sales and service management.

Oracle products are available for mainframes, minicomputers, personal computers, network computers and personal digital assistants, allowing organizations to integrate different computers, different operating systems, different networks, and even different database management systems, into a single, unified computing and information resource.

Oracle is the world's leading supplier of software for information management, and the world's second largest software company. Oracle offers its database, tools, and applications products, along with related consulting, education, and support services, in over 140 countries around the world.

Thank You

Thank you for using Oracle Manufacturing Scheduling and this user's guide.

We value your comments and feedback. At the end of this guide is a Reader's Comment Form you can use to explain what you like or dislike about Oracle Manufacturing Scheduling or this user's guide. Mail your comments to the following address or call us directly at (650) 506-7000.

Oracle Applications Documentation Manager
Oracle Corporation
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Or, send electronic mail to **appsdoc@us.oracle.com**.

Manufacturing Scheduling Application

This chapter introduces the Oracle Manufacturing Scheduling Application. It describes the function of the constraint-based scheduling engine and format of the Manufacturing Scheduling Workbench. It explains how to use the workbench to manually or automatically reschedule jobs, operations, and resources on the shop floor. It also describes the menus and toolbar associated with the workbench.

The following topics included are:

- Overview of Application on page 1-2
- Features on page 1-2
- Constraint-Based Scheduling on page 1-3
- Scheduling Single Discrete Jobs on page 1-3
- Rescheduling All Jobs or Pending Scheduling Jobs on page 1-3
- Manufacturing Scheduling Workbench on page 1-4
- Tree Hierarchy Pane on page 1-5
- Gantt Chart Pane on page 1-5
- Select Resource(s) Pane on page 1-5
- Resource Load Versus Capacity Pane on page 1-5
- Scrolling and Resizing the Panes on page 1-6
- Workbench Menus on page 1-7
- Workbench Toolbar on page 1-8

Overview of Application

The Oracle Manufacturing Scheduling Application is a Work in Process Internet-based shop floor scheduling solution. Oracle Manufacturing Scheduling Application consists of two major components:

- Constraint-based scheduling engine
- Manufacturing Scheduling Workbench

The constraint-based scheduling engine schedules jobs and operations based on user-predefined priorities, resources, and material constraints. You can reschedule single jobs and operations or the entire shop floor.

The Manufacturing Scheduling Workbench lets you graphically view and reschedule single jobs and operations based on constraints, such as resource or material shortages. It provides you with a user-friendly visual display (Gantt chart) of jobs on the shop floor. You can interactively reschedule jobs, operations, and resources. You can manually control the rescheduling or let the system automatically optimize the schedule based on resource and material constraints. The Manufacturing Scheduling Workbench interfaces directly with Oracle Work in Process. See: Manufacturing Scheduling Workbench on page 1-4.

Features

The Manufacturing Scheduling Application provides the following features:

- Graphically view shop floor jobs, operations, and resources
- User friendly drag and drop mechanism to reschedule jobs, operations, and resources
- Fully integrated with Oracle Work in Process
- Optimally schedule jobs based on available resources and material
- Optimally reschedule jobs due to resource and material shortages (machine breakdown, employee sickness, material availability)
- Ability to maintain schedules
- Adjustable bucket sizing that affects the Gantt chart and associated resource load versus capacity view
- All rescheduling is “what if” analysis until the rescheduling is saved
- Ability to undo all changes prior to saving

Constraint-Based Scheduling

The constraint-based scheduling engine factors resource and material availability when scheduling and rescheduling jobs and operations.

The constraint-based scheduling engine lets you:

- Schedule single discrete jobs and operations
- Reschedule all jobs or pending scheduling jobs on the entire shop floor

Scheduling Single Discrete Jobs

When each discrete job is created and saved, you receive a request ID. When the request has completed, you can view the updated start and completion dates of your job and operations.

If you enter a start date, the system calculates a completion date when the constraint-based scheduling engine runs. If you want a different completion date than the calculated completion date to drive the scheduling of your job, specify that date in the Requested Due Date field on the Scheduling tab of the Discrete Jobs window.

If the constraint-based scheduling engine cannot meet your requested start date or calculated start date (if you specify a completion date the system calculates the start date) due to resource and/or material availability, it schedules the job in the first available time slot where resource and/or material are available. Planned material receipts are calculated.

If resources and material are not available within the current scheduling horizon, your job will be scheduled at the end of the scheduling horizon and you might receive an exception message in the Oracle Application request log.

For detailed information, see: *Creating and Scheduling a New Job* on page 4-1.

Rescheduling All Jobs or Pending Scheduling Jobs

When you reschedule all jobs or pending scheduling jobs from the Schedule Discrete Jobs window, the constraint-based scheduling engine uses the requested due date and scheduling priority. The highest priority jobs are scheduled first. Jobs with the same priority are scheduled based on the earliest requested due date. Firm jobs and any associated operations are not rescheduled.

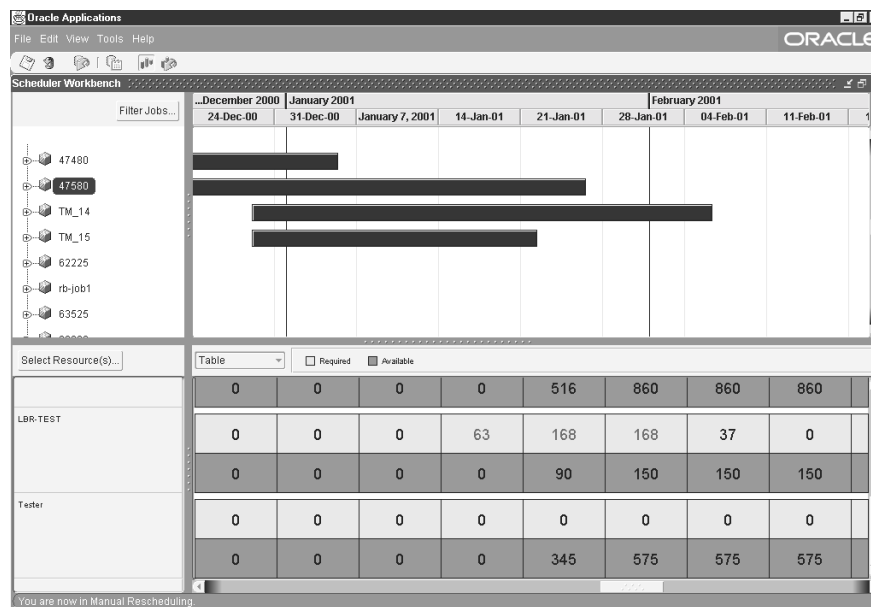
For detailed information, see: *Rescheduling All Jobs or Pending Scheduling Jobs* on page 7-2.

Manufacturing Scheduling Workbench

The Manufacturing Scheduling Workbench lets you view all jobs on the shop floor. You can interactively reschedule jobs, operations, and resources. The workbench comprises four panes:

- Top left pane: Tree Hierarchy (default)
- Top right pane: Gantt Chart (default)
- Bottom left pane: Select Resource(s)
- Bottom right pane: Resource Load Versus Capacity

The Manufacturing Scheduling Workbench defaults to the Tree Hierarchy and Gantt Chart panes. The Select Resource(s) and Resource Load Versus Capacity panes appear when you choose Show/Hide Resource Load on the toolbar. A Status bar, which appears at the bottom of the window, indicates the current scheduling mode of operation and also displays messages.



Tree Hierarchy Pane

This pane displays the contents of the workbench. There are three levels of information or branches in the hierarchy of the tree: job, operation, and resource. The Tree Hierarchy is dynamically created when you launch the workbench, which defaults to show only unreleased, released, and on hold jobs. You can update the display at any time by choosing Update Shop Floor Snapshot on the toolbar. You can also select jobs to display. See: Filtering Jobs on page 3-4.

Gantt Chart Pane

This pane consists of a timeline, which appears at the top, and a horizontal bar chart. The timeline represents a time axis (bucket) for the horizontal bar chart. The Gantt chart directly reflects the tree hierarchy. The left side of a horizontal bar represents the start date; the right side of a horizontal bar represents the end date. The magenta vertical line represents today's date, which is located at the left edge of the Gantt Chart pane by default.

This pane lets you:

- Manually reschedule jobs, operations, and resources (see: Manually Rescheduling Start and End Dates on page 3-13)
- Automatically reschedule jobs and operations—resources are adjusted according to the newly realized requirements (see: Automatically Rescheduling Jobs and Operations on page 3-15)

You can view rescheduling activities in the Resource Load Versus Capacity pane by appropriately choosing Refresh Resource Load on the toolbar as follows:

- In manual mode—after saving changes
- In automatic mode—prior to saving changes

Select Resource(s) Pane

This pane consists of resources selected through the Select Resource(s) window. When you choose the Select Resource(s) button, the Select Resource(s) window appears. This window lets you select the available resources to display in the Resource Load Versus Capacity pane.

Resource Load Versus Capacity Pane

This pane shows the Required resource load versus the Available resource capacity for the selected resource(s) that appear in the Select Resource(s) pane. This pane

shares the same timeline as the Gantt Chart pane and reflects the rescheduling activity in the Gantt Chart pane after the changes are saved. The Required resource load, Available resource capacity, and Overload resource capacity key indicators appear to the right of the graphic drop-down menu. The key indicators are:

Required: Number of units required by the resource for all jobs in that time bucket.

Available: The number of resource capacity units in that time bucket (all of which could already be assigned).

Overload: Number of resource units that are required but already committed.

The graphic drop-down menu provides the following choices:

Table: Shows in tabular form. The top number represents the Required resource load; the bottom number represents the Available resource capacity.

Continuous: Shows a continuous graph. Non-bucketed lines representing Required, Available, and Overload resources accurate to the minute.

Bar: Shows a bar graph. The number on the left represents the Required resource load; the number on the right represents the Available resource capacity.

When you select:

- Table or Bar—the Required and Available key indicators appear
- Continuous—the Required, Available, and Overload key indicators appear

When the Required resource load is greater than the resource capacity, the Required resource load number appears red.

Note: Resource load includes all shop floor demand, not just demand displayed on the workbench.

Scrolling and Resizing the Panes

The vertical and horizontal scroll bars let you display all the contents of a pane. You can resize a pane by dragging the vertical or horizontal border line to desired position.

When scrolling in the automatic mode, first start dragging the job or operation, then use the lower horizontal scroll bar to scroll the screen to the left or right. The job or operation will remain fixed on the Gantt Chart pane while the background time period scrolls left or right, respectively.

Workbench Menus

The menus provide you with these choices:

Menu	Menu Item	Description
File	Revert and Refresh ¹	Restores latest database view.
	Save and Refresh ¹	Saves latest changes to database.
	Close	Closes Manufacturing Scheduling Workbench.
Edit	Cut	Removes selection and stores it in clipboard.
	Copy	Copies selection and stores it in clipboard.
	Paste	Copies selection from clipboard to selected location.
	Clear Selected	Clears selection without storing it in clipboard.
	Select All	Highlights all the information.
View	Bar Inspector	Displays Bar Inspector window that shows start and end dates of selected job, operation, or resource.
	Show/Hide Resource Load ¹	Shows or hides Select Resource(s) and Resource Load Versus Capacity panes.
	Refresh Resource Load ¹	Refreshes Resource Load Versus Capacity pane with latest changes.
	Filter Jobs ²	Displays Filter Jobs window that lets you display specific jobs in the Tree Hierarchy pane and corresponding Gantt Chart pane by entering data in the respective fields and/or checking the respective check boxes.
Tools	Automatic/Manual Scheduling ¹	Displays dialog box that contains two selections: Manual and Automatic.
	Update Shop Floor Snapshot/ Take Shop Floor Snapshot ¹	Updates system information with changes made on the shop floor. Takes snapshot of system information on the shop floor.
Help	About	Displays information about underlying software.
	Library	Displays search window for Oracle Applications Library.
<p>1. You can also execute this function from its respective icon on the toolbar.</p> <p>2. You can also execute this function from the Filter Jobs button.</p>		

Workbench Toolbar

The following toolbar icons, which are located below the menus, provide the same function as their respective menu items. From left to right, they are:

Save and Refresh: See: File menu on page 1-7.

Revert and Refresh: See: File menu on page 1-7.

Update Shop Floor Snapshot/Take Shop Floor Snapshot: See: Tools menu on page 1-7.

Automatic/Manual Scheduling: See: Tools menu on page 1-7.

Show/Hide Resource Load: See: View menu on page 1-7.

Refresh Resource Load: See: View menu on page 1-7.

In addition to the menus and toolbar, a button appears above the Tree Hierarchy pane, which provides the same function as its respective menu item.

Filter Jobs: See: View menu on page 1-7.

This chapter provides information about setting up Oracle Manufacturing Scheduling as well as the necessary Oracle Work in Process Application functionality.

The following topics included are:

- Overview of Setting Up on page 2-2
- Related Product Setup Steps on page 2-2
- Setup Flowchart on page 2-2
- Setup Checklist on page 2-3
- Setup Steps on page 2-3
- Defining WIP Parameters on page 2-5
- Defining WIP Profile Options on page 2-6
- Defining WIP Resource Definition on page 2-7
- Defining WIP Scheduling Priority on page 2-9

The following tasks included are:

- To define work in process parameters on page 2-5
- To define a work in process profile on page 2-6
- To schedule a work in process resource on page 2-8
- To select the scheduling priority on page 2-10

Overview of Setting Up

This section contains an overview of each step you need to complete to set up Oracle Manufacturing Scheduling. For instructions on how to complete each task, see the setup sections indicated in each step below.

You may not need to perform some of the steps below if you've already performed a common-application setup (setting up multiple Oracle Applications products).

Related Product Setup Steps

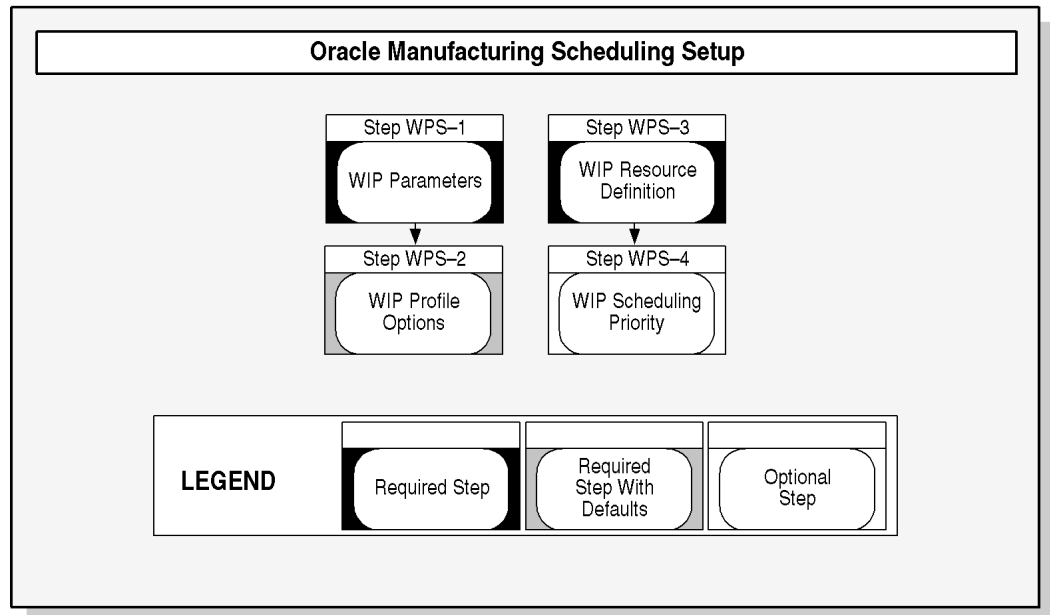
Oracle Manufacturing Scheduling requires that Oracle Work in Process Release 11i be set up for discrete jobs. See *Oracle Work in Process User's Guide*.

Setup Flowchart

Some of the steps outlined in this flowchart and setup checklist are:

- Required
- Required Step With Defaults
- Optional

Required Step With Defaults refers to setup functionality that comes with pre-seeded, default values in the database; however, you should review those defaults and decide whether to change them to suit your business needs. If you need to change them, you should perform that setup step. You need to perform Optional steps only if you plan to use the related feature or complete certain business functions.



Setup Checklist

The following table lists setup steps. After you log on to Oracle Applications, complete these steps to implement Oracle Manufacturing Scheduling.

Step No.	Required	Step
Step 1	Required	Defining WIP Parameters
Step 2	Required	Defining WIP Profile Options
Step 3	Required	Defining WIP Resource Definition
Step 4	Optional	Defining WIP Scheduling Priority

Setup Steps

For each step, a Context section indicates whether you need to repeat the step.

Step 1 Defining WIP Parameters

WIP parameters define modes of operation and default values that affect Work in Process.

Default: Defaults to unchecked *Use Constraint Based Scheduler* check box.

Default: Defaults to *Resource Only* in the Constraints drop-down menu.

Default: There is no default for the Horizon (days) field. You need to enter a value.

Context: You need to perform this step initially and as needed.

See: Defining WIP Parameters on page 2-5.

Step 2 Defining WIP Profile Options

You can select either concurrent or interactive processing while defining jobs.

Default: If you skip this step, defaults to *Interactive definition* in User Value drop-down menu.

Context: You need to perform this step whenever you want to change the discrete job creation definition.

See: Defining WIP Profile Options on page 2-6.

Step 3 Defining WIP Resource Definition

You must schedule a resource as Yes, Prior, or Next to enable the constraint-based scheduling engine to properly calculate the capacity for the resource.

Default: If you skip this step, defaults to *No* in the Scheduled drop-down menu.

Context: You need to perform this step initially for each resource created.

See: Defining WIP Resource Definition on page 2-7.

Step 4 Defining WIP Scheduling Priority

You can select any priority number from 1 to 9999.

Default: If you skip this step, defaults to *10* in the Scheduling Priority field.

Context: If certain jobs have a higher priority, you need to perform this step every time a job is created from the Discrete Jobs window or prior to mass rescheduling of the shop floor.

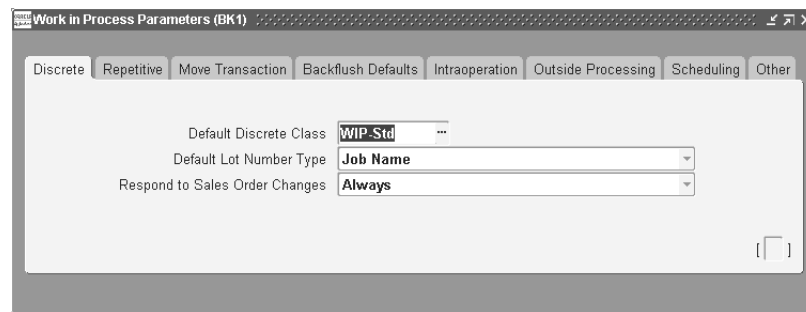
See: Defining WIP Scheduling Priority on page 2-9.

Defining WIP Parameters

WIP parameters define modes of operation and default values that affect Work in Process.

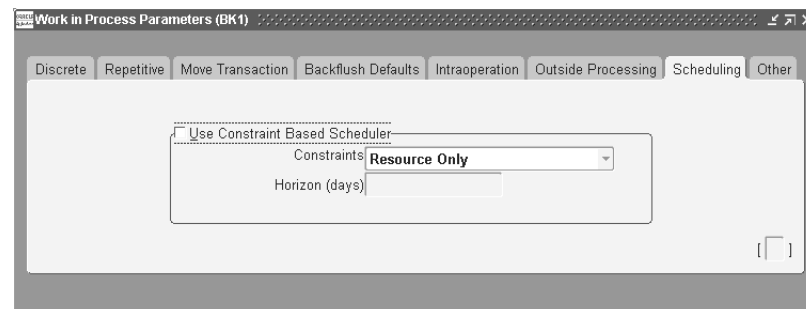
►► To define work in process parameters

1. Navigate to the Work in Process Parameters window.



The Work in Process Parameters window appears.

2. Select the Scheduling tab.



3. Check the Use Constraint Based Scheduler check box.
4. From the Constraints drop-down menu select Resource Only or Resource and Material.
5. In the Horizon (days) field, enter a scheduling horizon adequate to calculate your resources and material.

Note: The scheduling horizon should be at least as long as your longest job. You should add additional time to take into consideration future material receipts.

Note: When using this application with an advanced planning product, you can select a shorter scheduling horizon (as short as one day is allowed) so as to not override all your planning.

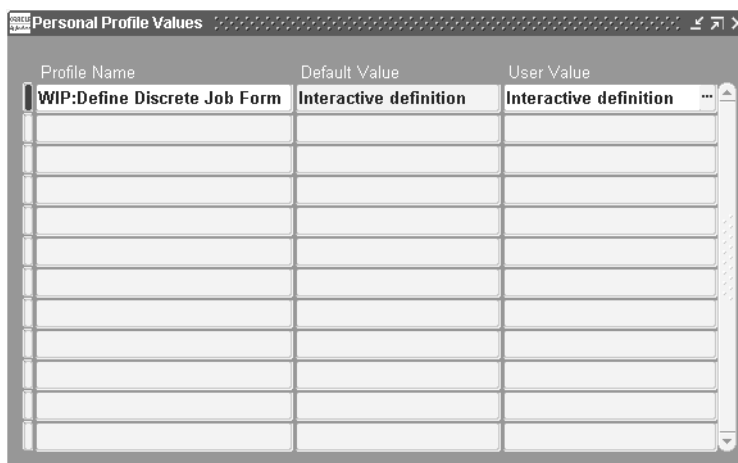
6. Choose Save on the toolbar.

Defining WIP Profile Options

This specifies the scheduling processing used when new jobs are created from the Discrete Jobs window. You can select either concurrent or interactive processing while scheduling jobs.

►► To define a work in process profile

1. Navigate to the Personal Profile Values window.



The Personal Profile Values window appears.

2. In the Profile Name field, query WIP% and select WIP:Define Discrete Jobs Form. Then select a User Value.

Concurrent definition: Best for scheduling multiple jobs. The system does not freeze while waiting for the execution of a transaction to complete.

Interactive definition: Best for scheduling only a few jobs. The system freezes while the transaction is executing. You can not open any other application. When the job is scheduled, control returns to you.

3. Choose Save on the toolbar.
4. From the File menu choose Close Form.

After you create and schedule a new discrete job, choose Save on the toolbar. See: Creating and Scheduling a New Job on page 4-1.

If you selected *Concurrent definition*, the following sequence occurs:

- a. Bill of Material loads.
- b. Routing loads.
- c. Scheduling engine runs in the background. Status is Pending Bill Load unless an exception is realized.
- d. If the scheduling engine can schedule the job without any exceptions, the job will be scheduled. The status may change to Pending Scheduling if an exception occurs during the scheduling process. You can read any exception messages in the request log file.

If you selected *Interactive definition*, the following sequence occurs:

- a. Application momentarily locks you out.
- b. Bill of Material loads.
- c. Routing loads.
- d. Control returns to you while the scheduling engine is running in the background. The status is Pending Scheduling during this time.
- e. If the scheduling engine can schedule the job without any exceptions, the job will be scheduled. Otherwise, the status remains at Pending Scheduling and you must read the exception messages in the request log file.

Defining WIP Resource Definition

You must schedule a resource as Yes, Prior, or Next to enable the constraint-based scheduling engine to consider the capacity for the resource.

►► To schedule a work in process resource

1. Navigate to the Standard Operations window.

Code	Description	Department	Min Transfer Qty	Option Dependent	Count Point	Autocharge
BAS1	Install Handle Bars	BK_SUBASSY	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BAS2	Install Seat and Chair	BK_SUBASSY	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BAS3	Install Tires	BK_SUBASSY	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BINS	Final Inspect	BK_ASSY	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BMA1	Machining Frame	BK_MACHINE	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BMA2	Machining Handle Ba	BK_MACHINE	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BSET	Setup	BK_ASSY	0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BSUB	Subassemble from a	BK_SUBASSY	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

The Standard Operations window appears.

2. In the Code field select a record.
3. Choose Operation Resources button.

The Resources window appears.

4. Select the Scheduling tab.

Seq	Resource	Available 24 Hours	Assigned Units	Schedule
10	BK_Asm-2	<input type="checkbox"/>	1	Yes
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		

5. In the Schedule field select Yes, Prior, or Next.

Note: If you do not select Yes, Prior, or Next, the constraint-based scheduling engine will not consider the capacity for the resource.

Note: If you have a change in available resources, you can edit the Assigned Units field.

6. Choose Save on the toolbar.

Defining WIP Scheduling Priority

When scheduling multiple jobs, you can select a specific job and enter a requested due date that is different than the completion date. The system may recalculate the completion date. The requested due date is user-defined and will never be recalculated by the system. You can also assign a scheduling priority number for this job. The prerequisite for this functionality is that the Use Constraint Based Scheduler check box is checked (see: Defining WIP Parameters on page 2-5). When scheduling multiple jobs the following criteria is used:

- Schedules the highest priority job first—regardless of the date of the Requested Due Date field. Insures that resources and material are allocated to the highest priority jobs.
- Prioritizes jobs with the same user-defined priority based on the earliest date of the Requested Due Date field or Job Completion Date field of each job if the requested due date is not provided

►► To select the scheduling priority

1. Navigate to the Discrete Jobs window.

The screenshot shows the 'Discrete Jobs (WPS)' window. At the top, there are input fields for Job, Assembly, Class, and Status (set to 'Pending Scheduling'). To the right, there is a 'Type' dropdown set to 'Standard', a 'UOM' field, and a 'Firm' checkbox. Below these are 'Quantities' and 'Dates' sections, each with 'Start' and 'MRP Net' or 'Completion' fields. A tabbed interface at the bottom includes 'Bill', 'Routing', 'Job History', 'Schedule Group, Project', 'Scheduling', and 'More'. The 'Bill' tab is currently selected, showing fields for Reference, Alternate, Revision, Revision Date, and Supply Type (set to 'Based on Bill'). At the very bottom are buttons for 'Sales Orders', 'Operations', and 'Components'.

The Discrete Jobs window appears.

2. Select the Scheduling tab.

This screenshot shows the same 'Discrete Jobs (WPS)' window, but now the 'Scheduling' tab is selected. The 'Job' field is populated with '115697'. The 'Scheduling' tab displays a 'Requested Due Date' field with a calendar icon and a 'Scheduling Priority' field with the value '10'. The other tabs and fields remain the same as in the previous screenshot.

3. In the Requested Due Date field enter a date (optional).
4. In the Scheduling Priority field, enter a number ranging from 1 to 9999, with 1 being the highest priority.
The default priority is 10.
5. Choose Save on the toolbar.

Using the Manufacturing Scheduling Workbench

This chapter explains how to launch the Manufacturing Scheduling Workbench, filter jobs, change the timeline, and select resources. It also explains how to manually or automatically reschedule jobs, operations, and resources.

The following topics included are:

- Overview of Workbench on page 3-3
- Launching the Workbench on page 3-3
- Filtering Jobs on page 3-4
- Expanding Jobs or Operations on page 3-6
- Collapsing Operations or Jobs on page 3-7
- Changing the Timeline on page 3-7
- Viewing a Property Window on page 3-8
- Job Property Window on page 3-8
- Operation Property Window on page 3-9
- Resource Property Window on page 3-10
- Showing Select Resource(s) and Resource Load Versus Capacity Panes on page 3-10
- Selecting a Resource on page 3-11
- Rescheduling Jobs, Operations, and Resources in the Gantt Chart on page 3-12
- Manually Rescheduling Start and End Dates on page 3-13

-
- Automatically Rescheduling Jobs and Operations on page 3-15

The following tasks included are:

- To launch the Workbench on page 3-3
- To filter jobs on page 3-5
- To expand a job on page 3-6
- To expand an operation on page 3-6
- To collapse an operation on page 3-7
- To collapse a job on page 3-7
- To change the timeline on page 3-7
- To view a property window on page 3-8
- To show the Select Resource(s) and Resource Load Versus Capacity Panes on page 3-10
- To hide the Select Resource(s) and Resource Load Versus Capacity Panes on page 3-10
- To select a resource on page 3-11
- To manually forward or backward reschedule using the pointer on page 3-13
- To manually forward or backward reschedule a bar using the pointer on page 3-13
- To manually forward or backward reschedule using the editor on page 3-14
- To automatically forward or backward reschedule a job using the pointer on page 3-16
- To automatically forward or backward reschedule a job using the rescheduler on page 3-17
- To automatically forward or backward reschedule an operation using the rescheduler on page 3-18

Overview of Workbench

The Manufacturing Scheduling Workbench lets you select specific jobs, expand and collapse jobs and operations in the Tree Hierarchy. You can display resources in the Select Resource(s) pane, and view its capacity and load in the Resource Load Versus Capacity pane. You can also select a job in the Gantt Chart pane and manually or automatically reschedule the job and its associated operations or resources.

Launching the Workbench

Before you launch the workbench, ensure that you have set up the following:

- Defining WIP Parameters on page 2-5
- Defining WIP Profile Options on page 2-6
- Defining WIP Resource Definition on page 2-7
- Defining WIP Scheduling Priority on page 2-9

►► To launch the Workbench

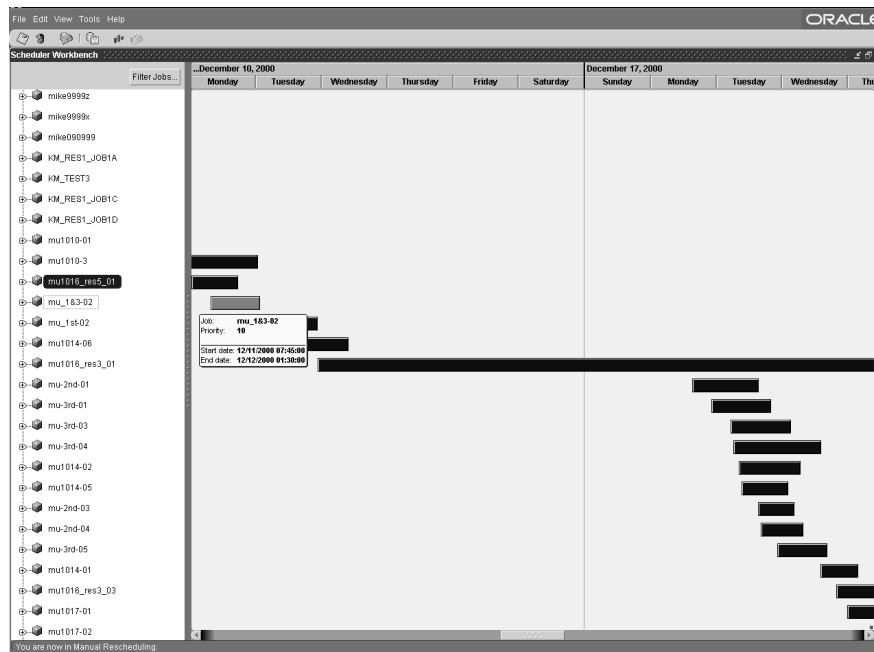
1. From the Oracle Application menu enter user name and password.
2. Choose OK.

The Responsibility window appears.

3. Choose Manufacturing Scheduler responsibility, or the appropriate responsibility set up by your system administrator.

The appropriate Navigator menu appears.

4. Choose Manufacturing Scheduling > Manufacturing Scheduling > Scheduling Workbench, or the appropriate navigator path as setup by your system administrator.



The Manufacturing Scheduling Workbench appears and shows all the jobs in the Tree Hierarchy and Gantt Chart panes.

Filtering Jobs

You can filter specific jobs from the Manufacturing Scheduling Workbench by invoking the Filter Jobs window.

►► To filter jobs

1. Choose the Filter Jobs button, or from the View menu choose Filter Jobs.

The Filter Jobs window appears which contains the following fields and check boxes:

The fields are:

Department: An area within your organization that consists of one or more people, machines, or suppliers.

Resource: Anything of value, except material and cash, required to manufacture, cost, and schedule products. Resources include people, tools, machines, labor purchased from a supplier, and physical space.

Job: A production order for the manufacture of a specific (discrete) quantity of an assembly, using specific materials and resources, in a limited time.

Assembly: An item that has a bill of material. You can purchase or manufacture an assembly item.

Component: A serviceable item that is a part or feature in another serviceable item.

The check boxes are:

Immediate Dispatch: Used in conjunction with department or resource job filter criteria. Includes jobs where there is quantity in an operation assigned to the selected department or resource.

Upstream Dispatch: Used in conjunction with department or resource job filter criteria. Includes upstream jobs where there is quantity in an operation assigned to the selected department or resource.

Job Status:

Released: The work has begun and the discrete job is transactable. Defaults to checked.

Unreleased: The job is planned but not released for work to begin and not yet transactable.

On Hold: The job is prevented from progressing through the order cycle.

Complete Charges: The job is complete and charges are allowed.

Complete No Charges: The job is complete but charges are not allowed.

2. Enter required information to filter jobs.
3. Choose Apply.

The Manufacturing Scheduling Workbench refreshes and shows the selected job(s) associated with the information you entered.

Expanding Jobs or Operations

You can expand a job and its operation(s) in the Tree Hierarchy pane to view the associated resources.

►► To expand a job

- ☐ Point and click on the (+) symbol next to a job.

The job expands showing the respective operation(s). The symbol next to the selected job changes to (-); the symbol next to the operation is (+).

►► To expand an operation

- ☐ Point and click on the (+) symbol next to an operation.

The operation expands showing its associated resources(s). The symbol next to the selected operation changes to (-).

Collapsing Operations or Jobs

You can collapse an operation or job in the Tree Hierarchy.

►► To collapse an operation

- ☐ Point and click on the (-) symbol next to an operation.

The operation collapses. The symbol next to the selected operation changes to (+).

►► To collapse a job

- ☐ Point and click on the (-) symbol next to a job.

The job collapses. The symbol next to the selected job changes to (+).

Changing the Timeline

You should change the timeline in the Gantt Chart pane to view at least one complete operation.

►► To change the timeline

1. Right click on the timeline.

A drop-down menu appears which lets you increment the timeline in:

- Months
- Weeks
- Days
- Hours
- 30 Minutes
- 15 Minutes
- Horizontal Sliding Bar - Lets you fine tune the bucket width.
 - * The left-most position shows the minimum bucket width
 - * The right-most position shows the maximum bucket width

2. Choose the appropriate increment to resize the buckets so that at least one complete operation is viewable.

Viewing a Property Window

You can view (read-only) the property window of a job, operation or resource in the Gantt Chart pane. See: Job Property Window, Operation Property Window, and Resource Property Window.

▮▮ To view a property window

1. In the Tree Hierarchy or Gantt Chart pane:
 - a. Left double-click on a job, operation, or resource.

The property window for the respective job, operation, or resource appears.
 - a. Right click on a job, operation, or resource.

A drop-down menu appears.
2. Choose Properties.

The property window for the respective job, operation, or resource appears.

Job Property Window

The Job Property window contains the following information:

Job Name: The name of job.

Job Description: The description of job.

Assembly: The specified subassembly or final assembly.

Assembly Description: The description of the assembly.

Priority: Identifies which item/activity to begin first, second, etc.

Status: The stage in the life cycle of a job (Released, Unreleased, Complete, Complete-No Charges, On Hold, Canceled, Closed). See *Oracle Work in Process User's Guide*.

Firm Flag: Denotes a job that cannot be modified by the planning or rescheduling process. See *Oracle Master Planning/MRP User's Guide* and *Oracle Supply Chain Planning User's Guide*.

Start Date: The specified or calculated date the job will start.

End Date: The specified or calculated date the job will end.

Quantity: The number of items.

Bill Revision: The bill revision specified for the job. See *Oracle Bill of Materials User's Guide*.

Routing Revision: The routing revision specified for the job. See *Oracle Bill of Materials User's Guide*.

Demand Class: An optional grouping of similar customers or sales orders. See *Oracle Master Planning/MRP User's Guide* and *Oracle Supply Chain Planning User's Guide*.

KanBan: The location in the work center where the item is located. See *Oracle Master Planning/MRP User's Guide* and *Oracle Supply Chain Planning User's Guide*.

Schedule Group: A collection of jobs defined by the scheduler or planner.

Line: Production line. See *Oracle Work in Process User's Guide*.

Task: A subdivision of project work. See *Oracle Project Manufacturing User's Guide*.

Operation Property Window

The Operation Property window contains the following information:

Operation Code: A label that defines a standard operation. See *Oracle Work in Process User's Guide*.

Start Date: The specified or calculated date the operation will start.

End Date: The specified or calculated date the operation will end.

Operation Description: The description of the operation.

Queue Quantity: The quantity currently in the Queue intraoperation step. See Intraoperation Steps in *Oracle Work in Process User's Guide*.

Run Quantity: The quantity currently in the Run intraoperation step. See Intraoperation Steps in *Oracle Work in Process User's Guide*.

To Move Quantity: The quantity currently in the To Move intraoperation step. See Intraoperation Steps in *Oracle Work in Process User's Guide*.

Reject Quantity: The quantity currently in the Reject intraoperation step. See Intraoperation Steps in *Oracle Work in Process User's Guide*.

Scrap Quantity: The quantity currently in the Scrap intraoperation step. See Intraoperation Steps in *Oracle Work in Process User's Guide*.

Complete Quantity: The quantity with the status of Complete. See *Oracle Work in Process User's Guide*.

Backflush: Enabled Yes or No.

Minimum Transfer Quantity: The minimum number of assemblies to move from your current operation to the next. Work in Process warns you when you move less than the minimum transfer quantity.

Date Last Moved: The date of last movement of quantity in a job.

Resource Property Window

The Resource Property window contains the following information:

Resource Name: The name of resource.

Resource Description: The description of resource.

Start Date: The specified or calculated date resource usage will start.

End Date: The specified or calculated date resource usage will end.

Assigned Units: The number of resource units assigned to work at an operation in a routing.

UOM: The unit that the quantity of an item is expressed.

Basis: Item or lot.

Showing Select Resource(s) and Resource Load Versus Capacity Panes

You can show or hide the Select Resource(s) and Resource Load Versus Capacity panes.

►► To show the Select Resource(s) and Resource Load Versus Capacity Panes

- ☐ Choose Show/Hide Resource Load on the toolbar.
- ☐ From the View menu choose Show/Hide Resource Load.

The Select Resource(s) and Resource Load Versus Capacity panes appear.

►► To hide the Select Resource(s) and Resource Load Versus Capacity Panes

- ☐ Choose Show/Hide Resource again on the toolbar.
- ☐ From the View menu choose Show/Hide Resource Load.

The Select Resource(s) and Resource Load Versus Capacity panes do not appear.

Note: The Resource Load Versus Capacity will not change if you filter jobs in the Gantt chart because the total demand placed on those resources by all jobs on the shop floor has not changed.

Selecting a Resource

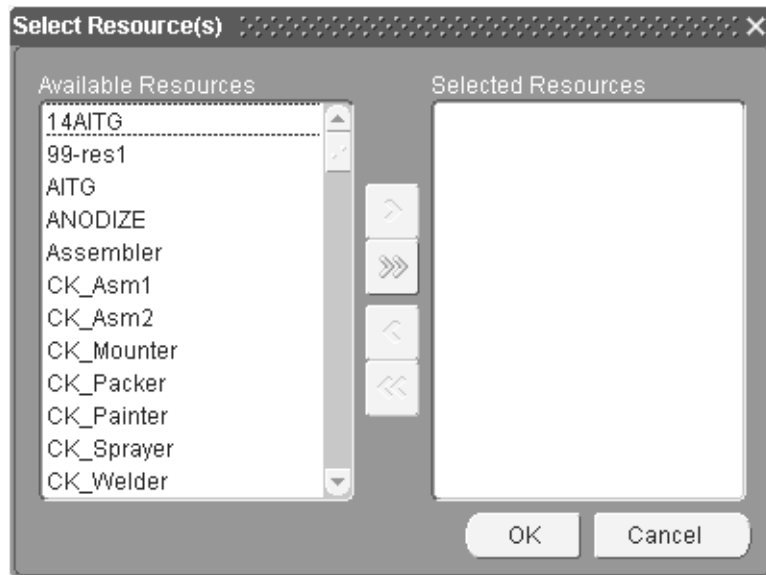
You can select a specific resource. If you are uncertain of the resource name, you can expand a job and an operation and view the specific resource of interest. To obtain the resource name:

- Focus on a resource bar with your mouse pointer (yellow text bubble appears which indicates the name of the resource)

The name of the resource is also available on the Resource Property window.

►► To select a resource

1. In the Select Resource(s) pane choose the Select Resource(s) button.



The Select Resource(s) window appears.

2. In the Available Resources pane select a resource.

Note: The load time is linear to the number of resources selected; therefore, the more resources selected, the longer the system pauses to download the resource information.

3. Choose >>.

The resource appears in the Selected Resources pane. Repeat Steps 2 and 3 to select multiple resources, or hold down the Ctrl key while selecting resources.

4. Choose OK.

The name and description of the resource appears in the Select Resource(s) pane and its corresponding graphic display for the resource appears in the Resource Load Versus Capacity pane. This represents the resource load for all jobs on the shop floor requiring this resource. The default graphic view is Table. The Required and Available key indicators appear.

5. From the graphic drop-down menu choose Continuous.

A continuous line graph appears. The Required, Available, and Overload key indicators appear.

6. From the graphic drop-down menu choose Bar.

A bar graph appears. The Required and Available key indicators appear.

Rescheduling Jobs, Operations, and Resources in the Gantt Chart

You can manually or automatically reschedule the start and end dates of a job, operation, or resource as follows:

- Manual Mode. See: Manually Rescheduling Jobs and Operations on page 3-13.
 - Grab and drag the start or end of a bar
 - Use the Edit Schedule window

You can invoke the Bar Inspector window that shows the start and end dates of a selected job, operation, or resource.

- Automatic Mode. See: Automatically Rescheduling Jobs and Operations on page 3-15.
 - Grab and drag the start or end of a bar
 - Invoke the Automatic Rescheduling window

Manually Rescheduling Start and End Dates

You can manually reschedule any job, operation, or resource without regard for constraints or scheduling rules. You can manually reschedule the start and end dates by:

- Rescheduling the start and end edges of a bar individually using the pointer
- Rescheduling the entire bar using the pointer
- Entering the start and/or end date in the Edit Schedule window

You can invoke the manual rescheduling functionality as follows:

- Toggle Automatic/Manual Scheduling on the toolbar to Manual

Note: Manual rescheduling is the default mode.

▮▮ To manually forward or backward reschedule using the pointer

1. Point at the start or end of a job, operation, or resource bar.
2. Grab and drag to the right (forward) or left (backward).

The beginning or end of the bar moves to the right or left, respectively.

3. Choose Save on the toolbar when you are ready to save changes.

▮▮ To manually forward or backward reschedule a bar using the pointer

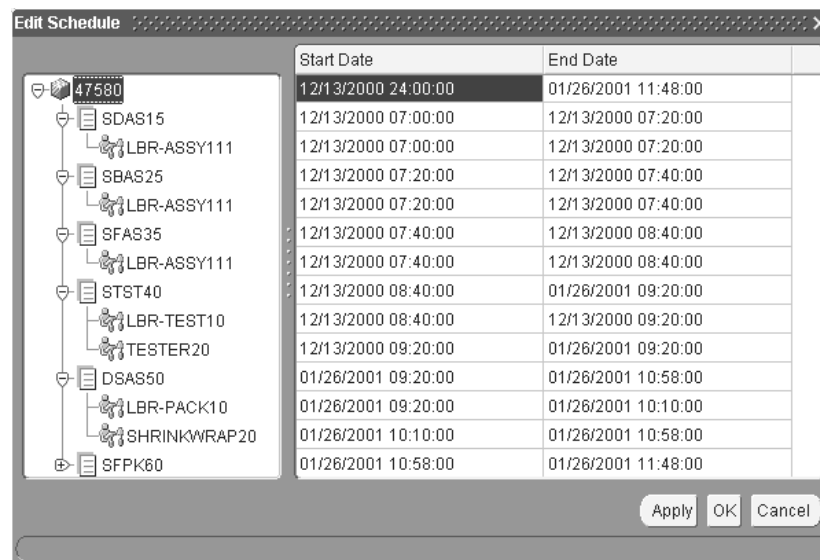
1. Point at the midpoint of a bar.
2. Grab and drag to the right (forward) or left (backward).

The bar moves to the right or left, respectively.

3. Choose Save on the toolbar when you are ready to save changes.

►► To manually forward or backward reschedule using the editor

1. Right click on any bar.
- A drop-down menu appears.
2. Choose Edit Schedule.



The Edit Schedule window appears.

3. In the Start Date and/or End Date fields, enter the new start and/or end date for the required job(s) or operation(s).
4. Choose Apply.
- The bar moves to the new start and/or end date.
5. Choose Save on the toolbar when you are ready to save changes.

Automatically Rescheduling Jobs and Operations

You can automatically reschedule any job or operation. The required resource(s) and material are used as the determining factor.

You can invoke the automatic rescheduling function as follows:

- Toggle Automatic/Manual Scheduling on the toolbar to Automatic
- Select the Tools menu, choose Automatic/Manual Scheduling, then choose Automatic
- Right click on a job or operation in the Gantt Chart pane, choose Automatically Reschedule from the drop-down menu, and specify the date and direction you want the scheduler to use

The automatic scheduler lets you:

- Specify the start and end dates by dragging the beginning or end of a bar
- Forward or backward schedule a job
- Forward or backward schedule an operation using the midpoint or midpoint forward scheduling method

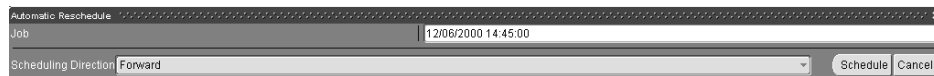
The constraint-based scheduling engine uses your date if constraints allow, or it moves the job and/or operation forward to the first available time slot as resources and material are available.

The following is recommended:

- Take a snapshot before rescheduling
- Periodically take a snapshot to ensure the capacities used by the constraint-based scheduling engine are correct

►► **To automatically forward or backward reschedule a job using the pointer**

1. Toggle or select Automatic/Manual Scheduling from the toolbar or Tools menu.
2. Point at the beginning or end of a job.
3. Grab and drag to the right (forward) or left (backward).



The Automatic Reschedule window appears.

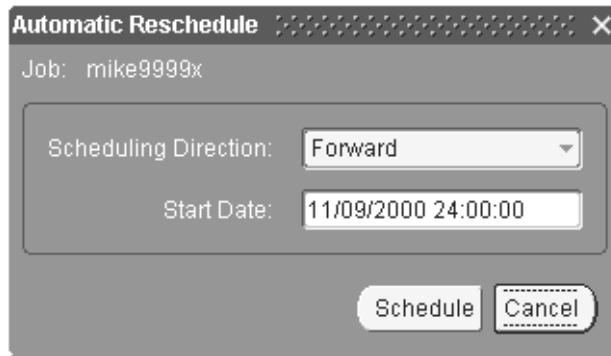
4. Verify date and scheduling direction.
5. Choose Schedule.

The constraint-based scheduling engine uses the selected date or searches for the first available time slot as resources and material are available.

6. Choose Refresh Resource Load on the toolbar to view changes prior to saving.
7. Choose Save on the toolbar when you are ready to save changes.

►► To automatically forward or backward reschedule a job using the rescheduler

1. If you are in the:
 - a. Manual mode—right click on a job. A drop-down menu appears. Choose Automatically Reschedule.



The Automatic Reschedule window appears.

- b. Automatic mode—focus on the start (forward scheduling) or end (backward scheduling) portion of a job, left click on the light blue portion of the job, and drag the job right (forward) or left (backward).

The Automatic Reschedule window appears.

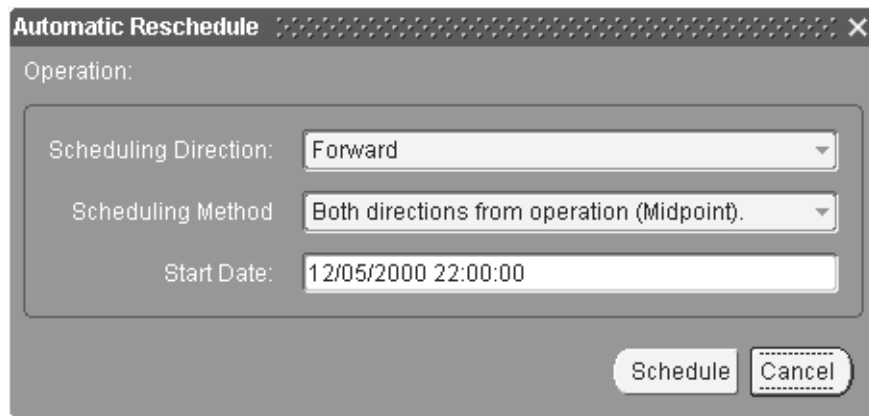
2. In the Scheduling Direction field verify Forward or Backward.
3. Verify the start date (Forward) or end date (Backward).
4. Choose Schedule.

The job attempts to start on the date requested as constraints allow, or moves forward until the next available time slot is found. The job's operations and resources move with the job.

5. Choose Refresh Resource Load on the toolbar to view changes prior to saving.
6. Choose Save on the toolbar when you are ready to save changes.

►► **To automatically forward or backward reschedule an operation using the rescheduler**

1. If you are in the:
 - a. Manual mode—right click on an operation. A drop-down menu appears. Choose Automatically Reschedule.



The image shows a dialog box titled "Automatic Reschedule" with a close button (X) in the top right corner. Below the title bar, there is a label "Operation:" followed by a text input field. Below this, there are three fields: "Scheduling Direction:" with a dropdown menu showing "Forward", "Scheduling Method:" with a dropdown menu showing "Both directions from operation (Midpoint).", and "Start Date:" with a text input field showing "12/05/2000 22:00:00". At the bottom right, there are two buttons: "Schedule" and "Cancel".

The Automatic Reschedule window appears.

- b. Automatic mode—focus on the start or end portion of an operation, left click on the light blue portion of the operation, and drag the operation right (forward) or left (backward).

The Automatic Reschedule window appears.

2. In the Scheduling Direction field verify Forward or Backward.
3. In the Scheduling Method field select the appropriate method.

Both directions from operation (Midpoint): Reschedules all prior and next operations when a time slot is found for this selected operation. The constraint-based scheduling engine looks for sufficient resources to allow the operation to be placed at its newly desired time slot while finding a time slot for all prior and next operations—keeping all operations in their original sequence.

Forward from operation (Midpoint Forward): Moves only the selected and next operations, keeping them in sequence, when a time slot is located to move this specified operation. Prior operations will not be rescheduled.

Note: Use Midpoint Forward when you have already started a job and have activity in any operation.

4. Verify the start date (Forward) or end date (Backward).
5. Choose Schedule.
6. Choose Save on the toolbar when you are ready to save changes.

Creating and Scheduling Jobs

This chapter explains how to create and schedule jobs.

The following topics included are:

- Overview of Creating and Scheduling Jobs on page 4-1
- Creating and Scheduling a New Job on page 4-1

The following task included is:

- To create and schedule a new job on page 4-2

Overview of Creating and Scheduling Jobs

Oracle Manufacturing Scheduling lets you schedule discrete jobs based on resource and material constraints.

Creating and Scheduling a New Job

Refer to the Oracle Work in Process task for creating discrete jobs with the following additional considerations.

Note: To use the constraint-based scheduling engine to schedule your jobs, you must check the Constraint Based Scheduling check box on the Scheduling tab of the WIP Parameters window. You also must complete all other setup requirements as specified in Setup Steps on page 2-3 in Chapter 2, Setting Up.

►► To create and schedule a new job

1. Navigate to the Discrete Jobs window.

The Find Discrete Jobs window appears.

2. Choose New button.

Discrete Jobs (WPS)

Job Type

Assembly

Class UOM

Status ☐ Firm

Quantities

Start Dates Start

MRP Net Completion

Bill Routing Job History Schedule Group, Project Scheduling More

Reference

Alternate

Revision Revision Date

Supply Type

Sales Orders Operations Components

The Discrete Jobs window appears.

3. In the Job field enter the name of a job.
4. In the Type field select Standard.
5. In the Assembly field select an assembly from the List of Values.

Note: The assembly is the item you are building. If the assembly is not present, see *Oracle Inventory User's Guide* or *Oracle Bill of Materials User's Guide*.

6. In the Class field enter a class.

Note: If the class is not present, see WIP Accounting Classes in *Oracle Work in Process User's Guide*.

7. With the constraint-based scheduling engine active, the Status field is automatically set to Pending Scheduling. See: Defining WIP Profile Options on page 2-6.
8. Ensure that the Firm check box is not checked.
If the Firm check box is checked:
 - A single job will be rescheduled
 - The Schedule Discrete Jobs rescheduling function skips the job
9. In the Quantities region enter a quantity in the Start field.
10. In the Dates region enter a date in the Start or Completion field.
11. Select the Scheduling tab.

The screenshot shows the 'Discrete Jobs (WPS)' window. At the top, there are fields for Job (115697), Type (Standard), Assembly, Class, UOM, and Status (Pending Scheduling). A 'Firm' checkbox is present and unchecked. Below these are two main regions: 'Quantities' with 'Start' and 'MRP Net' fields, and 'Dates' with 'Start' and 'Completion' fields. A tabbed interface at the bottom includes 'Bill', 'Routing', 'Job History', 'Schedule Group, Project', 'Scheduling' (which is selected), and 'More'. The 'Scheduling' tab displays 'Requested Due Date' and 'Scheduling Priority' (set to 10). At the very bottom are buttons for 'Sales Orders', 'Operations', and 'Components'.

12. In the Requested Due Date field enter a date (optional).

Note: Enter a requested due date if you want the constraint-based scheduling engine to schedule as close to this date as possible. The requested due date is considered based on the priority you assign to this job.

13. In the Scheduling Priority field enter a priority (optional).

Note: All other setup information is the same as in the *Oracle Work in Process User's Guide*. However, no other mandatory input is needed to create a job.

14. Select the other tabs to ensure that there are no other specific user requirements.

Note: For any other setup consideration see *Oracle Work in Process User's Guide*.

15. Choose Save on the toolbar.

Creating Final Assembly Orders

This chapter explains how Oracle Manufacturing Scheduling accepts all ATO (Assemble to Order) jobs from Oracle Work in Process.

The following topic included is:

- Overview of Creating Final Assembly Orders on page 5-1

Overview of Creating Final Assembly Orders

You can automatically create final assembly orders for ATO (Assemble to Order) items entered in Oracle Order Management. You can also associate sales orders to discrete jobs for ATO items, thereby allocating production to specific customers.

After running AutoCreating Final Assembly Orders, discrete jobs are created with Pending Scheduling status if the organization is set to use the constraint-based scheduling engine.

For detailed information, see AutoCreating Final Assembly Orders in the *Oracle Work in Process User's Guide*.

Note: When you autcreate discrete jobs for ATO items, the status of these job are set to Pending Scheduling. You must use the Schedule Discrete Jobs window to schedule pending jobs.

For additional information, see Final Assembly Orders in the *Oracle Work in Process User's Guide*.

Importing Jobs and Schedules

This chapter explains how Oracle Manufacturing Scheduling accepts all jobs and schedules from Oracle Work in Process.

The following topic include is:

- Overview of Importing Jobs and Schedules on page 6-1

Overview of Importing Jobs and Schedules

When importing jobs and schedules you can perform the following tasks:

- Load information into the Open Job and Schedule Interface. For detailed information, see Open Job and Schedule Interface in the *Oracle Work in Process User's Guide*.
- Import data from the Open Job and Schedule Interface. For detailed information, see Importing Jobs and Schedules in the *Oracle Work in Process User's Guide*.

Note: Jobs are automatically scheduled when they are imported, unless you set the Scheduling Method to Manual or set Allow-Explosion to No in the import table before importing the jobs.

Rescheduling Discrete Jobs

This chapter explains how Oracle Manufacturing Scheduling lets you reschedule the entire shop floor using forward or backward scheduling.

The following topics included are:

- Overview of Rescheduling Discrete Jobs on page 7-1
- Rescheduling All Jobs or Pending Scheduling Jobs on page 7-2

The following task included is:

- To reschedule all jobs or pending scheduling jobs on page 7-2

Overview of Rescheduling Discrete Jobs

When rescheduling jobs you can perform the following tasks:

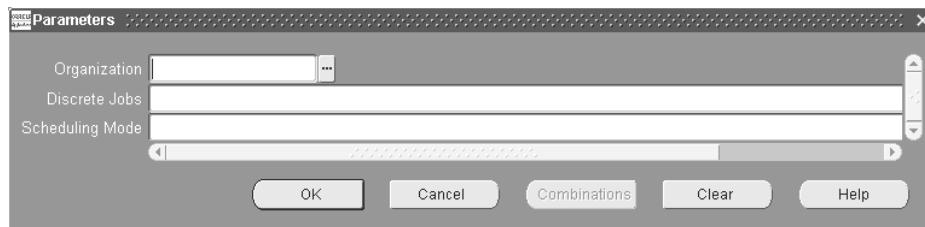
- Reschedule all jobs or pending scheduling jobs using forward or backward scheduling
- Reschedule jobs with or without a routing reference. For detailed information, see Rescheduling Discrete Jobs in the *Oracle Work in Process User's Guide*.
- Add, update, delete, reschedule, and view operations. For detailed information, see Adding and Updating Operations in the *Oracle Work in Process User's Guide*.
- Use midpoint rescheduling to reschedule around a bottleneck job operation. For detailed information, see Midpoint Scheduling in the *Oracle Work in Process User's Guide*.
- Modify discrete job operations, import modified jobs and schedules, and replan planned orders. For detailed information, see Discrete Rescheduling in the *Oracle Work in Process User's Guide*.

Rescheduling All Jobs or Pending Scheduling Jobs

You can reschedule all jobs or pending scheduling jobs.

►► To reschedule all jobs or pending scheduling jobs

1. Navigate to the Schedule Discrete Jobs window.



The Parameters window appears.

2. In the Organization field select an organization.
3. In the Discrete Jobs field select All Jobs or Pending Scheduling Jobs.

Note: Autocreate Jobs for ATO items are initially scheduled as pending scheduling and require this procedure in order that they can be scheduled.

4. In the Scheduling Mode field, select either Forwards from start date or Backwards from completion date.

5. Choose OK.

The screenshot shows a dialog box titled "Schedule Discrete Jobs". It is divided into three main sections: "Run this Request...", "At these Times...", and "Upon Completion...".

- Run this Request...:** Contains a "Name" field with "Schedule Discrete Jobs", a "Parameters" field, and a "Language" dropdown set to "American English". There are "Copy..." and "Languages..." buttons.
- At these Times...:** Contains a dropdown set to "As Soon as Possible" and a "Schedule..." button.
- Upon Completion...:** Contains a checked checkbox for "Save all Output Files", a "Notify" field, and a "Print to" field with the value "3op335ap". There is an "Options..." button.

At the bottom of the dialog are three buttons: "Help (H)", "Submit", and "Cancel".

The Schedule Discrete Jobs window appears.

6. Choose Submit.

A Decision window appears which indicates the request ID number. You can record this number for future reference.

7. Choose Yes to submit another request or No to exit the window.

Windows and Navigator Paths

This appendix provides the default navigator path for Oracle Work in Process and Bill of Materials windows accessed from the Manufacturing Scheduling Application.

Windows and Navigator Paths

For forms and detailed information described in other manuals:

See...	Refer to this manual for a complete form description
BOM	Oracle Bill of Materials User's Guide
User	Oracle Application User's Guide
WIP	Oracle Work in Process User's Guide

Brackets ([]) indicate a button.

Window Name	Navigation Path
Discrete Jobs	WIP > Discrete > Discrete Jobs
Personal Profile Values	WIP > Other > Profile
Schedule Discrete Jobs	Manufacturing Scheduling > Scheduling Workbench > Schedule Discrete Jobs
Standard Operations	BOM > Routings > Standard Operations
Work in Process Parameters	WIP > Setup > WIP Parameters

Glossary

A

accounting class

See **WIP accounting class**.

active schedule

A schedule currently running on a production line. A schedule can be active past its scheduled completion date or before its scheduled start date.

activity

A business action or task which uses a resource or incurs a cost.

alternate routing

An alternate manufacturing process you can use to produce an assembly.

assemble-to-order (ATO)

An environment where you open a final assembly order to assemble items that customers order. Assemble-to-order is also an item attribute that you can apply to standard, model, and option class items.

assemble-to-order (ATO) model

A configuration you make in response to a customer order that includes optional items.

assembly

An item that has a bill of material. You can purchase or manufacture an assembly item. **see assemble-to-order, bill of material.**

assembly completion pull transaction

A material transaction where you backflush components from inventory to work in process as you complete the operation where the component is consumed. **See operation completion pull transaction.**

assembly completion transaction

A material transaction where you receive assemblies into inventory from a job or schedule upon completion of the manufacture of the assembly.

assembly scrap transaction

A move transaction where you charge a scrap account as you move assemblies into a Scrap intraoperation step. This reduces the value of your discrete job.

assembly UOM item

A purchasing item associated with an outside resource that you purchase using the assembly's unit of measure. The assembly's unit of measure should be the same as the purchasing item's unit of measure.

asset item

Anything you make, purchase, or sell including components, subassemblies, finished products, or supplies which carries a cost and is valued in your asset subinventories.

asset subinventory

Subdivision of an organization, representing either a physical area or a logical grouping of items, such as a storeroom where quantity balances are maintained for all items and values are maintained for asset items.

assigned units

The number of resource units assigned to work at an operation in a routing. For example, if you have 10 units of machine resource available at a department, you can assign up to 10 of these units to an operation in a routing. The more units you assign, the less elapsed time Work in Process schedules for the operation.

ATP

See **available to promise.**

ATT

See **available to transact.**

autocharge

A method of charging a discrete job or repetitive schedule for the resources consumed at an operation.

autorelease

To automatically release the next available repetitive schedule upon completion of the current repetitive schedule.

available capacity

The amount of capacity available for a resource or production line.

Available To Promise (ATP)

The quantity of current on-hand stock, outstanding receipts and planned production which has not been committed through a reservation or placing demand. In Oracle Inventory, you define the types of supply and demand that should be included in your ATP calculation.

Available To Transact (ATT)

Quantity on hand less all reservations for the item which may be transferred within or out of inventory.

B**backflush operation**

A routing operation where you backflush component items.

backflush transaction

A material transaction that automatically issues component items into work in process from inventory when you move or complete the assembly. Also known as post-deduct or pull. **See pull transaction.**

backward scheduling

A scheduling technique where you specify a production end date and Oracle Manufacturing calculates a production start date based on detailed scheduling or repetitive line scheduling.

bill of material

A list of component items associated with a parent item and information about how each item relates to the parent item. Oracle Manufacturing supports standard,

model, option class, and planning bills. The item information on a bill depends on the item type and bill type. The most common type of bill is a standard bill of material. A standard bill of material lists the components associated with a product or subassembly. It specifies the required quantity for each component plus other information to control work in process, material planning, and other Oracle Manufacturing functions. Also known as **product structures**.

bill revision

A specific version of an item which specifies the components that are active for a date range.

bill/routing reference

A bill or routing you assign to non-standard discrete jobs. You use the bill reference to create the material requirements for the job. You use the routing reference to create the routing for the job.

build sequence

The sequence of jobs within a schedule group. For example, you can use sequences to prioritize all jobs on a specific production line by customer. Similarly, you can use sequences to insure that jobs are built in reverse departure order thus facilitating truck loading. **see schedule group**.

bulk items

Component items on a bill of material not usually transacted directly to the job or repetitive schedule. Bulk items are usually charged to the work in process department where the item is consumed.

bulk requirement

See **bulk items**.

C

cancelled job

A discrete job you no longer want to work on. You cannot make transactions, move assemblies, or apply or update costs.

cancelled schedule

A repetitive schedule you no longer want to work on. You cannot make transactions, move assemblies, or apply costs.

charge type

See **autocharge**.

closed job

A discrete job that is unavailable for charges or any type of transaction. Closing a job calculates final costs and variances and creates history for the job.

common bill of material

An assembly that uses the bill of material of another assembly as its bill. This enables you to reduce your maintenance effort by sharing the same bill structure among two or more assemblies. For example, if you have identical bills of material that produce the same product in two different organizations, you can define common bills of material for the identical structures.

common routing

A routing that uses the routing of another assembly as its routing. This enables you to reduce your maintenance effort by sharing the same routing and operations for two or more assemblies.

common subinventory

Subinventory that does not have a project reference into which items can be delivered and out of which items can be issued and transferred.

complete charges

The job is complete and charges are allowed.

complete no charges

The job is complete but charges are not allowed.

completed assembly

An assembly you built on a discrete job or repetitive schedule and received into inventory.

completed job

A discrete job whose quantity planned equals the number of assemblies actually completed.

completed schedule

A repetitive schedule whose number of assemblies planned equals the number of assemblies actually completed.

completion date

The date you plan to complete production of the assemblies in a discrete job.

completion locator

An inventory location within a completion subinventory where you receive completed assemblies from work in process.

completion subinventory

An inventory location at the end of your production line where you receive completed assemblies from work in process. Often this is the supply subinventory for subassemblies or finished goods inventories for final assemblies.

component demand

Demand passed down from a parent assembly to a component.

component item

An item associated with a parent item on a bill of material.

component yield

The percent of the amount of a component you want to issue to build an assembly that actually becomes part of that assembly. Or, the amount of a component you require to build plus the amount of the component you lose or waste while building an assembly. For example, a yield factor of 0.90 means that only 90% of the usage quantity of the component on a bill actually becomes part of the finished assembly.

configuration bill of material

The bill of material for a configuration item.

configuration variance

For Work in Process, this quantity variance is the difference between the standard components required per the standard bill of material and the standard components required per the work in process bill of material. Currently, this variance is included with the material usage variance.

cost element

A classification for the cost of an item. Oracle Manufacturing supports five cost elements: material, material overhead, resource, outside processing, and overhead.

cost transaction

The financial effect of your material, resource, overhead, job, and period example, each material quantity transaction may have several cost accounting entries, and each accounting entry is a cost transaction.

cost type

A set of costs for items, activities, resources, outside processing, and overheads. You may have unlimited cost types for each organization, but only one is used to record cost transactions. The Frozen Standard cost type is used for standard costing; the Average Costs type is used for Average costing. Others could be defined for simulation or temporary purposes.

count point operation

A default operation to move to and from where you record move and charge resource transactions. Also known as **pay point**.

critical path

The series of operation start and completion dates and times that result from the detailed scheduling algorithm.

current on-hand quantity

Total quantity of the item on-hand before a transaction is processed.

D**daily line capacity**

The daily production rate of assemblies on a production line. This is equal to the line speed (in hours) times the line production hours.

demand class

A classification of demand to allow the master scheduler to track and consume different types of demand. A demand class may represent a particular grouping of customers, such as government and commercial customers. Demand classes may also represent different sources of demand, such as retail, mail order, and wholesale.

department

An area within your organization that consists of one or more people, machines, or suppliers. You can also assign and update resources to a department.

departure order

The order of jobs within a schedule group. Jobs are normally sequenced within a schedule group in the order that they must be loaded onto the truck for shipment. **see schedule group and build sequence.**

detailed scheduling

A method of scheduling production that considers minute to minute resource availability information as well as exact resource requirements from routings.

disable date

A date when an Oracle Manufacturing function is no longer available for use. For example, this could be the date on which a bill of material component or routing operation is no longer active, or the date a forecast or master schedule is no longer valid.

discrete job

A production order for the manufacture of a specific (discrete) quantity of an assembly, using specific materials and resources, in a limited time. A discrete job collects the costs of production and allows you to report those costs—including variances—by job. Also known as **work order** or **assembly order**.

discrete manufacturing

A manufacturing environment where you build assemblies in discrete jobs or batches. Different from a repetitive production environment where you build assemblies on production or assembly lines at a daily rate.

dispatch report

A report that prioritizes planned production work based on operation schedule dates and times.

distribution account

An account where you record material, material overhead, resource, outside processing, and overhead charges incurred by a discrete job or repetitive assembly. In a standard costing system, this is where you record your standard costs.

E

efficiency

A productivity measure that focuses on actual performance against a standard. Expressed in a percentage figure, it is calculated by dividing actual resource time charged to a task by the standard resource requirements for the same task.

efficiency variance

A quantity variance defined as the difference between the amount of a resource (typically in hours) required at standard and the actual amount used to manufacture an assembly.

elemental variance

A work in process variance between the standard of an assembly and the actual charges to a standard job or repetitive schedule distributed by cost element.

engineering change order (ECO)

A record of revisions to one or more items usually released by engineering.

engineering item

A prototype part, material, subassembly, assembly, or product you have not yet released to production. You can order, stock, and build engineering items.

expenditure type

An implementation-defined classification of cost that you assign to each expenditure item. Expenditure types are grouped into cost groups (expenditure categories) and revenue groups (revenue categories). Expenditure types include: IPV, ERV, Tax, Freight, and Miscellaneous.

expense item

Anything you make, purchase, or sell including components, subassemblies, finished products, or supplies and that does not carry a cost. Also known as a non-asset item.

expense subinventory

Subdivision of an organization, representing either a physical area or a logical grouping of items, such as a storeroom where no value exists but the quantities may be tracked.

F

final assembly order

A discrete job created from a configuration or an assemble to order item and linked to a sales order. Also known as final assembly schedule.

firm flag

Denotes a job that cannot be modified by the planning or rescheduling process. **See Oracle Master Planning/MRP User's Guide or Oracle Supply Chain Planning User's Guide.**

first unit completion date

The date and time you plan to complete production of the first assembly on a repetitive schedule. This date equals the first unit start date plus the lead time.

first unit start date

The date and time you plan to begin production of the first assembly on a repetitive schedule. This date equates to the start of your lead time.

forward scheduling

A scheduling technique where you specify a production start date and Oracle Manufacturing calculates a production end date using either detailed scheduling or repetitive line scheduling.

I

immediate dispatch

Used in conjunction with department or resource job filter criteria. Includes jobs where there is quantity in an operation assigned to the selected department or resource.

intraoperation steps

The particular phases within an operation. There are five intraoperation steps in Work in Process: Queue, Run, To Move, Reject, and Scrap.

issue transaction

A material transaction to issue component items from inventory to work in process.

item-based resource

A resource whose usage quantity is the amount required per assembly unit you make.

J**job**

A category of personnel in your organization. Examples of a typical job include Vice President, Buyer, and Manager. **see position.**

job costing

A method of collecting and reporting costs for each individual discrete job. Includes costs in due to material, resource and overhead transactions, and costs out due to completions, scrap and variances. Used for standard and non-standard asset discrete jobs.

job status

An Oracle Manufacturing function that lets you describe various stages in the life cycle of a discrete job and control activities that you can perform on the job.

L**labor efficiency variance**

The difference between actual and standard man-hours of work.

last unit completion date

The date and time you plan to complete production of the last assembly on a repetitive schedule. This date equates to the first unit completion date plus processing days.

last unit start date

The date and time you plan to begin production of the last assembly on a repetitive schedule. This date is the first unit start date plus processing days.

lead time line

The production line Bills of Material uses to calculate the processing lead time for a particular repetitive assembly, since lead times may vary on different production lines.

lead time rollup

A Bill of Material program that computes cumulative lead times for items.

line lead time

The time required to complete the first assembly on a production line.

line lead time basis

A repetitive scheduling technique that uses a fixed line lead time for all production on a repetitive line or calculates the line lead time based on each assembly's routing.

line priority

The line priority indicates which production line to use to build assemblies. You create repetitive schedules on the highest priority line first, then, if the line capacity is less than demand, additional repetitive schedules are created on other lines in decreasing order of their line priority. For example, if demand is for 1000 units per day on two lines with a daily capacity of 750, the line with the highest priority is loaded with 750 and the lower priority line with 250. For lines of equal priority, the load is allocated evenly across lines.

line production hours

The number of hours per day that production line operates. This is equal to the difference between the line start time and line stop time.

line start time

The time a production line starts running every day. The line start time is used to schedule repetitive schedules on a line.

line stop time

The time a production line stops running every day. The line stop time is used to schedule repetitive schedules on a line.

locator

Physical area within a subinventory where you store material, such as a row, aisle, bin, or shelf.

locator control

An Oracle Manufacturing technique for enforcing use of locators during a material transaction.

lot

A specific batch of an item identified by a number.

lot based resource

A resource whose usage quantity is the amount required per job or schedule.

lot control

An Oracle Manufacturing technique for enforcing use of lot numbers during material transactions thus enabling the tracking of batches of items throughout their movement in and out of inventory.

manual resource

A resource manually charged to a discrete job or repetitive schedule.

mass loading

An Oracle Manufacturing function to create one or more discrete jobs or repetitive schedules based on planned orders or schedules in your MRP or master production schedule.

mass rescheduling

An Oracle Manufacturing function where you can reschedule or change the status of one or more discrete jobs based on your planned reschedule recommendations in your MRP or MPS.

material overhead default

Defaults you create for your material overheads. Used when you define your items. Your material overhead defaults may be for all items in an organization or for a specific category.

material requirement

An inventory item and quantity needed to build an assembly on a job or repetitive schedule. Discrete job and repetitive schedule material requirements are created based on the component items defined on the assembly's bill of materials. Issue transactions fulfill material requirements.

material transaction

Transfer between, issue from, receipt to, or adjustment to an inventory organization, subinventory, or locator. Receipt of completed assemblies into inventory from a job or repetitive schedule. Issue of component items from inventory to work in process.

maximum rate

The maximum number of completed assemblies a production line can produce per hour.

methods variance

For Work in Process, this quantity variance is defined as the difference between the standard resources required per the standard bill of material and the standard resources required per the work in process bill of material. This variance is included with the resource efficiency variance.

midpoint scheduling

A scheduling technique where you specify an operation start or end date and Oracle Manufacturing automatically calculates production start and end dates.

minimum rate

The minimum number of completed assemblies a production line can produce per hour.

model bill of material

A bill of material for a model item. A model bill lists option classes and options available when you place an order for the model item.

move transaction

A transaction to move assemblies from operation to operation or within an operation on a discrete job or repetitive schedule.

MPS-planned item

An item controlled by the master scheduler and placed on a master production schedule. The item is critical in terms of its impact on lower-level components and/or resources, such as skilled labor, key machines, or dollars. The master scheduler maintains control for these items.

MRP net quantity

The quantity planning views as supply coming from a discrete job on the scheduled completion date.

N

negative requirement

A requirement supplied to a discrete job or repetitive schedule instead of being consumed by it. Negative requirements can be created to support by-products or other reusable components.

nettable control

An Oracle Manufacturing function that lets you specify whether the MRP planning process considers the requirements of the job or schedule in its netting calculations.

new on-hand quantity

The quantity on-hand immediately after the transaction is performed and saved. Equal to current on-hand quantity plus total quantity. **See current on-hand quantity, total quantity.**

non-standard asset job

A type of non-standard job carried as an asset during the life of the job.

non-standard discrete job

A type of discrete job that controls material and resources and collects costs for a wide variety of miscellaneous manufacturing activities. These activities can include rework, field service repair, upgrade, disassembly, maintenance, engineering prototypes, and other projects. Non-standard jobs do not earn material overhead upon assembly completion.

non-standard expense job

A type of non-standard job expensed at the close of each accounting period. Typical expense jobs include maintenance and repair.

O

offsetting account

The source or opposite side of an accounting entry. For example, when you charge resources in Work in Process you debit a resource to your work in process resource valuation account; the offset account is the credit to the resource absorption account.

on hold job/schedule

A job or repetitive schedule not accepting further activity and is therefore untransactable.

open interface

A Manufacturing function that lets you import or export data from other systems through an open interface. An example is a bar code reader device accumulating data you later import into your manufacturing system for further processing.

open requirement

A WIP material requirement you have not yet transacted to a discrete job or repetitive schedule. It equates to the component quantity required less any quantity issued.

operation

A step in a manufacturing process where you perform work on, add value to, and consume department resources for an assembly.

operation code

A label that identifies a standard operation.

operation completion pull transaction

A material transaction where you backflush components from inventory to work in process as you complete the operation where the component is consumed. **see backflush transaction.**

operation completion transaction

A move transaction from one operation to the next where you have completed building the assembly at that operation. In this process, you can also charge resources and overheads and backflush component items.

operation overlap scheduling

A scheduling technique that allows you to schedule resource activities in the prior and next operations to overlap with the current operation.

operation sequence

A number that orders operations in a routing relative to each other.

organization

A business unit such as a plant, warehouse, division, department, and so on. Order Management refers to organizations as warehouses on all Order Management windows and reports.

outside operation

An operation that contains outside resources and possibly internal resources as well.

outside processing

Performing work on a discrete job or repetitive schedule using resources provided by a supplier.

outside processing item

An item you include on a purchase order line to purchase supplier services as part of your assembly build process. This item can be the assembly itself or a non-stocked item which represents the service performed on the assembly.

outside processing operation

Any operation that has an outside processing resource. **See outside resource.**

outside resource

A resource provided by a supplier you include in your routings, such as supplier sourced labor or services. This includes both **PO move** and **PO receipt** resources.

overhead

The indirect expenses allocated in your budgeting process and assigned to your resources or departments. You charge overhead costs based on resource value, resource units, or operation completions. You typically include administration, facility, depreciation activity, and other costs you cannot directly charge to your manufactured items. Does not include material overhead.

overhead transaction

A work in process transaction that automatically charges overhead costs to a job or repetitive schedule as you perform moves or charge resources.

overload capacity

Number of resource units that are required but already committed.

P

pending

A status where a process or transaction is waiting to be completed.

phantom assembly

An assembly Work in Process explodes through when it creates the bill of material for a job or schedule. A particular assembly can be a phantom assembly on one bill and a subassembly on another.

pick list

A report that lists all component requirements sorted by supply type for a particular discrete job, repetitive schedule or production line.

pick-to-order

A configure-to-order environment where the options and included items in a model appear on pick slips and order pickers gather the options when they ship the order. Alternative to manufacturing the parent item on a work order and then shipping it. Pick-to-order is also an item attribute that you can apply to standard, model, and option class items.

planned order

A suggested quantity, release date, and due date that satisfies net item requirements. MRP owns planned orders, and may change or delete the orders during subsequent MRP processing if conditions change. MRP explodes planned orders at one level into gross requirements for components at the next lower level (dependent demand). Planned orders along with existing discrete jobs also serve as input to capacity requirements planning, describing the total capacity requirements throughout the planning horizon.

PO move resource

An outside resource that is automatically charged upon receipt of a purchase order. PO move resources also automatically initiate shop floor move transactions upon receipt.

PO receipt resource

An outside resource that is automatically charged upon receipt of a purchase order.

previous level costs

The material, material overhead, outside processing, resource and overhead costs of the components used in the manufacture of an assembly.

primary bill of material

A list of the components you most frequently use to build a product. The primary bill is the default bill for rolling up costs, defining a job, and calculating cumulative item lead times. Master Scheduling/MRP uses this bill to plan your material.

primary routing

A list of the operations you most frequently perform to build a product. The primary routing is the default routing for defining a job and calculating manufacturing lead times.

priority

See line priority.

processing status

The processing state of a row (record) in an open interface table. Common statuses include, but are not restricted to, Pending, Running, and Error. **See repetitive processing days.**

production line

The physical location where you manufacture a repetitive assembly, usually associated with a routing. You can build many different assemblies on the same line at the same time. Also known as assembly line.

production rate

Hourly rate of assemblies manufactured on a production line.

See line speed.

pull transaction

A material transaction that automatically issues component items into work in process from inventory when you move or complete the assembly. Also known as post-deduct or backflush. **See backflush transaction.**

purge

A technique for deleting data in Oracle Manufacturing that you no longer need to run your business.

push transaction

A material transaction to issue component items from inventory to work in process before you manufacture the assembly.

quantity completed

For an operation on a discrete job or repetitive schedule, the quantity of the assembly that you transacted beyond the Run intraoperation step. For a discrete job or repetitive schedule, the quantity of the assembly that you received into inventory.

quantity in operation

The quantity of an assembly in an operation on a discrete job or repetitive schedule. This includes the quantities in each of the intraoperation steps.

quantity issued

The quantity of a component item issued from inventory to a discrete job or repetitive schedule to fulfill a WIP material requirement.

quantity on hand

Current quantity of an item in inventory.

quantity remaining

The quantity of an assembly remaining to be completed at an operation in a discrete job or repetitive schedule. This is the sum of the quantities in all intraoperation steps at all operations before the current operation, plus the quantities in the Queue and Run intraoperation steps at the current operation.

quantity required

The total quantity of a component item required to produce all the assemblies in a discrete job or repetitive schedule as determined by the usage quantity on the bill of materials, the production quantity, and the component yield.

queue

An intraoperation step in an operation where assemblies are waiting to be worked on. The default intraoperation step for every operation in a routing.

R

rate variance

For resources charged to work in process, this variance is the difference between the actual resource rate and the standard resource rate times the resource quantity charged to the job or repetitive schedule. You create rate variance entries if you charge resources using an actual rate and you chose **Yes** for the Standard Rate field in the Resources window.

release date

The date when you release a discrete job or repetitive schedule to the shop floor signifying that work can begin and the discrete job or repetitive schedule becomes transactable.

released job/schedule

A discrete job or repetitive schedule that you have signified available to be worked on and transactable.

replenish to order

See **assemble-to-order (ATO)**.

requested due date

The job due date. In Manufacturing Scheduling, you assign the requested due date in conjunction with the scheduling priority. The rescheduling engine uses this information to prioritize and reschedule all jobs or pending scheduling jobs.

required capacity

The amount of capacity required for a resource or production line.

requirement

See **material requirement**.

requirement date

The date when the requirement needed by the discrete job or repetitive schedule is to be consumed. Requirement dates are defaulted to the start date of the operation where a requirement is consumed.

reschedule

To modify the schedule of a discrete job. You can reschedule a discrete job by changing the start date, completion date, job quantity or any operation date on the

routing. Planning can automatically reschedule jobs that are not firm based on planning requirement changes.

resource

Anything of value, except material and cash, required to manufacture, cost, and schedule products. Resources include people, tools, machines, labor purchased from a supplier, and physical space.

resource basis

The basis for resource usage quantity that indicates whether that quantity is required per item or per lot.

resource charge

See **resource transaction**.

resource requirement

A resource and quantity needed to build an assembly on a job or repetitive schedule. Discrete job and repetitive schedule resource requirements are created based on the resource requirements specified on the assembly's routing. Resource transactions fulfill resource requirements.

resource sequence

The number that indicates the order of a resource in an operation relative to other resources.

resource transaction

A transaction where you automatically or manually charge resource costs to a discrete job or repetitive schedule.

resource units applied

A quantity you charge to a job or repetitive schedule for work performed by a resource. The quantity is expressed in the unit of measure of the resource. For example, if the unit of measure of a resource is hours and the resource works 10 hours, you apply 10 resource units to the job or repetitive schedule.

resource UOM item

A purchasing item associated with an outside resource that you purchase using the resource's unit of measure.

return to supplier

A transaction that allows you to return to the supplier items from a fully or partially received purchase order and receive credit for them.

reversing transaction

A transaction that reverses a previously processed material, move, resource, or overhead transaction.

revision

A particular version of an item, bill of material, or routing.

revision control

An inventory control option that tracks inventory by item revision and forces you to specify a revision for each material transaction.

roll forward

An Oracle Manufacturing technique where you can automatically take the material you over issued to a particular repetitive schedule and move it forward into the next available repetitive schedule.

route sheet

A report that provides full routing, operation, resource, and material requirement details for jobs and repetitive schedules. Typically used to know how, when, where, and who builds an assembly. Also known as traveler.

routing revision

A specific version of a routing that specifies the operations that are active for a date range.

run

An intraoperation step where you move assemblies that you are working on at an operation.

S**schedule group**

An identifier used to group jobs for scheduling and releasing purposes. For example, you might group together all jobs that must be completed on a specific

date and are being built on the same production line. Jobs within a schedule group can be sequenced. **See build sequence.**

scheduled resource

A resource on a routing that is scheduled by Work in Process.

scrap

An intraoperation step where you move assemblies that cannot be reworked or completed.

scrap account

An account that you may use to charge scrap transactions.

serial number control

A manufacturing technique for enforcing use of serial numbers during a material transaction. An Oracle Manufacturing technique for enforcing use of serial numbers during a material transaction thus enabling the tracking of serialized items throughout their movement in and out of inventory.

shift

A scheduled period of work for a department within an organization.

shop floor status

An Oracle Manufacturing function that lets you restrict movement of assemblies at an operation and intraoperation step within a discrete job or repetitive schedule.

shortage

An open requirement with no inventory in the organization to support the requirement.

shrinkage rate

The percentage on a parent assembly expected to be scrapped in work in process.

simulated job

Job used to evaluate the availability of material and resources required for a potential discrete job based on the job quantity and need date for the assembly.

single level variance

A work in process variance that is the difference between the standard cost of an assembly and the actual charges to a standard jobs or repetitive schedules

distributed by structure level. This variance looks at the assembly cost for the resource and overhead standard cost at the top level and compares them to the actual resource and overhead costs charged to the standard job or repetitive schedule. All other costs material, material overhead, outside processing, resource and overhead costs from lower level assemblies are included in the material usage variance calculation.

standard comments

Standard text you can assign to discrete jobs or repetitive schedules. Special instructions or details specific to a particular job or circumstance.

standard costing

A costing method where a predetermined standard cost is used for charging material, resource, overhead, period close, job close, and cost update transactions and valuing inventory. Any deviation in actual costs from the predetermined standard is recorded as a variance.

standard discrete job

A type of discrete job that controls material and resources for standard production assemblies.

standard operation

A commonly used operation you can define as a template for use in defining future routing operations.

start date

The date you plan to begin production of assemblies in a discrete job.

subassembly

An assembly used as a component in a higher level assembly.

subinventory

Subdivision of an organization, representing either a physical area or a logical grouping of items, such as a storeroom or receiving dock.

supplier

Provider of goods or services.

supplier requirement

See **supplier sourced component**.

supplier sourced component

A component item on a bill of material supplied to work in process directly by a supplier.

supply

A quantity of materials available for use. Supply is replenished in response to demand or anticipated demand.

supply locator

The specific location, such as shelves or containers, within a supply subinventory that you use as the default locator in a material transaction.

supply subinventory

The subinventory you use as a primary source of supply to meet a specific material requirement in a discrete job or repetitive schedule. In Release 9, this is the backflush subinventory for pull material or the primary issue subinventory for push material.

supply type

A bill of material component field that controls issue transactions from inventory to work in process. Supply types supported by Work in Process include: **Push**, **Assembly pull**, **Operation pull**, **Bulk**, **Supplier**, **Phantom**, and **Based on bill**.

T**this level costs**

The cost or value added at the current level of an assembly. Resource, outside processing and overhead costs are examples of this level costs. Material is always a previous level cost.

to move

An intraoperation step where assemblies can either be completed to a subinventory or wait to be moved to another operation.

transaction cost

The cost per unit at which the transaction quantity is valued.

transaction date

The date you enter and Oracle Manufacturing maintains for any manufacturing transaction. The date must fall within an open accounting period and be greater than the release date for transactions on a discrete job or repetitive schedule.

transaction interface

An open interface table through which you can import transactions. **See open interface.**

transaction manager

A concurrent program that controls your manufacturing transactions.

transaction quantity

The quantity of a transaction.

transaction worker

An independent concurrent process launched by a transaction manager to validate and process your manufacturing transactions.

traveler

See route sheet.

U**UOM**

See unit of measure.

upstream dispatch

Used in conjunction with department or resource job filter criteria. Includes upstream jobs where there is quantity in an operation assigned to the selected department or resource.

usage quantity

The quantity of a component, including component yield required to produce one assembly in a discrete job or repetitive schedule as stated on the bill of materials.

usage rate

The amount of a resource consumed at an operation.

usage variance

A quantity variance defined as the difference between the amount of material required at standard and the actual amount you use to manufacture an assembly.

V**valuation account**

Your inventory and work in process asset accounts set up in Inventory, Work in Process, and Purchasing.

value added

See **outside processing**.

variance

An accounting term used to express the difference between an expected cost and an actual cost. A variance can be favorable or unfavorable. Variances are usually written directly to the income statement as a period expense.

variance account

An account where you record your variance charges. You can maintain several variance accounts in your work in process system, depending on what you are charging and which class you use.

vendor

See **supplier**.

W**WIP accounting class**

A set of accounts that you use to charge the production of an assembly. You assign accounting classes to discrete jobs and repetitive schedules. Each accounting class includes distribution accounts and variance accounts. Also used in cost reporting.

WIP move resource

A resource automatically charged to a discrete job or repetitive schedule by a move transaction. Resources are automatically charged when a forward move occurs, or uncharged when a backward move occurs.

work in process

An item in various phases of production in a manufacturing plant. This includes raw material awaiting processing up to final assemblies ready to be received into inventory.

workday calendar

A calendar that identifies available workdays for one or more organizations. Master Scheduling/MRP, Inventory, Work in Process, and Capacity plan and schedule activities based on a calendar's available workdays.

worker

An independent concurrent process that executes specific tasks. Programs using workers to break large tasks into smaller ones must coordinate the actions of the workers.

yield

See component yield, cumulative yield, operation yield, and reverse cumulative yield.

Index

A

All jobs or pending scheduling jobs
 rescheduling, 1-3, 7-2
Application
 features, 1-2
 overview, 1-2
Assemble to Order
 creating final assembly orders, 5-1
Automatic Reschedule window, 3-17
Available, graphic key indicator
 definition of, 1-6

B

Bar graphic display
 description of, 1-6
Bar Inspector window
 description of, 1-7
 invoking in manual mode, 3-12

C

Concurrent definition
 description of, 2-7
Constraint-based scheduling engine
 description of, 1-2
 function of, 1-3
Continuous graphic display
 description of, 1-6
Creating final assembly orders
 overview of, 5-1

D

Discrete Jobs window, 2-10, 4-2

E

Edit Schedule window, 3-14
 editing, manually, 3-12
Exception messages, 1-3, 2-7

F

Filter Jobs window, 3-5
Forward Midpoint
 definition of, 3-18

G

Gantt chart
 contents of, 1-5
 viewing, 1-2
Gantt Chart pane
 description of, 1-5
Graphic display
 Bar, 1-6
 Continuous, 1-6
 Table, 1-6
Graphic key indicators
 Available, 1-6
 Overload, 1-6
 Required, 1-6

H

Horizon
scheduling, 1-3, 2-6

I

Importing jobs and schedules
overview of, 6-1
Interactive definition
description of, 2-7

J

Job Property window
description of properties, 3-8 to 3-9
Job, new
creating and scheduling, 4-1 to 4-4
Jobs
filtering, 3-5 to 3-6
rescheduling, 3-12
Jobs and operations
rescheduling automatically, 3-15 to 3-19
Jobs or operations
collapsing, 3-7
expanding, 3-6

M

Manufacturing Scheduling Workbench
window, 1-4, 3-4
Menus
Workbench, 1-7
Midpoint Scheduling
definition of, 3-18

O

Open Job and Schedule Interface
import data from, 6-1
load information into, 6-1
Operation Property window
description of properties, 3-9 to 3-10
Operations
rescheduling, 3-12
Overload, graphic key indicator

definition of, 1-6

P

Parameters window, 7-2
Personal Profile Values window, 2-6
Property window
how to view, 3-8

R

Request log
exception messages, 1-3, 2-7
Required, graphic key indicator
definition of, 1-6
Rescheduling
automatically, 3-15 to 3-19
manually, 3-13 to 3-14
Rescheduling discrete jobs
overview of, 7-1
Resource
selecting, 3-11 to 3-12
Resource Load Versus Capacity pane
description of, 1-5
how to hide, 3-10
how to show, 3-10
Resource Property window
description of properties, 3-10
Resources
rescheduling, 3-12
Resources window, 2-8

S

Schedule Discrete Jobs window, 7-3
Scheduling (tab for Discrete Jobs window), 4-2
Scheduling tab for Discrete Jobs window, 2-10
Scheduling tab for Parameters window, 2-5
Select Resource(s) pane
description of, 1-5
how to hide, 3-10
how to show, 3-10
Select Resource(s) window, 3-11
Setting up
overview of, 2-2

- Setup
 - checklist, 2-3
 - flowchart, 2-2
 - steps, 2-3 to 2-4
- Shop floor
 - taking snapshot, 1-7
 - updating snapshot, 1-7
- Single discrete jobs
 - scheduling, 1-3
- Standard Operations window, 2-8
- Start and end dates
 - rescheduling manually, 3-13 to 3-14

T

- Table graphic display
 - description of, 1-6
- Timeline
 - changing increment, 3-7
- Toolbar
 - Workbench, 1-8
- Tree Hierarchy pane
 - description of, 1-5

W

- Windows
 - Automatic Reschedule, 3-17
 - Discrete Jobs, 2-10, 4-2
 - Edit Schedule, 3-14
 - Filter Jobs, 3-5
 - Manufacturing Scheduling Workbench, 1-4, 3-4
 - Parameters, 7-2
 - Personal Profile Values, 2-6
 - Resources, 2-8
 - Schedule Discrete Jobs, 7-3
 - Scheduling (tab for Discrete Jobs window), 2-10
 - Scheduling (tab for Parameters window), 2-5
 - Select Resource(s), 3-11
 - Standard Operations, 2-8
 - Work in Process Parameters, 2-5
- Windows and navigator paths, A-1
- WIP Parameters
 - defining modes of operations, 2-5
- WIP Profile Options

- methods of processing, 2-6
- WIP Resource Definition
 - resource capacity, 2-7
- WIP Scheduling Priority
 - priority for multiple jobs, 2-9
- Work in Process Parameters window, 2-5
- Workbench
 - functionality of, 3-3
 - icons on toolbar, 1-8
 - launching, 3-3
 - layout of panes, 1-4
 - Gantt Chart, 1-5
 - Resource Load Versus Capacity, 1-5
 - Select Resource(s), 1-5
 - Tree Hierarchy, 1-5
 - menus, 1-7
 - overview, 1-2
 - scrolling and resizing panes, 1-6

