

# **11i Implement and Use Work in Process**

**Student Guide – Volume 1**

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# Preface

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## Profile

### Prerequisites

There are no prerequisites for this course.

### How This Course Is Organized

*11i Implement and Use Work in Process* is an instructor-led course featuring lecture and hands-on exercises. Online demonstrations and written practice sessions reinforce the concepts and skills introduced.

## **Related Publications**

### **Oracle Publications**

Additional Publications

System release bulletins

Installation and user's guides

read.me files

Oracle Magazine

# Typographic Conventions

## Typographic Conventions in Text

Convention	Element	Example
Bold italic	Glossary term (if there is a glossary)	The <b><i>algorithm</i></b> inserts the new key.
Caps and lowercase	Buttons, check boxes, triggers, windows	Click the Executable button. Select the Can't Delete Card check box. Assign a When-Validate-Item trigger to the ORD block. Open the Master Schedule window.
Courier new, case sensitive (default is lowercase)	Code output, directory names, filenames, passwords, pathnames, URLs, user input, usernames	Code output: <code>debug.set ('I', 300);</code> Directory: <code>bin (DOS), \$FMHOME (UNIX)</code> Filename: Locate the <code>init.ora</code> file. Password: User <code>tiger</code> as your password. Pathname: Open <code>c:\my_docs\projects</code> URL: Go to <code>http://www.oracle.com</code> User input: Enter <code>300</code> Username: Log on as <code>scott</code>
Initial cap	Graphics labels (unless the term is a proper noun)	Customer address ( <i>but</i> Oracle Payables)
Italic	Emphasized words and phrases, titles of books and courses, variables	Do <i>not</i> save changes to the database. For further information, see <i>Oracle7 Server SQL Language Reference Manual</i> . Enter <code>user_id@us.oracle.com</code> , where <i>user_id</i> is the name of the user.
Quotation marks	Interface elements with long names that have only initial caps; lesson and chapter titles in cross-references	Select "Include a reusable module component" and click Finish.  This subject is covered in Unit II, Lesson 3, "Working with Objects."
Uppercase	SQL column names, commands, functions, schemas, table names	Use the <code>SELECT</code> command to view information stored in the <code>LAST_NAME</code> column of the <code>EMP</code> table.

Convention	Element	Example
Arrow	Menu paths	Select File—> Save.

Brackets	Key names	Press [Enter].
Commas	Key sequences	Press and release keys one at a time: [Alternate], [F], [D]
Plus signs	Key combinations	Press and hold these keys simultaneously: [Ctrl]+[Alt]+[Del]

## Typographic Conventions in Code

Convention	Element	Example
Caps and lowercase	Oracle Forms triggers	When-Validate-Item
Lowercase	Column names, table names	SELECT last_name FROM s_emp;
	Passwords	DROP USER scott IDENTIFIED BY tiger;
	PL/SQL objects	OG_ACTIVATE_LAYER (OG_GET_LAYER ( 'prod_pie_layer' ) )
Lowercase italic	Syntax variables	CREATE ROLE <i>role</i>
Uppercase	SQL commands and functions	SELECT userid FROM emp;

## Typographic Conventions in Navigation Paths

This course uses simplified navigation paths, such as the following example, to direct you through Oracle Applications.

(N) Invoice > Entry > Invoice Batches Summary (M) Query > Find (B) Approve

This simplified path translates to the following:

1. (N) From the Navigator window, select Invoice > Entry > Invoice Batches Summary.
2. (M) From the menu, select Query > Find.
3. (B) Click the Approve button.

### Notations :

(N) = Navigator

(M) = Menu

(T) = Tab

(I) = Icon

(H) = Hyperlink

(B) = Button

## Typographical Conventions in Help System Paths

This course uses a “navigation path” convention to represent actions you perform to find pertinent information in the Oracle Applications Help System.

The following help navigation path, for example—

(Help) General Ledger > Journals > Enter Journals

—represents the following sequence of actions:

1. In the navigation frame of the help system window, expand the General Ledger entry.
2. Under the General Ledger entry, expand Journals.
3. Under Journals, select Enter Journals.
4. Review the Enter Journals topic that appears in the document frame of the help system window.

## Getting Help

Oracle Applications provides you with a complete online help facility.

Whenever you need assistance, simply choose an item from the Help menu to pinpoint the type of information you want.

### To display help for a current window:

1. Choose Window Help from the Help menu, click the Help button on the toolbar, or hold down the Control key and type 'h'.

A web browser window appears, containing search and navigation frames on the left, and a frame that displays help documents on the right.

The document frame provides information on the window containing the cursor. The navigation frame displays the top-level topics for your responsibility, arranged in a tree control.

2. If the document frame contains a list of topics associated with the window, click on a topic of interest to display more detailed information.

3. You can navigate to other topics of interest in the help system, or choose Close from your web browser's File menu to close help.

## **Searching for Help**

You can perform a search to find the Oracle Applications help information you want. Simply enter your query in the text field located in the top-left frame of the browser window when viewing help, then click the adjacent Find button.

A list of titles, ranked by relevance and linked to the documents in question, is returned from your search in the right-hand document frame. Click on whichever title seems to best answer your needs to display the complete document in this frame. If the document doesn't fully answer your questions, use your browser's Back button to return to the list of titles and try another.

# **11i Overview of Work in Process**

## **Chapter 1**

### 11i Overview of Work In Process

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### Objectives

**After completing this course, you should be able to do the following:**

- **Define Oracle Work In Process.**
- **Describe manufacturing support within Oracle Work In Process.**
- **Describe production scheduling and material control.**
- **Define shop floor control and resource tracking.**
- **Describe costing methods within Oracle Work In Process.**
- **Describe the possibilities of importing transactions into Oracle Work In Process.**

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# Agenda

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## Agenda

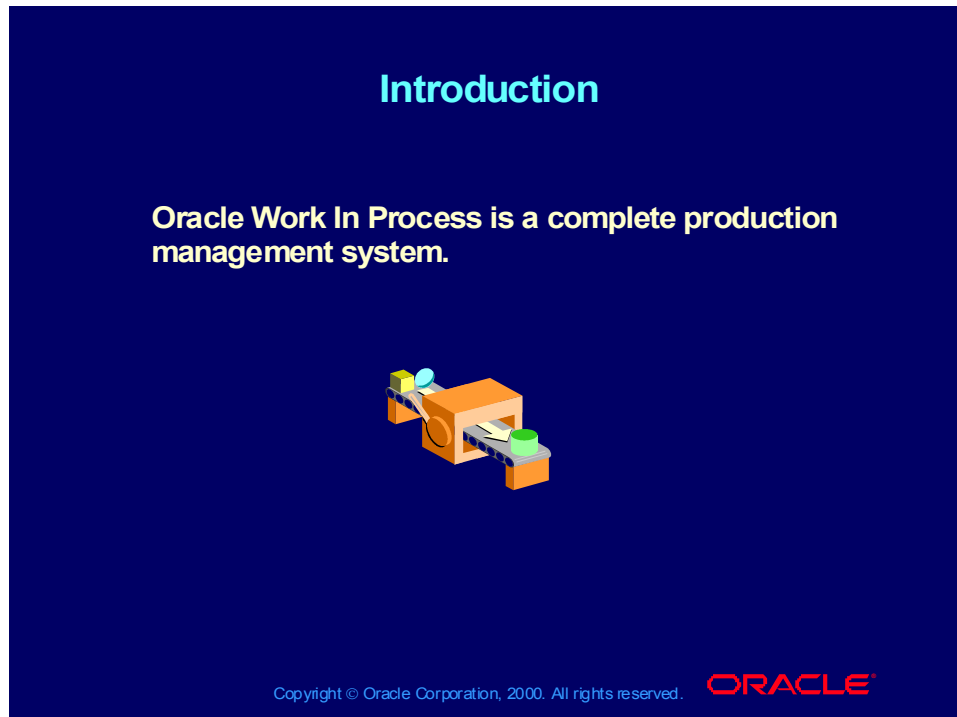
- **Introduction to Oracle Work In Process**
- Overview of Manufacturing Support
- Overview of Production Scheduling
- Overview of Material Control
- Overview of Shop Floor Control
- Overview of Resource Tracking
- Overview of Importing Transactions
- Overview of Work In Process Costing
- Summary

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## Introduction

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Oracle Work In Process is an easy to use yet powerful tool that maintains all of your production information. It is an integral part of Oracle's suite of business solutions.

Work In Process supports discrete, project, repetitive, assemble-to-order, and work order-less manufacturing. Inquiries and reports give you a complete picture of transactions, materials, resources, costs and job/schedule progress on your shop floor.

### Introduction

- You must perform the necessary setup steps before using Oracle Work In Process. You will need to supply data determined by your business requirements.
- The Oracle Work In Process set up will determine how Work In Process functions in your organization.
- The set up steps you perform will also determine how Work In Process will communicate with other modules depending on your organization. For example, some required set up steps are determined by your companies costing methods (e.g. standard costing vs. actual costing).

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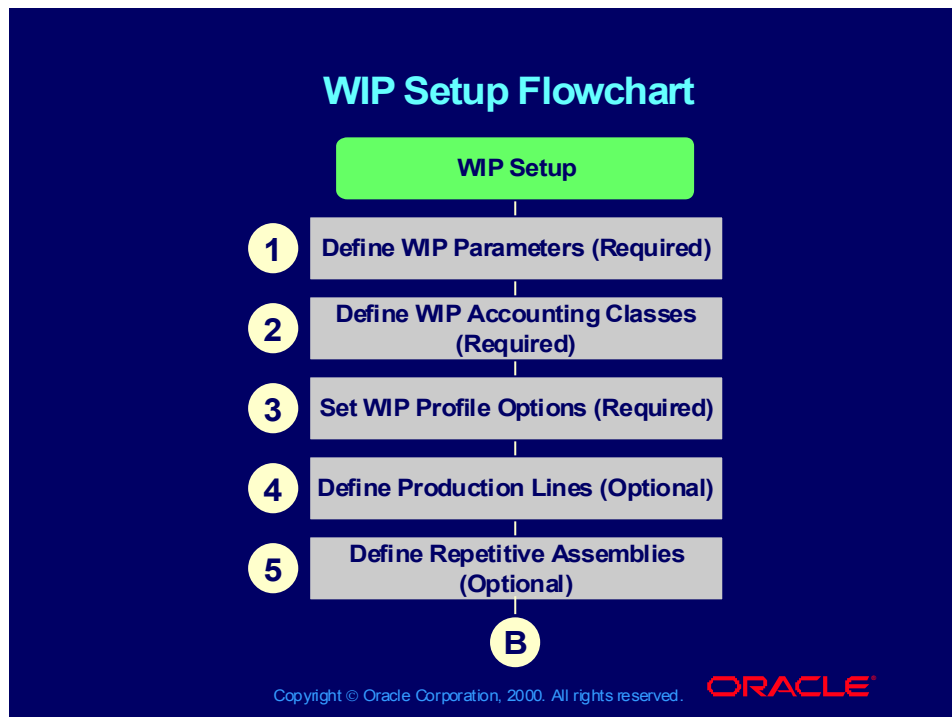
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You may refer to the R11i Oracle Work In Process User Guide for more information on setting up Work In Process. The online help is also an effective source for information on setting up Work In Process. The following navigational path will guide you to detailed documentation in the online help:

(Help) Oracle Manufacturing Applications > Oracle Work In Process > Setting Up.

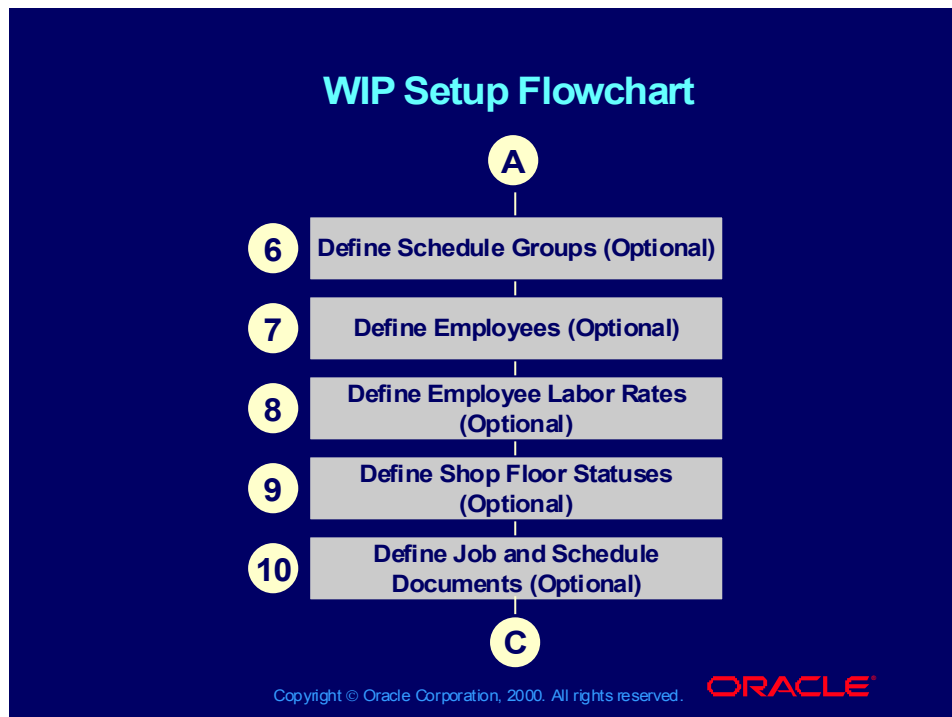
## WIP Setup Flowchart

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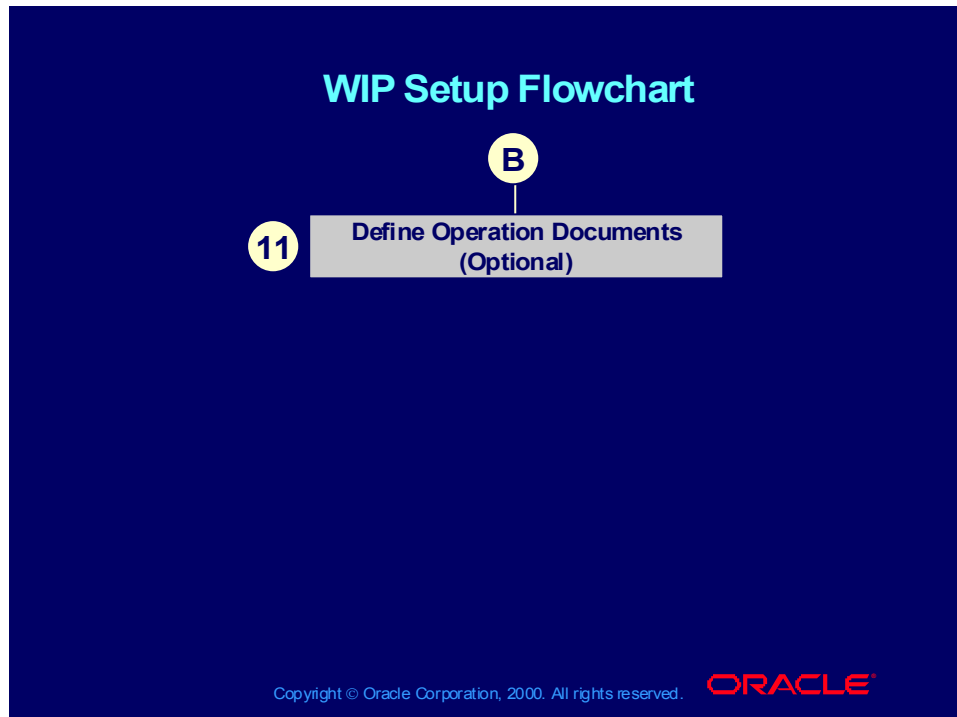
## WIP Setup Flowchart

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## WIP Setup Flowchart

---



## Review Question

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### Review Question

**Oracle Work In Process is a complete production management system.**

1. True
2. False

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## Review Question

---

### Review Question

**Oracle Work In Process is a complete production management system.**

- 1. True**
- 2. False**

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# Agenda

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## Agenda

- Introduction to Oracle Work In Process
- **Overview of Manufacturing Support**
- Overview of Production Scheduling
- Overview of Material Control
- Overview of Shop Floor Control
- Overview of Resource Tracking
- Overview of Importing Transactions
- Overview of Work In Process Costing
- Summary

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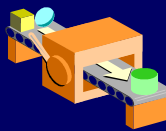
## Overview of Manufacturing Support

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### Overview of Manufacturing Support

You can use the following types of jobs and schedules to support your manufacturing needs:

- Standard and Non-Standard Discrete Jobs



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### Standard and Non-Standard Discrete Jobs

You can create *Standard Discrete Jobs* which control the material, resources, and operations required to build an assembly and also collect manufacturing costs. Standard discrete jobs are used for a typical production of an item.

You may assign a bill of material and routing to a standard discrete job, or you can assign only a bill of material or only a routing or neither.

You can create *Non-standard discrete jobs* which control material and resources, and collect costs for miscellaneous manufacturing activities. For example, you can use Non-Standard discrete jobs for rework, repair work or maintenance. Non-standard discrete jobs do not earn overhead on completion, instead material overhead at completion is posted directly to the subinventory material overhead account.

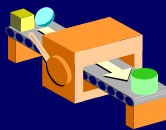
## Overview of Manufacturing Support

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### Overview of Manufacturing Support

You can use the following types of jobs and schedules to support your manufacturing needs:  
(continued)

- Standard and Non-Standard Project Jobs



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### Standard and Non-Standard \*Project Jobs

Project jobs give you the ability to track the material and manufacturing costs that are specific to a given project. You can issue project or common inventory to project jobs, and you can charge resources and overhead to project jobs. You can add project/task references to both standard and non-standard discrete jobs.

You may assign a bill of material and routing to a standard project job, or you can assign only a bill of material or only a routing or neither.

You can only add project numbers to discrete jobs if the *Project References Enabled* organization parameter in Oracle Inventory is set. You must also specify a task if the job has a project number and the *Project Control Level* organization parameter is set to task.

\*Oracle Project Management is a separately licensed product therefore is not included within Oracle Work In Process.

## Overview of Manufacturing Support

---

### Overview of Manufacturing Support

You can use the following types of jobs and schedules to support your manufacturing needs:  
(continued)

- **Repetitive Schedules by Production Line or Assembly**



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### Repetitive Schedules by Production Line/Assembly

By using repetitive schedules, you can control your repetitive production quantities and charge all production costs to the assembly itself, which eliminates the need for individual discrete jobs.

You can define any number of line/assembly associations, which establish a link between an assembly and the production line that the assembly is manufactured on. You can also update and delete line/assembly associations.

You can build the same assembly on different production lines and you can build different assemblies on the same production line. Each assembly on a line can be assigned a primary or alternate bill of material as well as a primary or alternate routing.

You may assign a bill of material and routing to a repetitive schedule, or you can assign only a bill of material or only a routing or neither.

## Overview of Manufacturing Support

---

### Overview of Manufacturing Support

You can use the following types of jobs and schedules to support your manufacturing needs:  
(continued)

- **Final Assembly Orders**



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### Final Assembly Orders

You can create final assembly orders for Assemble to Order items automatically. These discrete job orders are created on a single job to single sales order delivery basis. You may also associate sales orders to discrete jobs for any item, thereby allocating production to specific customers. To determine the start date, these jobs are backward scheduled from the order due date. The bill of material and routing revisions are determined by the calculated start date.

## Review Question

---

### Review Question

**You must assign a bill of material and routing to a standard project job.**

- 1. True**
- 2. False**

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## Review Question

---

### Review Question

**You must assign a bill of material and routing to a standard project job.**

- 1. True**
- 2. False**

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# Agenda

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## Agenda

- Introduction to Oracle Work In Process
- Overview of Manufacturing Support
- **Overview of Production Scheduling**
- Overview of Material Control
- Overview of Shop Floor Control
- Overview of Resource Tracking
- Overview of Importing Transactions
- Overview of Work In Process Costing
- Summary

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### Overview of Production Scheduling

- You can use Oracle Work In Process to schedule production resources and materials, to meet customer delivery requirements, and to maintain a smooth production flow.
- Scheduling establishes expected dates and times for material and resource requirements, as well as for the supply availability of assemblies built on the jobs and repetitive schedules.

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## Overview of Production Scheduling

---

### Overview of Production Scheduling

**Production Scheduling includes:**

- Loading and sequencing repetitive production by assembly and by production line.
- Scheduling start and stop times for jobs, operations and resources to the minute.
- Scheduling fixed, variable and overlapping time elements.
- Forward, backward, manual and midpoint forward rescheduling.
- Automatically updating the master schedule.

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**Note:** Oracle Work In Process provides unconstrained scheduling. Constraint based scheduling is available as an optional separate product.

### Overview of Production Scheduling

**Work In Process uses two scheduling methods:**

- **Detailed Scheduling**
- **Repetitive Line Scheduling**

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### **Detailed Scheduling**

Oracle uses detailed scheduling to schedule discrete production. Detailed scheduling applies resource usage defined by routings and resources to resource availability defined by the manufacturing calendar days, shifts, and exceptions on a minute by minute basis to determine job start and end times and operation start and end times.

### **Repetitive Line Scheduling**

Repetitive line scheduling is used to schedule repetitive production. When you define repetitive schedules you must specify the line on which you plan to produce the repetitive assembly and the quantity you plan to build. Repetitive line scheduling then uses the line start and stop times, production rate, and lead time with the manufacturing calendar to schedule your repetitive schedules.

## Review Question

---

### Review Question

**You are only allowed to reschedule production forward or backward.**

- 1. True**
- 2. False**

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## Review Question

---

### Review Question

**You are only allowed to reschedule production forward or backward.**

- 1. True**
- 2. False**

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## Agenda

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### Agenda

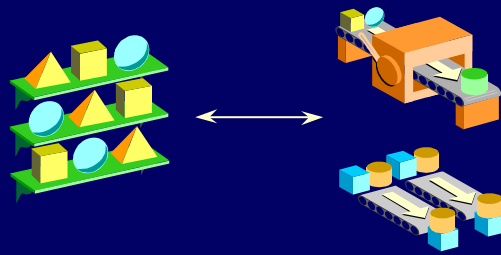
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### Overview of Material Control

Oracle Work In Process gives you the ability to control and monitor the materials used for production and to view how they flow from inventory to your discrete jobs and schedules, and from your discrete jobs and schedules to inventory.



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### Overview of Material Control

**When you define jobs and repetitive schedules, you can control material by:**

- **Combining bills of material with routings to create specific material requirements.**
- **Specifying when and where materials are to be issued or backflushed.**
- **Assigning Supply Types to control how materials are supplied.**

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By synchronizing your bill of material with routings, you can specify when and where materials are to be issued or backflushed to your jobs and schedules. Supply Types control whether the material is issued or backflushed to the job or schedule and controls how the material is costed to the job or schedule.

## Overview of Material Control

---

**Overview of Material Control**

**You can :**

- **Issue and Return Material to Inventory**
- **Backflush Material**
- **Replenish Material**



The diagram illustrates the relationship between inventory and production. On the left, a green shelving unit holds various colored geometric shapes (yellow cubes, blue spheres, and yellow pyramids), representing inventory. A double-headed white arrow points from the shelves to a 3D isometric drawing of a factory building on the right, which has a loading dock and a small truck, representing the production process.

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### **Issue and Return Material to Inventory**

Material can be issued from inventory and these transactions are reversible, so you can return components that have been issued to jobs and schedules back to inventory. You can also return completed assemblies from inventory back to a job or schedule.

### **Backflush Material**

An *Operation Pull* item supply type is backflushed from a specific subinventory (and possibly a locator within that subinventory) and is only backflushed after the completion of that specific operation. An *Assembly Pull* item supply type is backflushed from a specific subinventory (and possibly a locator within that subinventory) and is only backflushed when the entire assembly is complete.

### **Replenish Material**

You can replenish supply subinventories and locators to ensure that materials are available for backflush transactions.

## Review Question

---

### Review Question

**Supply types determine whether material will be backflushed or issued.**

1. True
2. False

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## Review Question

---

### Review Question

**Supply types determine whether material will be backflushed or issued.**

- 1. True**
- 2. False**

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# Agenda

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## Agenda

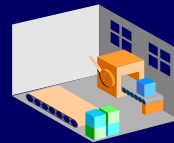
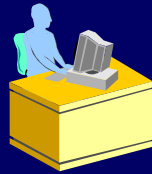
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### Overview of Shop Floor Control

**Shop floor control can help you manage the flow of production in your plant leading to efficiencies that can lower costs and help you to meet your delivery commitments.**



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## Overview of Shop Floor Control

---

### Overview of Shop Floor Control

Oracle Shop Floor Control enables you to:

- Move assemblies within operations.
- Load move transaction information from external systems.
- Define and assign shop floor statuses.
- Use dispatch reports.
- Automatically create purchase requisitions for outside processing operations .
- Rework problem assemblies.
- Scrap assemblies.

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**Move assemblies within operations** (Intraoperation moves) and between operations (Interoperation moves). You can also complete and return assemblies from and to jobs and schedules using move transactions.

**Load move transaction information from external systems**, such as barcode readers, into the Open Move Transaction Interface table.

**Define and assign shop floor statuses** to control move transactions by assigning statuses to intraoperation steps on the work in process routing.

**Use dispatch reports** to help you prioritize work at specific operations, production on specific lines and to locate assemblies on the shop floor.

**Automatically create purchase requisitions for outside processing operations**, also you can control the movement of assemblies to and from your suppliers.

**Rework problem assemblies** using Reject intraoperation steps, rework operations, or non-standard discrete jobs.

**Scrap Assemblies** at any point during the production process.

## Overview of Shop Floor Control

---

### Overview of Shop Floor Control

**There are five available intraoperation steps. You select the active intraoperation steps during setup.**

- **Queue**
- **Run**
- **To Move**
- **Reject**
- **Scrap**

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#### **Queue**

Assemblies in the Queue intraoperation step of an operation are waiting for you to perform work on them. Queue is the default intraoperation step for every operation in a routing

#### **Run**

Assemblies in the run intraoperation step are ready to be worked on. You can move assemblies from the Run step to any other enabled intraoperation step in the routing.

#### **To Move**

Assemblies in the To Move intraoperation step of an operation have been completed and are waiting to be moved to the next operation. You can move assemblies from the To Move intraoperation step to any other enabled intraoperation step in the routing.

#### **Reject**

Assemblies in the Reject intraoperation step of an operation have been rejected and are waiting to be repaired or scrapped. You can move assemblies from the Reject intraoperation step to any other enabled intraoperation step in the routing.

#### **Scrap**

until the job is Assemblies in the Scrap intraoperation step are considered unusable. This step is for those assemblies whose yield loss you want to consider as a variance on the discrete job or repetitive schedule. You can incur this variance immediately by entering a scrap account as you move assemblies into this step or you can wait closed or the period is closed to incur the variance. Scrapping assemblies can be done in a work orderless environment as well.



### Overview of Shop Floor Control

- **Oracle Work In Process considers an assembly to have completed an operation if the assembly is at certain intraoperation steps.**
- **Oracle Work In Process considers an assembly to have not completed an operation if the assembly is at certain intraoperation steps.**

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### Complete vs. Incomplete Operation Steps

Operations are considered complete if they are in the To Move, Reject, or Scrap intraoperation steps. When assemblies are moved into one of these intraoperation steps or are moved to the next operation Queue, the system automatically backflushes Operation Pull components and charges the resources associated with that operation.

An operation is considered incomplete if they are in the Queue or Run Intraoperation Steps.

## Review Question

---

### Review Question

**You can scrap assemblies at any time during the production process.**

- 1. True**
- 2. False**

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## Review Question

---

### Review Question

**You can scrap assemblies at any time during the production process.**

- 1. True**
- 2. False**

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## Agenda

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### Agenda

- Introduction to Oracle Work In Process
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## Overview of Resource Tracking

---

### Overview of Resource Tracking

- You can assign a resource to each operation on your Work In Process routing.
- You can assign a resource manually, after you have created your job or you can add a resource to the operation when you create your routing.
- A resource resides within an operation, it can be a person, a machine, tools, services, etc.

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You can define and control resources during your production process using these features:

#### **Resource Types**

You can charge resources based upon their charge type:

WIP Move, Manual, PO Move, and PO Receipt

#### **Manual Resource Transactions**

You can manually charge resources associated with discrete job and repetitive schedule operations.

#### **Automatic Resource Transactions**

When you move job and schedule assemblies forward in their routing, pre-assigned WIP Move resources are automatically charged at their standard rate. If you move assemblies backward, WIP Move resource charges are reversed.

#### **Resource Requirements**

You can add resources to existing routing operations as well as to operations not on the original routing.

#### **Outside Processing Resources**

You can assign outside processing resources to job and schedule routing operations.

#### **Open Resource Transaction Interface**

You can load resource transaction information from external systems into the Open Resource Transaction Interface table.

## Overview of Resource Tracking (continued)

---

### **Flexible Labor Transactions**

You can charge person-type resources with or without entering an employee.

### **Actual Rate Resource Transactions**

If you define a resource as costed at an actual rate, you can enter the actual rate during a manual resource transaction using the Open Resource Transaction Interface.

### **Automatic Overhead Charging**

The appropriate overhead costs are automatically charged as you move assemblies through the shop floor.

### **Resource Reporting**

You can report on resource transactions, efficiencies, and costs by job, repetitive schedule, department, or resource to get a complete history of resource activities.

## Overview of Resource Tracking

---

### Overview of Resource Tracking

There are three resource charge types:

- WIP Move
- Manual
- PO Move/PO Receipt

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### Definition of Resource Charge Types

*WIP Move* resources are automatically charged at their standard (predefined) rate as you move assemblies forward from the Queue or Run intraoperation step to the To move, Reject, or Scrap intraoperation step of the same operation or to the next operation.

*Manual* resources can be charged independent of move transactions, you must enter the actual resource units applied rather than autocharging the resource's usage rate or amount based on the move quantity. Manual resources can be reversed by entering negative resource units.

*PO Move and PO Receipt* resources are automatically charged at the standard or actual rate when an outside processing assembly is received. The assemblies are moved to the next interoperation step if the resource is PO Move. Otherwise, the assemblies do not move.

## Review Question

---

### Review Question

**You cannot assign a resource to your job after production has started.**

- 1. True**
- 2. False**

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## Review Question

---

### Review Question

**You cannot assign a resource to your job after production has started.**

- 1. True**
- 2. False**

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# Agenda

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## Agenda

- Introduction to Oracle Work In Process
- Overview of Manufacturing Support
- Overview of Production Scheduling
- Overview of Material Control
- Overview of Shop Floor Control
- Overview of Resource Tracking
- **Overview of Importing Transactions**
- Overview of Work In Process Costing
- Summary

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## Overview of Importing Transactions

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### Overview of Importing Transactions

**The ability to Import transactions enables you to:**

- **Access real time and accurate information to increase efficiency through out the fulfillment process.**
- **Key technology enablers**
  - **Mobile Computing & Process Critical devices**
  - **Wireless Networks**
  - **Bar code Technology**

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### **You can:**

- Import move transactions from data collection devices, factory floor machines or controllers using the Open Move Transaction Interface.
- Import material transactions from data collection devices, custom data entry forms, and other manufacturing inventory systems using the Open Inventory Transaction Interface.
- Import resource transactions from data collection devices and labor tracking systems using the Open Resource Cost Transaction interface
- Import planned orders, update recommendations, and planned repetitive schedules directly from external sources using the Open Job and Schedule Interface.
- Update scheduling dates tat the operation or resource level using the WIP Scheduling Interface.

## Overview of Importing Transactions

---

### Overview of Importing Transactions

- **Mobile Computing devices**
  - RF hand-held
  - Vehicle Mount units
  - Wearable computers
- **Material Handling Devices**
  - Scales
  - Carousels
  - Bar code printers

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Mobile computing devices such as RF Hand-helds allow for executing the transactions such as item picking/packing/putaway at the point of activity thus allowing for reducing the time taken to perform the transaction.

## Agenda

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### Agenda

- Introduction to Oracle Work In Process
- Overview of Manufacturing Support
- Overview of Production Scheduling
- Overview of Material Control
- Overview of Shop Floor Control
- Overview of Resource Tracking
- Overview of Importing Transactions
- **Overview of Work In Process Costing**
- Summary

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### Overview of Work In Process Costing

- You use WIP accounting classes to establish your valuation and variance accounts.
- You can use Standard, Average or LIFO/FIFO costing.
- You can cost standard and non-standard asset discrete production by job.
- You can cost jobs by project if you are using Oracle Project Manufacturing Costing.
- You can cost and report your repetitive and non-standard expense production by period.

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### Overview of Work In Process Costing

- You can charge and report resource, outside processing, and overhead costs by activity.
- You can track your repetitive production costs by assembly on a line so you do not have to review your costs by individual repetitive schedule.
- You can track and report costs through the various stages of production.
- Period close costs are calculated when you close an accounting period.

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## Overview of Work In Process Costing

---

### Overview of Work In Process Costing

To collect the costs of production, you use:

- Standard discrete jobs
- Non-standard discrete jobs
- Project jobs
- Repetitive schedules

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#### **Standard and Non-Standard Discrete Jobs**

For standard and non-standard discrete jobs, you value and report work in process costs based on jobs. Standard and non-standard discrete job costing methods can be used with Standard Costing, Average Costing and LIFO/FIFO.

#### **Project Jobs**

For project jobs, you value work in process costs based on the projects that jobs are associated with. Project job costing method cannot be used with Standard Costing, but can be used with Average Costing and LIFO/FIFO.

#### **Repetitive Schedules**

For repetitive schedules, you value and report work in process costs based on assemblies on a line in a period, not on specific repetitive schedules. Repetitive schedule costing method can be used with Standard Costing, but cannot be used with Average Costing or LIFO/FIFO.



# Agenda

---

## Agenda

- Introduction to Oracle Work In Process
- Overview of Manufacturing Support
- Overview of Production Scheduling
- Overview of Material Control
- Overview of Shop Floor Control
- Overview of Resource Tracking
- Overview of Importing Transactions
- Overview of Work In Process Costing
- **Summary**

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### Summary

**You should now be able to do the following:**

- **Define Oracle Work In Process.**
- **Describe manufacturing support within Oracle Work In Process.**
- **Describe production scheduling and material control.**
- **Define shop floor control and resource tracking.**
- **Describe costing methods within Oracle Work In Process.**
- **Describe the possibilities of importing transactions into Oracle Work In Process.**

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# **R11i Setting Up & Implementing WIP**

## **Chapter 2**

### **R11i Setting Up & Implementing Work in Process**

**R11i/WIP**

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### Objectives

**After completing this course you should be able to do the following:**

- **Describe the setup prerequisites.**
- **Define WIP Parameters.**
- **Set profile options.**
- **Execute the Setup for Work in Process.**

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## Agenda

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### Agenda

- **Overview of Setting Up**
- **WIP Parameters**
- **WIP Accounting Classes**
- **Shop Floor Statuses**
- **Schedule Groups**
- **Labor Rates**
- **Production Lines**
- **Standard Documents**
- **Profile Options**
- **Summary**

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### Overview

**Before you set up Oracle Work in Process, you should:**

- **Set up an Oracle Applications System Administrator responsibility.**
- **Set up Oracle Inventory.**



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## Overview of Implementation Wizard

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### Overview of Implementation Wizard

- If you are implementing more than one Oracle Applications product, you may want to use the Oracle Applications Implementation Wizard to coordinate your setup activities.
- The Implementation Wizard guides you through the setup steps for the applications you have installed, suggesting a logical sequence that satisfies cross-product implementation dependencies and reduces redundant setup steps.
- You can use the Wizard to see a graphical overview of setup steps, read online help, and open the appropriate setup window.

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You can use the Implementation Wizard as a resource center to see a graphical overview of setup steps, read on-line help for a setup activity and open the appropriate setup window. You can also document your implementation, for further reference and review, by using the Wizard to record comments for each step.



## Overview of Setup Prerequisites

---

### Overview of Setup Prerequisites

**Before you set up Work in Process you must complete the setup for the following products:**

- **Oracle Inventory** (see Oracle Inventory User's Guide)
- **Oracle Bills of Material** (see Oracle Bills of Material User's Guide)

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**Optionally you may set up the following products:**

Oracle Cost Management (see Oracle Cost Management User's Guide)

Oracle Project Manufacturing (see Oracle Project Manufacturing User's Guide)

Oracle Workflow (see Oracle Workflow User's Guide)

Oracle iSupplier Portal (see Oracle iSupplier Portal Implementation Manual)

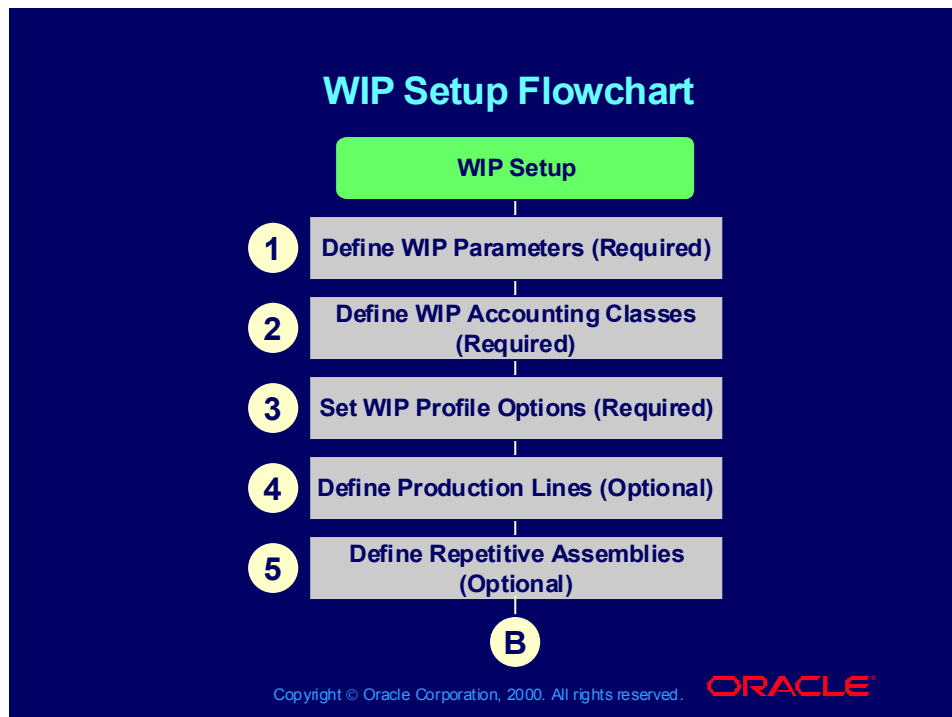
Oracle Engineering (see Oracle Engineering User's Guide)

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

Oracle Quality (see Oracle Quality User's Guide)

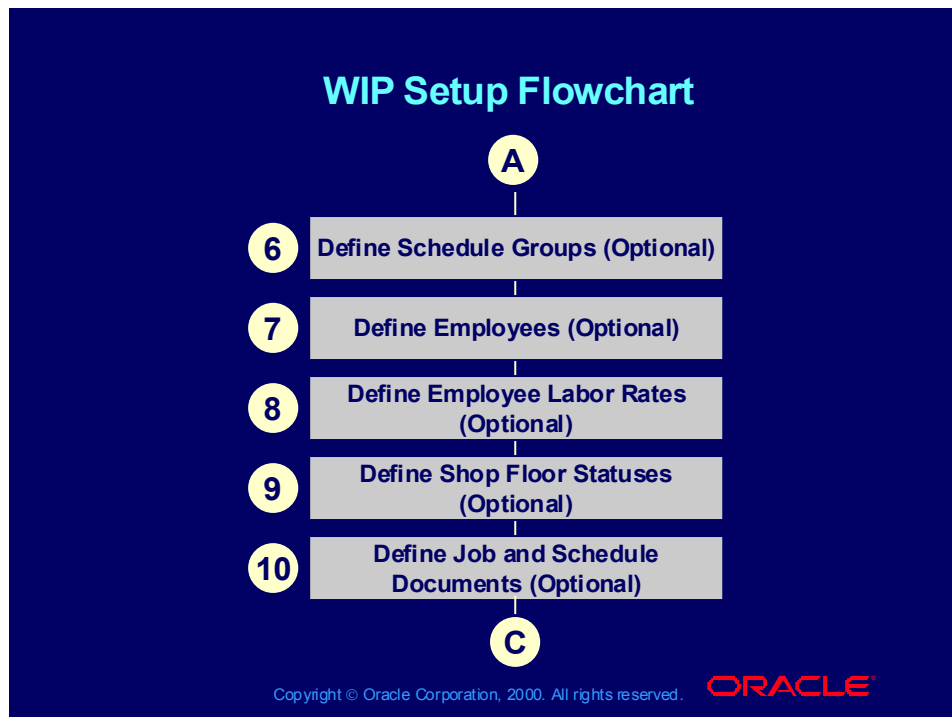
## WIP Setup Flowchart

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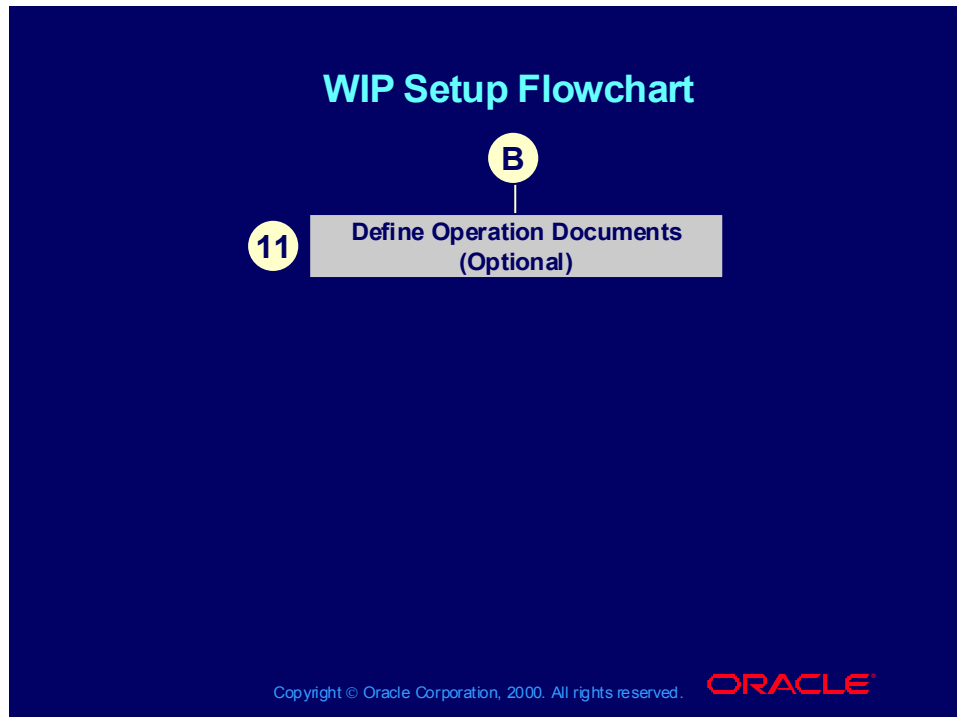
## WIP Setup Flowchart

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## WIP Setup Flowchart

---



## Agenda

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### Agenda

- Overview of Setting Up
- **WIP Parameters**
- WIP Accounting Classes
- Shop Floor Statuses
- Schedule Groups
- Labor Rates
- Production Lines
- Standard Documents
- Profile Options
- Summary

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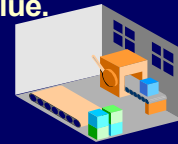
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## Overview of WIP Parameters

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### Overview of WIP Parameters

- WIP parameters define modes of operation and default values that affect Work in Process.
- You can use WIP parameters to define modes of operation and to assign default values for various work in process functions.
- You can only define one set of WIP parameters per organization.
- The following pages will show the parameters, if they are required and their default value.



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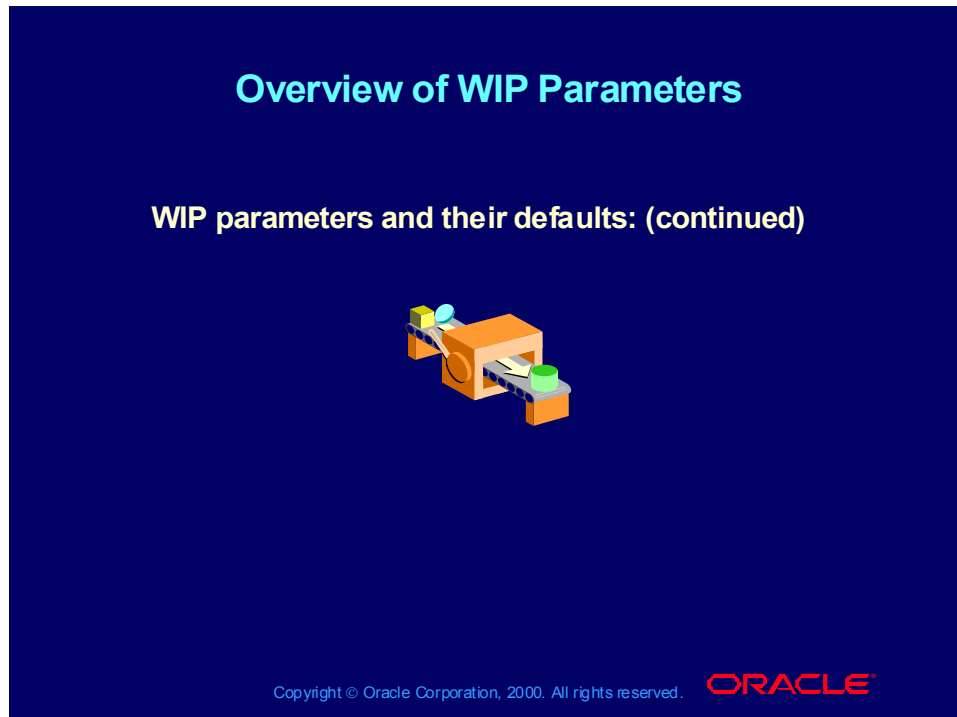
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Parameters	Required?	Default Value
<b><u>Discrete</u></b>		
Default Discrete Class	Optional	Null
Default Lot Number	Required	Job Name
Respond to Sales Order	Required	Always Changes
<b><u>Repetitive</u></b>		
Recognize Period Variances	Optional	All Schedules
Autorelease Days	Optional	0
<b><u>Average Costing</u></b>		
Default Completion Cost	Required	System Source Calculated
System Option	*Cond. Required	Use Predefined Resources

\* Required if you select the System Calculated completion cost source.

## Overview of WIP Parameters

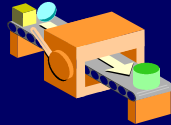
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Parameters	Required?	Default Value
<b><u>Average Costing (Cont'd)</u></b>		
Cost Type	*Cond. Required	Null
Auto Compute Final	Optional	No ____ Completion
<b><u>Move Transactions</u></b>		
Require Scrap Account	Optional	Disabled
Allow Creation of New	Optional	Disabled Operations
Allow Moves Over No Move Floor Statuses	Optional	Enabled Shop
<b><u>Backflush Default</u></b>		
Supply Subinventory	Optional	Null
Supply Locator	Optional	Null
Lot Selection Method	Optional	Expiration Date
Lot Verification	Optional	All
*Required if the Default Completion Cost Source parameter is set to User Defined.		

### Overview of WIP Parameters

**WIP parameters and their defaults: (continued)**



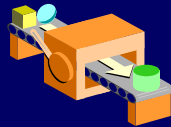
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### Overview of WIP Parameters

**WIP parameters and their defaults: (continued)**



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## Practice 1-1 Overview

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### Practice 1-1 Overview

**This practice will guide you through the WIP  
Parameter windows to help you understand how to  
define WIP Parameters.**



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## Practice 1-1

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### Practice 1-1

**Review the WIP Parameters that are currently setup in the M3 Organization. Answer the questions provided.**



**(N) WIP > Setup > Parameters**

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1. What are your options for the Default Discrete Class?
2. Note the field. What is the default value for the Respond to Sales Order Changes field?  
**Note:** The Costing tabbed region is only visible if your current organization has been defined as an Average Cost Organization in the Oracle Inventory Organization Parameters window. (The M3 organization is an average cost organization.)
3. Navigate to the Costing tabbed region. What is the Default Completion Cost Source?
4. Is the Auto Compute Final Completions check box selected? (This check box indicates whether the system should automatically determine when a completion transaction completes a job (quantity complete + scrap quantity = job quantity). The system calculates completion costs by taking the incurred job costs and dividing them by the completion quantity.)

## Practice 1-1

---

### Practice 1-1

**Review the WIP Parameters that are currently setup in the M3 Organization. Answer the questions provided (continued)**



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5. Navigate to the Move Transactions tabbed region. Is the “Require Scrap Account” check box selected? (This check box determines whether a scrap account is required when you move assemblies into and out of the “Scrap” Intraoperation step of an operation.)
6. Is the “Allow Creation of New Operations” check box selected? (This check box determines whether you can or cannot add an operation to a discrete job work in process routing during a move transaction.)
7. Navigate to the Backflush Defaults tabbed region. What is the default Backflush Supply Subinventory? Does this Supply Subinventory require a Supply Locator? (These two parameters determine which supply subinventory/locator is used when backflushing Operation Pull and Assembly Pull components that do not have defaults defined at the bill of material component level or at the item level.)
8. What options are available for the Backflush Lot Selection Method? (Determines how lot controlled Assembly Pull and Component Pull component items are selected during backflush transactions.)

## Practice 1-1

---

### Practice 1-1

**Review the WIP Parameters that are currently setup in the M3 Organization. Answer the questions provided. (continued)**



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9. Navigate to the Interoperation Steps tabbed region. Review the selected Intraoperation Steps. (These determine which intraoperation steps are enabled in your WIP routing operations.)
10. Navigate to the Outside Processing tabbed region. Is there a value selected in the Shop Floor Status for PO Move Resources parameter? If so, what is the value? (This selection determines which shop floor status is assigned to the Queue intraoperation steps of outside processing operations when you create discrete jobs and repetitive schedules.)
11. Navigate to the Scheduling tabbed region. If Oracle Manufacturing Scheduling has been installed, you can choose the Use Constraint Based Scheduler check box to activate the Constraint Based scheduling engine. Is this check box selected?
12. Navigate to the Other tabbed region. Is there a Component ATP Rule selected?

## Agenda

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### Agenda

- Overview of Setting Up
- WIP Parameters
- **WIP Accounting Classes**
- Shop Floor Statuses
- Schedule Groups
- Labor Rates
- Production Lines
- Standard Documents
- Profile Options
- Summary

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### Overview of WIP Accounting Classes

- Accounting classes are assigned when jobs are defined and when repetitive assemblies are associated with production lines.
- You can define any number of WIP Accounting Classes and update them.
- The valuation and variance accounts that are associated with these accounting classes determine which accounts are charged.

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### Overview of WIP Accounting Classes

The following pages will review each of the following WIP Accounting Classes:

- Discrete Accounting Classes
- Repetitive Accounting Classes
- Valuation Accounts
- Variance Accounts

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## Discrete Accounting Classes

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### Discrete Accounting Classes

#### Standard Discrete Accounting Class

- You must assign an accounting class to every discrete job, schedule and workorder-less completion.
- You can define accounting classes for each type of discrete production you use:
  - Standard Discrete
  - Asset Non-Standard Discrete
  - Expense Non-Standard Discrete
  - Flow Manufacturing



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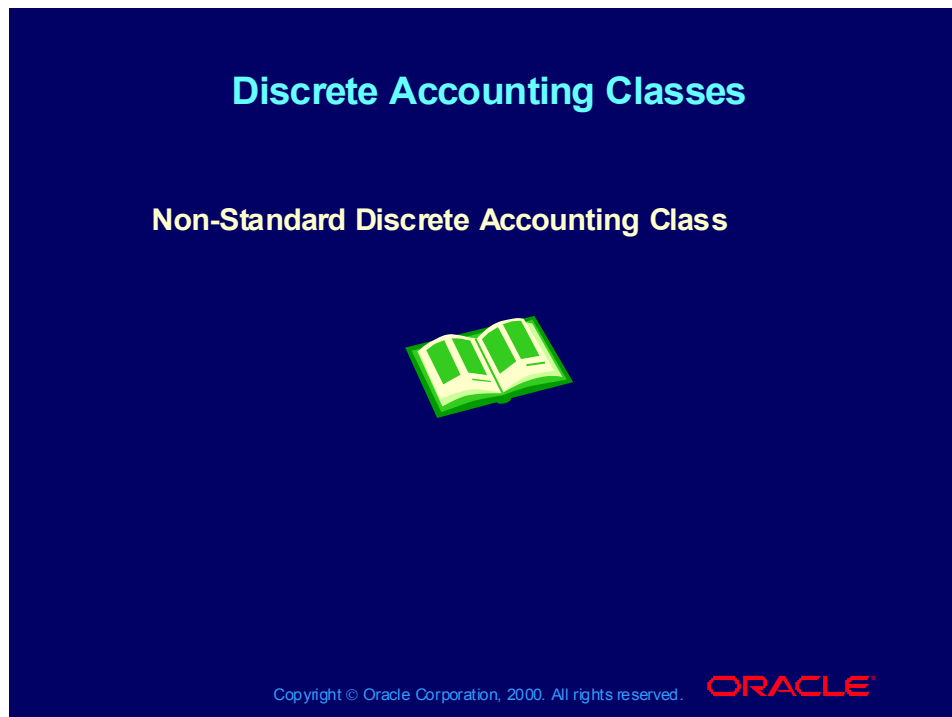
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Standard discrete accounting classes can be used to group job costs. For example, if you build subassemblies and finished goods, you can define your accounting classes so that you can separately value and report the costs associated with subassembly and finished goods production. Also, standard discrete accounting classes can be automatically defaulted when you create discrete jobs.

When you define an accounting class, you must assign valuation and variance accounts to it. When you issue materials to a job that uses this accounting class, the appropriate valuation accounts are charged. When the job is closed, final costs and variances are calculated and posted to the variance and valuation accounts. When the accounting period is closed, these journal entries are automatically posted to the general ledger.

## Discrete Accounting Classes

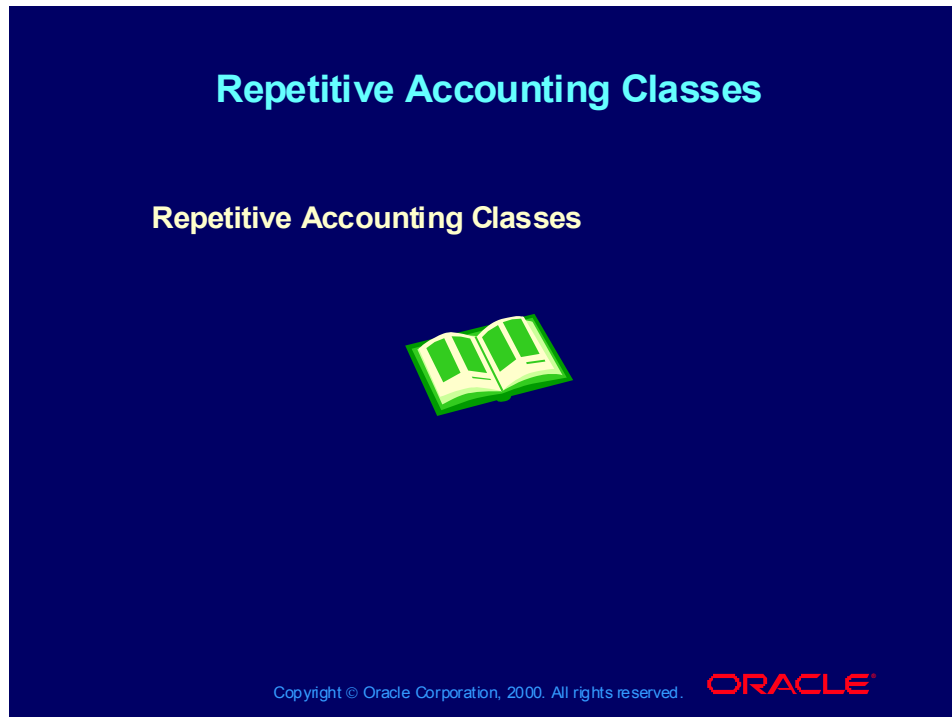
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Non-standard discrete accounting classes can be used to group and report various types of non-standard production costs, such as field service repair or engineering projects. For example, to track recurring expenses - machine maintenance or engineering projects - with non-standard jobs, you can define and assign an accounting class with a type of expense non-standard to these jobs. The valuation accounts carry the costs incurred on these expense jobs as an asset during the period and automatically writes them off to the variance accounts at period close. If you use non-standard discrete jobs to track production costs as assets, you can define and assign an accounting class with a type of asset non-standard. Asset non-standard discrete jobs are costed the same as standard discrete jobs. Valuation accounts are charged when material is issued to a job and final costs and variances are calculated and posted to the appropriate variance and valuation accounts when the job is closed. (Valuation accounts and Variance accounts are covered later in this course.)

## Repetitive Accounting Classes

---



Repetitive accounting classes are used to group production costs and must be assigned to each repetitive line/assembly association that is created. Every schedule for that assembly on that line uses these accounts, which are charged whenever you transact against the line/assembly association. Repetitive accounting classes can also be automatically defaulted when you associate repetitive assemblies with production lines.

You can analyze repetitive manufacturing costs by assembly regardless of the line on which it was manufactured by using the same accounting class for all lines that build that assembly. You can use the same class for all assemblies on a line to do the line based cost reporting or you can use a different accounting class for every line/assembly association.

## Valuation Accounts

---

### Valuation Accounts

The following pages will discuss:

- **Material Valuation Account**
- **Material Overhead Valuation Account**
- **Resource Valuation Account**
- **Outside Processing Valuation Account**
- **Overhead Valuation Account**

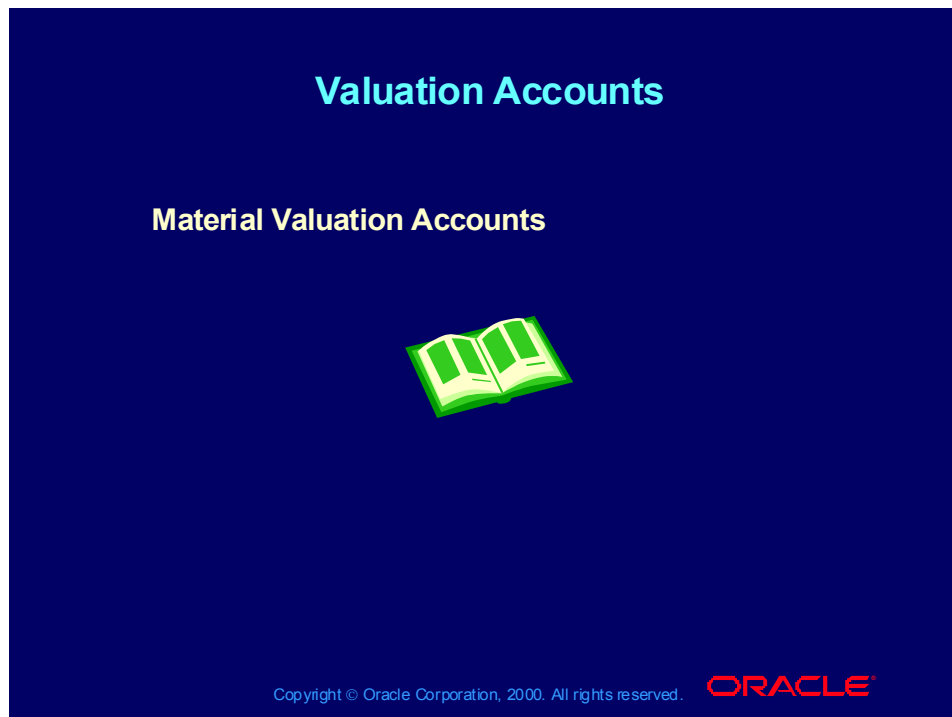
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WIP accounting class valuation accounts are charged when you issue components, move assemblies, complete assemblies, and charge resources.

## Valuation Accounts

---



Normally an asset account, this account tracks material costs. Under standard costing, it is debited at standard when you issue material to a job or schedule and credited at standard when you complete assemblies from a job or schedule, close a job or close an accounting period. Under average costing, this account is debited at the average cost at the time of the issue transaction and is credited when you complete assemblies from a job.

## Valuation Accounts

---

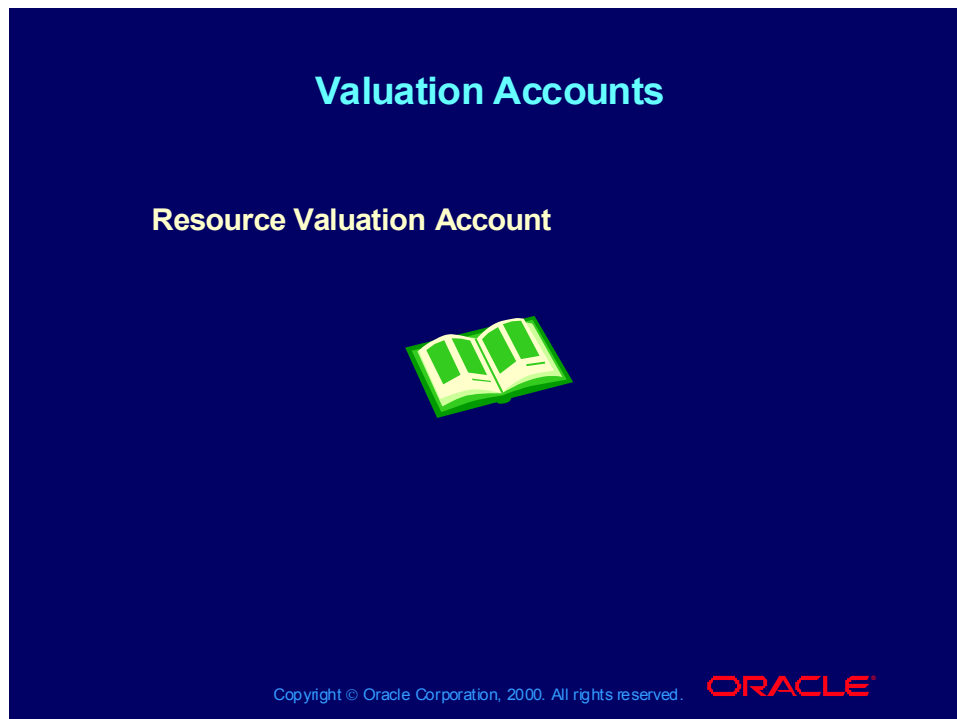


Normally an asset account, this account tracks material overhead (burden) costs. Under standard costing, it is charged/debited at standard when you issue material with material overhead to a job or schedule and relieved at standard when you complete assemblies from a job or schedule, close a job or close an accounting period. Under average costing, this account is debited at the average cost at the time of the issue transaction.

**Note:** When assemblies are completed and material overhead is earned, this account is not charged/credited. Instead, the material overhead account for the completion subinventory is debited.

## Valuation Accounts

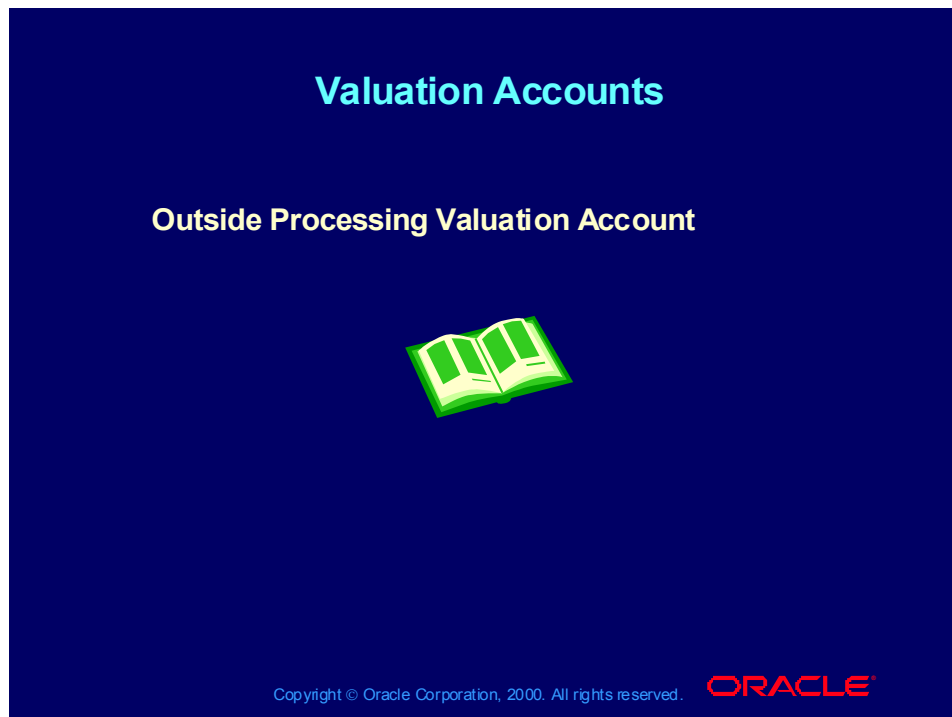
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Normally an asset account, this account tracks resource costs. Under standard costing, it is charged/debited at standard when resources are charged to a job or schedule and relieved/credited at standard when you complete assemblies from a job or schedule, close a job, or close an accounting period. Under average costing, this account is debited and credited at the resource rate at the time the resource is charged.

## Valuation Accounts

---



Normally an asset account, this account tracks outside processing costs. Under standard costing it is debited at the standard or purchase order cost when you receive items for a job or schedule. It is credited at standard when you complete assemblies from a job or schedule, close a job, or close an accounting period. Under average costing, the debiting of this account is based on item receipt (just as it is under standard costing).



## Valuation Accounts

---



Normally an asset account, this account tracks resource or department overhead cost.

## Variance Accounts

---

### Variance Accounts

The following pages will discuss:

- **Material Variance Accounts**
- **Resource Variance Accounts**
- **Outside Processing Variance Accounts**
- **Overhead Variance Accounts**
- **Standard Cost Variance Accounts**
- **Expense Variance Accounts**

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Variance accounts associated with Standard Discrete and Non-Standard Asset accounting classes are charged when jobs are closed. Variance accounts associated with Expense Non-Standard Discrete, and optionally Repetitive accounting classes, are charged when accounting periods are closed.

## Variance Accounts

---



This account tracks variances that occur when the previous level material costs charged to the job or schedule do not equal the previous level material costs that are relieved. This calculation gives you a net material usage and configuration variance.

## Variance Accounts

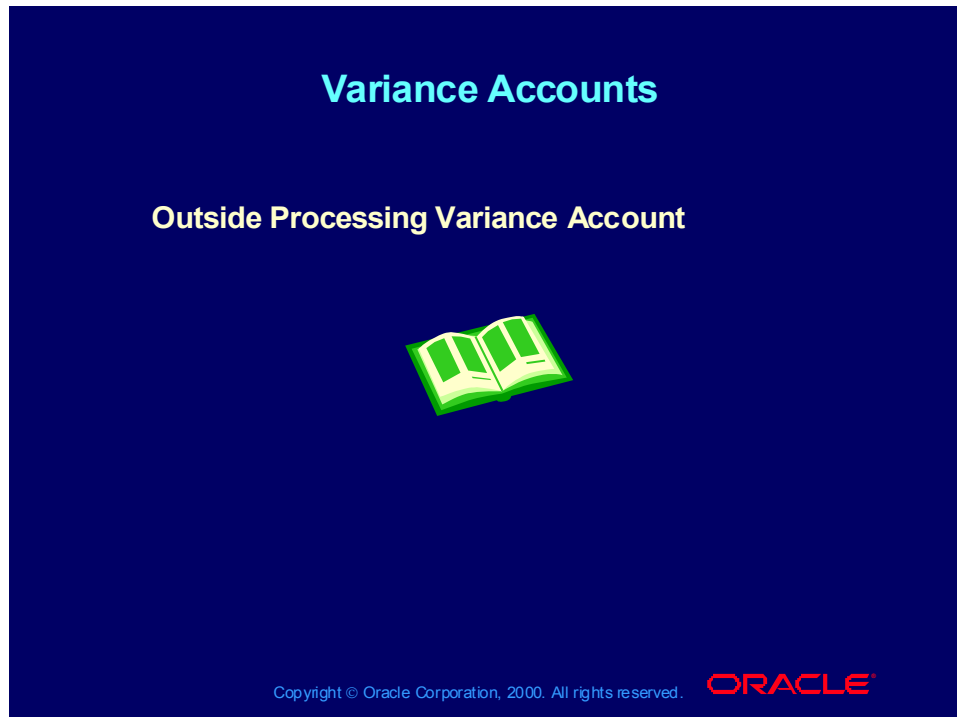
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This account tracks variances that occur when the this level resource costs charged to the job or schedule do not equal the this level resource costs that are relieved. If you charge actual labor without creating resource rate variances (resource standard rate is set to No), the resource variance includes any rate, efficiency, and method variances. If you recognize rate variances or charge resources at standard, the resource variance includes resource efficiency, and any method variances.

## Variance Accounts

---



This account tracks the variances that occur when the outside processing costs charged to the job or schedule do not equal the outside processing costs that are relieved. If you do not calculate purchase price variance (resource standard rate is set to No), the outside processing variance includes any rate, efficiency, and method variances. If you recognize purchase price variance, this account includes efficiency and any method variances.

## Variance Accounts

---



This account tracks the variances that occur when the overhead costs charged to the job or schedule do not equal the overhead costs relieved from the job or schedule. These variances include both efficiency and method variances.

## Variance Accounts

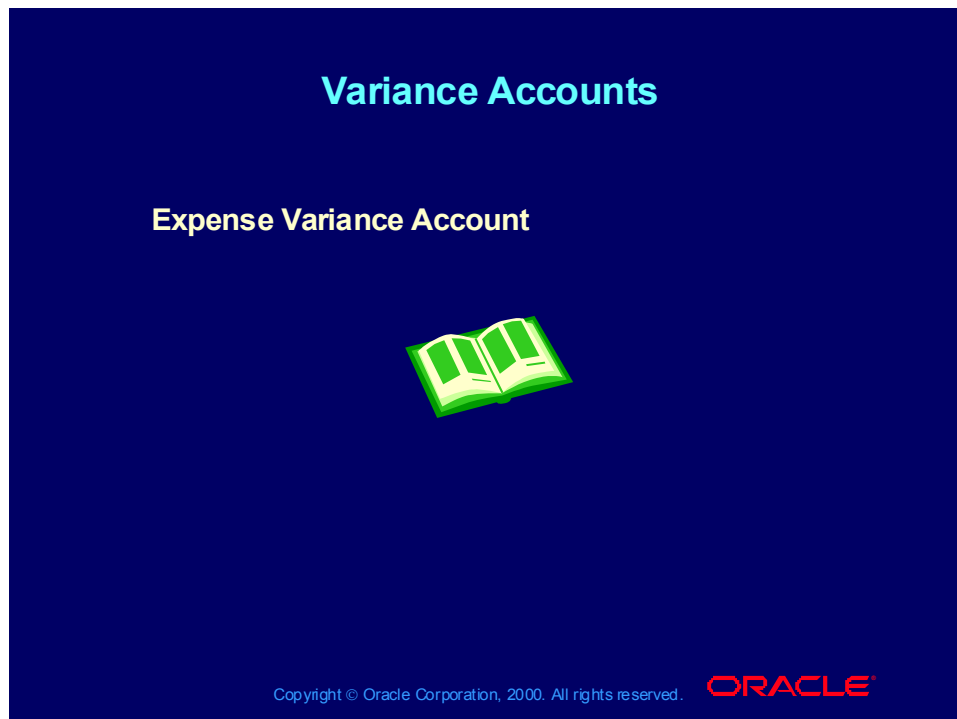
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This Variance account applies only to Standard Discrete and Asset Non-Standard. This account is charged for the sum of all the elemental standard cost adjustments when you perform a standard cost update that impacts an active job. Cost updates are not performed for repetitive schedules or expense non-standard jobs.

## Variance Accounts

---



Normally an expense account, this account is debited and credited when issuing and completing non-standard expense jobs under both standard and average costing.



## Practice 2-1 Overview

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### Practice 2-1 Overview

**This practice will test your ability to define a new WIP Accounting Class in a standard costing organization. (M1)**



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## Practice 2-1

---

**Practice 2-1**

**Define a new WIP Accounting Class**



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1. In the M1 organization, navigate to the WIP Accounting Classes window.
2. Enter a unique accounting Class name XX\_ACTG\_CLS. (Substitute XX with your initials.)
3. Enter the description ACCOUNTING CLASS.
4. Select an accounting class Type of *Standard Discrete*.
5. Enter an Inactive On date.
6. Enter General Ledger accounts for each required Valuation and Variance account.
7. Save your work.

## Practice 2-1 (continued)

WIP Accounting Classes (M1)

Class: **XX\_ACT\_CLS**  
Description: **ACCOUNTING CLASS**  
Type: **Standard Discrete**  
Inactive On:

Accounts

	Valuation	Variance
Material	<input type="text"/>	<input type="text"/>
Material Overhead	<input type="text"/>	<input type="text"/>
Resource	<input type="text"/>	<input type="text"/>
Outside Processing Overhead	<input type="text"/>	<input type="text"/>
Standard Cost	<input type="text"/>	<input type="text"/>
Bridging	<input type="text"/>	<input type="text"/>
Expense	<input type="text"/>	<input type="text"/>
Estimated Scrap	<input type="text"/>	<input type="text"/>

Open

ord: 1/1 | <OSC> | <DBG>

### Practice 2-1 Solutions

1. Navigate to the WIP Accounting Classes window.  
(N) WIP > Setup > WIP Accounting Classes
2. Enter a unique accounting Class name XX\_ACT\_CLS. (Substitute XX with your initials.)
3. Enter the description ACCOUNTING CLASS.

## Practice 2-1 (continued)

WIP Accounting Classes (M1)

Class: **XX\_ACT\_CLS**

Description: **ACCOUNTING CLASS**

Type: **Standard Discrete**

Inactive On: ☐

Accounts:

	Variance
Material Overhead	
Resource	
Outside Processing	
Overhead	
Standard Cost	
Bridging	
Expense	
Estimated Scrap	

ord: 1/1 | <OSC> | <DBG>

### Practice 2-1 Solutions

4. Select an accounting class Type of *Standard Discrete*.

## Practice 2-1 (continued)

MP Accounting Classes (M1)

Class: **XX\_ACT\_CLS**

Description: **ACCOUNTING CLASS**

Calendar: **November 2000**

S	M	T	W	T	F	S
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	1	2
3	4	5	6	7	8	9

OK Cancel

Open

ord: 1/1 <OSC> <DBG>

### Practice 2-1 Solutions

5. Enter an Inactive On date.

**Note:** If you enter an Inactive On date, you can no longer use this accounting class as of the date that you enter. The Inactive On date can be greater than or equal to the current date. If you do not enter an Inactive On date, the accounting class is active indefinitely.

## Practice 2-1 (coninued)

WIP Accounting Classes (M1)

Class: **XX\_ACT\_CLS**

Description: **ACCOUNTING CLASS**

Type: **Standard Discrete**

Inactive On: **24-NOV-2000**

Accounts:

	Valuation	Variance
Material		
Material Overhead		
Resource		

Material Account Dialog:

Account Alias: [ ]

Buttons: OK, Cancel, Clear, Help

Status Bar: ord: 1/1 | List of Valu... | <OSC> | <DBG>

### Practice 2-1 Solutions

- Using the list of values, enter the General Ledger accounts for each required Valuation and Variance account.
- Save your work.

## Agenda

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### Agenda

- Overview of Setting Up
- WIP Parameters
- WIP Accounting Classes
- **Shop Floor Statuses**
- Schedule Groups
- Labor Rates
- Production Lines
- Standard Documents
- Profile Options
- Summary

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### Overview of Shop Floor Statuses

- You can control move transactions by assigning Shop Floor Statuses to intraoperation steps on the work in process routing. For example you may want to create a “Hold for Quality Check” status that can be assigned to an intraoperation step before moving to the next assembly step.
- You can assign Shop Floor Statuses to any intraoperation step associated with a job or repetitive line/assembly.
- Shop Floor Statuses that are assigned to a repetitive line/assembly are valid for all repetitive schedules being built on that production line.

(N) WIP > Move Transactions > Shop Floor Statuses > Shop Floor Statuses

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## Practice 3-1 Overview

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### Practice 3-1 Overview

**This practice will test your ability to define a new Shop Floor Status.**



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## Practice 3-1

---

**Practice 3-1**

**Define a new Shop Floor Status**



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1. In the M1 organization, navigate to the Shop Floor Statuses Window.
2. In the first available line, enter a Status Name **XX\_SHOP**.  
(Substitute XX with your initials.)
3. Enter a Status description Shop Floor Status.
4. Optionally uncheck Allow Moves so that you can use this status to control move transactions. (Allow Moves defaults to checked.)
5. Enter an Inactive On date.
6. Save.

## Practice 3-1 (continued)

Status	Description	Allow Moves	Inactive On
Hold Eng	Engineering Hold	<input type="checkbox"/>	
Hold-Qlty	Quality Hold	<input type="checkbox"/>	
Rework	Rework	<input checked="" type="checkbox"/>	
XX_SHOP		<input checked="" type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	

View Move Transactions

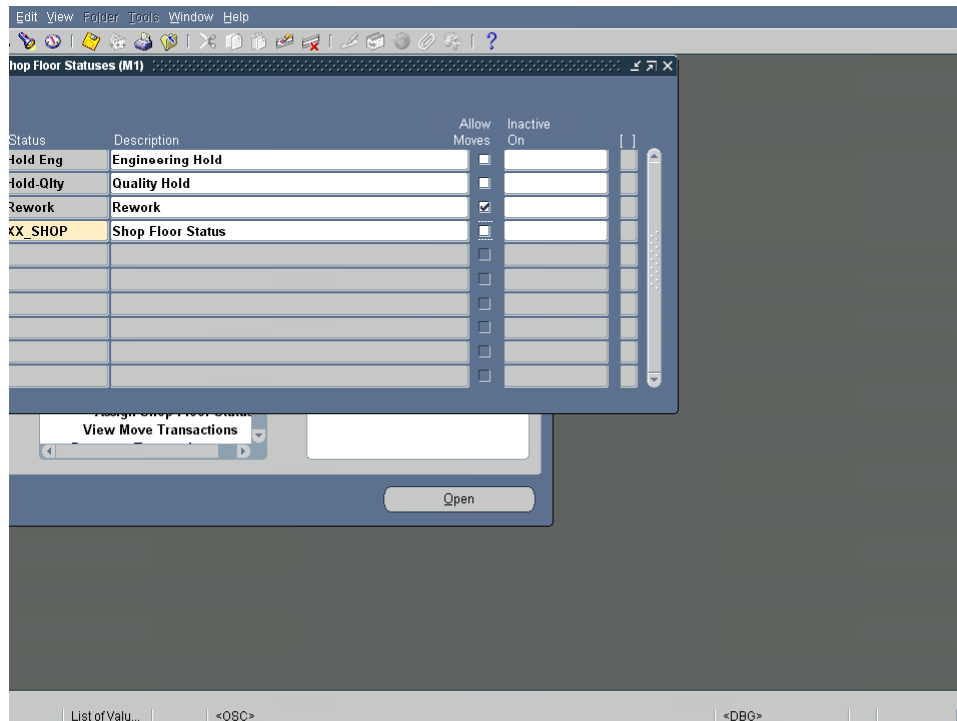
Open

List of Valu... <OSC> <DBG>

### Practice 3-1 Solutions

1. In the M1 organization, navigate to the Shop Floor Statuses Window.  
(N) WIP > Move Transactions > Shop Floor Statuses > Shop Floor Statuses
2. In the first available line, enter a Status Name XX\_SHOP.  
(Substitute XX with your initials.)

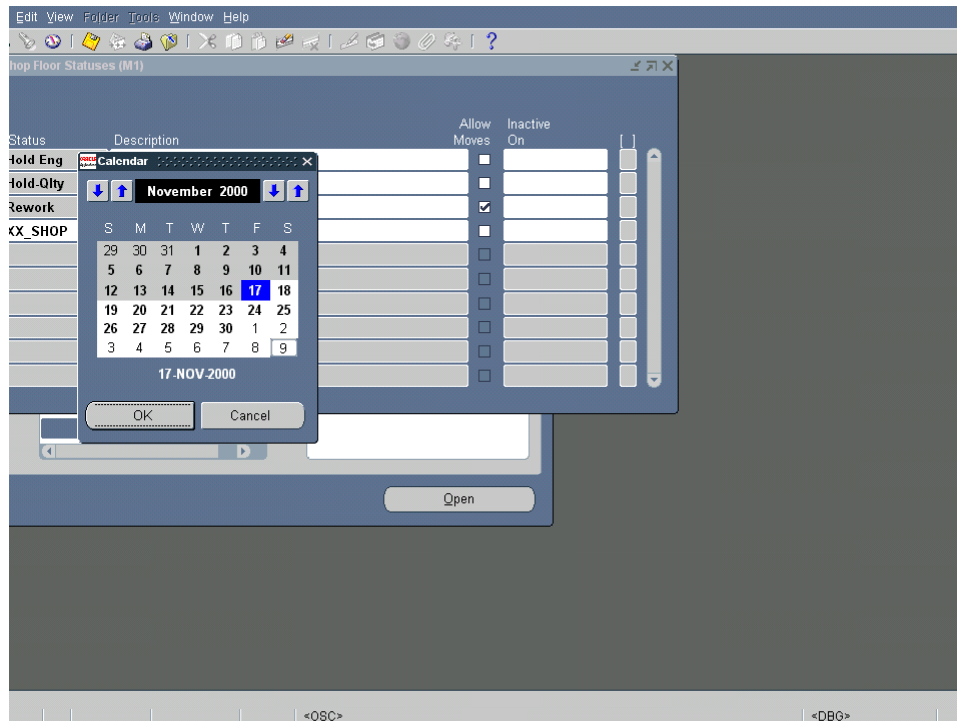
## Practice 3-1 (continued)



### Practice 3-1 Solutions

3. Enter a Status description Shop Floor Status.
4. Optionally uncheck Allow Moves so that you can use this status to control move transactions. (Allow Moves defaults to checked.)

## Practice 3-1 (continued)



### Practice 3-1 Solutions

5. Enter an Inactive On date.

**Note:** If you enter an Inactive On date, you can no longer use this accounting class as of the date that you enter. The Inactive On date can be greater than or equal to the current date. If you do not enter an Inactive On date, the accounting class is active indefinitely.

6. Save.

## Agenda

---

### Agenda

- Overview of Setting Up
- WIP Parameters
- WIP Accounting Classes
- Shop Floor Statuses
- **Schedule Groups**
- Labor Rates
- Production Lines
- Standard Documents
- Profile Options
- Summary

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### Overview of Schedule Groups

- You can assign flow schedules and discrete jobs to the schedule groups you define.
- Jobs and flow schedules within a given schedule group can be sequenced.
- Sequencing jobs and flow schedules within a schedule group makes it possible to prioritize, for example, by customer.
- You can update schedule groups.
- You cannot delete schedule groups that are assigned to jobs and flow schedules.

(N) WIP > Setup > Schedule Groups

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## Practice 4-1 Overview

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### Practice 4-1 Overview

**This practice will test your ability to define a new Schedule Group.**



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## Practice 4-1

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**Practice 4-1**

**Define a new Schedule Group**

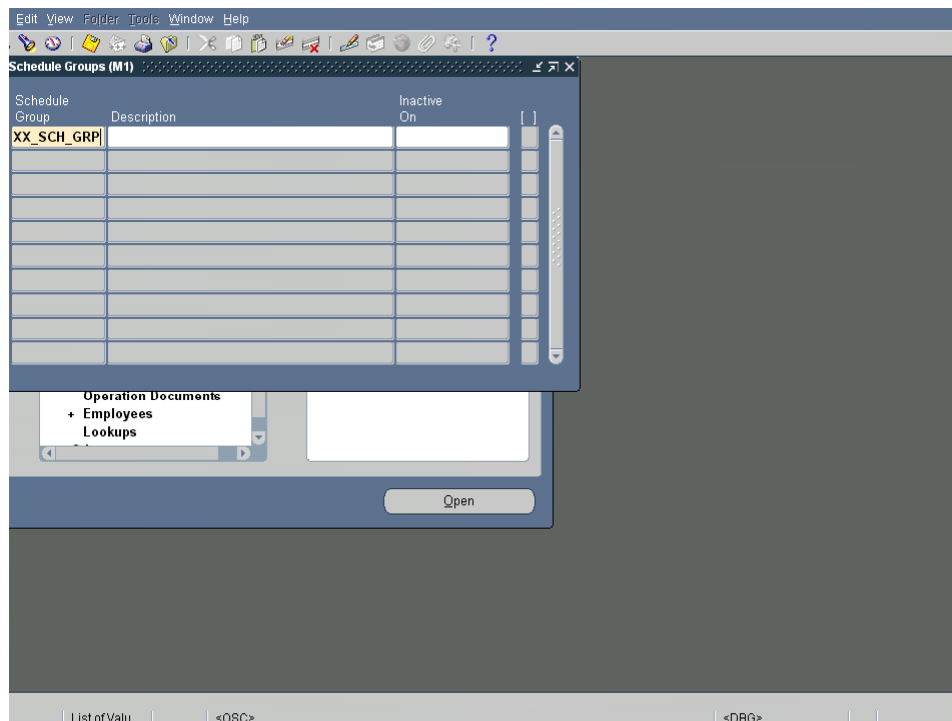


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1. Navigate to the Schedule Groups Window.
2. Enter a Schedule Group Name XX\_SCH\_GRP.  
(Substitute XX with your initials.)
3. Enter a schedule group Description SCHEDULE GROUP.
4. Enter an Inactive On date.
5. Save.

## Practice 4-1 (continued)

---

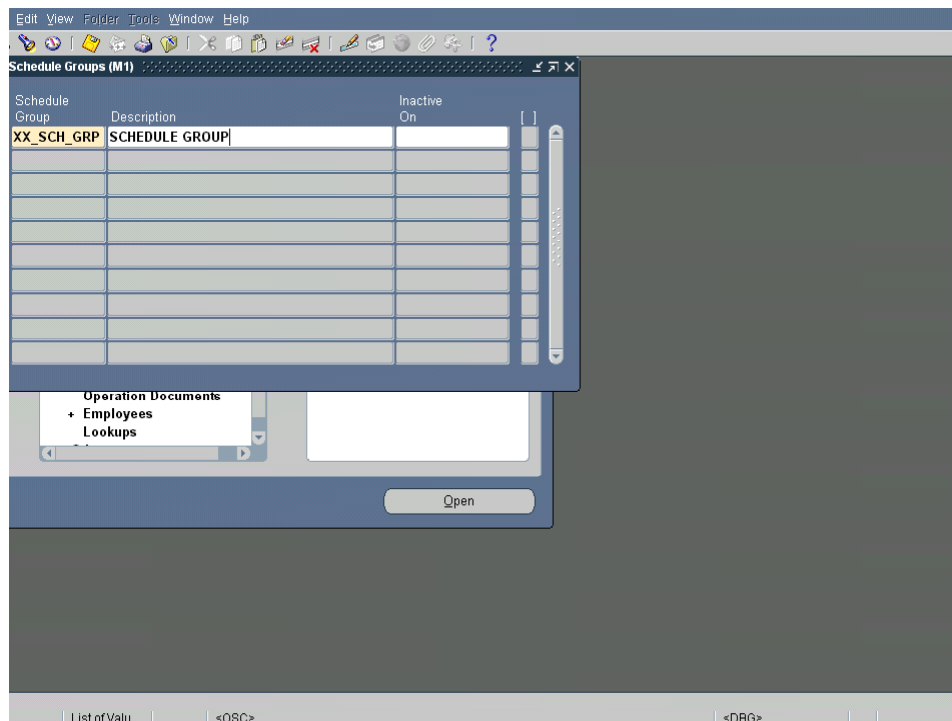


### Practice 4-1 Solutions

1. Navigate to the Schedule Groups Window.  
(N) WIP > Setup > Schedule Groups
2. Enter a Schedule Group Name XX\_SCH\_GRP.  
(Substitute XX with your initials.)

## Practice 4-1 (continued)

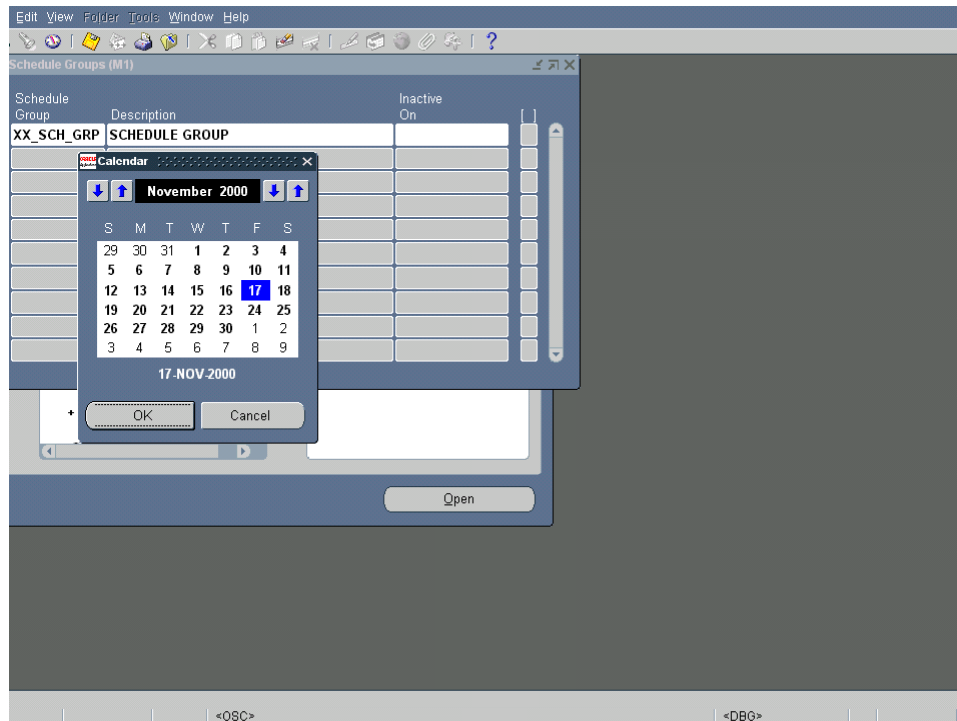
---



### Practice 4-1 Solutions

3. Enter a schedule group Description SCHEDULE GROUP.

## Practice 4-1 (continued)



### Practice 4-1 Solutions

4. Enter an Inactive On date.

**Note:** If you enter an Inactive On date, you can no longer use this accounting class as of the date that you enter. The Inactive On date can be greater than or equal to the current date. If you do not enter an Inactive On date, the accounting class is active indefinitely.

5. Save.

## Agenda

---

### Agenda

- Overview of Setting Up
- WIP Parameters
- WIP Accounting Classes
- Shop Floor Statuses
- Schedule Groups
- **Labor Rates**
- Production Lines
- Standard Documents
- Profile Options
- Summary

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## Overview of Labor Rates

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### Overview of Labor Rates

- You can add, delete, and update the effective date of the hourly labor rates for person-type resources (employees).
- You can define multiple hourly labor rates for the same employee, as long as each rate has a different effective date.

(N) WIP > Setup > Employees > Labor Rates

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If you wish to use actual employee rates for labor costing, the hourly labor rate rather than the standard or predefined rate is used. You can enter an employee number when performing a person-type resource transaction in the Resource Transactions window or the Resource Transaction Open Interface process. The employee's most current hourly labor rate is used to compute the actual cost of the transaction.

**Note:** Oracle HR is the source for the employee names and numbers. If Oracle HR has not been installed, then you must manually enter employee names as well as employee rates.

## Practice 5-1 Overview

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### Practice 5-1 Overview

**This practice will test your ability to define a new Labor Rate.**



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## Practice 5-1

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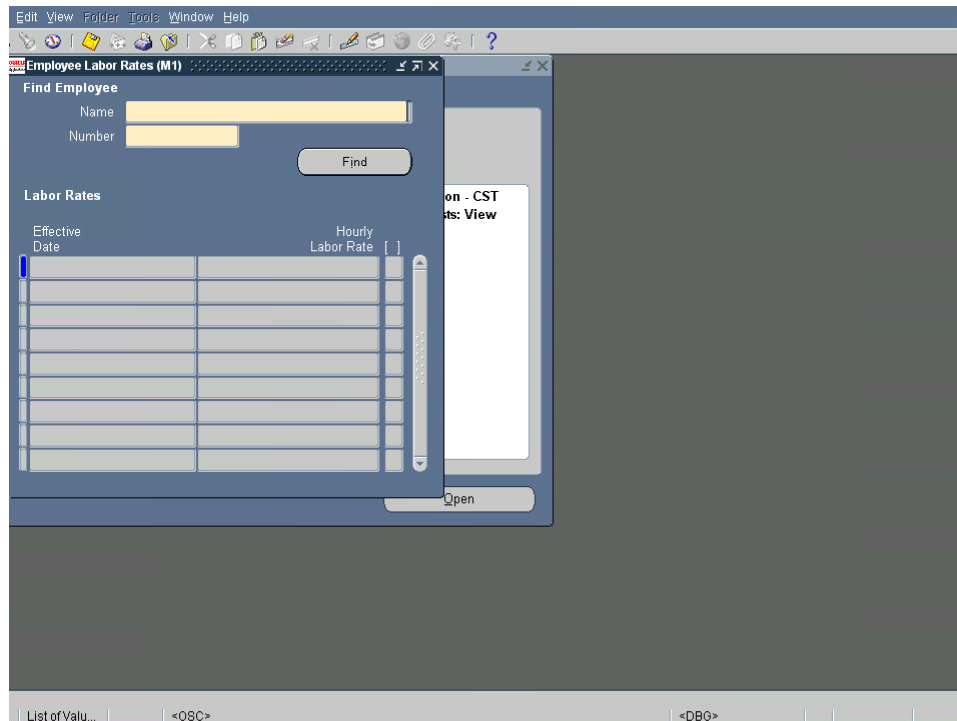


1. Navigate to the Employee Labor Rates Window.
2. Using the list of values, select an employee Name or Number.
3. Select the Effective Date for each hourly labor rate.
4. Enter the Hourly Labor Rate for the employee.
5. Save.



## Practice 5-1 (continued)

---



### Practice 5-1 Solutions

1. Navigate to the Employee Labor Rates Window in the M1 organization.  
(N) WIP > Setup > Employees > Labor Rates

## Practice 5-1 (continued)

Employee Labor Rates (M1)

Find Employee

Name: Copeland, Mrs. Susan

Number: 345

Find

Labor Rates

Effective Date	Hourly Labor Rate
17-NOV-2000	50.00

Open

Transaction complete: 1 records applied and saved.

### Practice 5-1 Solutions

2. Find the employee Name or Number that your instructor gives you.
3. Select the today's date for the Effective Date for you hourly labor rate.
4. Enter \$50 for the Hourly Labor Rate.
5. Save.

## Agenda

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### Agenda

- Overview of Setting Up
- WIP Parameters
- WIP Accounting Classes
- Shop Floor Statuses
- Schedule Groups
- Labor Rates
- **Production Lines**
- Standard Documents
- Profile Options
- Summary

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### Overview of Production Lines

- A production line describes a unique set of operations, departments, and/or manufacturing cells that produce one or more of your products.
- You can associate production lines with repetitive assemblies, discrete jobs, flow routings, schedules, and work order-less completions.
- You can define and update production lines.
- You cannot delete production lines.

(N) WIP > Setup > Production Lines

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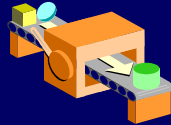
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## Practice 6-1 Overview

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### Practice 6-1 Overview

**This practice will test your ability to define a new production line.**



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## Practice 6-1

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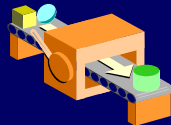
1. Navigate to the Production Lines Window.
2. Enter a production line Name XX\_LINE (Substitute XX with your initials.)
3. Enter the production line Description PRODUCTION LINE.
4. Using the list of values, you may optionally, select an Exception Set.
5. Using the list of values, you may optionally, select an ATP Rule.
6. Enter the Minimum Hourly Rate of \$15
7. Enter the Maximum Hourly Rate of \$500
8. Enter the production line Start Time of 06:00:00
9. Enter the production line Stop Time of 17:00:00
10. Select the Lead Time Basis. (If the lead time varies by assembly, you can schedule the repetitive production time based on the routing of the assembly the line is building. You can set a fixed lead time if the lead time is determined by the production line and does not vary by assembly. You can update this field at any time.)

## Practice 6-1

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### Practice 6-1

#### Define a new Production Line (continued)



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11. If necessary, enter the Fixed Lead Time, in hours per assembly, for the production line.
12. Enter an Inactive On date.
13. Save your work.

## Practice 6-1 (continued)

---

The screenshot shows the 'Production Lines (M1)' window. The 'Name' field is populated with 'XX\_LINE'. The 'Description' field is empty. The 'Exception Set' and 'ATP Rule' fields are empty. The 'Hourly Rates' section has 'Minimum' set to '0' and 'Maximum' is empty. The 'Times' section has 'Start' and 'Stop' fields empty. The 'Lead Time' section has 'Basis' set to 'Fixed' and 'Fixed Lead Time' is empty. The 'Inactive On' field is empty. There are buttons for 'Tolerance Fences' and 'Open' at the bottom. The window has a menu bar with 'Edit', 'View', 'Folder', 'Tools', 'Window', and 'Help'. The status bar at the bottom shows '<OSG>' and '<DBG>'.

### Practice 6-1 Solutions

1. Navigate to the Production Lines Window.  
(N) WIP > Setup > Production Lines
2. Enter a production line Name XX\_LINE (Substitute XX with your initials.)



## Practice 6-1 (continued)

---

Production Lines (M1)

Name:

Description:

Exception Set:

ATP Rule:

**Hourly Rates**

Minimum:

Maximum:

**Times**

Start:

Stop:

**Lead Time**

Basis:

Fixed Lead Time:

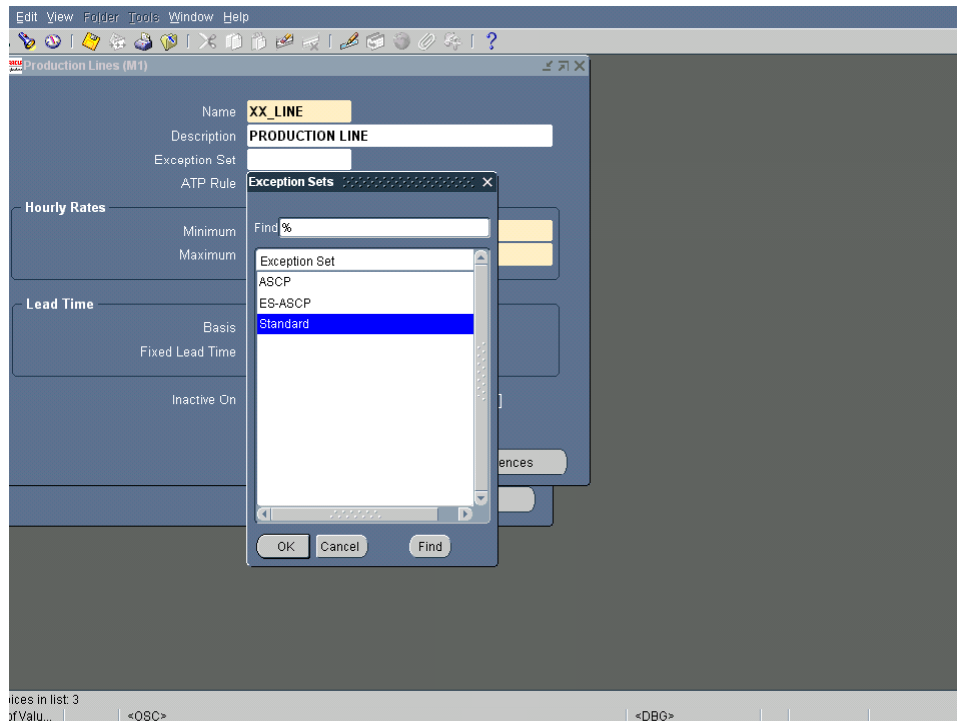
Inactive On:

<OSG> <DBG>

### Practice 6-1 Solutions

3. Enter the production line Description PRODUCTION LINE.

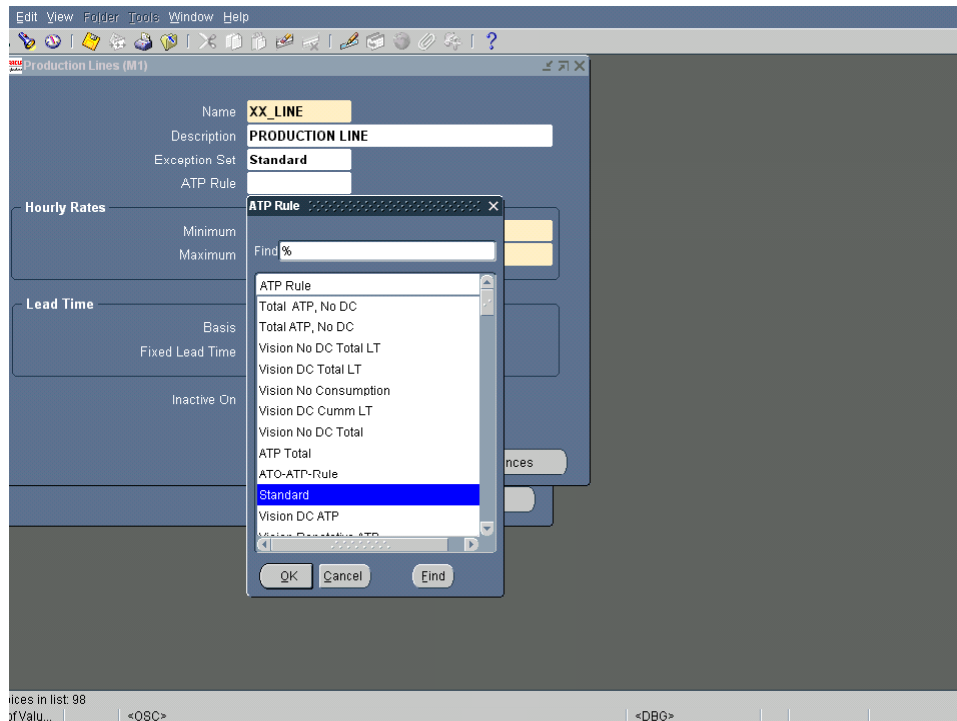
## Practice 6-1 (continued)



### Practice 6-1 Solutions

4. Optionally, using the list of values, select the *Standard* Exception Set. (Production lines are rate-based resources. The exception sets that you assign to them help you identify capacity problems.)

## Practice 6-1 (continued)



### Practice 6-1 Solutions

5. Optionally, using the list of values, select the *Standard* ATP Rule. (You can select any user-defined ATP rule. The ATP rule that you assign to the production line is used when determining the capable to promise status of the line resource.)

## Practice 6-1 (continued)

---

Production Lines (M1)

Name: **XX\_LINE**

Description: **PRODUCTION LINE**

Exception Set: **Standard**

ATP Rule: **Standard**

**Hourly Rates**

Minimum: **15**

Maximum: **500**

**Times**

Start: **06:00:00**

Stop: **17:00:00**

**Lead Time**

Basis: **Fixed**

Fixed Lead Time:

Inactive On:

Tolerance Fences

Open

<OSG> <DBG>

### Practice 6-1 Solutions

6. Enter the Minimum Hourly Rate of \$15
7. Enter the Maximum Hourly Rate of \$500
8. Enter the production line Start Time of 06:00:00
9. Enter the production line Stop Time of 17:00:00

## Practice 6-1 (continued)

Production Lines (M1)

Name: XX\_LINE  
Description: PRODUCTION LINE  
Exception Set: Standard  
ATP Rule: Standard

Hourly Rates  
Minimum: 15  
Maximum: 500

Times  
Start: 06:00:00  
Stop: 17:00:00

Lead Time  
Basis: Fixed  
Fixed Lead Time: Routing-Based

Inactive On: [Date Picker]

Tolerance Fences  
Open

<DBG>

### Practice 6-1 Solutions

10. Select the *Fixed* Lead Time Basis. (If the lead time varies by assembly, you can schedule the repetitive production time based on the routing of the assembly the line is building. You can set a fixed lead time if the lead time is determined by the production line and does not vary by assembly. You can update this field at any time.)

*Fixed:* The system schedules the first unit completion date and the operations of all repetitive schedules on this production line based on the fixed lead time hours you enter for the production line. Scheduling is done regardless of actual capacity or the lead time of the routing of the repetitive assembly.

*Routing-Based:* The system schedules the first unit completion date and the operations of all repetitive schedules on this production line using the detailed shop floor scheduling algorithm, the routing of the assembly, and a quantity of 1.

## Practice 6-1 (continued)

Production Lines (M1)

Name: **XX\_LINE**

Description: **PRODUCTION LINE**

Exception Set: **Standard**

ATP Rule: **Standard**

**Hourly Rates**

Minimum: **15**

Maximum: **500**

**Times**

Start: **06:00:00**

Stop: **17:00:00**

**Lead Time**

Basis: **Fixed**

Fixed Lead Time: **5**

Inactive On:

**Tolerance Fences**

**Open**

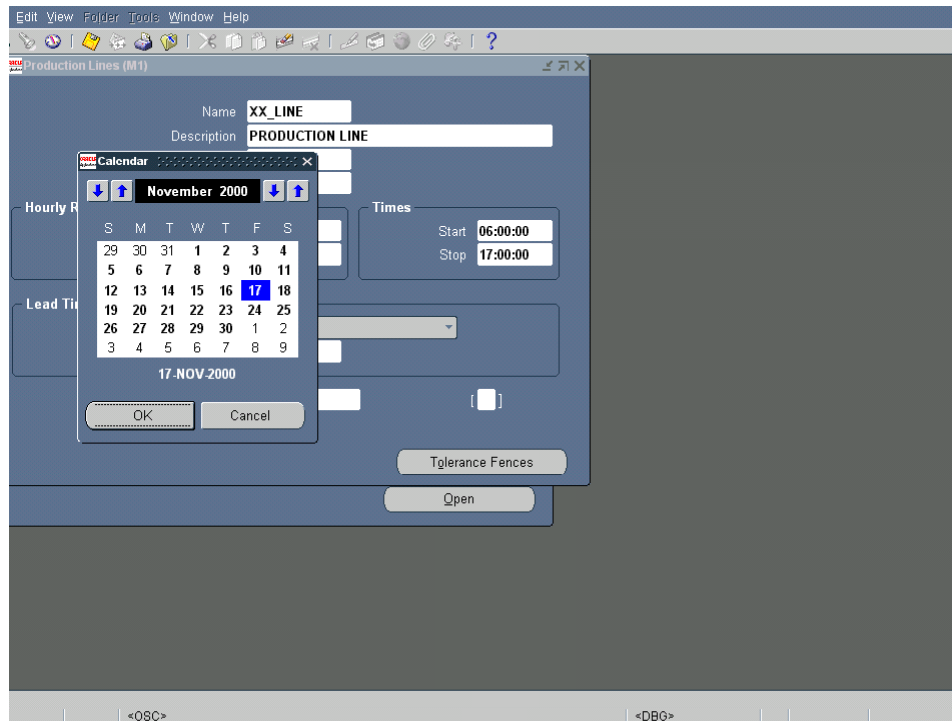
<DBG>

### Practice 6-1 Solutions

11. Enter a Fixed Lead Time of 5 hours.

**Note:** Because we entered a lead time basis of *Fixed*, we must enter the Fixed Lead Time, in hours per assembly, for the production line. This is the amount of time it takes to produce the first assembly, from start to finish on the production line. The daily quantity from that point on is set when you define individual repetitive schedules and must be less than or equal to the maximum hourly rate. The fixed lead time entered here is used to schedule repetitive schedules produced on this production line. You can update this field at any time. You cannot enter a value in this field for a routing-based production line.

## Practice 6-1 (continued)



### Practice 6-1 Solutions

12. Enter an Inactive On date.

**Note:** If you enter an Inactive On date, you can no longer use this accounting class as of the date that you enter. The Inactive On date can be greater than or equal to the current date. If you do not enter an Inactive On date, the accounting class is active indefinitely.

13. Save your work.

## Agenda

---

### Agenda

- Overview of Setting Up
- WIP Parameters
- WIP Accounting Classes
- Shop Floor Statuses
- Schedule Groups
- Labor Rates
- Production Lines
- **Standard Documents**
- Profile Options
- Summary

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## Overview of Standard Documents

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### Overview of Standard Documents

- You can define standard documents for discrete jobs, repetitive schedules, and job/schedule operations.
- Standard documents can then be attached to discrete jobs, repetitive schedules, and operations as required.



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For information on defining Standard Documents, refer to the online help and navigate to:

(N) Oracle Work in Process > Setting Up > Defining Operation Documents

## Agenda

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### Agenda

- Overview of Setting Up
- WIP Parameters
- WIP Accounting Classes
- Shop Floor Statuses
- Schedule Groups
- Labor Rates
- Production Lines
- Standard Documents
- **Profile Options**
- Summary

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### Overview of Profile Options

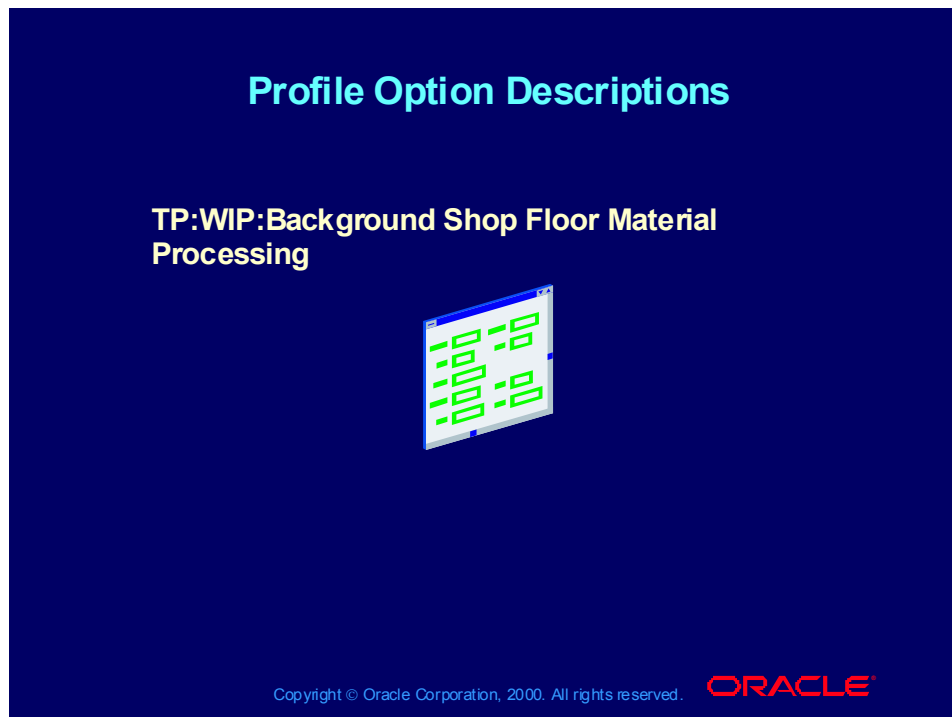
- During Implementation, you set a value for each user profile option to specify how Work in Process controls access to and processes data.
- Generally, the system administrator sets and updates profile values.
- The following pages will give a description of each profile option and their options.

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## Profile Option Descriptions

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This profile option is used only when the TP:Move Transaction profile is set to *Background processing* and the transaction being processed is a move completion, move return, or operation pull backflush transaction.

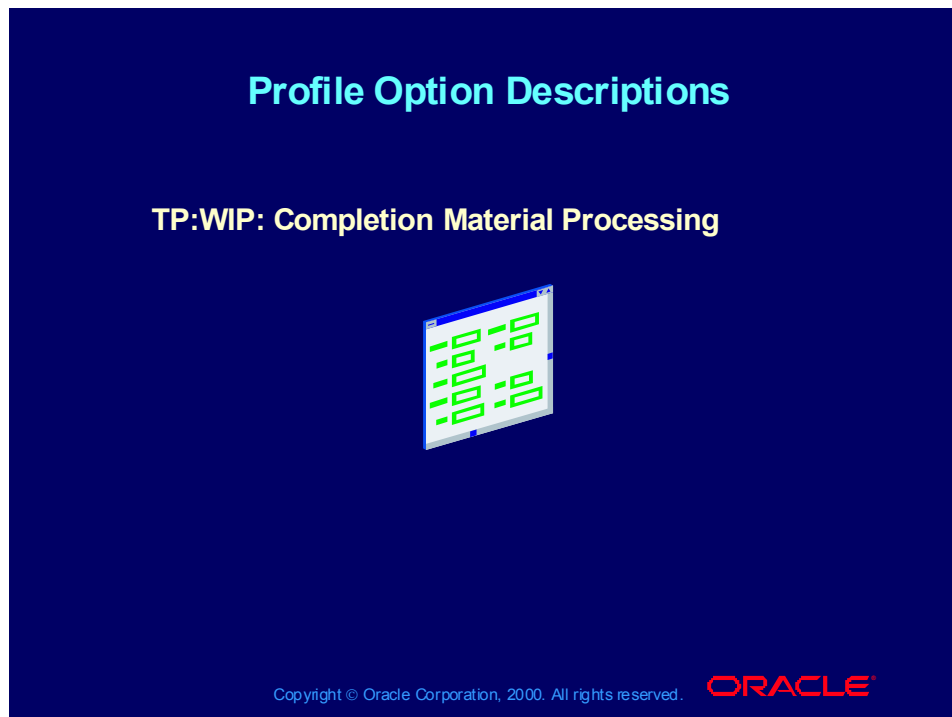
*Background Processing:* When set to background, shop floor material transactions are processed by the inventory material transaction processor on a periodic basis.

*Concurrent Processing:* When set to concurrent, the inventory material transaction processor is launched to process the shop floor material transactions.

(Default) *Online Processing:* When set to online, the move transaction processor processes the shop floor material backflush portions of transactions online by calling the inventory material transaction processor.

## Profile Option Descriptions

---



This profile option controls material processing of assembly completion, assembly return, and assembly completion backflush transactions initiated using the Completion Transactions window. Available values are listed below:

*Background Processing:* When you save a completion transaction, control is returned to you immediately. Assembly completions and returns and their associated backflush transactions are processed on a periodic basis.

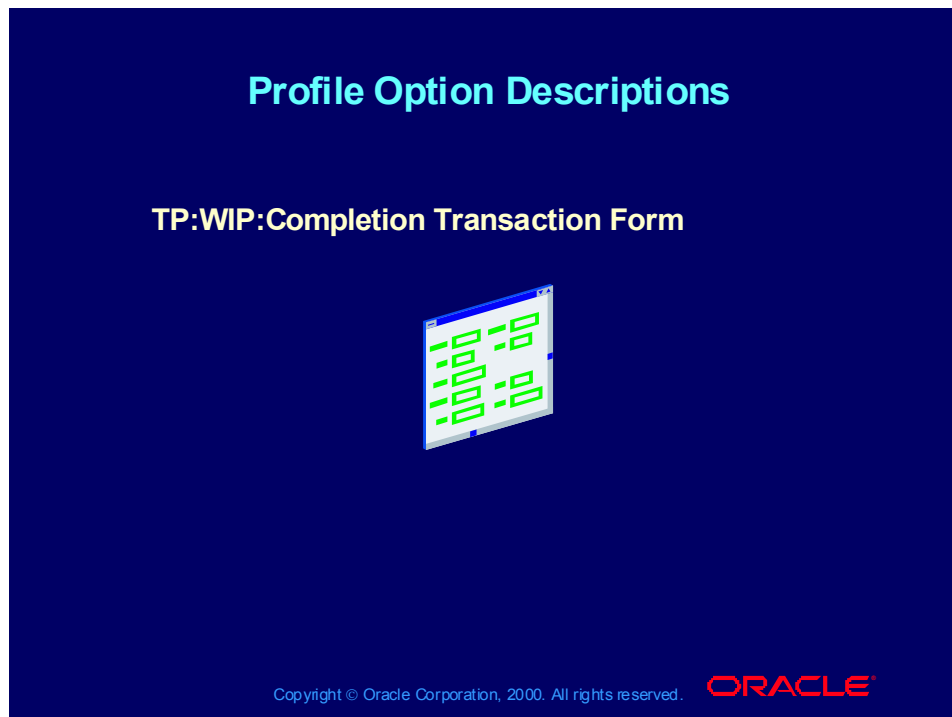
*Concurrent Processing:* When you save a completion transaction, a concurrent process is spawned and control is returned to you immediately.

(Default) *Online processing :* When you save a completion transaction, the transaction is processed while you wait and control is returned once transaction processing is completed.

**Note:** If you set TP:WIP:Completion Transactions Form profile option to Background processing, this profile option is disregarded. Also, if you are using average costing, and the TP:INV: Transaction Processing Mode profile option in Oracle Inventory is set to Form level processing, you must set this profile option to Online to ensure that transactions are processed in the proper sequence.

## Profile Option Descriptions

---



This profile option determines whether completion transactions are processed online or in the background when transacting assembly completions using the Completion Transactions window. A completion transaction includes updating the completion quantity of a job or repetitive schedule, identifying the component items and quantities to be backflushed, and transferring reservations from the final assembly order to appropriate sales order lines and deliveries. Available values are listed below:

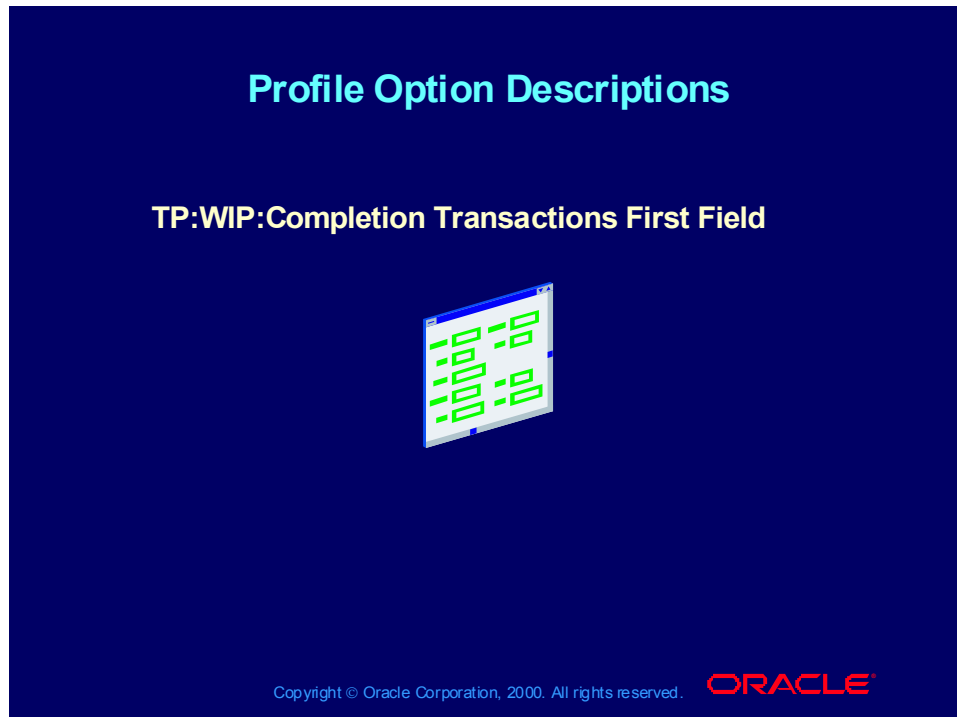
*Background Processing:* When you save a completion transaction, control is returned to you immediately. Completion transactions are then processed on a periodic basis.

(Default) *Online Processing:* When you save a completion transaction, it is processed while you wait and control is returned once transaction processing is completed.

**Note:** If you are using average costing, and the TP:INV:Transaction Processing Mode profile option in Oracle Inventory is set to Form level processing, you must set this profile option to Online to ensure that transactions are processed in the proper sequence.

## Profile Option Descriptions

---

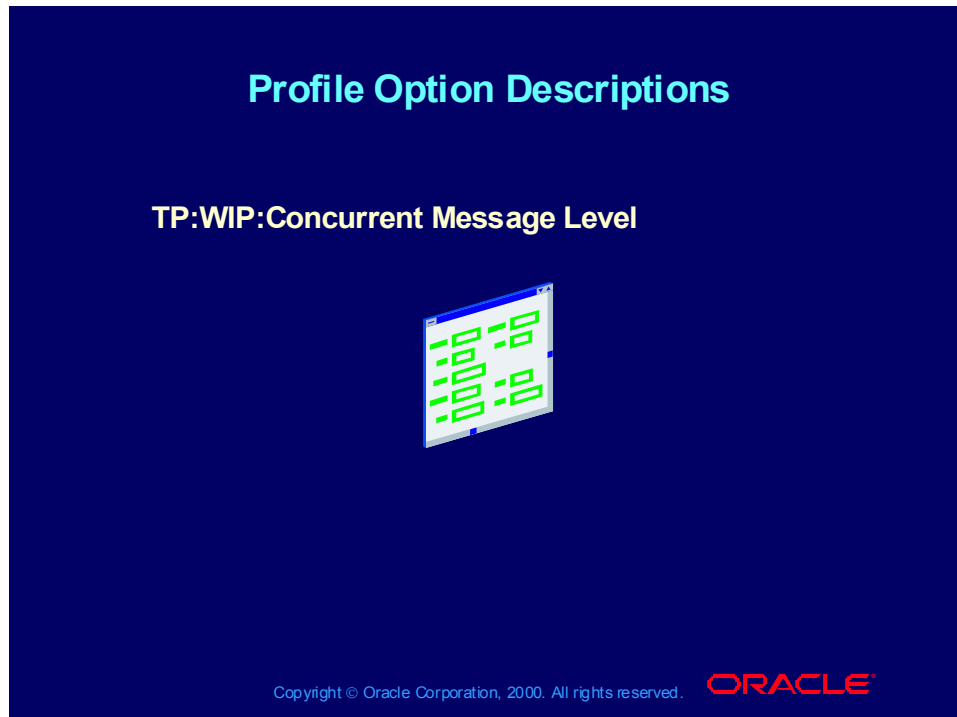


This profile option determines which field the cursor defaults to when you first enter the Completion Transactions window. Set this option based on your predominant manufacturing environment: assemble-to-order, project or discrete job, or repetitive.

The available first field values are *Line*, *Assembly*, *Job* (Default) , or *Sales Order*. You can navigate to another field to override the default.

## Profile Option Descriptions

---



This profile option determines the level of detail reported in the move transaction concurrent log file during move transaction validation and processing. Available values are listed below:

(Default) *Message level 0* : Reports errors only.

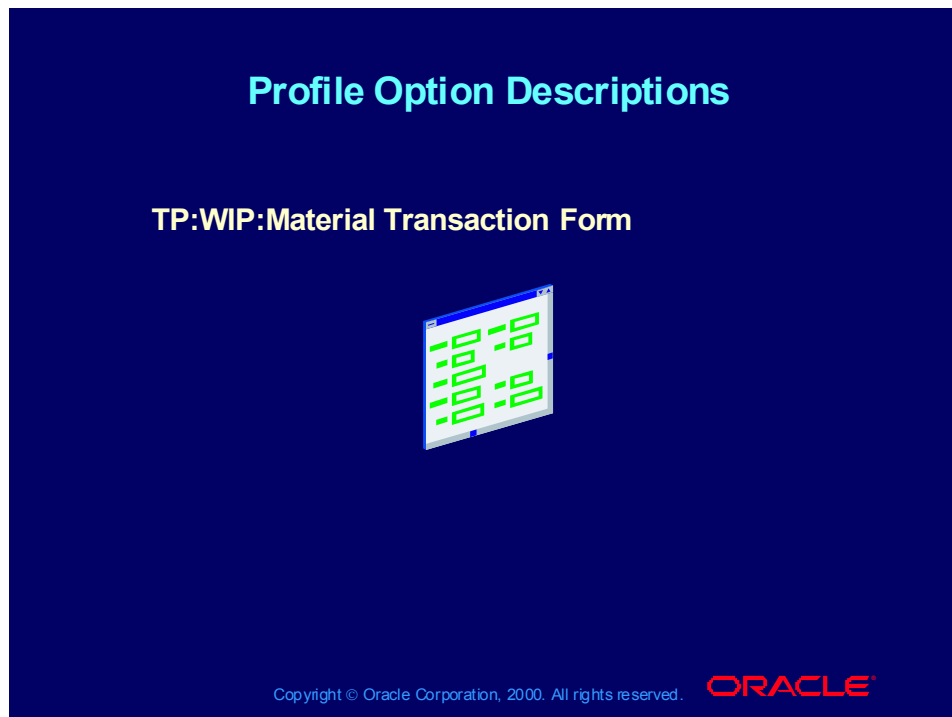
*Message level 1* : Reports processing activities and errors.

*Message level 2* : Reports and time stamps processing activities and errors.



## Profile Option Descriptions

---



This profile option controls the processing of component issue and return transactions entered in the WIP Material Transactions window. Available values are listed below:

*Background processing:* When you save a material transaction, control is returned to you immediately. Transactions are then processed on a periodic basis.

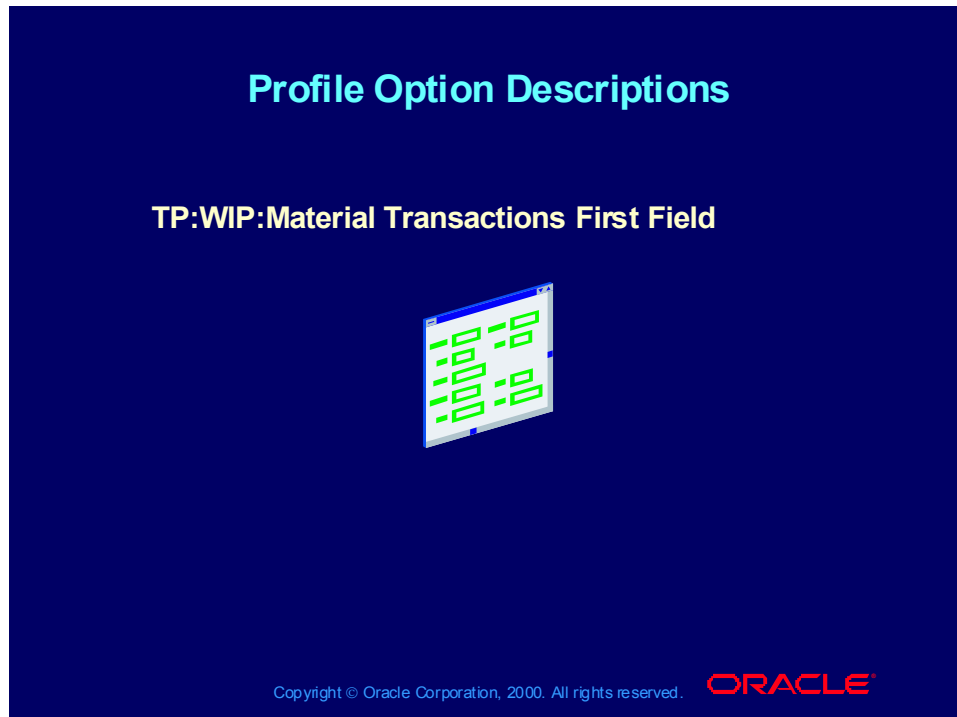
*Concurrent processing:* When you save a material transaction, a concurrent process is spawned and control is returned to you immediately. The concurrent request number representing the concurrent process executing the issue or return transactions for the job or repetitive schedule is displayed.

(Default) *Online processing :* When you save a material transaction, the transaction is processed while you wait and control is returned once transaction processing is completed.

**Note:** If you are using average costing, and the TP:INV: Transaction Processing Mode profile option in Oracle Inventory is set to Form level processing, you must set this profile option to Online to ensure that transactions are processed in the proper sequence.

## Profile Option Descriptions

---



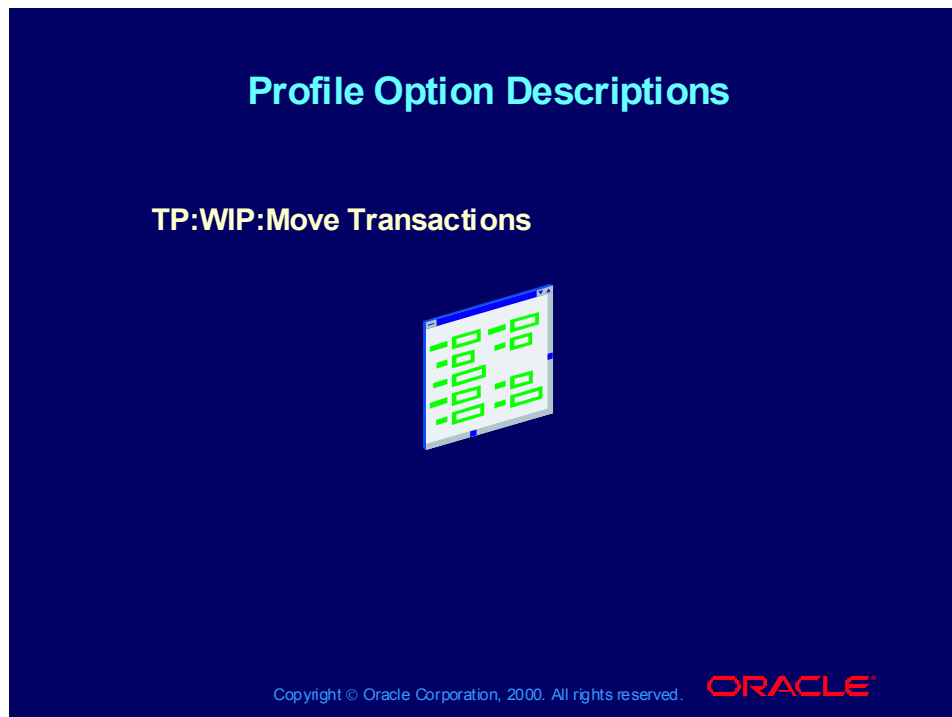
This profile option determines which field the cursor defaults to when you first enter the WIP Material Transactions window. Set this option based on your predominant manufacturing environment: assemble-to-order, project or discrete job, or repetitive.

The available first field values are *Line*, *Assembly*, *Job* (Default) , or *Sales Order*. You can navigate to another field to override the default.

**Note:** You can only enter a Sales Order name if you have an ATO sales order linked to a job.

## Profile Option Descriptions

---



This profile option determines whether move transactions performed using the Move Transactions window are processed online or in the background. Available values are listed below:

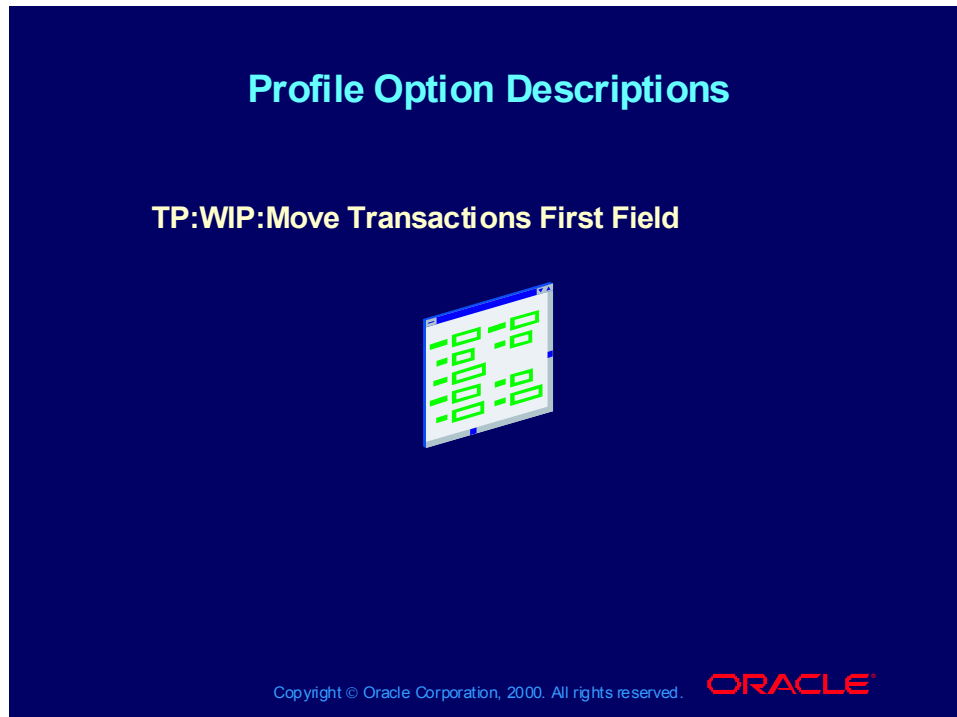
*Background processing:* When you save a move transaction, control is returned to you immediately. Transactions are then processed on a periodic basis.

(Default) *Online processing:* When you save a move transaction, the transaction is processed while you wait and control is returned once transaction processing is completed.

**Note:** If you have this option set to Online processing, you cannot move more assemblies than are waiting at an operation step unless you have defined an Overcompletion Tolerance in WIP Parameters or for the job or assembly item. However, if you have this option set to Background processing, you can move any number of assemblies, but validation of the quantity takes place in the background. You can correct and resubmit transactions that have errors using the Pending Move Transactions window. Also, If you are using average costing, and the TP:INV:Transaction Processing Mode profile option in Oracle Inventory is set to Form level processing, you must set this profile option to Online to ensure that transactions are processed in the proper sequence.

## Profile Option Descriptions

---



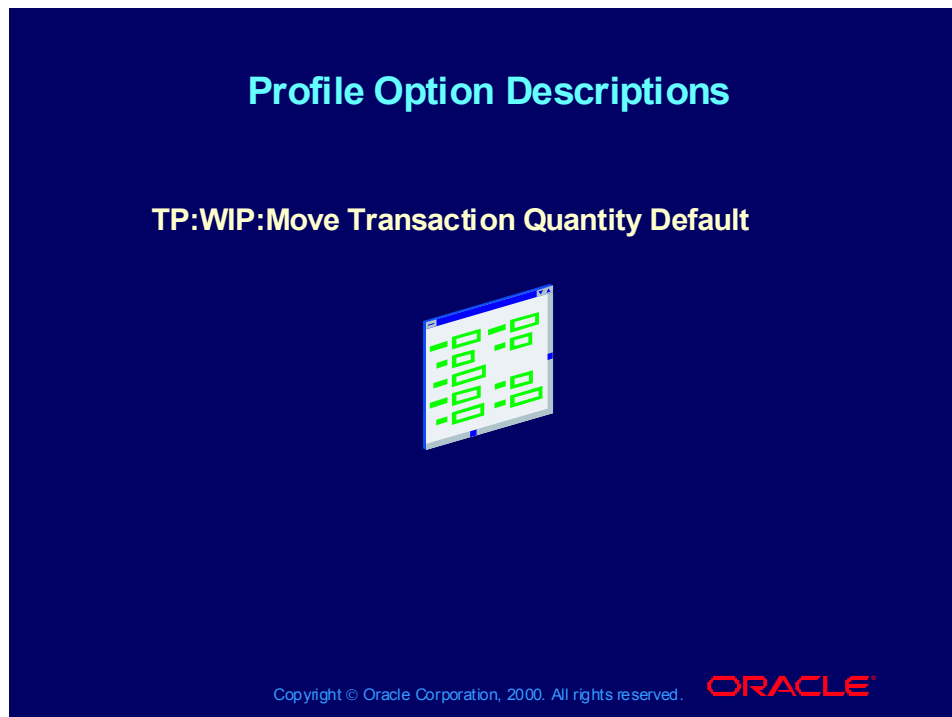
This profile option determines which field the cursor defaults to when you first enter the Move Transactions window. Set this option based on your predominant manufacturing environment: assemble-to-order, project or discrete job, or repetitive.

The available first field values are *Line*, *Assembly*, *Job* (Default) , or *Sales Order*. You can navigate to another field to override the default.

**Note:** You can only enter a Sales Order name if you have an ATO sales order linked to a job.

## Profile Option Descriptions

---



This profile option indicates if and how move transaction quantities are defaulted. Available values are listed below:

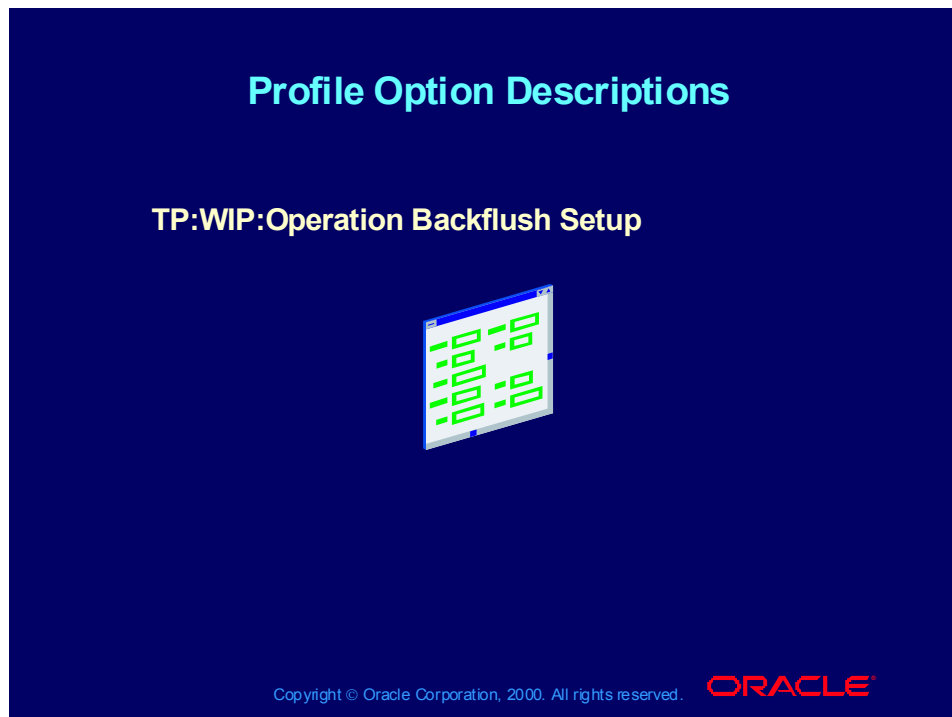
(Default) *None*: No transaction quantity is defaulted.

*Minimum Transfer Quantity*: When you perform a move transaction, the transaction quantity defaults to the minimum transfer quantity if the minimum transfer quantity is less than or equal to the available quantity. If the minimum transfer quantity is greater than the available quantity, and the available quantity is not zero, then the available quantity is defaulted.

*Available Quantity*: When you perform a move transaction, if the available quantity is not zero, the transaction quantity defaults to the available quantity.

## Profile Option Descriptions

---



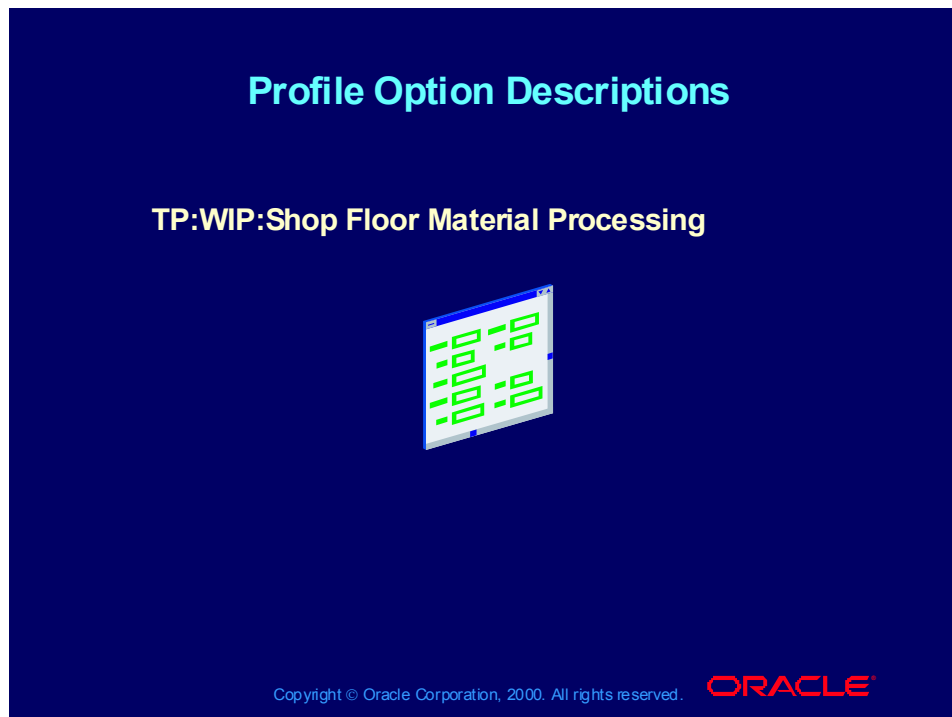
This profile option controls the backflush setup used in the Move Transactions window. This setup determines when the backflushing occurs for component items defined as Pull parts. It also determines how component lot numbers are derived. Available values are listed below:

*Background processing:* When you save a move transaction, control is returned to you immediately. The setup of operation backflush transactions is processed in the background on a periodic basis. Use this option only when lot numbers are automatically assigned (e.g., the *Lot Selection Method* parameter is set to Expiration Date or Receipt Date).

(Default) *Online processing:* When you save a move transaction, the setup of operation backflush transactions is processed while you wait and control is returned once the setup processing is completed. Use this option when lot/serial numbers must be manually assigned (e.g., the *Lot Selection Method* parameter is set to Manual).

## Profile Option Descriptions

---



This profile option controls processing of operation and assembly pull backflush, assembly scrap, move completion, and move return transactions from the Move Transactions window. Available values are listed below:

*Background processing:* When you save a move transaction, control is returned to you immediately.

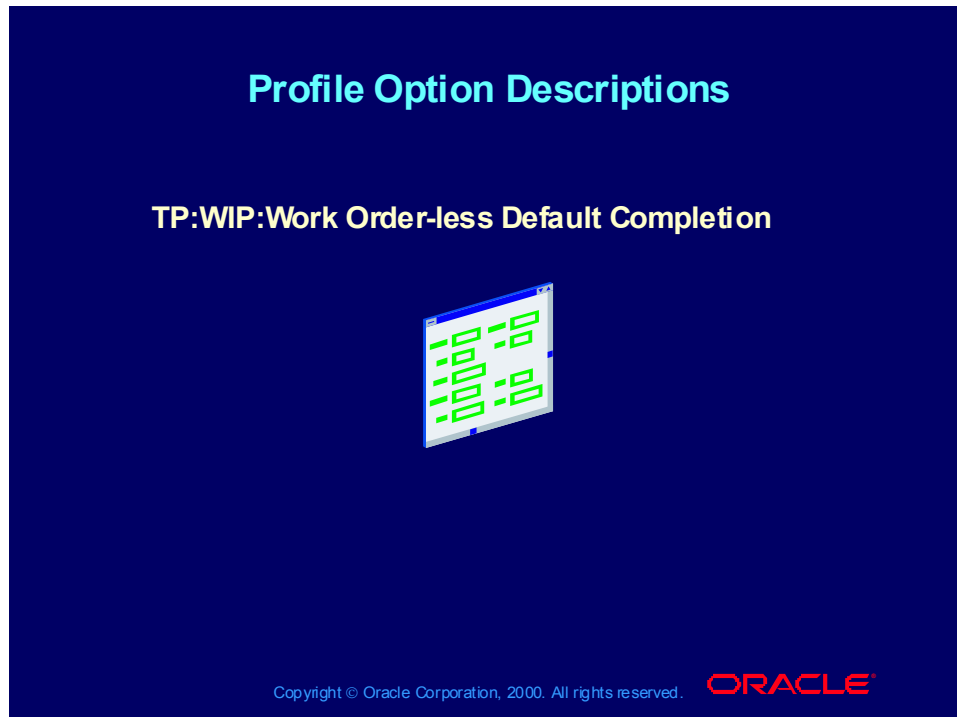
*Concurrent processing:* Do not use background processing if you are backflushing lot controlled components that require manual entry of lot numbers either because of insufficient inventory or because the *WIP Backflush Lot Selection* parameter is set to Manual. When you save a move transaction, a concurrent process to process the material port of the move transaction is spawned and control is returned to you immediately.

The concurrent request number representing the concurrent process executing the move transactions for the job or repetitive schedule is displayed.

(Default) *Online processing* : When you save a move transaction, operation and assembly pull backflush, assembly scrap, move completion, and move return transactions are processed while you wait and control is returned once transaction processing is completed.

## Profile Option Descriptions

---



This profile option determines the default for the Scheduled flag in the Work Order-less Completions window.

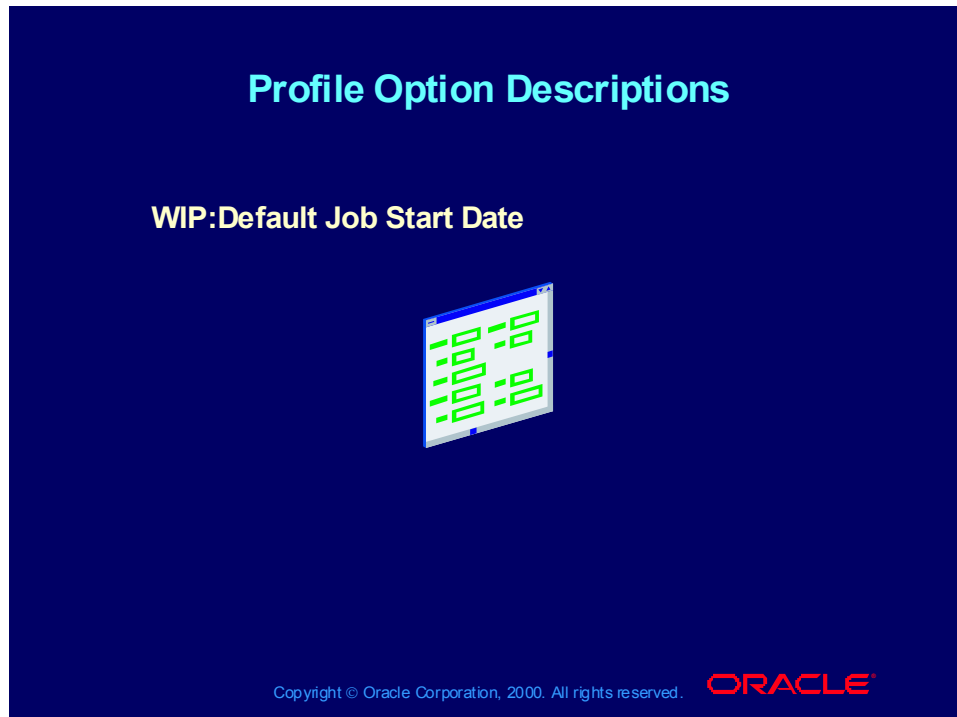
*Scheduled* : The Schedule flag defaults to checked. Use this option if most of your work order-less completions are based upon flow schedules generated by the Line Scheduling Workbench.

(Default) *Unscheduled* : The Scheduled flag defaults to unchecked. Use this option if most of your work order-less completions are manually entered and not based upon flow schedules generated by the Line Scheduling Workbench.



## Profile Option Descriptions

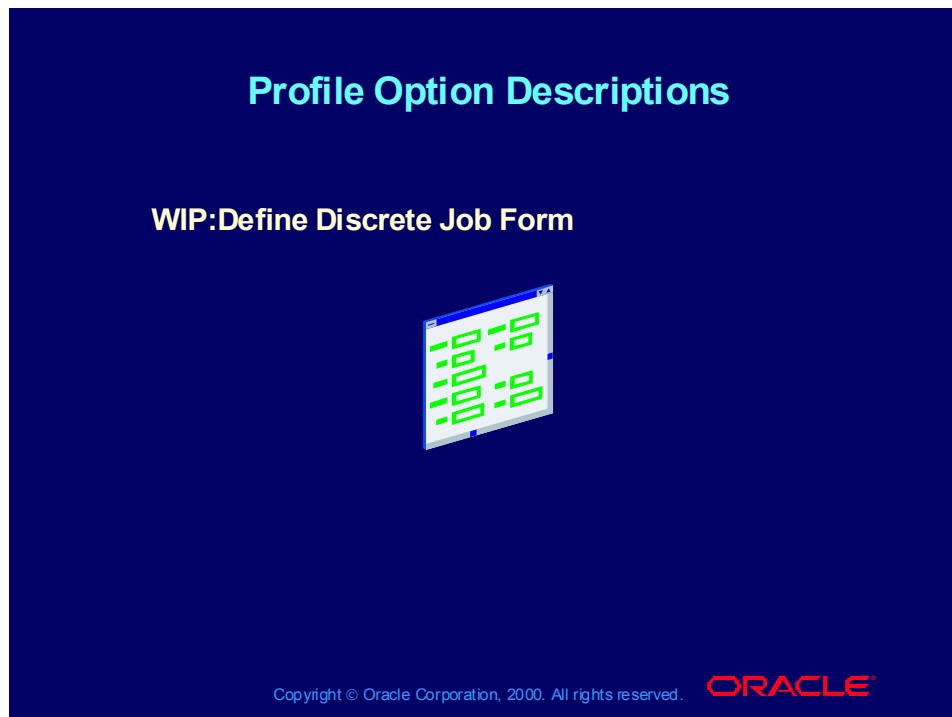
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This profile option determines whether the start dates for jobs default to the current date and time or not at all when defining jobs in the Discrete Jobs window. The options are *Yes* or *No* (Default) .

## Profile Option Descriptions

---



This profile option Indicates how to load the bill of material and routing information when defining jobs in the Discrete Jobs window. Available values are listed below:

*Concurrent definition:* When you save a job, a concurrent process is spawned and control is returned to you immediately.

The concurrent request number representing the concurrent process is displayed. You can view the status of the process in the Concurrent Requests window. The concurrent process updates the job status to Pending Bill Load, and if the bill of materials load succeeds, updates the job status to Pending Routing Load.

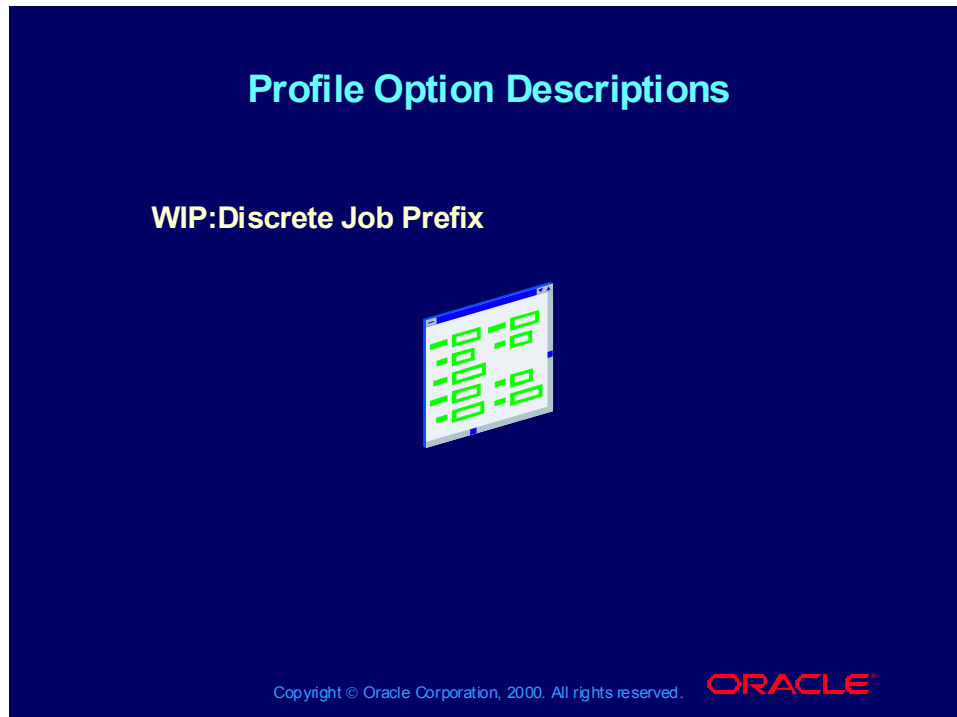
Concurrent definition produces an output report that indicates the job, assembly, relevant dates, and successful completion of each step (bill of materials load, routing load, and costing load).

(Default) *Interactive definition:* When you save a job, job definition occurs immediately. The bill of material and routing are loaded while you wait and control is returned when the definition process is completed.

**Note:** If you have complex bills of material and long routings, concurrent processing is recommended.

## Profile Option Descriptions

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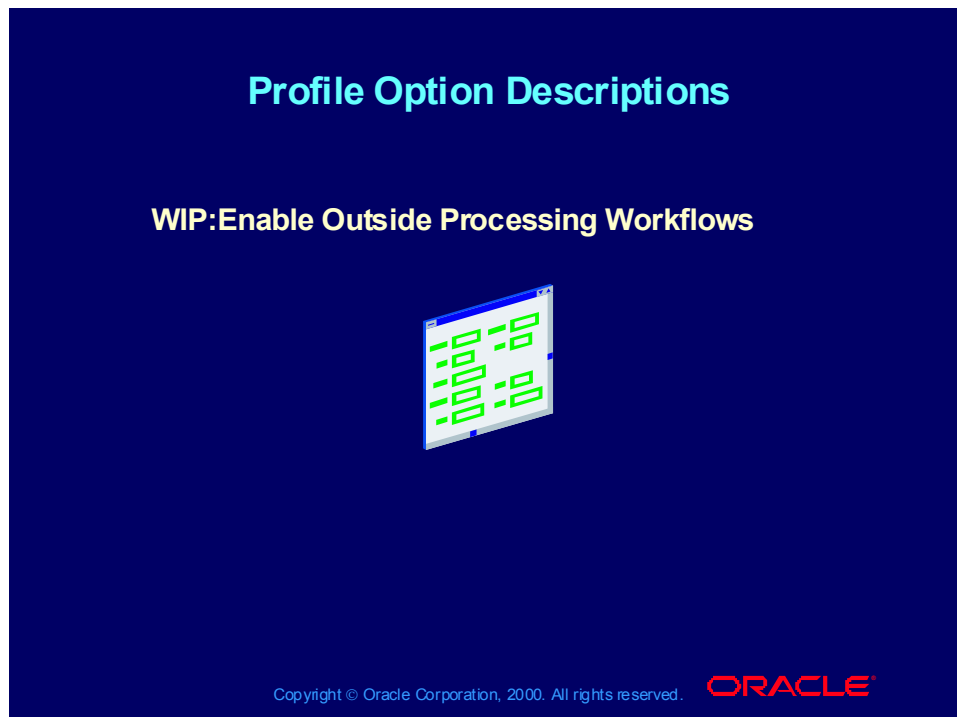
This profile option specifies the job prefix to use when autogenerating job names in the Discrete Jobs, Simulate Discrete Jobs, Import Jobs and Schedules, and AutoCreate windows in Work in Process, and in the Planner Workbench window in Oracle Master Scheduling/MRP and Oracle Supply Chain Planning. It is also used when autogenerating the numbers for flow schedules created in the Work Order-less Completions window.

Work in Process concatenates this prefix with a value from the sequence WIP\_JOB\_NUMBER\_S to create a default discrete job name.

The default is *None*.

## Profile Option Descriptions

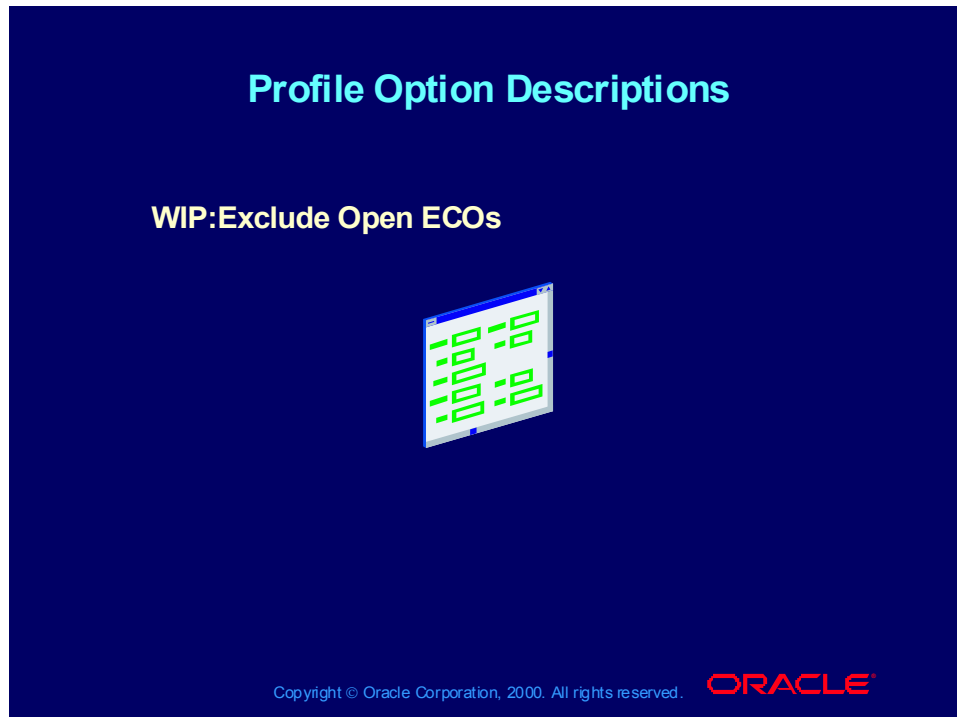
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This profile option determines whether or not outside processing workflows are enabled. The options are *Yes* and *No* (Default) .

## Profile Option Descriptions

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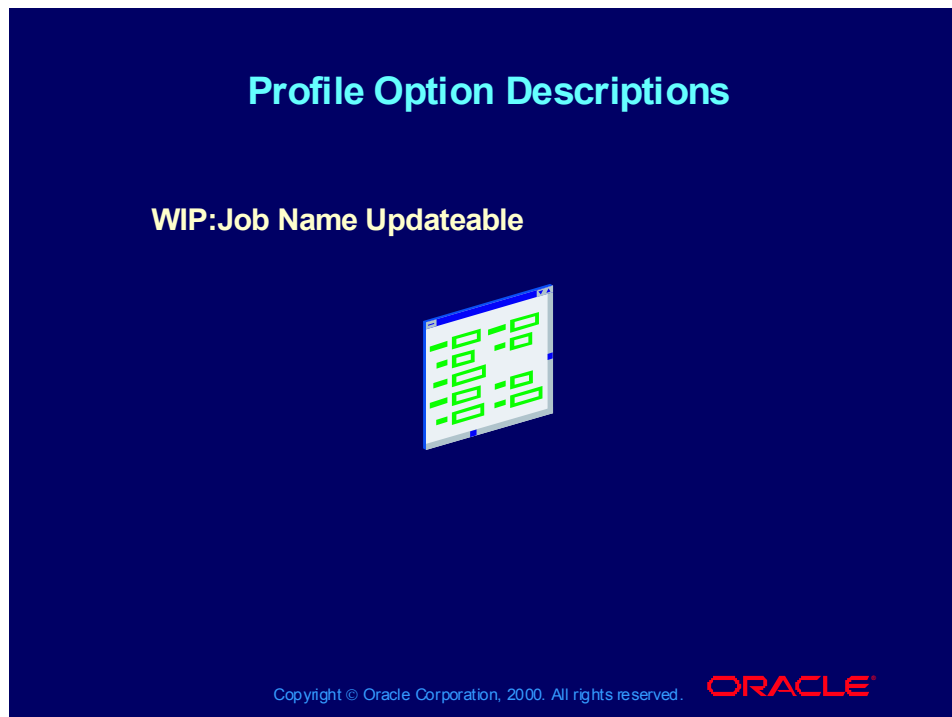
This profile option determines whether engineering change orders (ECOs) with Open statuses are excluded when you define jobs and schedules. If you exclude Open ECOs, only ECOs with Release, Schedule, and Implement statuses are implemented when you choose a bill of material revision or revision date and the bill of material is exploded. If you do not exclude Open ECOs, Open ECOs are included with Release, Schedule, and Implement ECOs.

This profile option also controls whether you can select revisions associated with open ECOs in the WIP Material Transactions window.

The default is *Yes*.

## Profile Option Descriptions

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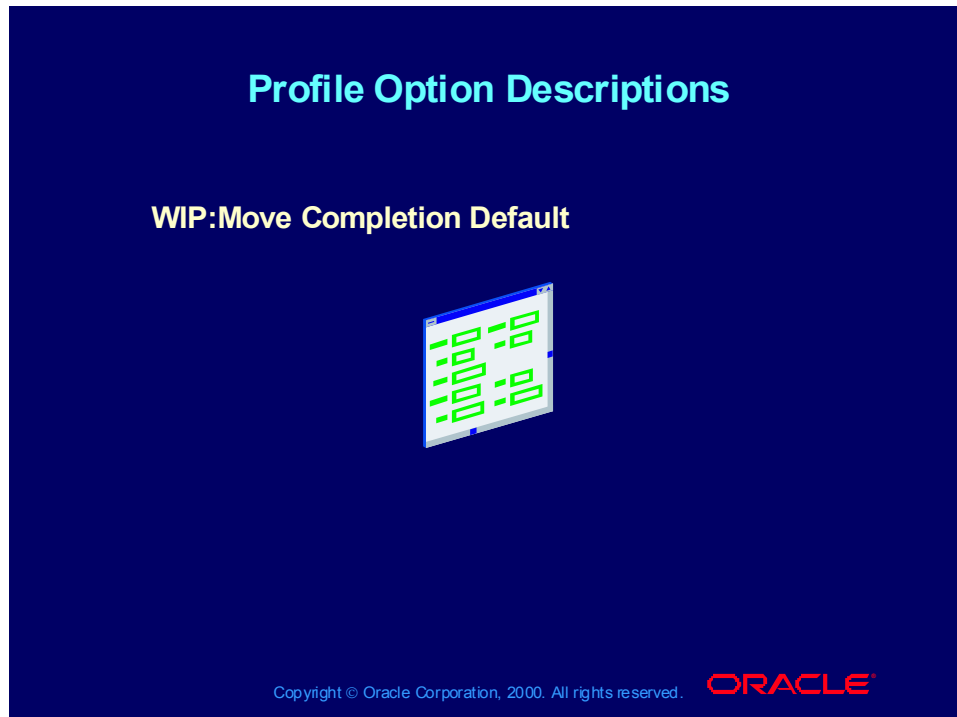


This profile option determines whether you can update the names of existing jobs in the Discrete Jobs window.

The default is *Yes*.

## Profile Option Descriptions

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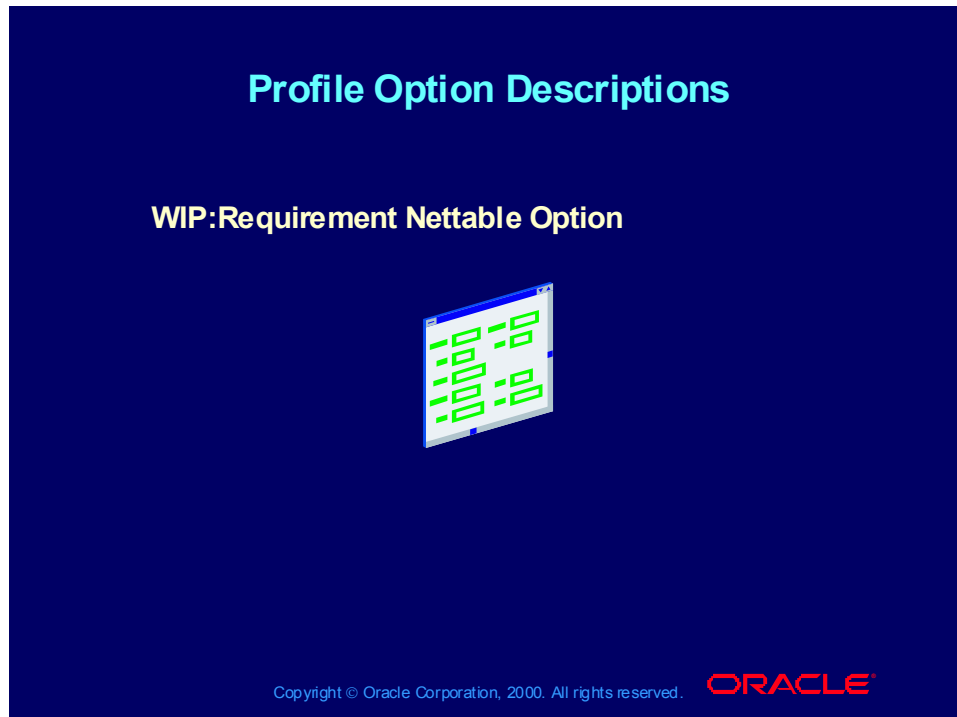


This profile option determines the default transaction type for the Move Transactions window. If you specify Yes, the transaction type defaults to Complete. Otherwise, the transaction type defaults to Move. Note that you cannot specify that the Return transaction type be used as the default.

The default is *No*.

## Profile Option Descriptions

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This profile option determines which subinventories to include when displaying on-hand quantities in the Material Requirements and View Material Requirements windows. Available values are listed below:

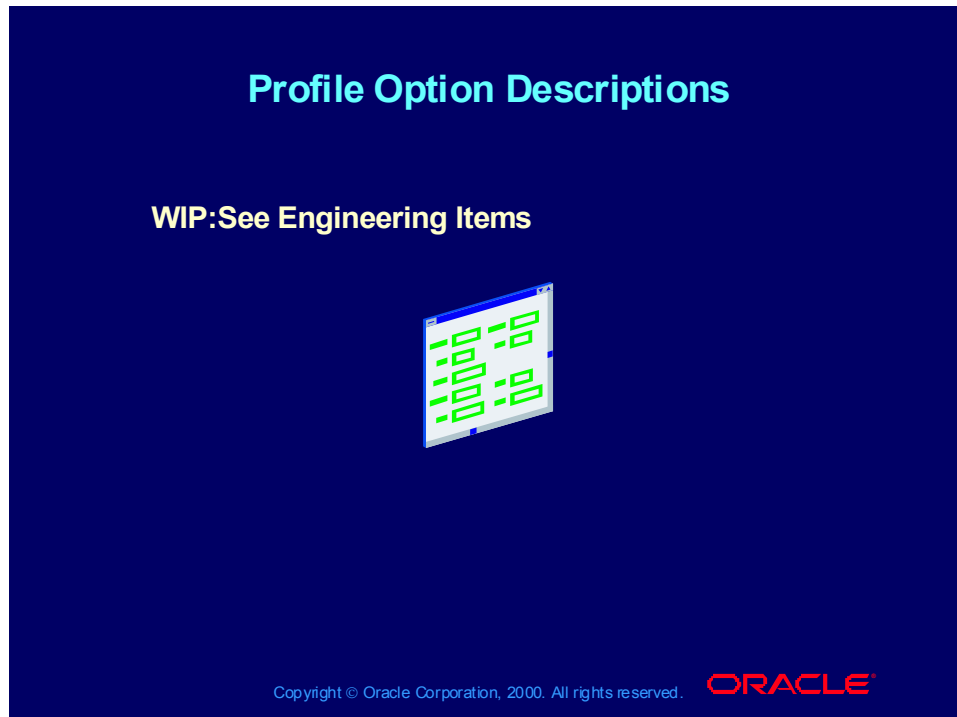
*View only nettable subinventories:* Include only nettable subinventories when displaying on-hand quantities.

(Default) *View all subinventories:* Include all subinventories (nettable and non-nettable) when displaying on-hand quantities.



## Profile Option Descriptions

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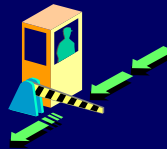


This profile option determines whether you can define jobs and schedules for engineering items and whether you can add engineering items as material requirements.

The default is *Yes*.

### Security Functions

- **Function security** is the mechanism by which user access to applications functionality is controlled.
- **System administrators** administer function security.
- **Access to Work in Process** functionality is controlled either by *menus* and *form functions/subfunctions* or by *form function parameters*.



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### Summary

**You should now be able to do the following:**

- **Describe the Setup Prerequisites**
- **Define WIP Parameters**
- **Set Profile Options**
- **Execute the Setup for Work in Process**

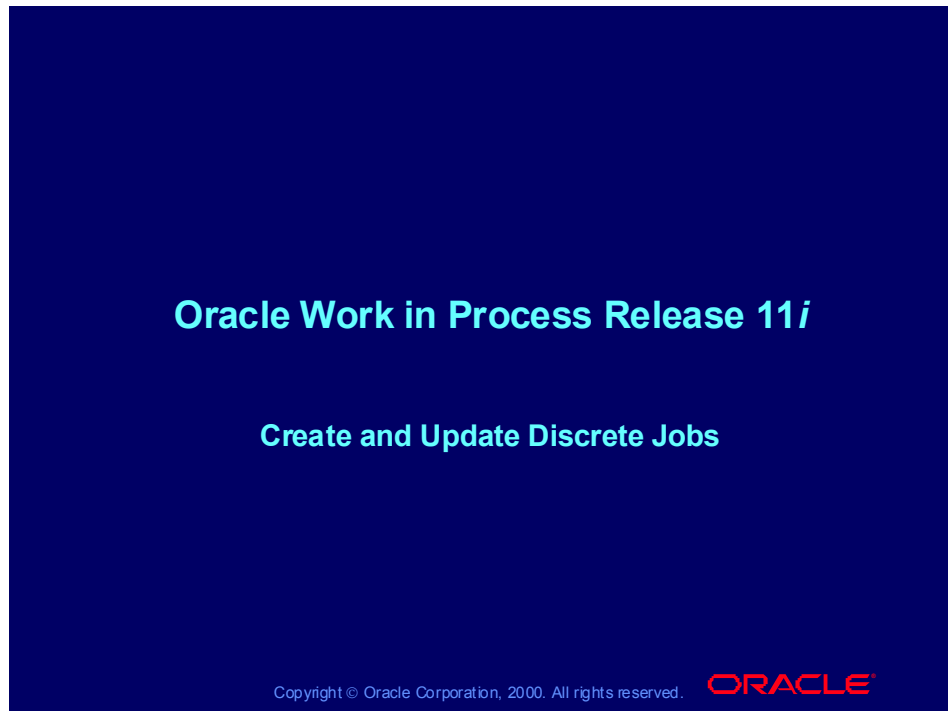
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# **Create and Update Discrete Jobs**

## **Chapter 3**



Notations:

N = Navigator

T = Tab

M = Menu

I = Icon

H = Hyperlink

B = Button

Help = Oracle Applications Help System

### Objectives

**After this course, you should be able to do the following:**

- **Manually define discrete jobs using the Discrete Jobs window**
- **Create requirements and operations for a job**
- **Import and implement planned orders from any source into Oracle Work in Process**
- **Update the job header information**

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### Objectives (continued)

- Update the material requirements, operations, and resource requirements for a discrete job
- Describe the differences between nonstandard and standard discrete jobs
- Use nonstandard jobs to upgrade assemblies

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## Agenda

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### Agenda

- **Lesson 1: Overview**
- **Lesson 2: Manually define discrete jobs**
- **Lesson 3: Create operations, resource requirements, and material requirements**
- **Lesson 4: Implement planned orders**
- **Lesson 5: Updating discrete jobs**

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## Agenda (continued)

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### Agenda (continued)

- **Lesson 6: Simulate and save a discrete job**
- **Lesson 7: Using nonstandard discrete jobs**
- **Lesson 8: Summary**

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## Agenda

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### Agenda

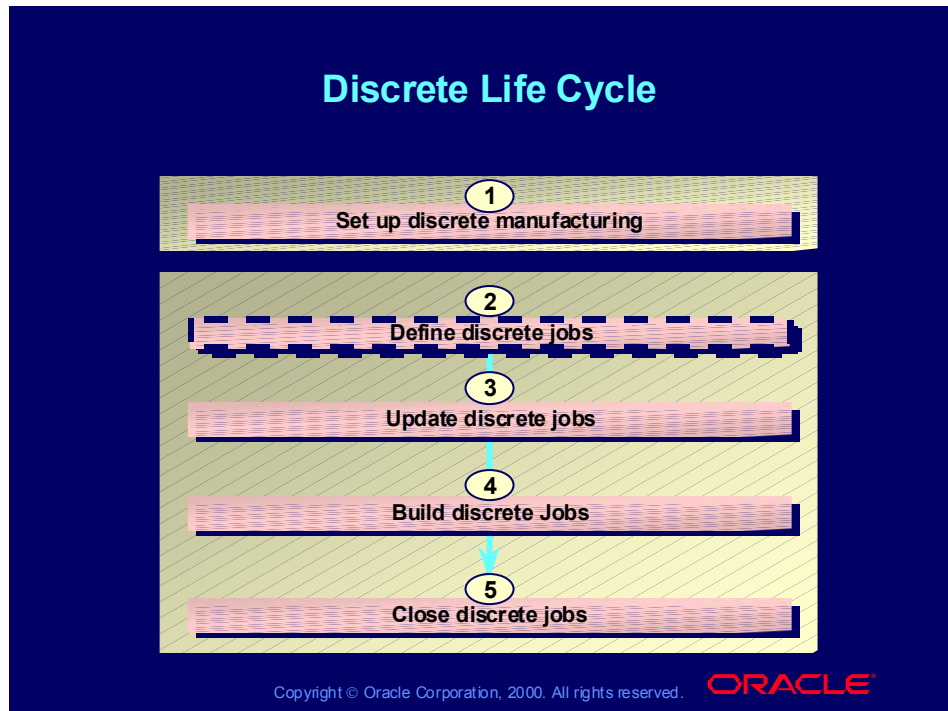
- **Lesson 1: Overview**
- Lesson 2: Manually define discrete jobs
- Lesson 3: Create operations, resource requirements, and material requirements
- Lesson 4: Implement planned orders
- Lesson 5: Updating discrete jobs

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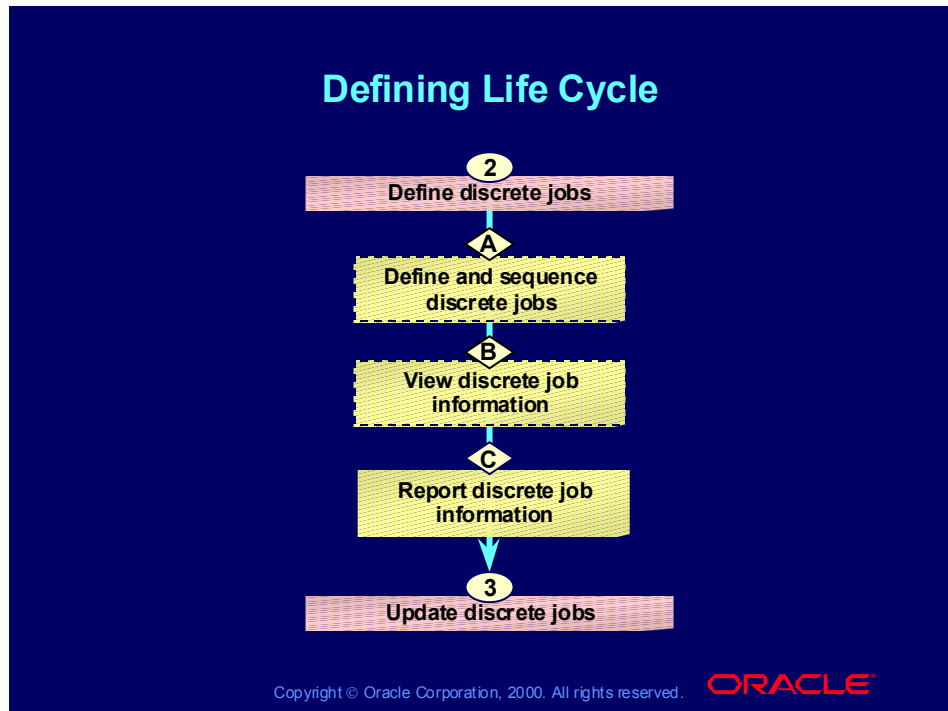
## Discrete Life Cycle

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## Defining Life Cycle

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## Agenda

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### Agenda

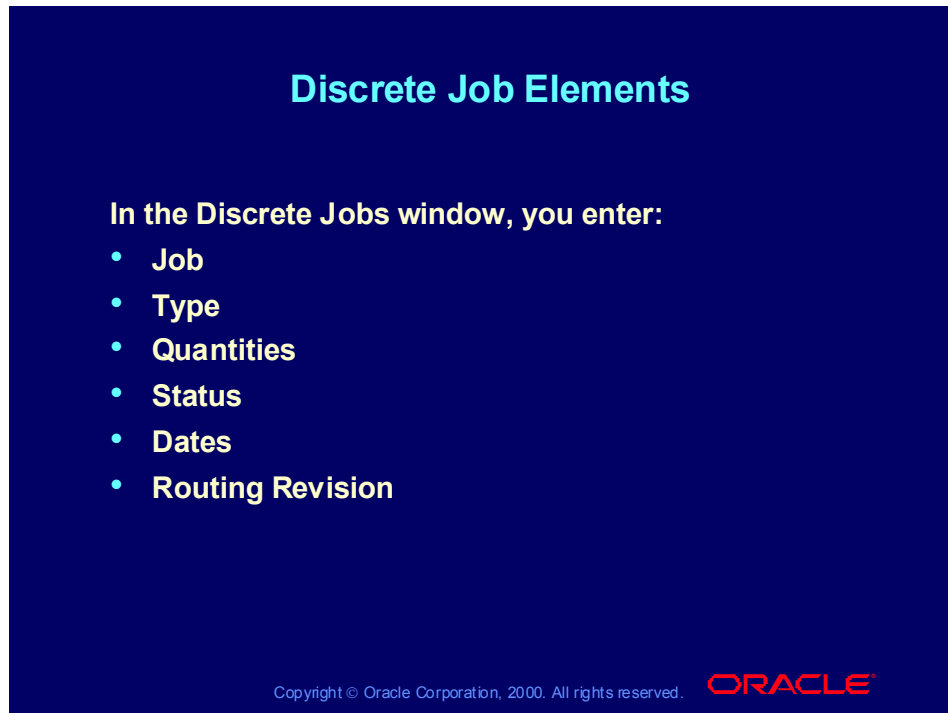
- Lesson 1: Overview
- **Lesson 2: Manually define discrete jobs**
- Lesson 3: Create operations, resource requirements, and material requirements
- Lesson 4: Implement planned orders
- Lesson 5: Updating discrete jobs

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## Discrete Job Elements

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**Discrete Job Elements**

**In the Discrete Jobs window, you enter:**

- Job
- Type
- Quantities
- Status
- Dates
- Routing Revision

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(N) WIP > Discrete > Discrete Jobs

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Creating Discrete Jobs > Defining Discrete Jobs Manually

### Discrete Job Elements

- **Completion Subinventory**
- **Bill Revision**
- **Job Attachments**

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### Job

**Job Name uniquely identifies the job for the following purposes:**

- **Issuing components**
- **Moving, scrapping, and completing assemblies**
- **Charging resources and overheads**
- **Defining and updating job definition**
- **Historical reports**

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### Job (continued)

- You can automatically generate the job name based on the WIP: Discrete Job Prefix profile option and the automatic sequence generator by choosing **Apply Default Job Name** from the Tools menu.
- You have the option to specify whether you can update the names of the existing jobs based on the WIP: Job Name Updatable profile option. The options are Yes and No. This profile is predefined as Yes and is updatable at the site level only.

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### Type: Standard

**Job Type of Standard identifies the job as being:**

- **A discrete job that controls the material and operation requirements used to build assemblies and collect manufacturing costs**

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### Type: Nonstandard

**Nonstandard Job Type identifies the job as being:**

- **A discrete job that controls the material and collects costs for miscellaneous activities, such as:**
  - **Rework**
  - **Field service repair**
  - **Upgrade**
  - **Disassembly**
  - **Maintenance**
  - **Engineering prototypes**

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### Quantities

**Job Quantities are used to determine:**

- **Material requirements**
- **Department schedules**
- **Resource load**
- **Job dates**

**The start quantity is assumed to be the completion quantity of the job.**

**MRP net quantity is viewed as supply coming from the discrete job on the scheduled completion date; it is defaulted from the start quantity.**

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### Status

- You can use Job Statuses to describe various stages in the life cycle of the discrete job. You can control the activities that you can perform on the job.
- Some statuses are assigned automatically by Oracle WIP. For example, when you complete a job into inventory, Oracle WIP assigns the status of Complete to the job.
- When defining a job, you can assign one of the following statuses: Unreleased, Released, or On Hold.

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## User Statuses

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### User Statuses

User Status	Description
Unreleased	Default status when you define a job. The job is not released to the shop floor.
Released	The job is available to begin production.
Complete	You have completed the job but can still perform transactions on the job.
Complete—No Charges	You have completed the job and cannot perform any more transactions on the job.
On Hold	You have placed the job on hold and cannot perform any transactions on it.
Canceled	You have canceled the job before completing it. You cannot perform transactions on this job.
Closed	You have closed the job. No further activity on the job.

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### Job Statuses

- These statuses are based on events. For example, when you complete the total quantity of a job into inventory, Oracle Work in Process automatically changes the status of the job to Complete.
- Statuses that can be reversed are: Unreleased, Released, Complete—No Charges, On Hold, Canceled, and Closed.

## Processing Statuses

---

### Processing Statuses

Processing Status	Description
Pending routing load	The concurrent process is loading the routing for the job.
Failed routing load	The concurrent process was unable to load the routing.
Pending bill load	The routing load was successful. The concurrent process is loading the bill for the job.
Pending scheduling	This status is associated with the Manufacturing Scheduling application.
Failed bill load	The concurrent process was unable to load the bill of material.
Pending close	The concurrent process is closing the job.
Failed close	The concurrent process was unable to close the job.

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### Processing Statuses

Oracle Work in Process uses these statuses to keep track of the concurrent processing performed on a job.



### Dates

**Discrete Job Dates consist of the following:**

- **Start date:** The date and time you plan to start the job.
- **Release date:** The date the discrete job is released to the shop floor.
  - This date is found in Job History.
  - You can change the job status to Released.
  - The job becomes transactable.

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**Note:**

You can choose a start date that is earlier than the current date in order to maintain relative date priorities for department schedules and material requirements.

### Dates (continued)

#### Dates (continued)

- **Completion date:** The date and time you plan to complete production. This date is used for backward scheduling of your job.

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### Routing Revision

**Routing Revision allows you to select which version of the routing you want to use to schedule the operations and resources. A snapshot is taken of the routing currently defined for the revision date you enter.**

- **If the job is forward scheduled, the job start date is used as the default routing revision date.**
- **If the job is backward scheduled, the start date is estimated by the use of the fixed and variable lead-time elements. That estimated date then determines the revision and the revision date.**

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### Completion Subinventory

**With the Completion Subinventory element, you can specify the subinventory in which completed assemblies will be housed. You can enter a locator if the subinventory is under locator control.**

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### Bill Revision

Similar to the Routing Revision, Bill Revision allows you to select any valid version of the bill of material you want to use to determine the material requirements for the job. A snapshot is taken of the bill of material currently defined for the revision date you enter.

- If the job is forward scheduled, the job start date is used as the default bill revision date.
- If the job is backward scheduled, the start date is estimated by the use of the fixed and variable lead-time elements. That estimated date then determines the revision and revision date.

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#### **Note:**

If the profile option WIP: Exclude Open ECOs is set to No, you can use released, scheduled, implemented, or open bill revisions. If the profile option WIP: See Engineering Items is set to No, You cannot select an engineering bill revision.

#### **Technical Note**

The default revision and revision date are not displayed. The actual revision and revision date that were used are displayed after the job has been defined.

### Job Attachments

**Attachments:** you can attach any number of text or graphic attachments to a job by using the paper clip icon from the toolbar. They can be:

- **Predefined documents**
- **Newly created attachments for one-time use**
- **Added during job definition or later if necessary**

**Note.** Only Short Text data type and the Standard usage appear on reports.

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### Viewing Job Details

**You can view material requirements and operations from the Discrete Jobs window as you define and update jobs. You do not need to navigate to the View Discrete Jobs window to view the details.**

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### View Component Requirement Details

**When you click the Components button, the Material Requirements window is displayed with the component information.**

**Here you can view each component's Main, Quantity, Supply, Comment, and ATP information. For those components with ATP rules, you can perform an ATP check from this window.**

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### View Operation Details

**When you click the Operations button, the Operations window is displayed.**

**Here you can view each operation's Main, Quantities, Dates, and Description.**

**Also, from this window, you can display the resource requirements for a selected operation.**

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## View Resource Requirement Details

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### View Resource Requirement Details

**While you are in the Operations window, you can display the resource requirements for a selected operation.**

**When you click the Resources button, the Resource Requirements window is displayed.**

**Here you can view the Main, Quantities, Scheduling, and Costing information for the selected operation.**

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## Review Question

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### Review Question

Which of the following are elements of a discrete job?

- a Routing revision
- b Completion subinventory
- c Bill revision
- d Job attachment
- e All of the above
- f None of the above

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## Review Question

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### Review Question

**Which of the following are elements of a discrete job?**

- a Routing revision
- b Completion subinventory
- c Bill revision
- d Job attachment
- e All of the above**
- f None of the above

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## Review Question

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### Review Question

On job #1, you have placed a Hold status, and you have canceled job #2. Against which jobs can you perform transactions?

- a Job #1 only
- b Job #2 only
- c Jobs #1 & #2
- d None of the above

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## Review Question

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### Review Question

**On job #1, you have placed a Hold status, and you have canceled job #2. Against which jobs can you perform transactions?**

- a Job #1 only
- b Job #2 only
- c Jobs #1 & #2
- d **None of the above**

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## Review Question

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### Review Question

**Using the Discrete Workstation window, you can obtain critical performance measurements along with component and resource requirements. However, you must return to the WIP menu to perform shop floor transactions.**

- True
- False

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## Review Question

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### Review Question

Using the Discrete Workstation window, you can obtain critical performance measurements along with component and resource requirements. However, you must return to the WIP menu to perform shop floor transactions.

- True
- **False**

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### Demonstration

**In Oracle Work in Process, we will demonstrate how to manually define a discrete job with an attachment.**

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## Practice

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1. Why might you want to have different methods for defining discrete jobs?
2. What information about a job might you want to see once the job is defined?
3. What happens when you define a job using a bill that has no effective components?
4. Why is there no end quantity in the Discrete Jobs window?
5. Why would you want to define a job for a prior bill revision and revision date?
6. What happens when you use an alternate bill that has components assigned to operations that do not exist on the routing?
7. What are the main differences between the components on the bill and the material requirements for a specific job?
8. Why would you change the dates on a job?
9. Why would you decrease the job quantity?
10. What status might you use if your quality testing operation uncovered a significant processing error?
11. Would you ever add an operation to a routing? Why, or why not?

## Practice Solution

---



1. Why might you want to have different methods for defining discrete jobs?  
Business needs for job definition may vary. If you define relatively few jobs or do not use MRP, you probably want to use the Discrete Workbench window. If you use Oracle MRP, or another planning system, you probably want to use the Planner Workbench or the Import Jobs/Schedules window.
2. What information about a job might you want to see once the job is defined?  
You probably want to see the start and end dates, the scheduled operations, the material requirements, and the resource requirements.
3. What happens when you define a job using a bill that has no effective components?  
The job has no requirements.
4. Why is there no end quantity in the Discrete Jobs window?  
The quantity field represents both the start and end quantity.
5. Why would you want to define a job for a prior bill revision and revision date?  
You may want to manufacture an old model and therefore use a prior bill revision and revision date.
6. What happens when you use an alternate bill that has components assigned to operations that do not exist on the routing?  
The components are assigned to the first operation on the routing by default.

## Practice Solution (continued)

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7. What are the main differences between the components on the bill and the material requirements for a specific job?
  - Quantity
  - Consolidation for phantoms
  - WIP bill is a snapshot and does not change when the BOM bill is updated.
8. Why would you change the dates on a job?

You may need to reschedule the job so that it is completed earlier than previously planned.
9. Why would you decrease the job quantity?

Your customer might have called in to decrease the order quantity, and you do not want to stock any extra finished assemblies of the kind you are currently building.
10. What status might you use if your quality testing operation uncovered a significant processing error?

You can use the On Hold job status to prevent any further transactions against the job until the problem is fixed.
11. Would you ever add an operation to a routing? Why, or why not?

Yes, for example, if the need for rework arises.

## Agenda

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### Agenda

- Lesson 1: Overview
- Lesson 2: Manually define discrete jobs
- **Lesson 3: Create operations, resource requirements, and material requirements**
- Lesson 4: Implement planned orders
- Lesson 5: Updating discrete jobs

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### Overview

**When you define a job, operations and resource requirements are created based on the assembly routing.**

- **The routing you created in BOM is copied to become a work in process routing that can be modified without affecting the BOM routing.**
- **Dates and times for the operations, resource requirements, and material requirements needed to build the job can be scheduled using detailed scheduling.**

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## Creating Operations

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### Creating Operations

Suppose that you define a discrete job called **Sentinel-F1** to build 100 Sentinel Financials. The following table shows the operations for the job.

Op Seq	Operation Description	Department
10	Assembly of standard chassis	FINASSY
20	Final assembly of standard models	FINASSY
30	Testing of standard models	TESTING
40	Packaging of product	PACKING

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### Creating Resource Requirements

- **Resources associated with the routing operations represent activities that should be performed at the operation.**
- **Resource requirements for the job are calculated upon job definition.**

**Note. You cannot create resource requirements without operations.**

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### Calculation Formulae

- **For Item-based resources: Resource requirements**  
**= Resource usage rate \* job quantity**
- **For lot-based resources: Resource requirements**  
**= Resource usage rate \* 1**

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## Resource Requirements

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### Resource Requirements

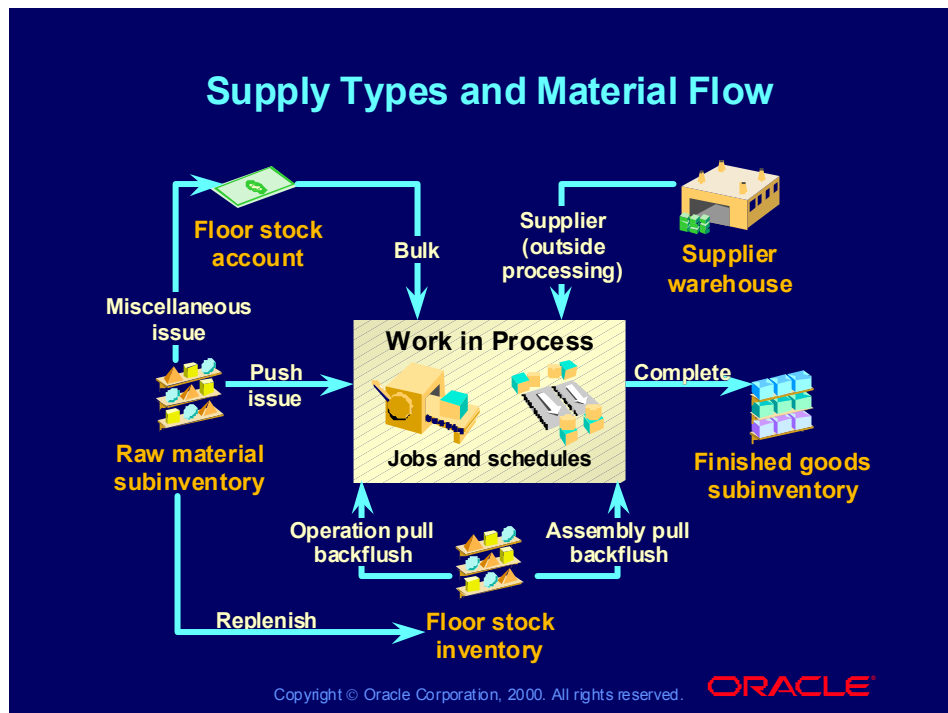
The following table shows the resource requirements for job Sentinel-F1 to build 100 Sentinel Financials.

Op Seq	Res Seq	Resource Code	Basis Type	Qty
10	10	Order	Lot	.3333
	20	StgChas	Item	.4
	30	FinAssy	Item	4
20	10	Queue	Item	11.1111
	20	Move	Item	11.1111
	30	Order	Lot	.666667
	40	FinAssy	Item	2.5
30	10	TestShort	Item	3.3333
40	10	Pack	Item	1

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## Supply Types and Material Flow



### Material Requirements Overview

**When you define a job, Oracle Work in Process copies the assembly bill you created in BOM. It then creates material requirements for the copied bill of material components. You can use supply types to control how to supply your components for the material requirements on the job.**

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### WIP Supply Types

**Supply types are defined in the bill of material. If you change the supply type on your discrete job, you are overriding the supply types for all the components on that job.**

Name	Description
Based on bill	Oracle Work in Process creates component requirements with supply types equal to those on the bill of material or those on the Item Master. Oracle Work in Process defaults this value when you define a job.
Assembly pull	Oracle Work in Process issues assembly pull components to a job when you complete assemblies into inventory.
Bulk	Oracle Work in Process does not automatically transact bulk components to the job.

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## WIP Supply Types

---

### WIP Supply Types

Name	Description
Operation pull	Oracle Work in Process issues operation pull components to a job when you complete the operation where the components are consumed.
Push	You issue push components to a job using the WIP Material Transaction window in advance of consumption.
Vendor	A vendor supplies components directly to Work in Process.

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### Creating Material Requirements

- The single bill of material is exploded and becomes a work in process bill of material that you can modify.
- Subassemblies and components become material requirements.
- Phantom subassemblies are exploded and their components become material requirements.
- The material requirements are associated with an operation on the routing.

**Note:** You can create material requirements without routings. They are assigned to a default operation sequence of 1.

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### Phantom Subassemblies

**You can use BOM parameters to control the inheritance of a parent phantom's operation sequence and whether or not resources and overheads on phantom routings are recognized for costing and capacity planning purposes.**

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## Acceptable Combinations

---

### Acceptable Combinations

BOM Parameters		
Use Phantom Routings	Inherit Phantom Operation Sequence	Comments
Yes	Yes	
Yes	No	Not allowed
No	No	
No	Yes	

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## Example: Sentinel Financial Bill

---

### Example: Sentinel Financial Bill

Op Seq	Dept	Component	Supply Type	Qty
20	FinAssy	Sentinel chassis—Standard	Phantom	1
		Monitor—15" Super VGA	Assembly pull	1
		Power cord	Assembly pull	1
		External 101-key keyboard	Assembly pull	1
		O/S documentation set	Push	1
		UNIX/Windows 1-user pack	Push	1
		Packing material	Assembly pull	1

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## Material Requirements

---

### Material Requirements

The phantom subassembly components became material requirements. Note that requirements for the power cords were consolidated.

Op Seq	Component	Supply Type	Qty
20	Sentinel Base Assembly	Operation pull	100
	PCMCIA modem/fax	Operation pull	100
	Motherboard	Operation pull	100
	Hard drive—340 MB	Operation pull	100
	3.5" disk drive	Operation pull	100
	5.25" disk drive	Operation pull	100
	Video card	Operation pull	100
	Keyboard mouse card	Operation pull	100
	SIMM—16 MB internal module	Operation pull	100
	Power cord	Assembly pull	200

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### Technical Note

Some of the requirements listed in the table come from the phantom component on the bill. The standard screws and power cords are on the bill of material for both the phantom assembly and the parent assembly. Therefore Oracle Work in Process consolidates the requirements for these two components.

## Material Requirements

---

### Material Requirements

**Note that the requirements for the standard screws were consolidated.**

Op Seq	Component	Supply Type	Qty
20	Sound Board	Operation pull	100
	Sentinel cover assembly	Operation pull	100
	Standard screws	Operation pull	600
	Sentinel documentation	Operation pull	100
	Monitor—15" Super VGA	Assembly pull	100
	Packing material	Assembly pull	100
	External 101-key keyboard	Assembly pull	100
	O/S documentation set	Push	100
	UNIX/Windows 1-user pack	Push	100
	Motherboard—486DX2 w/PCI	Operation pull	100

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### Technical Note

Some of the requirements listed in the table come from the phantom component on the bill. The standard screws and power cords are on the bill of material for both the phantom assembly and the parent assembly. Therefore Oracle Work in Process consolidates the requirements for these two components.

## Review Question

---

### Review Question

Once you have created the job with a work in process routing, you cannot modify it.

- True
- False

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## Review Question

---

### Review Question

Once you have created the job with a work in process routing, you cannot modify it.

- True
- **False**

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## Review Question

---

### Review Question

**With or without operations, you can create resource requirements.**

- True
- False

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## Review Question

---

### Review Question

**With or without operations, you can create resource requirements.**

- True
- **False**

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### Demonstration

**In Oracle Work in Process, we will demonstrate how to:**

- **Create operations**
- **Resource and material requirements**

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## Practice

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You work for a computer company. A rush order has come in for 100 Envoy Upgrade Packs in the Seattle organization after the planning process has completed. Your manager wants you to create a discrete job manually for this order and then release your job.

1. Define an unreleased discrete job using a unique alphanumeric job name.
2. Add an attachment to an operation on the job.
3. Release your job.

## Practice Solution

---

**Practice Solution**

The screenshot shows the 'Discrete Jobs (M1)' window with the following fields and values:

- Job: 15768
- Type: Standard
- Assembly: AS18947
- Class: Discrete
- Status: Unreleased
- UOM: [empty]
- Firm: [empty]
- Quantities: Start 225, MRP Net 225
- Dates: Start 26-APR-2000 14:33:00, Completion 01-MAY-2000 00:00:00
- Reference: [empty]
- Alternate: [empty]
- Revision: A
- Revision Date: 27-APR-2000 00:00:00
- Supply Type: Based on Bill

At the bottom, there are buttons for 'Sales Orders', 'Operations', and 'Components'. The Oracle logo and copyright notice 'Copyright © Oracle Corporation, 2000. All rights reserved.' are visible at the bottom right.

(N) WIP > Discrete > Discrete Jobs

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Creating Discrete Jobs > Defining Discrete Jobs Manually

1. Navigate to the Discrete Jobs window.
2. Enter a job name.
3. Select the Job Type of Standard.
4. Select an accounting class, or use the default if found.
5. Select the job status.
6. Specify the start quantity, the MRP net quantity, and the start date.
7. Save your work.

## Practice Solution (continued)

---

### Practice Solution (continued)

The screenshot shows a window titled "Attachments (M1)". It contains a table with the following data:

Seq	Category	Description	Data Type	May Be Changed
10	Operation Attachments	Hard Drive Installation Video	File	<input checked="" type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>

Below the table, there is a "Discrete Operation" label and a "Magnification" dropdown set to "100%". A button labeled "Open Document..." is centered below the table. At the bottom left, there is a checkbox labeled "Include Related Documents". At the bottom right, there is a button labeled "Document Catalog...".

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## Practice Solution (continued)

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**Practice Solution (continued)**

The screenshot displays the 'Discrete Jobs (M1)' window in Oracle Manufacturing Applications. The job details are as follows:

Field	Value
Job	15768
Assembly	AS18947
Class	Discrete
Status	Released
Type	Standard
UOM	
Firm	<input type="checkbox"/>

**Quantities:**

Field	Value
Start	225
MRP Net	225

**Dates:**

Field	Value
Start	26-APR-2000 14:33:00
Completion	01-MAY-2000 00:00:00

**Bill Tab Details:**

Field	Value
Reference	
Alternate	
Revision	A
Supply Type	Based on Bill
Revision Date	27-APR-2000 00:00:00

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(N) WIP > Discrete > Discrete Jobs

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Creating Discrete Jobs > Defining Discrete Jobs Manually

Releasing the Job:

- 1 Navigate to the Discrete Jobs window.
- 2 Change the job status to Released.
- 3 Save your work.
- 4 Validate the status of your job.

### WIP Build Sequencing

- You can identify the ordering or sequencing of production to the shop floor using WIP Build Sequencing. You can:
  - Group and prioritize your jobs
  - Group jobs to minimize setup cost
  - Maintain a schedule group, a build sequence, and a line identifier on each job header
  - View current jobs by schedule group, build sequence, and line
  - Release jobs by schedule group, build sequence, and line

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In some industries, such as automotive, most assemble to order items are sequenced for shipment to the supplier's trading partner directly from work in process.

Using WIP Build Sequencing, you can identify the ordering or sequencing of production to the shop floor. This is necessary to minimize production setups and changeovers. You can also use schedule group and build sequence as a tool to prioritize your work orders.

## Agenda

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### Agenda

- Lesson 1: Overview
- Lesson 2: Manually define discrete jobs
- Lesson 3: Create operations, resource requirements, and material requirements
- **Lesson 4: Implement planned orders**
- Lesson 5: Updating discrete jobs

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## Implementing Planned Orders

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### Implementing Planned Orders

- You can automatically implement your planned orders from Oracle Master Production Scheduling/MRP, or if you have the Advanced Planning & Scheduling (APS) suite, as discrete jobs.
- The job name, accounting class, and lot number are defaulted from the Oracle WIP parameters.
- Before implementing the job, you can modify the due date, status, and quantity.
- You can load the jobs as Unreleased, Released, or On Hold.
- You can import and implement planned orders from other systems.

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#### **Note:**

The job name is defaulted from the database sequence and prefix in the personal Profile Options, if present.

The job status defaults to Unreleased.

Planned orders for phantoms are not automatically displayed unless you specifically request that they are by using a WIP supply status of Phantom when querying the data.

You can use production kanban cards to initiate discrete jobs. You complete production against a kanban card and forward the material to the next production line.

You can use intra-org kanban cards to initiate move orders to transfer material from a central stocking location to a production stocking location.

Discrete jobs can be created during the autcreate final assembly function. This action automatically links the sales order for the configured item to the discrete work order.



### Planned Orders

- The job name is defaulted from the database sequence and prefix in the personal Profile Options, if present.
- The job status defaults to Unreleased.
- Planned orders for phantoms are not automatically displayed unless you specifically request that they are by using a WIP supply status of Phantom when querying the data.

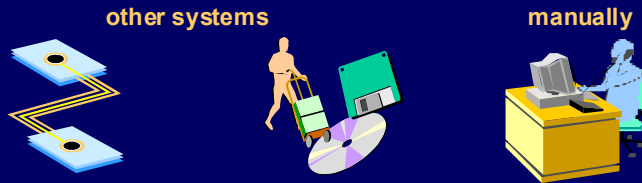
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## Import Jobs and Schedules

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### Import Jobs and Schedules



**You can import and implement planned orders from other systems.**

**If your plant directly feeds your customer's plant, you can get your customer's demands using the Open Job and Schedule Interface rather than wait for the next planning run. You can implement these demands using an Import Jobs and Schedules request for a WIP Mass Load.**

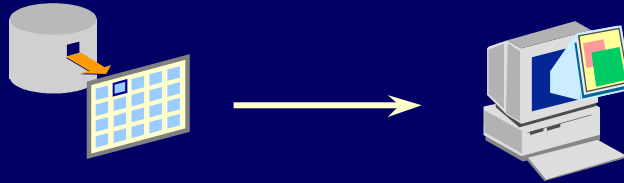
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## Pending Jobs and Schedules

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### Pending Jobs and Schedules



- You can view, update, delete, or resubmit job records that have failed and remain in the Open Job and Schedule Interface table.
- You can use the Discrete Mass Interface Status Load report to view the jobs that were loaded from the interface table.

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## Review Question

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### Review Question

Which of the statuses can be set when implementing planned orders?

- a Unreleased
- b Released
- c Complete
- d Complete - No Charges
- e On Hold
- f Canceled
- g Closed

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## Review Question

---

### Review Question

Which of the statuses can be set when implementing planned orders?

- a Unreleased
- b Released
- c Complete
- d Complete - No Charges
- e On Hold
- f Canceled
- g Closed

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## Agenda

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### Agenda

- Lesson 1: Overview
- Lesson 2: Manually define discrete jobs
- Lesson 3: Create operations, resource requirements, and material requirements
- Lesson 4: Implement planned orders
- **Lesson 5: Updating discrete jobs**

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### Update Discrete Job Data

**In your discrete job, you can update :**

- **Header information, based on the job status**
- **Routing information**
- **Bill information**
- **Sales order information**
- **Job operations**
- **Job requirements**

**Note: If the profile option WIP:Job Name Updatable is set to No, you cannot update the name of the existing job.**

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## Updating Discrete Job Information

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### Updating Discrete Job Information

Discrete Jobs Window				
Field \ Status	Unreleased	Released	On Hold	Complete
Job	✓	✓	✓	✓
Type				
Assembly				
Class	✓			
UOM				
Status	✓	✓	✓	✓
Firm	✓	✓	✓	✓
Start Quantity	✓	✓	✓	✓
MRP Net Quantity	✓	✓	✓	✓
Start Date/Time	✓	✓	✓	✓
Completion Date/Time	✓	✓	✓	✓

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(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Changing Discrete Jobs



## Updating Discrete Job Information

---

### Updating Discrete Job Information

Discrete Jobs Window				
More Tab				
Field \ Status	Unreleased	Released	On Hold	Complete
Demand class	✓	✓	✓	✓
Kanban reference	✓	✓	✓	✓
Lot number	✓	✓	✓	✓
Description	✓	✓	✓	✓
Over tolerance type	✓	✓	✓	✓
Over tolerance value	✓	✓	✓	✓

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## Updating Discrete Job Information

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### Updating Discrete Job Information

Discrete Jobs Window				
Routing Tab				
Field \ Status	Unreleased	Released	On Hold	Complete
Reference (for nonstandard jobs)				
Alternate	✓			
Revision	✓			
Revision Date/Time	✓			
Completion Sub	✓	✓	✓	✓
Completion Locator	✓	✓	✓	✓

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## Updating Discrete Job Information

---

### Updating Discrete Job Information

Discrete Jobs Window				
Bill Tab				
Field \ Status	Unreleased	Released	On Hold	Complete
Reference				
Alternate	✓			
Revision	✓			
Revision Date/Time	✓			
Supply Type				

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## Updating Discrete Job Information

---

### Updating Discrete Job Information

Discrete Jobs Window				
Sales Order Window				
Field \ Status	Unreleased	Released	On Hold	Complete
Order number				
Line				
Ordered item				
Quantity	✓	✓	✓	

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## Updating Discrete Job Operations

---

### Updating Discrete Job Operations

Discrete Job Operations			
Job Status	Add	Update	Delete
Unreleased	✓	✓	✓
Released	✓	✓	✓
On Hold	✓	✓	✓
Complete	✓	✓	✓

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(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Overview of Changing Discrete Jobs > (H) Adding and Updating Operations

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Overview of Changing Discrete Jobs > (H) Deleting Operations

### Rules for Deleting Operations

**You can delete an operation from a discrete job if:**

- **There are no assemblies at the operation.**
- **No assemblies have been completed at the operation.**
- **There are no pending transactions in the open move interface table.**
- **No resources at the operation have been charged.**
- **There are no pending transactions in the open resource interface table.**

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## Addition and Deletion Considerations

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### Addition and Deletion Considerations

- If you delete an operation, Oracle Work in Process reassigns its material requirements to the first operation in the routing, or to operation sequence 1 if there are no operations in the routing.
- If you add or delete an operation for a job, you may want to reschedule the job to correctly reflect the schedule dates of the job.

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### Example

If you have a bottleneck operation and you want to use a different operation, you could remove the old operation and add the new one in the old operation sequence.

## Updating Discrete Job Resources

---

### Updating Discrete Job Resources

Discrete Job Resources			
Job Status	Add	Update	Delete
Unreleased	✓	✓	✓
Released	✓	✓	✓
On Hold	✓	✓	✓
Complete	✓	✓	✓

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(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Overview of Changing Discrete Jobs > (H) Adding and Updating Resource Requirements

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Overview of Changing Discrete Jobs > (H) Deleting Resource Requirements



### Rules for Deleting Resources

**You can delete a resource requirement from a discrete job if:**

- **That resource has not been charged to the operation.**
- **There are no pending transactions in the open resource interface table.**

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## Updating Discrete Job Requirements

---

Discrete Job Requirements			
Job Status	Add	Update	Delete
Unreleased	✓	✓	✓
Released	✓	✓	Only if requirements have not been issued
On Hold	✓	✓	Only if requirements have not been issued
Complete	✓	✓	Only if requirements have not been issued

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(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Overview of Changing Discrete Jobs > (H) Adding and Updating Material Requirements

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Overview of Changing Discrete Jobs > (H) Deleting Material Requirements

### Example

If you have an engineering change on a released job for the Desktop Sentinel that requires a component to be substituted, you could add the new component and update the old one.

### Discrete Workstation

**You can graphically view and perform manufacturing activities on the shop floor. This workstation enables you to quickly and easily obtain information critical to supporting business decisions and controlling daily shop floor activities.**

**Production operators can:**

- **Quickly and easily obtain component and resource requirements, as well as performance measurements.**
- **Perform shop floor transactions without returning to the WIP menu.**

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(N) WIP > Discrete > Discrete Workstation

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Discrete Workstation

## Review Question

---

### Review Question

**At what job status(es) can you change the unit of measure?**

- a Unreleased**
- b Released**
- c On Hold**
- d Complete**
- e None of the above**

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## Review Question

---

### Review Question

**At what job status(es) can you change the unit of measure?**

- a Unreleased
- b Released
- c On Hold
- d Complete
- e None of the above**

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## Agenda

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### Agenda

- **Lesson 6: Simulate and save a discrete job**
- Lesson 7: Using nonstandard discrete jobs
- Lesson 8: Summary

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## Simulating and Saving a Discrete Job

---

### Simulating and Saving a Discrete Job

**You can simulate a standard job to determine what materials, operations, and operation resources are required to support that job.**

**You can do the following:**

- **Vary the quantity and the start and completion dates to determine scheduling and requirement constraints.**
- **View both on-hand and ATP quantities for the simulated component requirements.**
- **Vary the bills of material and the routings and their associated revisions and revision dates.**

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(N) WIP > Discrete > Simulate Discrete Jobs

(Help) Oracle Manufacturing Applications > Oracle Work in Process >  
Discrete Manufacturing > Simulating and Saving Simulated Discrete Jobs

### Simulating a Discrete Job

- **Simulate only standard discrete jobs. Routings are not required.**
- **With the WIP: See Engineering Items profile option set to Yes, simulate jobs for engineering items.**
- **Convert your simulated job into an actual job and then save it.**
- **Create the discrete job from the Simulate Discrete Jobs window without having to redefine the job in the Discrete Jobs window.**

**Note: You cannot select an assembly that has a flow related primary routing.**

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## Review Question

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### Review Question

**Can you ever use your simulated job as a real job?**

- Yes
- No

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## Review Question

---

### Review Question

**Can you ever use your simulated job as a real job?**

- Yes
- No

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### Demonstration

**In Oracle Work in Process, we will demonstrate how to:**

- **Define a simulated job**
- **Compare it to a real job**

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## Agenda

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### Agenda

- Lesson 6: Simulate and save a discrete job
- **Lesson 7: Using nonstandard discrete jobs**
- Lesson 8: Summary

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### Using Nonstandard Discrete Jobs

There are many options available when you create a nonstandard job. The included options pertain to:

- The bill of material and routing
- The assembly item to be worked on and its quantity
- Any accounting class requirements
- The closing of the job

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### Nonstandard Discrete Job Functions

- You can control materials and resources for nonstandard projects.
- You can track costs for various activities.
- You can report on all aspects of your production.

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### More Nonstandard Job Functions

- You can manage the following activities:
  - Rework
  - Upgrades
  - Field service repair and maintenance
  - Disassemblies
  - Engineering prototypes and other miscellaneous activities

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## Nonstandard Versus Standard Discrete Jobs

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### Nonstandard Versus Standard Discrete Jobs

Field	Standard Discrete Job	Nonstandard Discrete Job
Job	Required	Required
Type	Required	Required
Assembly	Required	Optional. Enter if you want to perform move and completion transactions.
Class	Required	Required
Status	Required	Required
Firm	Required. Defaults to Checked if item is MPS planned. Otherwise, defaults to Unchecked.	You cannot enter a value in this field. Defaults to Unchecked.

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## Nonstandard Versus Standard Discrete Jobs

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### Nonstandard Versus Standard Discrete Jobs

Field	Standard Discrete Job	Nonstandard Discrete Job
Quantity	Required	Required. You can enter 0. Enter a positive number if you want to perform move and/or completion
MRP Net Qty	Required. Defaults from Quantity.	Required. Defaults from Quantity. If you do not enter an assembly, you cannot enter a value in this field.
Start Date	Required. You can enter a start date and a completion date.	Required. You can enter a start date and a completion date.

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## Nonstandard Versus Standard Discrete Jobs

---

### Nonstandard Versus Standard Discrete Jobs

Field	Standard Discrete Job	Nonstandard Discrete Job
Completion Date	Required. You can enter a start date and a completion date.	Required. You can enter a start date and a completion date.
Lot Number	Optional	Optional
Routing Reference	You cannot enter a value in this field.	Optional. Enter a value if you want to perform job scheduling based on a routing.
Alternate Routing	Optional	Optional

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## Nonstandard Versus Standard Discrete Jobs

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### Nonstandard Versus Standard Discrete Jobs

Field	Standard Discrete Job	Nonstandard Discrete Job
Revision	Optional	Optional. You must enter a value in this field if you have a routing for the assembly.
Revision Date	Optional	Optional. You must enter a value in this field if you have a routing for the assembly.
Completion Subinventory	Optional	Optional
Completion Location	Optional	Optional

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## Nonstandard Versus Standard Discrete Jobs

---

### Nonstandard Versus Standard Discrete Jobs

Field	Standard Discrete Job	Nonstandard Discrete Job
Bill Reference	You cannot enter a value in this field.	Optional. Enter a value if you want to automatically create material requirements based on a bill of material.
Alternate Bill	Optional	Optional
Revision	Optional	Optional. You must enter a value in this field if you have a bill for the assembly.
Revision Date	Optional	Optional. You must enter a value in this field if you have a bill for the assembly.
Supply Type	Required. Defaults to Based on bill.	Required. Defaults to Based on bill.

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## Major Features of Nonstandard Jobs

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### Major Features of Nonstandard Jobs

Using the following features of nonstandard jobs, you have the flexibility to meet all your nonstandard business needs:

- **Bill and routing reference options**
- **Assembly options**
- **Quantity options**
- Bill of materials looping
- Expense type costing
- Job costing options
- WIP accounting class options
- Closing nonstandard jobs options

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### Bill and Routing Reference Options

- Optionally, you can assign a predefined bill of material to a nonstandard job.
- You can use any bill or routing, including one that does not match the assembly for the job. For example, you could define a standard upgrade bill and use it to upgrade several different assemblies with the same upgrade material requirements.
- You can decide not to assign a bill or routing. For example, if you use a nonstandard job for maintenance of your machines, you do not need to specify a bill or routing.

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### Assembly Options

- Optionally, you can specify an assembly on a nonstandard job. For example, you should identify the assembly being reworked on a rework order.
- If you are using a nonstandard job to perform maintenance on a machine, you would not need to identify an assembly on the job.

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### Quantity Options

- Optionally, you can include a job quantity on a nonstandard job.
- You can define a job quantity only if you have defined an assembly for the nonstandard job. For example, if you define a job to perform an upgrade, you would identify the assembly and specify the number of assemblies you want to upgrade.
- The assembly and job quantity let you perform shop floor transactions.

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## Major Features of Nonstandard Jobs

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### Major Features of Nonstandard Jobs

The following features of nonstandard jobs give you the flexibility to meet all your nonstandard business needs:

- Bill and routing reference options
- Assembly options
- Quantity options
- **Bill of material looping**
- **Expense type costing**
- Job costing options
- WIP accounting class options
- Closing nonstandard jobs options

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### Bill of Material Looping

- You can add the assembly you are building as a material requirement on the job's bill of material.
- If you are performing rework or upgrade activities, you can specify the assembly that you are working on and then add the same assembly to the job as a requirement to indicate that you are receiving the assembly out of inventory. In other words, you can issue the broken or outdated assembly to the job and eventually complete the fixed or upgraded assembly back into inventory.

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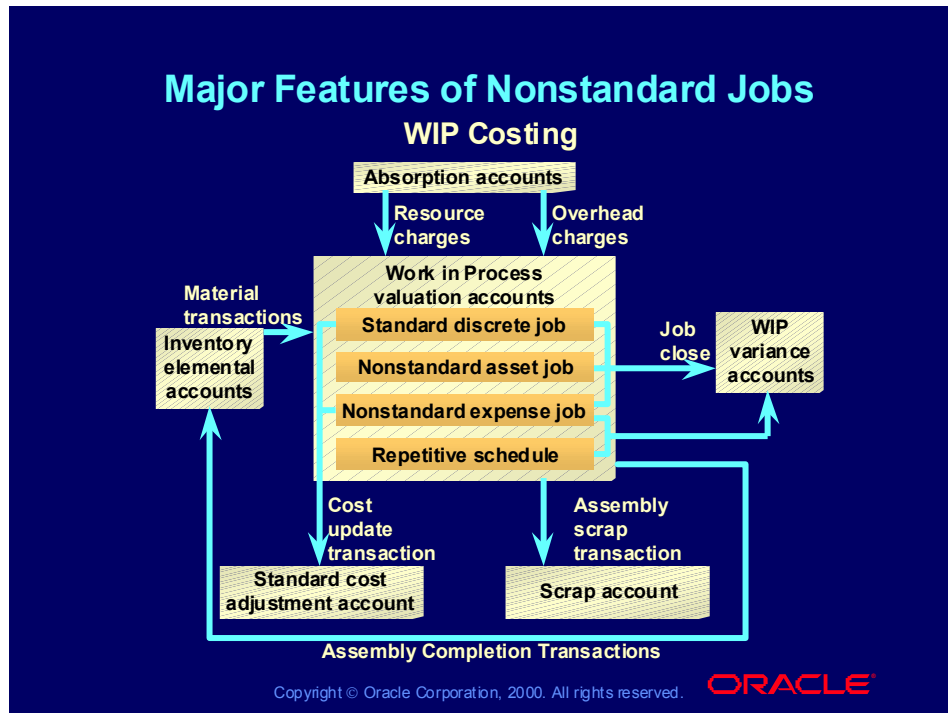
### Expense Type Costing

- You can use expense costing to periodically write your nonstandard production costs to expense accounts.
- If you want to capture the cost of regular maintenance activity, you can define a nonstandard job with an expense accounting class.

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## Major Features of Nonstandard Jobs



## Major Features of Nonstandard Jobs

---

### Major Features of Nonstandard Jobs

The following features of nonstandard jobs give you the flexibility to meet all your nonstandard business needs:

- Bill and routing reference options
- Assembly options
- Quantity options
- Bill of materials looping
- Expense type costing
- Job costing options
- **WIP accounting class options**
- Closing nonstandard jobs options

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### WIP Accounting Class Options

- When you create your discrete job, you can define the WIP accounting class as an asset or as an expense to the job. This class is then costed on a job basis.
- Nonstandard expense jobs are period costed and therefore not revalued by cost updates.
- You can charge standard average costs for material, resources, overheads, and outside processing.
- Nonstandard jobs do not earn material overhead on completion because you probably have already earned the overhead during the original build.

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### Major Features of Nonstandard Jobs

**The following features of nonstandard jobs give you the flexibility to meet all your nonstandard business needs:**

- Bill and routing reference options
- Assembly options
- Quantity options
- Bill of materials looping
- Expense type costing
- Job costing options
- WIP accounting class options
- **Closing nonstandard jobs options**

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## Using a Nonstandard Job to Rework Assemblies (continued)

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- You can enter Push in the Supply Type field, because it is likely that the assemblies will be pushed to the rework operation.
- You can specify the supply subinventory as the MRB subinventory.
- You should clear the MRP Net field to avoid creating demand for the rejected assemblies, because the supply for that assembly is provided by the nonnettable MRB subinventory.
- You can issue the assemblies to the nonstandard job using the WIP Material Transactions window.
- You can use the Move Transactions window to move the assemblies from operation to operation and to charge rework resource and overhead costs.
- You can complete the reworked assemblies into a nettable subinventory using the WIP Completion Transactions window.
- **Reviewing Cost Information**
- The ending balance of the job should be the resource and overhead charges.
- The material charges for the assemblies net to zero because the only material on the job was the assemblies that were issued to and completed from the job.
- **Benefits**
- You can group rejected assemblies on a single rework nonstandard job to gain efficiency
- With a nonstandard job, you can identify the exact rework costs.
- The MRP net quantity informs planning of anticipated supply.
- Nonnettable subinventories and MRP net quantities allow component supply and component demand to balance.

### Closing Nonstandard Jobs Options

- You can manually close nonstandard jobs whenever you choose. The job status is set to Closed.
- Jobs with asset type class are costed in the same way as standard jobs, and all variances are computed at job close.
- For jobs with expense type class, an accounting close is performed on a periodic basis during period close. Variances from all open periods are computed.

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## Review Question

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### Review Question

**You can assign a predefined bill for your nonstandard job.**

- True
- False

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## Review Question

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### Review Question

**You can assign a predefined bill for your nonstandard job.**

- **True**
- False

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## Review Question

---

### Review Question

**You can never add the assembly you are building as a material requirement on the job's bill of material.**

- True
- False

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## Review Question

---

### Review Question

**You can never add the assembly you are building as a material requirement on the job's bill of material.**

- True
- **False**

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## Review Question

---

### Review Question

**For a nonstandard discrete job, which field(s) must be entered in order to automatically create material requirements for the job based on a bill of material?**

- a Bill Reference**
- b Alternate Bill**
- c Revision**
- d Revision Date**
- e None of the above**
- f All of the above**

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## Review Question

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### Review Question

**For a nonstandard discrete job, which field(s) must be entered in order to automatically create material requirements for the job based on a bill of material?**

- a Bill Reference**
- b Alternate Bill
- c Revision**
- d Revision Date**
- e None of the above
- f All of the above

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## Review Question

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### Review Question

**On your nonstandard job, can you enter an MRP Net Quantity if you do not reference an assembly?**

- a Yes**
- b No**

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## Review Question

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### Review Question

**On your nonstandard job, can you enter an MRP Net Quantity if you do not reference an assembly?**

**a Yes**

**b No**

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## Review Question

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### Review Question

#### True or False

**You can use the same windows to manage both standard and nonstandard discrete jobs.**

- True
- False

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## Review Question

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### Review Question

#### True or False

**You can use the same windows to manage both standard and nonstandard discrete jobs.**

- True
- False

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## Agenda

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### Agenda

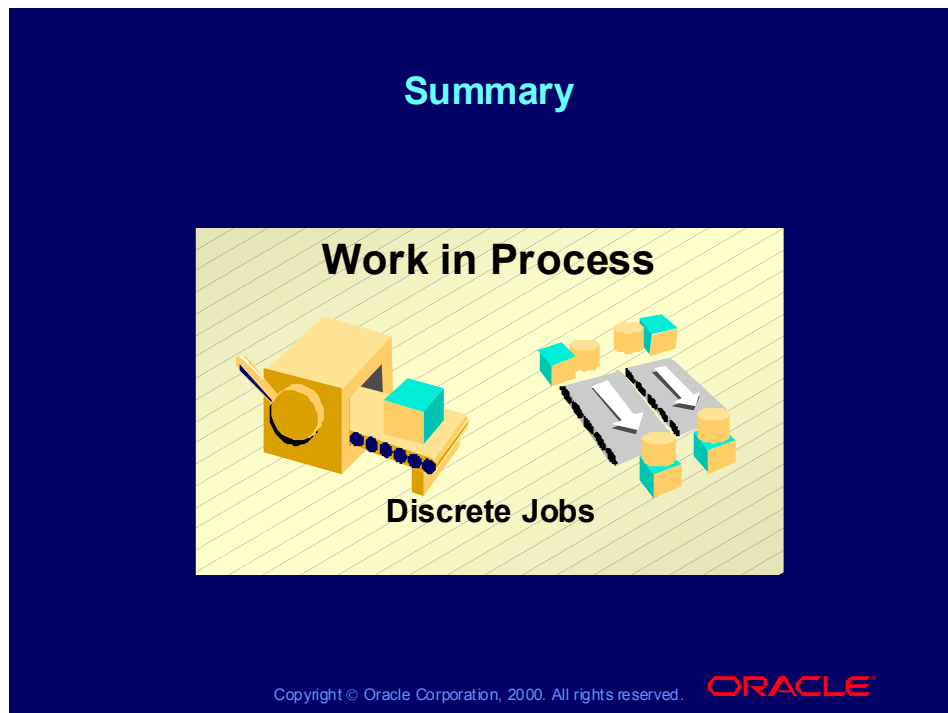
- Lesson 6: Simulate and save a discrete job
- Lesson 7: Using nonstandard discrete jobs
- **Lesson 8: Summary**

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## Summary

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## Summary

### Summary

**You must always specify six elements when defining a discrete job:**

- Job name
- Assembly
- Quantity
- Start or completion date
- Accounting class
- Job status

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### Summary

**You can define a job in many ways:**

- You can manually define a job using the Discrete Job window.
- You can implement planned orders from Oracle Planning.
- You can import planned orders from other systems using the Open Job/Schedule interface.
- Production kanban cards can be replenished from a WIP job. A flow schedule, and a discrete job or repetitive schedule is automatically created.

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### Summary

- With an intra-org kanban, items can be replenished from a subinventory; a replenishment move order is created and is automatically approved.
- During the WIP autocreate function of an Assemble-to-Order configuration, a discrete job is automatically created and linked to the sales order.
- When you define a job, Oracle Work in Process creates requirements and operations that you can later update as necessary.
- You can update the header information of a job based on the status of the job.

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### Summary

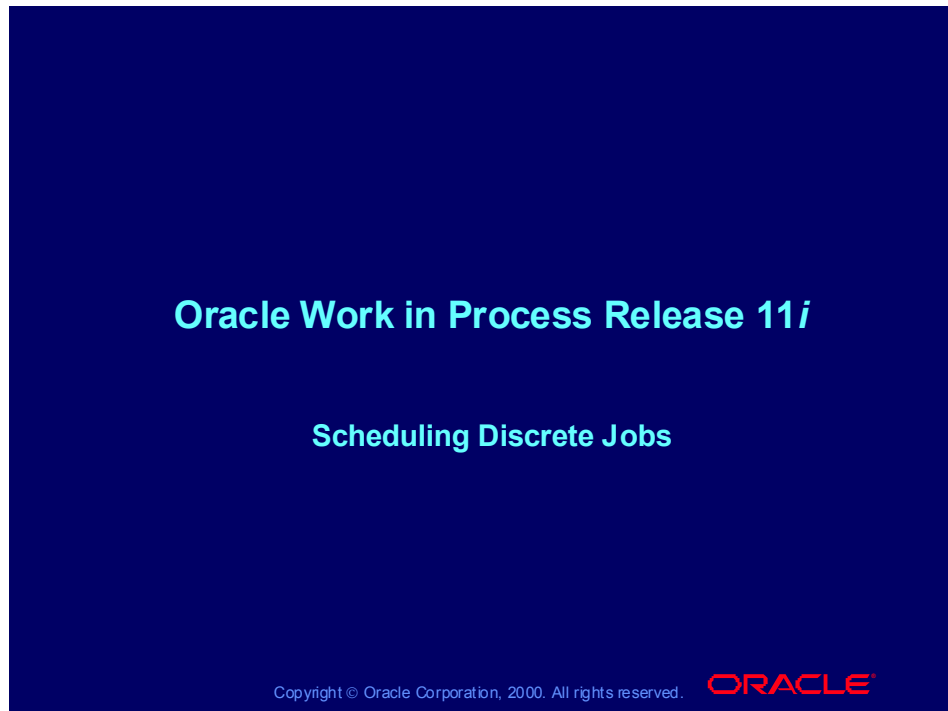
- You can add, delete, or update job operations, resource requirements, and material requirements.
- Nonstandard discrete jobs are very similar to standard discrete jobs and they are even more flexible.
- You can use nonstandard discrete jobs to manage rework, upgrades, and maintenance activities.
- You can use the same windows to manage both standard discrete jobs and nonstandard discrete jobs.

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# **Scheduling Discrete Jobs**

## **Chapter 4**



Notations:

N = Navigator

T = Tab

M = Menu

I = Icon

H = Hyperlink

B = Button

Help = Oracle Applications Help System

### Objectives

**After completing this component, you should be able to do the following:**

- **Distinguish between dynamic lead-time offsetting and detailed scheduling**
- **Describe the differences between preprocessing, postprocessing, and processing lead time for manufactured or purchased items**
- **Assign lead-time details**
- **Specify the functions in Oracle Manufacturing that use lead-time information**

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### Objectives (continued)

- Calculate manufacturing lead times
- Describe detailed scheduling
- Schedule and reschedule discrete production in Oracle Work in Process

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## Agenda

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### Agenda

- **Lesson 1: Overview**
- **Lesson 2: Scheduling methods**
- **Lesson 3: Identifying lead time elements**
- **Lesson 4: Assigning lead time details**
- **Lesson 5: Dynamic manufacturing lead times**
- **Lesson 6: Detailed scheduling concepts**

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## Agenda (continued)

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### Agenda (continued)

- **Lesson 7: Scheduling discrete jobs**
- **Lesson 8: Rescheduling discrete jobs**
- **Lesson 9: Midpoint rescheduling**
- **Lesson 10: Summary**

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## Lesson 1: Overview

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### Overview

**Oracle Manufacturing uses scheduling methods along with lead-time information to help you:**

- **Promise ship dates for orders**
- **Plan material**
- **Plan resources**
- **Purchase material**
- **Schedule material**
- **Schedule resources**

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### **Business Needs for Scheduling Jobs**

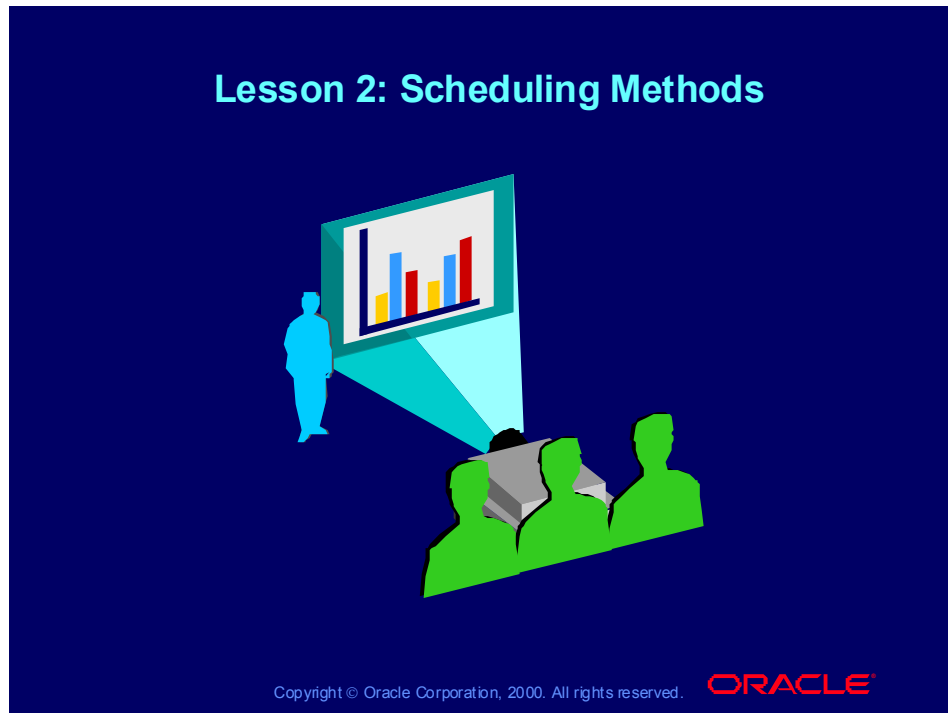
- **Planning material and resources quickly and accurately**
- **Establishing appropriate planning time fences for products**
- **Creating purchase orders for material accounting for vendor lead time**
- **Scheduling material to arrive at the operation where it is consumed**
- **Scheduling each resource at the operation where it is consumed**
- **Promising accurate product shipment dates**

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## Lesson 2: Scheduling Methods

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## Scheduling Methods: Dynamic Lead-Time Offsetting

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### Scheduling Methods: Dynamic Lead-Time Offsetting

Oracle Manufacturing supports two scheduling methods for discrete production: dynamic lead-time offsetting and detailed scheduling.

**Dynamic  
lead-time  
offsetting**



- Date plus number of workdays
- Date minus number of workdays

You can estimate the start date of an order, an operation, or a resource based on order quantity, lead times, and the workday calendar.

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### Scheduling Methods: Detailed Scheduling

#### Detailed scheduling



- Job start date and time
- Job end date and time
- Operation start date and time
- Operation end date and time

- You can schedule jobs to the minute based on detailed resource availability and usages.
- Oracle Bills of Material calculates manufacturing lead times using detailed scheduling.
- Detailed scheduling is the most precise method in Oracle Manufacturing.

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## Review Question

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### Review Question

**Oracle Manufacturing calculates the dynamic lead time offset by using the date plus or minus the number of workdays.**

- **True**
- **False**

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### Answer to Review Question

**Oracle Manufacturing calculates the dynamic lead time offset by using the date plus or minus the number of workdays.**

- **True**
- False

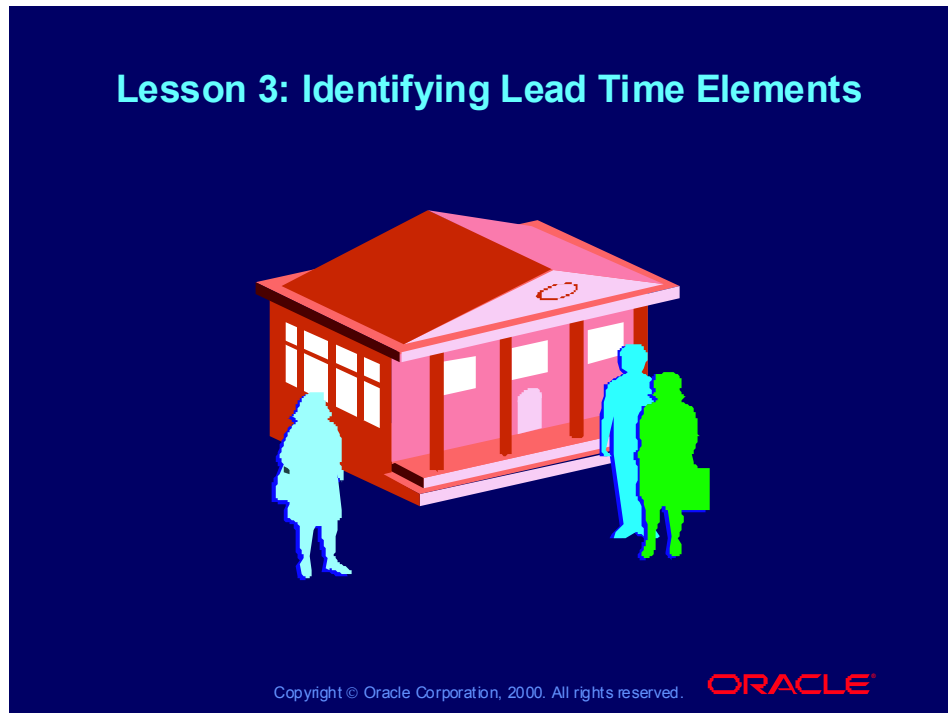
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## Lesson 3: Identifying Lead Time Elements

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## Lead-Time Elements

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### Lead-Time Elements

Item Attribute	Definition
Preprocessing lead time	The time required to release a purchase order or a job from the time you learn of the requirement.
Postprocessing lead time	The time to make a purchased item available in inventory from the time you receive it; you manually enter postprocessing lead time for each purchased item.
Processing lead time	The time required to procure or manufacture an item; processing lead time includes the fixed and variable portions of lead times.

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## Lead-Time Elements

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### Lead-Time Elements

Item Attribute	Definition
Cumulative manufacturing lead time	Total time required to make an item if you have all raw materials in stock but have to make all subassemblies level by level; Oracle Bills of Material automatically calculates this value.
Cumulative total lead time	Total time required to make an item if no inventory existed and you have to order all the raw materials and make all subassemblies level by level; Oracle Bills of Material automatically calculates this value.

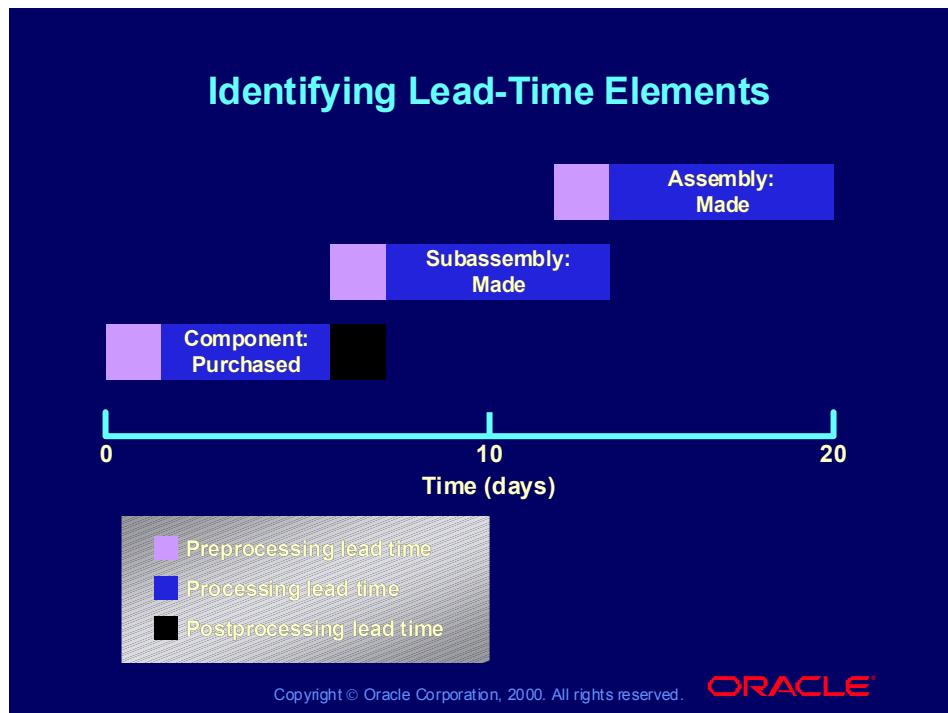
You can accurately offset requirement dates using lead-time details.

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## Identifying Lead-Time Elements

---



### Technical Note

Oracle MRP/Master Scheduling considers preprocessing lead time when offsetting dates.

Oracle Bills of Material and Oracle Engineering do not consider preprocessing when computing manufacturing (processing) lead time.

## Review Question

---

### Review Question

**Which Oracle application calculates the Cumulative Manufacturing Lead Time and the Cumulative Total Lead Time?**

- **Oracle Master Scheduling / MRP**
- **Oracle Inventory**
- **Oracle Bills of Material**
- **Oracle Purchasing**

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### Answer to Review Question

**Which Oracle application calculates the Cumulative Manufacturing Lead Time and the Cumulative Total Lead Time?**

- Oracle Master Scheduling / MRP
- Oracle Inventory
- **Oracle Bills of Material**
- Oracle Purchasing

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## Lesson 4: Assigning Lead Time Details

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### Lesson 4: Assigning Lead Time Details



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## Lead-Time Details

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Lead-Time Details		
Item Attribute	Manufactured Item	Purchased Item
Preprocessing lead time	X	X
Processing lead time	✓	X
Postprocessing lead time		X
Cumulative manufacturing lead time	✓	
Cumulative total lead time	✓	
Lead-time lot size	X	

X = Manually assign value  
✓ = Oracle Bills of Material computes value

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### Technical Note

You can manually assign values for fixed lead time for a purchased item, instead of assigning the processing lead time.

Oracle Master Scheduling/MRP uses the fixed lead time value if one is entered. You do not calculate lead times for purchased items even if they have a routing. You must manually assign all lead-time information for purchased items.



### Review Question

**For a manufactured item, which of the following item attributes are manually assigned?**

- **Preprocessing lead time**
- **Processing lead time**
- **Postprocessing lead time**
- **Cumulative manufacturing lead time**
- **Cumulative total lead time**
- **Lead-time lot size**

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### Answer to Review Question

**For a manufactured item, which of the following item attributes are manually assigned?**

- **Preprocessing lead time**
- Processing lead time
- Postprocessing lead time
- Cumulative manufacturing lead time
- Cumulative total lead time
- **Lead-time lot size**

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## Lesson 5: Dynamic Manufacturing Lead Times

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### Dynamic Manufacturing Lead Times

Oracle Bills of Material computes the fixed and variable portions of manufacturing (processing) lead time using routings and detailed scheduling.

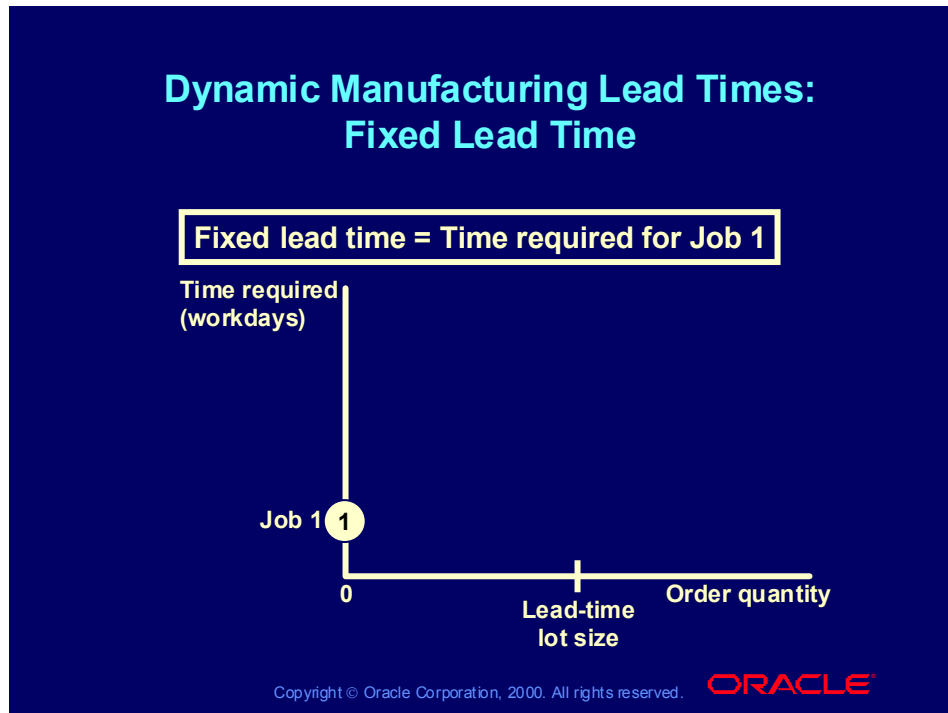
- **Fixed lead time:** That portion of time required to build an assembly that is independent of order quantity—for example, setup or teardown.
- **Variable lead time:** That time required to produce one additional unit of an assembly.

These lead times are used by Oracle Manufacturing in dynamic lead-time offset calculations.

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## Dynamic Manufacturing Lead Times: Fixed Lead Time



### Fixed Lead Time

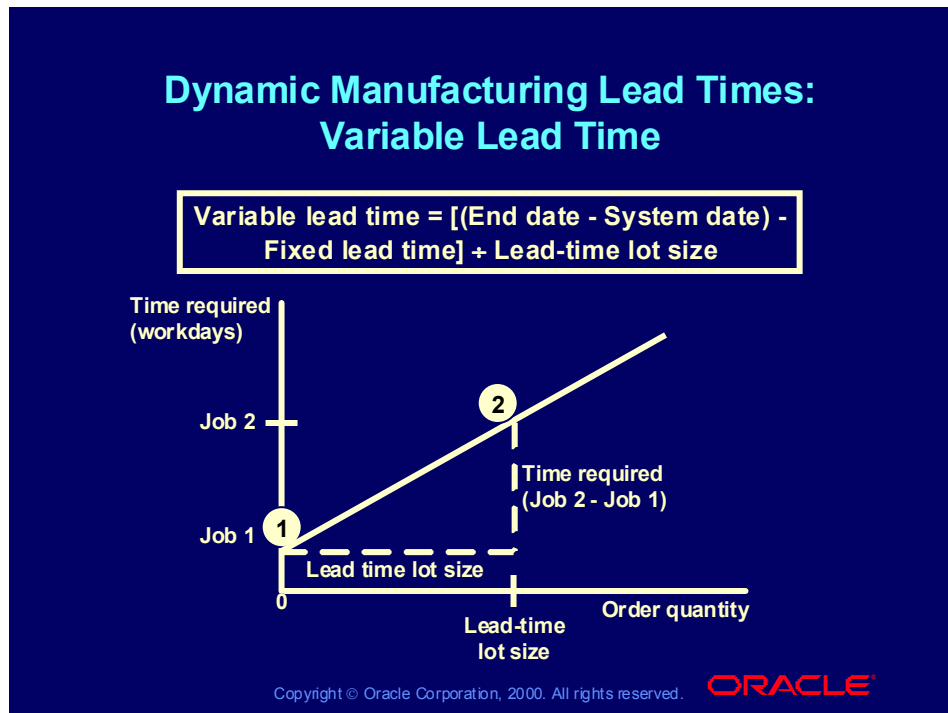
The fixed lead time is calculated by scheduling a job for a quantity of zero with the current date as the job start date.

### Technical Note

Because all lead-time offsetting uses the fixed and variable lead time of an item, the processing lead time represents an estimated lead time. Processing lead time represents the typical time required to build a typical number of units.

## Dynamic Manufacturing Lead Times: Variable Lead Time

---



### Variable Lead Time

The variable lead time is calculated by scheduling a second job for the lead time lot size quantity, with the system date as the job start date.

**Note:** Variable lead time is expressed as days per unit.

## Calculating Processing Lead Time for Manufactured Items

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### Calculating Processing Lead Time for Manufactured Items

The algorithm schedules one discrete job for a quantity of zero (fixed lead time) and a second discrete job for the lead-time lot-size quantity (variable lead time).

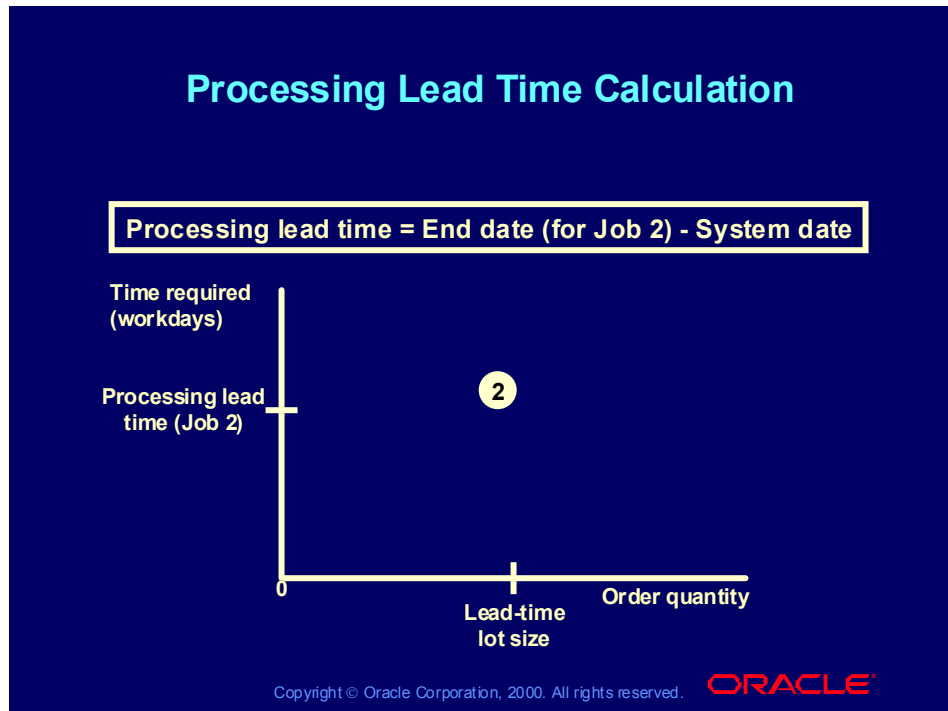
When computing processing lead time, all calendar days are considered as workdays, regardless of days off or workday exceptions.

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## Processing Lead Time Calculation

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The processing (manufacturing) lead time is calculated as the time required to manufacture a job for the lead time lot size quantity.



### Review Question

**Which lead time calculation(s) require(s) the System date?**

- **Fixed lead time**
- **Processing lead time**
- **Variable lead time**

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### Answer to Review Question

**Which lead time calculation(s) require(s) the System date?**

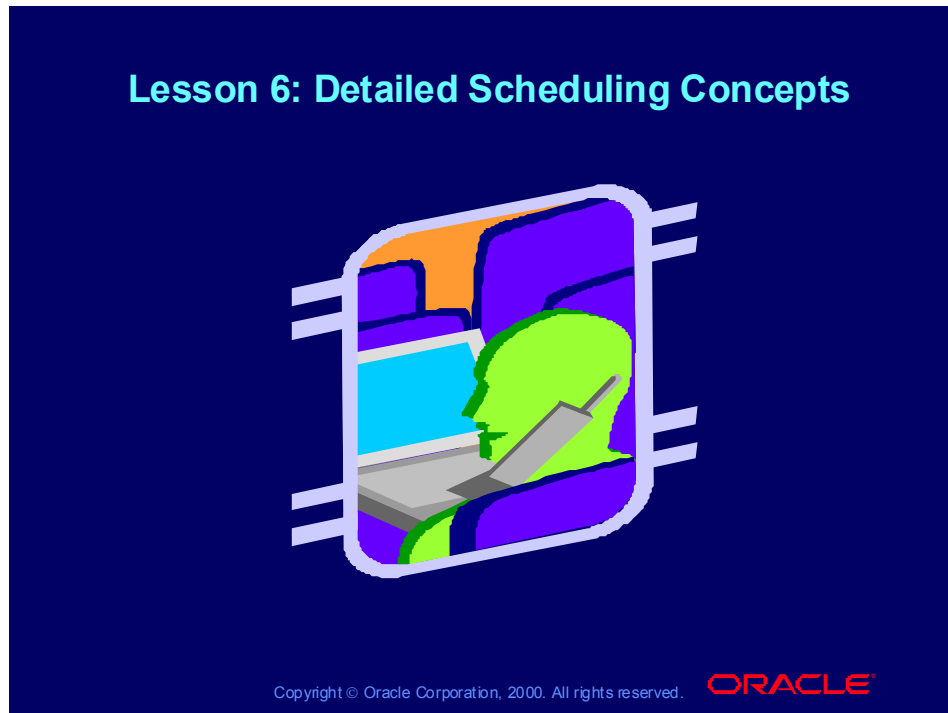
- Fixed lead time
- **Processing lead time**
- **Variable lead time**

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## Lesson 6: Detailed Scheduling Concepts

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## Detailed Scheduling: Key Terms

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### Detailed Scheduling: Key Terms

Term	Description
Resource requirement	The amount of a resource that is required to perform an activity in a routing of a job.
Resource availability	The availability of a resource, taking into account the manufacturing calendar, including workday exceptions, shifts, and shift exceptions.
Critical path	The sequence of resources in the routing of a job that are used to schedule the job.
Overlap	A situation in which two or more scheduled resources can operate at the same time. This can be in one operation or across consecutive operations.

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**Note:** The most common example of overlap is a machine and a machinist working simultaneously.

### Detailed Scheduling: Business Use

- Detailed scheduling is a method of scheduling production that considers minute-to-minute resource availability information as well as exact routing resource requirements
- You can use detailed scheduling as well as lead-time calculations to schedule discrete jobs.

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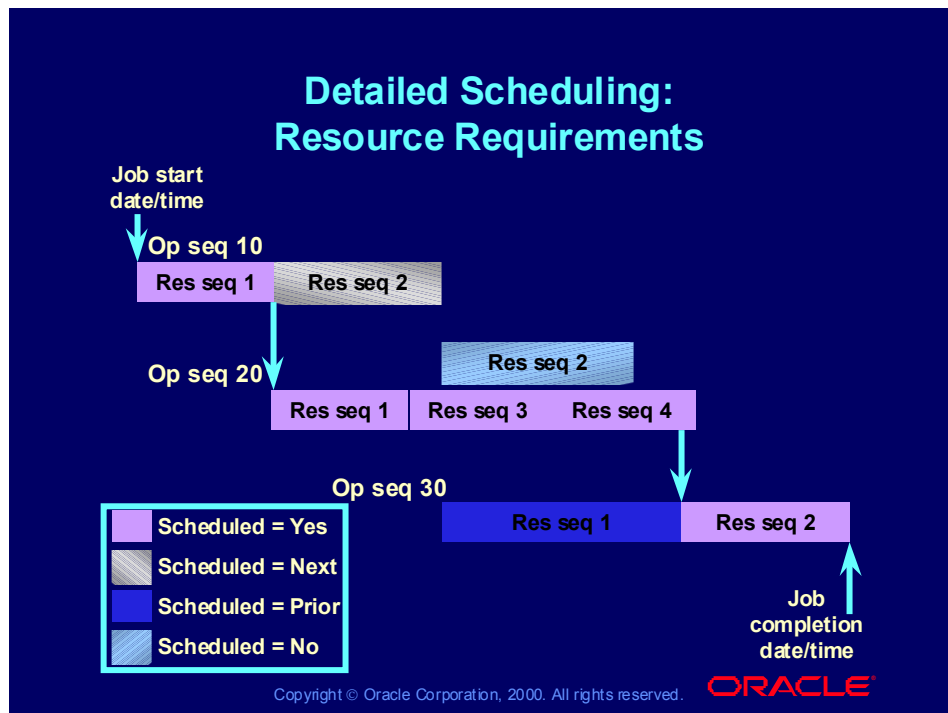
### **Detailed Scheduling: Business Needs**

- **Job completion dates and times for assembly supply availability**
- **Job start dates and times for job release**
- **Operation starts and completion dates and times for departmental dispatching**
- **Operation start dates and times for component demand requirements**
- **Resource load information for capacity planning**

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## Detailed Scheduling: Resource Requirements



## Resource Load Information

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### Resource Load Information

- You can define resources for all activities that you plan, schedule, or cost on the shop floor.
- You can assign resource requirements to operations on the shop floor when you define your routing.
- You can make your resource attributes reflect the work flow on your shop floor.
- You can determine your critical scheduling path through resource attributes.

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(N) Bills of Materials > Routings > Standard Operations >

(B) Operation Resources > Resources

(Help) Oracle Manufacturing Applications > Oracle Bills of Material > Routings  
> Resource Usage



### Overlapping Resources

**Usages:**

- For resources that can operate concurrently with scheduled resources
- For resources that can operate concurrently with resources at the next operation
- For resources that can operate concurrently with resources at the prior operation

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### Scheduling Rules

- All resources that have the Scheduled attribute set to Yes, Prior, or Next must have a time-based unit of measure.
- All resources that have a unit of measure that is not time-based, such as U.S. dollars, kilograms, or gallons, must have the Scheduled attribute set to No.
- Oracle Capacity performs resource load analysis only for resources with a time-based unit of measure.

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## Detailed Scheduling Example

### Detailed Scheduling Example

Op Seq	Res Seq	Resource	Basis	Usage Rate or Amount	Activity	Scheduled	Assigned Units	Scheduled Units
10	1	Punch Press	Item	0.1	Run	Yes	1	100
	2	Punch Press	Lot	1	Teardown	Next	1	1
20	1	Queue	Lot	4	Queue	Yes	1	4
	2	Machinist	Item	0.05	Labor	No	3	0
	3	Drill Press	Item	0.05	Run	Yes	3	50
	4	Inspector	Item	0.01	Quality	Yes	1	10
30	1	Plating preparation	Lot	1	Setup	Prior	1	1
	2	Plating	Item	0.01	Run	Yes	1	10

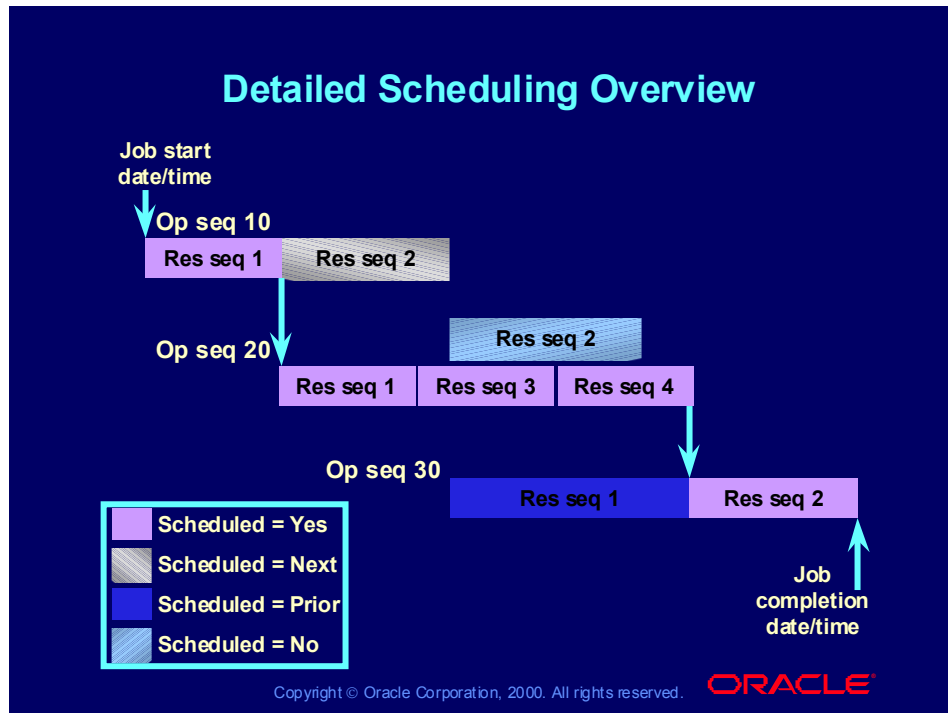
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### Example

- Suppose that the operations and resources shown in the slide make up the routing for one of your assemblies, and you want to build 1,000 of these assemblies. The unit of measure for all of the resources is hours.
- All the resources where the Scheduled attribute is set to Yes are on the critical path.
- The teardown activity at the Punch Press resource at resource sequence 2, operation 10 can be performed at the same time as the Queue activity at the next operation.
- The machinist at operation 20 is not on the critical path, since the Scheduled attribute for this resource is set to No. This means he works concurrently with the Drill Press resource at the same operation.
- The lead time rollout calculates the resource offset for the machinist resource to be the same as that of the next resource with Scheduled attribute Yes—that is, the Drill Press.
- The machinist resource, although not scheduled, is still charged to the job (assuming it is a costed resource) exactly as it would be if the resource were scheduled, and the load is still calculated.

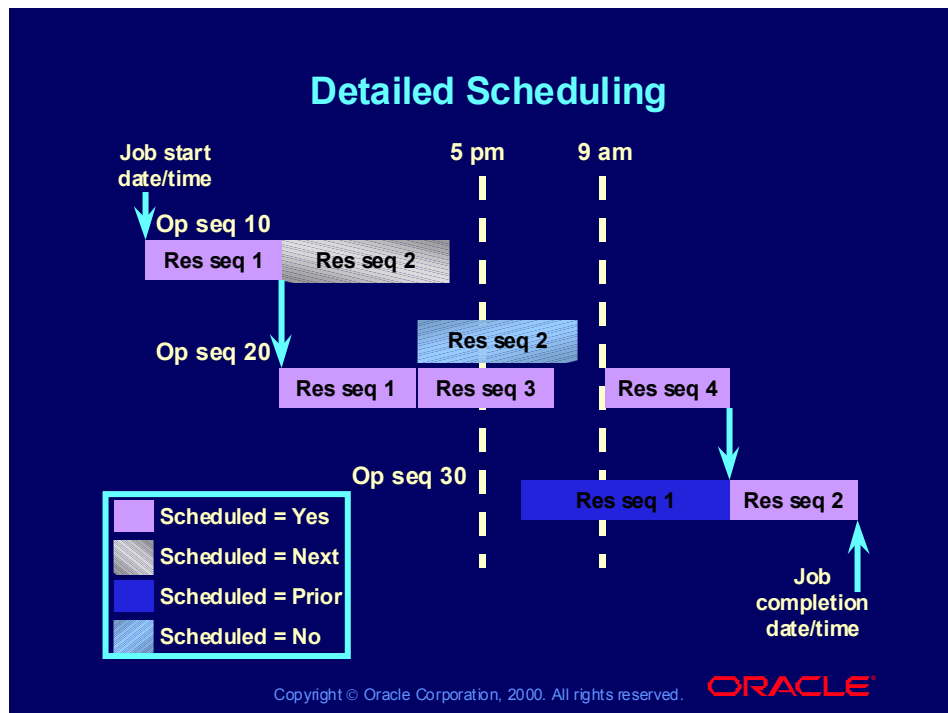
## Detailed Scheduling Overview



### Notes

- The diagram in the slide assumes 24-hour availability of all resources.
- The diagram shows the machinist resource (res seq 2 at op seq 20) as taking some amount of time for illustrative purposes only. Actually, the amount of time it takes is irrelevant to the detailed scheduling algorithm.
- Capacity calculations assume that a nonscheduled resource requirement begins at the same time as the closest following scheduled resource, as the diagram indicates.

## Detailed Scheduling



You can schedule your resource use through resource shifts.

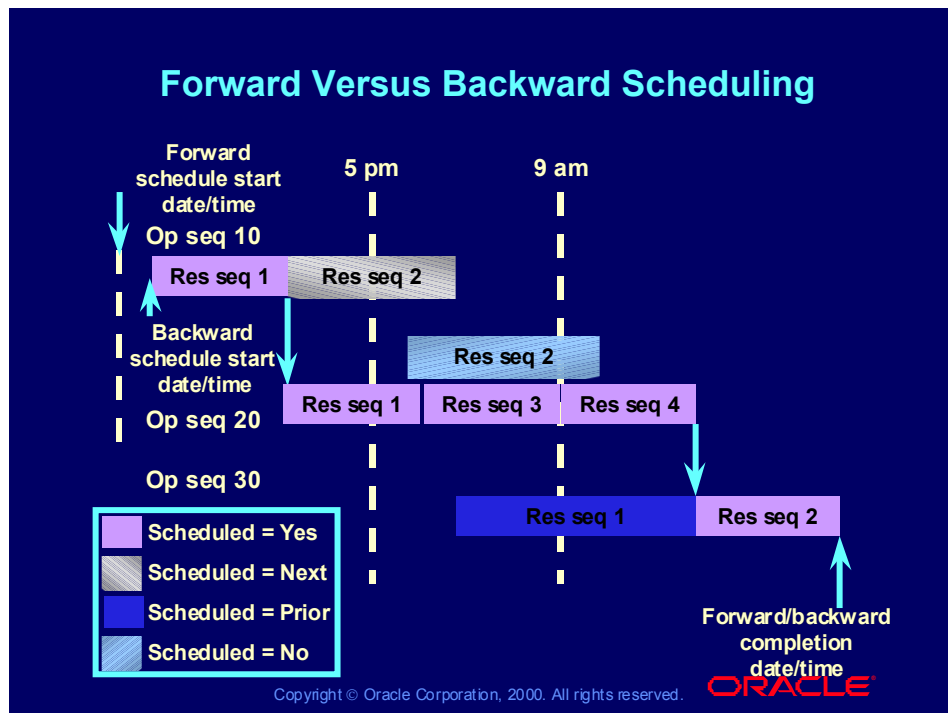
### Using Resource Shifts

- You can ensure that production is scheduled only at times when the resource is available.
- You can assign the resource to your predefined shifts, or indicate that it is available 24 hours.

### Example

- Using the routing shown in the diagram, suppose now that the Inspector resource (res seq 4 at op seq 20) is only available from 9 a.m. to 5 p.m. each day. All other resources are available 24 hours.
- Assume that resource 3 at op seq 20 starts sometime in the afternoon and runs past 5 p.m.
- Use forward scheduling in this example.

## Forward Versus Backward Scheduling



### Definition

- You can use forward scheduling if you know what date you want to begin production and you want to derive the completion date.
- You can use backward scheduling if you know what date you want to complete production and you want to derive the start date.

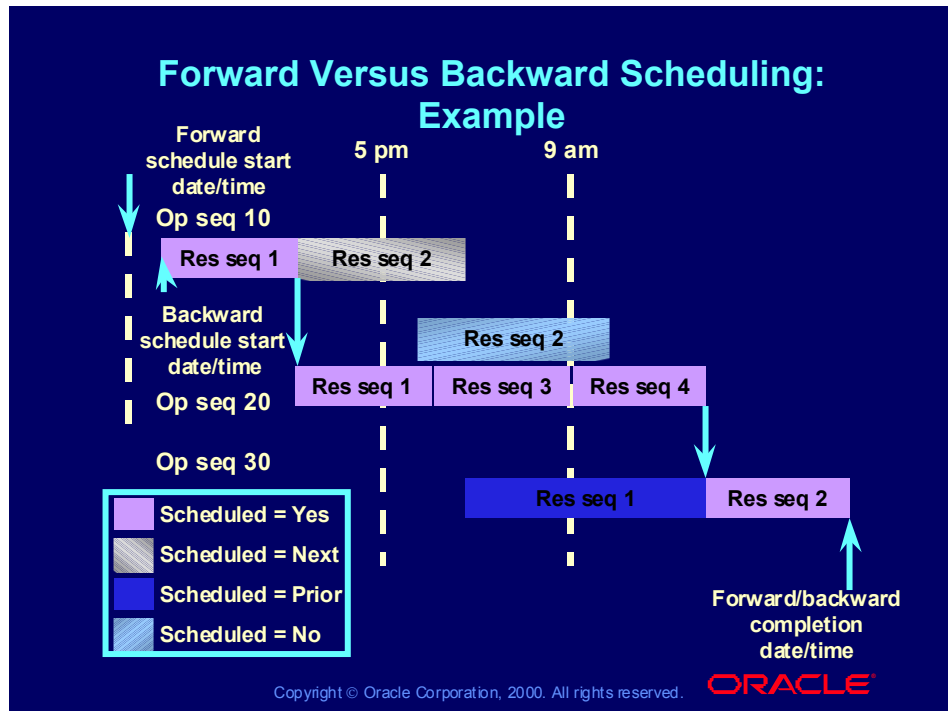
### Scheduling Resources Using Resource Shifts

- You can ensure that production is scheduled only at times when the resource is available.
- You can assign the resource to your predefined shifts, or that the resource is available 24 hours.

### Note

The two methods may yield different results because the lead times calculated in either case may be different due to your resource shifts.

## Forward Versus Backward Scheduling: Example



### Forward Versus Backward Scheduling Example

- Assume, as before, that the Inspector resource, resource 4 at operation 20, is only available from 9 a.m. to 5 p.m.
- Now backward schedule from the date and time on which the last resource of op seq 30 ended.
- The new job start date/time is moved back compared to the previous example.
- The time during which the assembly was held up due to the unavailability of the inspector resource has been eliminated.
- The total lead time for the job is decreased.

## Review Question

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### Review Question

**It is impossible to schedule a job to the minute.**

- True
- False

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## Answer to Review Question

---

### Answer to Review Question

**It is impossible to schedule a job to the minute.**

- True
- **False**

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## Review Question

---

### Review Question

**If the unit of measure for one of your resources is gallons, the Scheduled attribute must be set to No.**

- True
- False

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## Answer to Review Question

---

### Answer to Review Question

**If the unit of measure for one of your resources is gallons, the Scheduled attribute must be set to No.**

- **True**
- False

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## Review Question

---

### Review Question

**If both forward and backward scheduling methods were used, could the results be different?**

- Yes
- No

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### Answer to Review Question

**If both forward and backward scheduling methods were used, could the results be different?**

- **Yes**
- No

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## Lesson 7: Scheduling Discrete Jobs

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## Scheduling Methods: Oracle WIP Versus Oracle Planning

---

### Scheduling Methods: Oracle WIP Versus Oracle Planning

Oracle Work in Process	Oracle Planning
Schedules all discrete jobs backward or forward	Schedules all planned orders backward from the due date
Schedules jobs into the past if backward scheduling past the current date	Compresses jobs to start on the current date if the calculated start date would be in the past
Uses detailed scheduling to schedule discrete jobs with routings to the minute	Uses lead-time offset to schedule planned orders for assemblies with routings and without routings to the day
Uses lead-time offset to schedule discrete jobs without routings to the day	

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#### Options for Defining Jobs

- You can use detailed scheduling to schedule discrete jobs to the minute.
- You can use the Discrete Jobs window to define individual discrete jobs.
- You can use the Planner Workbench in Oracle Planning to load suggested discrete jobs into Oracle Work in Process.
- You can use the Import Jobs and Schedules window to load discrete jobs from any outside source.
- For jobs with routings, you can schedule the requirements based on operation dates.
- You must use lead-time offset for jobs without routings. You enter the start date and time or the completion date and time, and the other date is automatically calculated using lead-time offset.
- $\text{Lead time} = (\text{job quantity} * \text{variable lead time}) + \text{fixed lead time}$

## Scheduling Methods: Oracle WIP Versus Oracle Planning (continued)

---

### Note

- Planned orders in Oracle Planning become discrete jobs in Oracle Work in Process when you mass load them from the Planner Workbench.
- The fixed and variable lead times that the lead time offset uses are calculated by scheduling two discrete jobs when you run the lead time rollup process in Oracle Bills of Material.
- Discrete jobs that are mass loaded into Oracle Work in Process from Oracle Planning are rescheduled using detailed scheduling and scheduled backward in the mass load process to recalculate a more exact start date.

### Differences in Scheduling Results

Scheduling discrete jobs with routings in Oracle Work in Process and Oracle Planning can result in different total lead times.

The lead-time offset algorithm that Oracle Planning uses considers workday and workday exception information but does not consider shift and shift exception information.

If you have made routing changes since the last time you ran the lead-time rollup process, the fixed and variable lead times that the lead-time offset uses become less accurate.

Oracle Planning is date based and Oracle Work in Process is date and time based. This could result in differences because of rounding up to a day between the start date calculated in Oracle Work in Process and the start date suggested by Oracle Planning.

If the Use in Scheduling checkbox is selected for the simulation set, Oracle Work in Process considers capacity modifications. Oracle Planning does not consider capacity modifications.

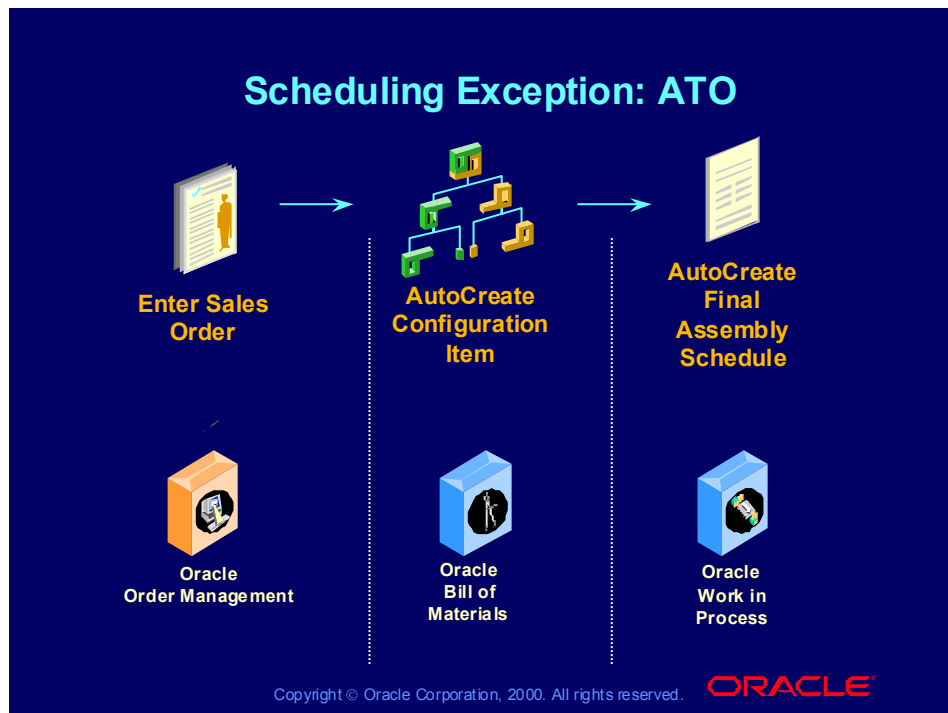
Oracle Planning does not schedule into the past. When the calculated start date precedes the system date, Oracle Planning uses the system date for the start date. Oracle Work in Process schedules into the past in these cases.

Scheduling discrete jobs without routings and planned orders yields the same results in Oracle Work in Process as in Oracle Planning, because both products use lead-time offset rounded up to the next day to schedule in this case.



## Scheduling Exception: ATO

---



### The Exception

When the line item on the sales order is for a configuration, the configured assembly is structured with the selected options, a bill of material, routings, and a discrete job is autocreated in the ATO process. The job is then scheduled with a completion date set to the delivery date on the sales order. With the completion date, Oracle Work in Process automatically creates the job start date by using the backward scheduling routine.

The schedule release process links final assembly schedule to sales order.

## Review Question

---

### Review Question

**What method must you use if your assembly does not have a routing?**

- a Lead-time offset**
- b Detailed scheduling**
- c Manual calculation**

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### Answer to Review Question

**What method must you use if your assembly does not have a routing?**

- a Lead-time offset**
- b Detailed scheduling
- c Manual calculation

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## Lesson 8: Rescheduling Discrete Jobs

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### Lesson 8: Rescheduling Discrete Jobs



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## Rescheduling Methods

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### Rescheduling Methods

- Using Mass Reschedule functionality
- Using the Discrete Jobs window
- Using the Operations window
- Implementing Mass Rescheduling suggestions
- Using Pending Jobs and Schedules window
- Changing individual jobs
- Rescheduling endpoints

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#### **Using the Mass Reschedule Functionality**

Use this rescheduling method if you:

- Use Oracle Planning or if you run MRP relatively frequently and have a high volume of changes.
- Have another planning or scheduling system integrated with Oracle Work in Process

#### **Using Discrete Jobs Window**

Use this rescheduling method if you want to make date or quantity changes to a specific job.

#### **Using the Operations Window**

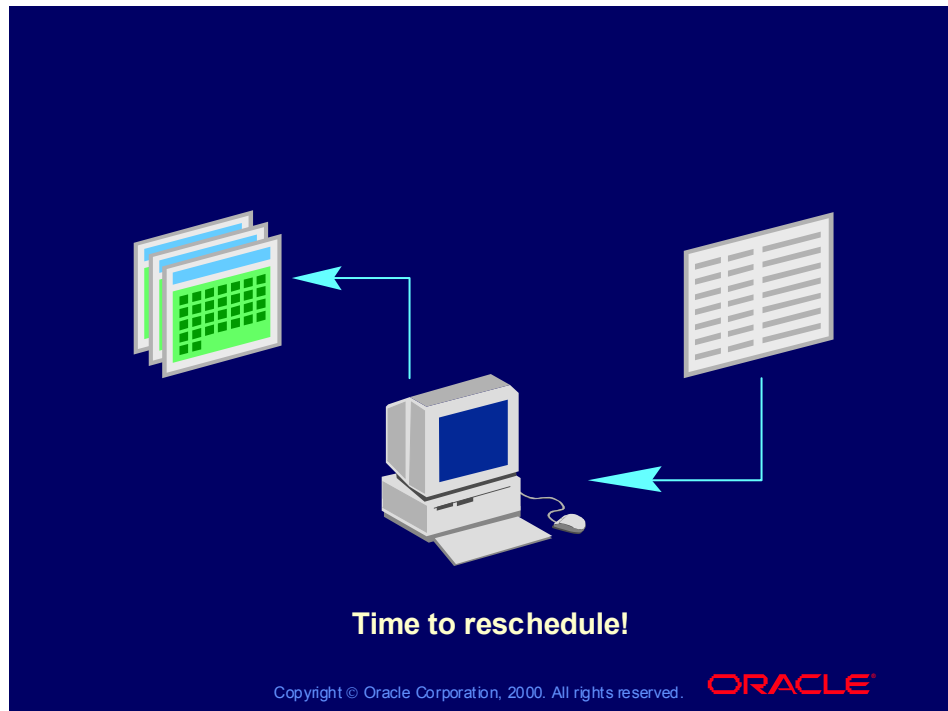
Use this rescheduling method if you:

- Want to make changes to specific operations on a job
- Monitor your jobs closely and adjust them manually
- Do not use Oracle Planning or do not run MRP frequently enough to affect jobs that are already in production

**Note:** Use this method if there are changes on the shop floor such as capacity modifications and shift exceptions. These are changes that Oracle Planning is not aware of.

## Rescheduling Methods (continued)

---



### Implementing Mass Rescheduling Suggestions

You can reschedule discrete jobs according to rescheduling recommendations from Oracle Planning or from another planning or rescheduling system.

Load the interface table with your rescheduling suggestions from the Planner Workbench in Oracle Planning. With the Planner Workbench you can update quantities, dates, and statuses for jobs to be rescheduled.

Use the Import Jobs and Schedules window to automatically reschedule your jobs according to rescheduling suggestions from from any other source.

(N) Material Planning > MPS or MRP > Workbench

(Help) Oracle Manufacturing Applications > Oracle Master Scheduling/MRP >

Planner Workbench > Implementing Planning Recommendations >

Implementing Planned Orders

### Using Pending Jobs and Schedules Window

You can use the Pending Jobs and Schedules window to view, update, delete, or resubmit job records that have failed validation and remain in the Open Job and Schedule Interface table.

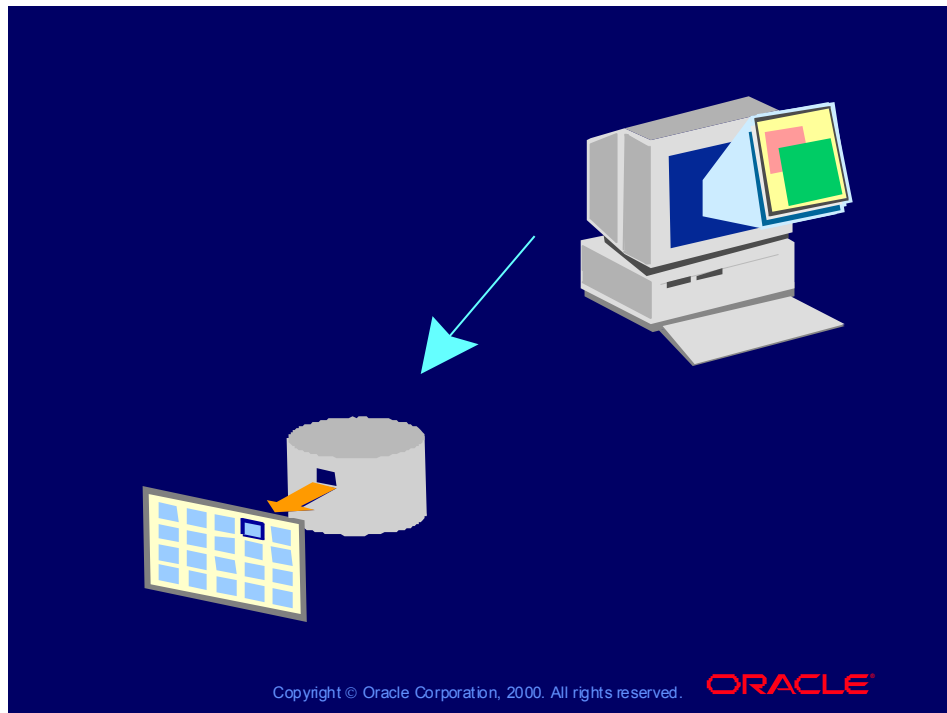
(N) WIP > Discrete > Pending Jobs and Schedules

(Help) Oracle Manufacturing Applications > Oracle Work in Process >

View Pending Job Transactions

## Rescheduling Methods (continued)

---



### Changing Individual Jobs

Using the Discrete Jobs window, you can:

- Reschedule individual jobs by modifying their quantities and dates directly
- Update the start or completion date and time
- Update the job quantity to increase or decrease your output (The job is automatically rescheduled to build the new quantity.)
- Update the routing revision of an unreleased job and reschedule it accordingly

### •Rescheduling Endpoints

You can use endpoint rescheduling to reschedule forward or backward by changing the start or completion date and time in the Discrete Jobs window.

(N) WIP > Discrete > Discrete Jobs

(Help) Oracle Manufacturing Applications > Oracle Work in Process >

Discrete Manufacturing > Rescheduling Discrete Jobs

**Note:** To help you with your rescheduling decisions, you can view all jobs defined for a department prioritized by completion date in the Discrete Job Dispatch Report.

**Note:** The job start date and time and the completion date and time are affected only when you move earliest operation up or your latest operation back. That is, all operations must take place between the start and completion date and time.

## Review Question

---

### Review Question

**You cannot enter any planning orders that are recommended by Oracle Planning.**

- True
- False

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## Review Question

---

### Review Question

**You cannot enter any planning orders that are recommended by Oracle Planning.**

- True
- **False**

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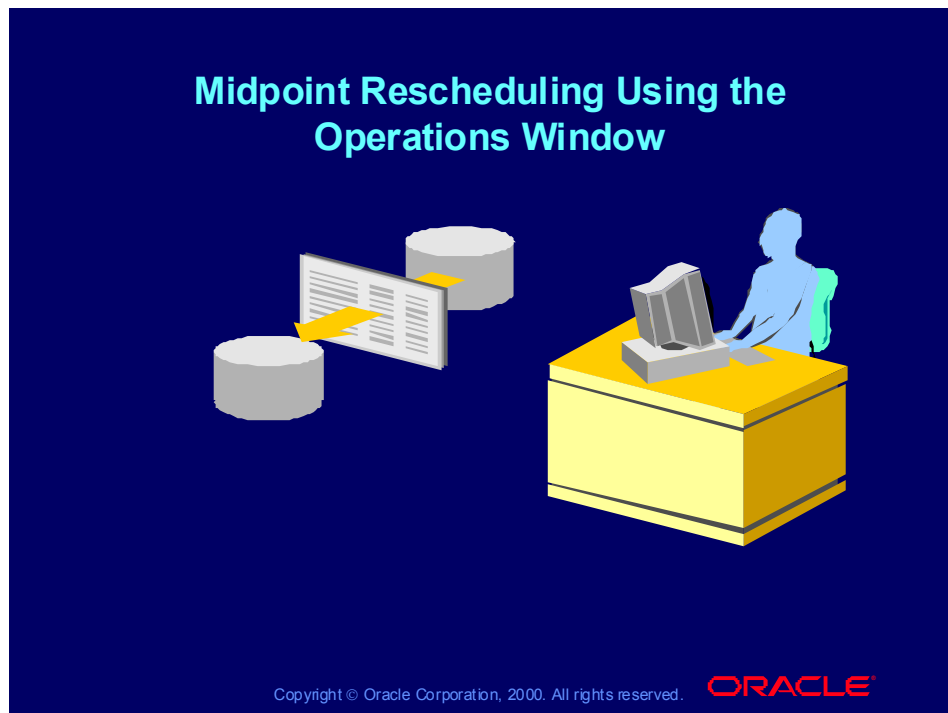
## Lesson 9: Midpoint Rescheduling

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## Midpoint Rescheduling Using the Operations Window

---



(N) WIP > Job/Schedule Details > Operations > (T) Dates > (B) Reschedule  
(Help) Oracle Manufacturing Applications > Oracle Work in Process >  
Discrete Manufacturing > Rescheduling Discrete Jobs >  
(H) Midpoint Rescheduling

### **Midpoint Rescheduling**

You can use the Reschedule window to reschedule individual jobs based on the midpoint of an operation. This allows you to schedule around bottleneck operations in your job.

If you have a capacity-constrained machine where you manually sequence jobs, you can set the operation start or complete date and time for this midpoint operation to match your manual sequence.

The job is then backward scheduled from the midpoint to set the start date and time, and forward scheduled from the midpoint to set the completion date and time.

## Review Question

---

### Review Question

**At the midpoint of an operation, when you enter a start date, the job is then:**

- a backward scheduled from the midpoint**
- b forward scheduled from the midpoint**
- c neither backward scheduled nor forward scheduled**

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## Review Question

---

### Review Question

**At the midpoint of an operation, when you enter a start date, the job is then:**

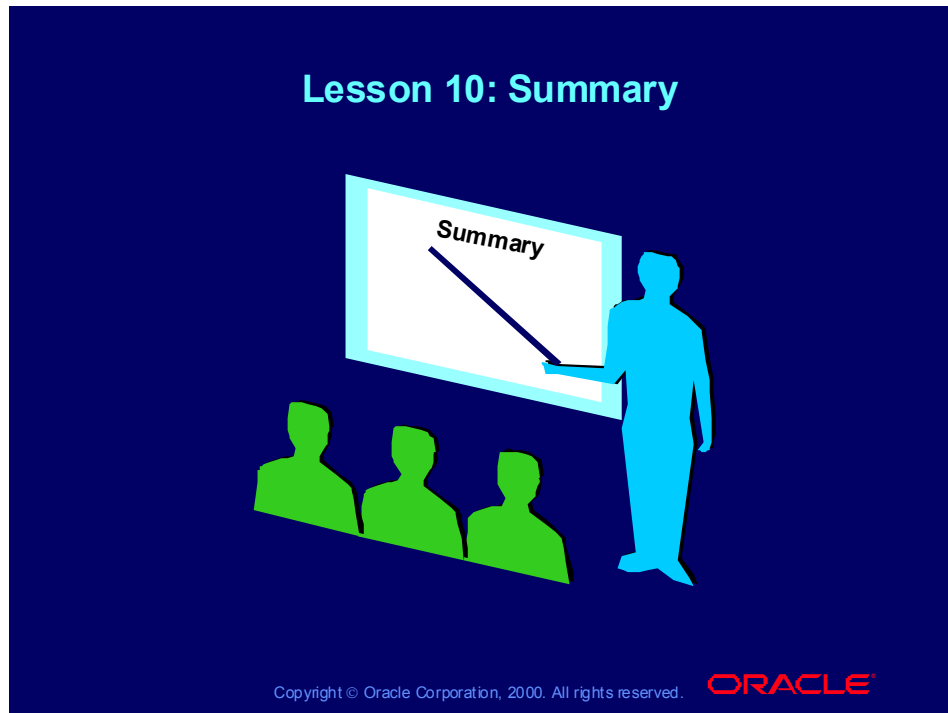
- a backward scheduled from the midpoint**
- b forward scheduled from the midpoint**
- c neither backward scheduled nor forward scheduled

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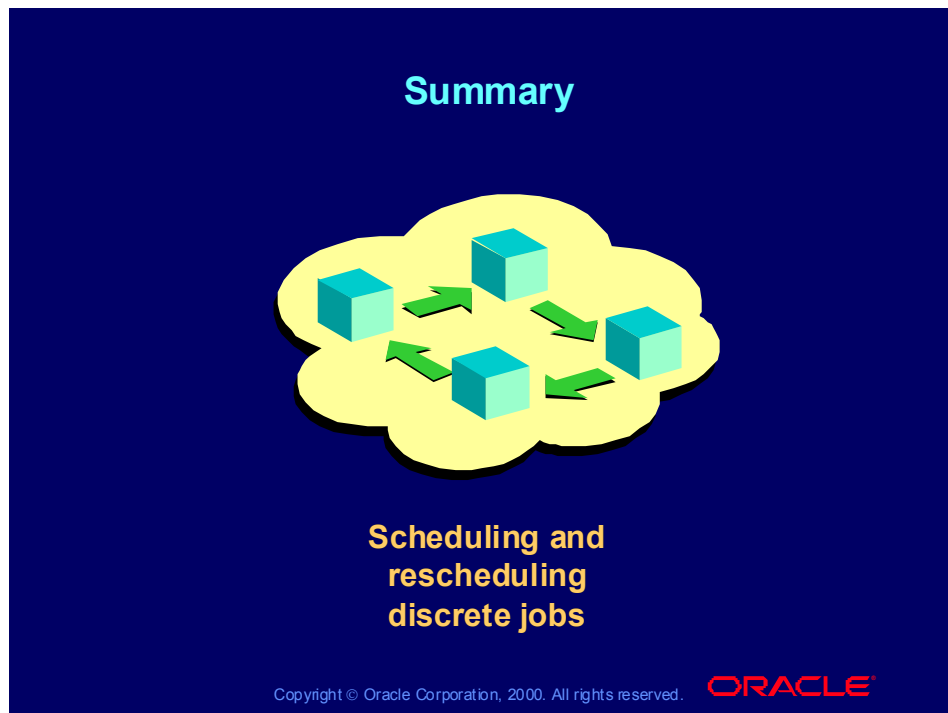
## Lesson 10: Summary

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## Summary

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You can plan material and resource requirements and determine requirement dates for available-to-promise calculations using dynamic lead times.

Oracle Work in Process detailed scheduling is more accurate than lead-time offset scheduling since it takes into account current resource requirement and availability information.

You can use resource attributes to model your resource requirements on the shop floor and schedule accordingly.

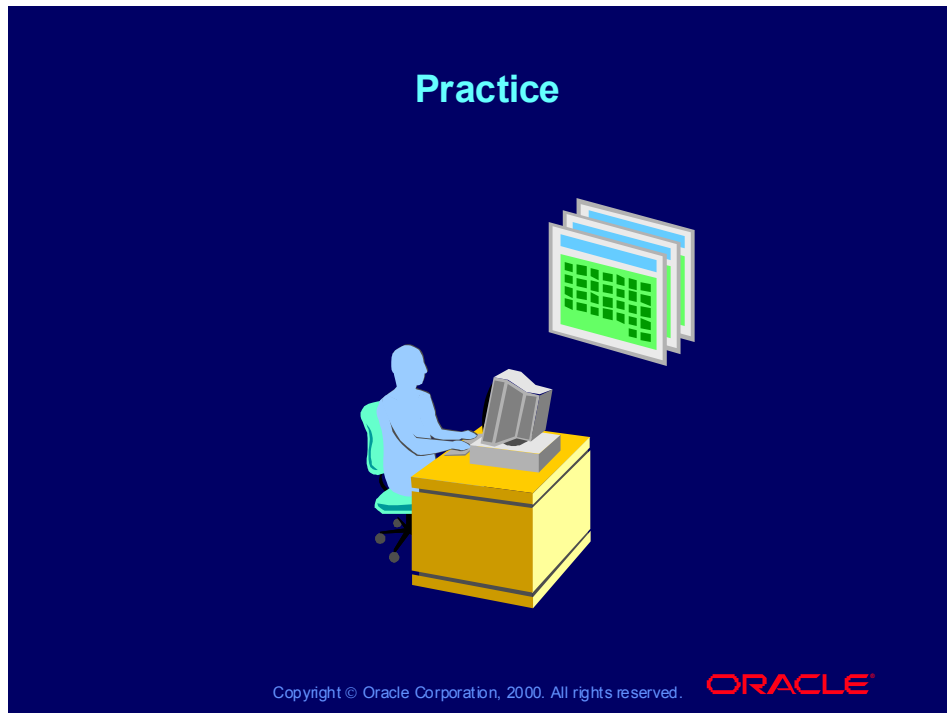
Oracle Work in Process uses detailed scheduling to schedule to the minute discrete jobs with routings. Jobs without routings are scheduled using lead-time offset.

You can use the Mass Reschedule functionality to reschedule discrete jobs based on recommendations from Oracle Planning or another source.

You can use the Reschedule window from the Operations window or the Discrete Jobs window to reschedule individual jobs.

## Practice

---



Your manager wants you to specify a quantity of 100 units to satisfy the demand for Sentinel Standards on the rush order. You should start the job using today's date.

1. Define a discrete job to build the Sentinel Standard in the Boston organization. Specify a quantity and a date.
2. View the job operations and resources in the View Operations window.
3. Reschedule the first operation of your discrete job using the reschedule window from the Operations window. Observe how the operation dates change.



## Practice Solution

---

**Practice Solution**

The screenshot shows the 'Discrete Jobs (M1)' window with the following fields and values:

Field	Value
Job	15768
Type	Standard
Assembly	AS18947
Class	Discrete
Status	Unreleased
UOM	
Firm	<input type="checkbox"/>

Category	Field	Value
Quantities	Start	225
	MRP Net	225
Dates	Start	26-APR-2000 14:33:00
	Completion	01-MAY-2000 00:00:00

Navigation tabs: Bill, Routing, Job History, Schedule Group, Project, Scheduling, More

Reference	
Alternate	
Revision	A
Revision Date	27-APR-2000 00:00:00
Supply Type	Based on Bill

Buttons: Sales Orders, Operations, Components

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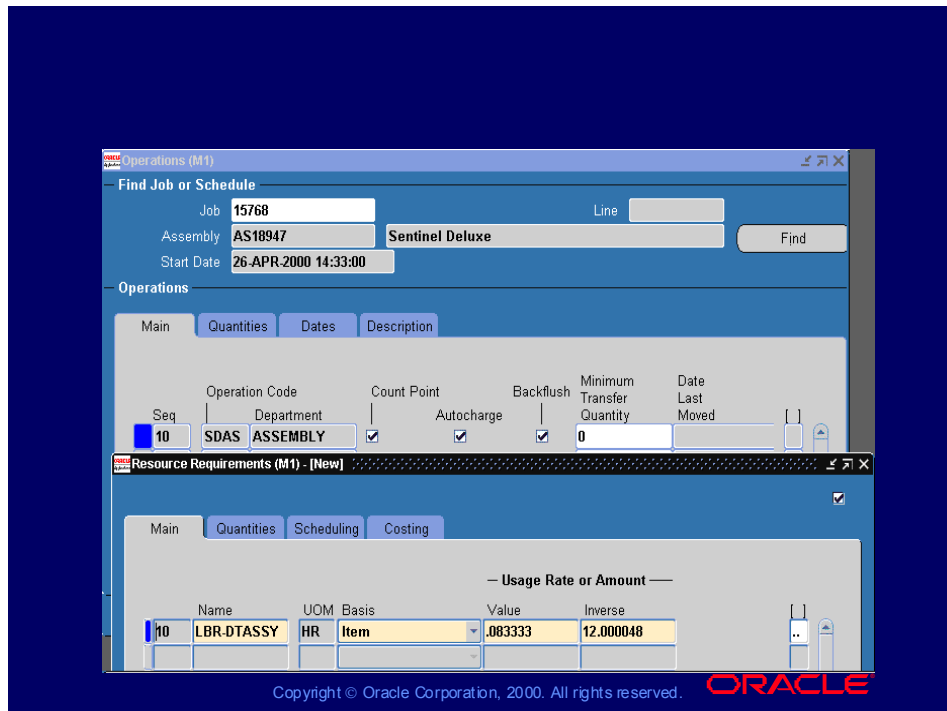
(N) WIP > Discrete > Discrete Jobs

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Creating Discrete Jobs > Defining Discrete Jobs Manually

### Defining a Discrete Job

- 1 Navigate to the Discrete Jobs window.
- 2 Enter a job name that is unique and alphanumeric.
- 3 Select the Job Type of Standard.
- 4 Select an accounting class, or use the default if found.
- 5 Select the job status.
- 6 Specify the start quantity, the MRP net quantity, and the start date.
- 7 Save your work.

## Practice Solution (continued)



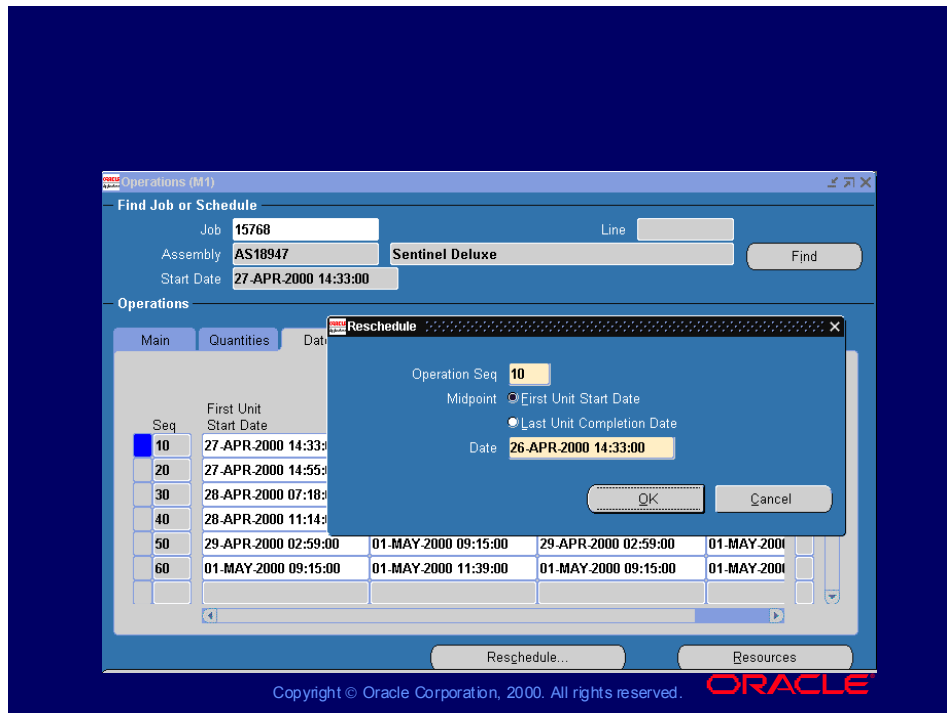
(N) WIP > Job/Schedule Details > Operations > (B) Resources

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Viewing Discrete Jobs > Viewing Job and Schedule Operations

### Reviewing Job Operations and Resources:

- 1 Navigate to the Operations window after finding your job.
- 2 Select an operation.
- 3 Click the Resources button.
- 4 If any resources are required at the selected operation, they are displayed.

## Practice Solution (continued)



(N) WIP > Job/Schedule Details > Operations > (B) Reschedule

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Creating Discrete Jobs > Defining Discrete Jobs Manually

### Rescheduling the Job:

- 1 Navigate to the Operations window after finding your job.
- 2 Click on the Reschedule button.
- 3 Reschedule the discrete job using the Reschedule window.
- 4 Observe how the the operation dates change.



# **Create and Update Repetitive Schedules**

## **Chapter 5**

### **Oracle Work in Process Release 11i**

#### **Create and Update Repetitive Schedules**

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### Objectives

**After completing this lesson, you should be able to do the following:**

- **Implement suggested repetitive schedules from Oracle Planning**
- **Import planned repetitive schedules from other systems**
- **Manually define repetitive schedules using the Define Repetitive Schedules window**
- **Explain how requirements and operations are created for a repetitive schedule**

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### Objectives (continued)

- **Update repetitive schedule header information with dates, quantities, and status**
- **Update the operations and material requirements of a repetitive schedule**
- **Define the use of kanban replenishment with repetitive schedules**

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# Agenda

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## Agenda

- Lesson 1: Overview
- Lesson 2: Defining repetitive schedules
- Lesson 3: Creating operations and resource requirements
- Lesson 4: Creating material requirements
- Lesson 5: Updating repetitive schedules
- Lesson 6: Summary

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## Lesson 1: Overview

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### Lesson 1: Overview

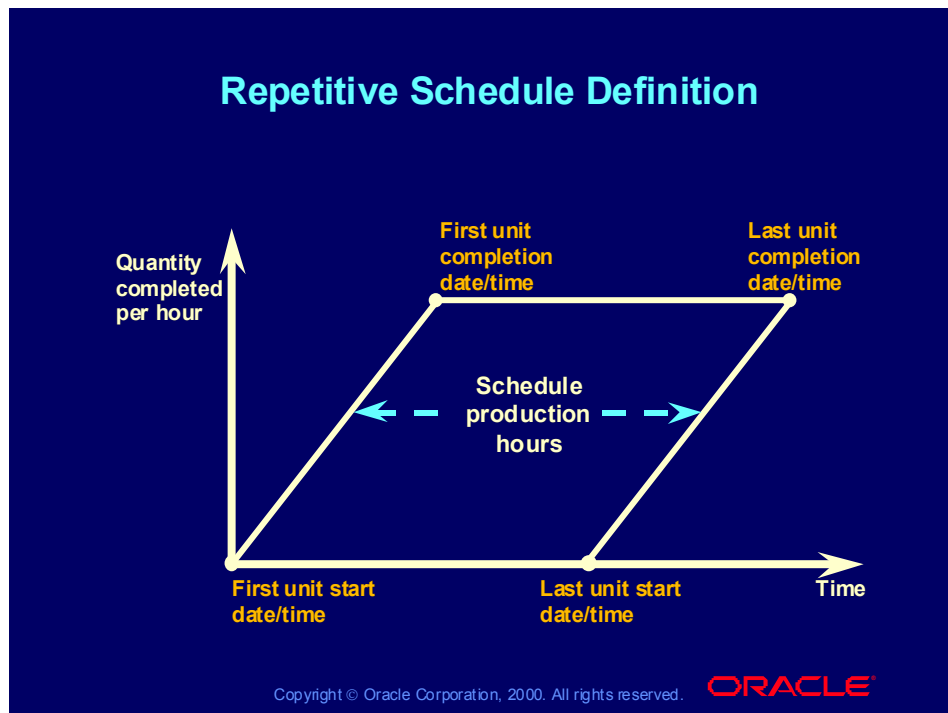
- **Lesson 1: Overview**
- Lesson 2: Defining repetitive schedules
- Lesson 3: Creating operations and resource requirements
- Lesson 4: Creating material requirements
- Lesson 5: Updating repetitive schedules
- Lesson 6: Summary

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## Repetitive Schedule Definition

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### Definition

A repetitive schedule builds an assembly on a production line at a specific daily rate for a specific number of processing days.

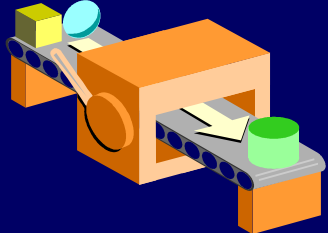
**Note:** For a more complete description of repetitive line scheduling, refer to Online Help.

(Help) Oracle Manufacturing Applications > Oracle Work in Process >  
Repetitive Manufacturing > Creating Repetitive Schedules >  
Defining Repetitive Schedules Manually > Related Topics >  
(H) Repetitive Line Scheduling (Oracle Work in Process)

## Implementing a Repetitive Schedule

---

### Implementing a Repetitive Schedule



- From Oracle Planning
- From other systems
- Manually

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### From Oracle Planning

You can automatically implement your suggested schedules from Oracle Planning with a status of Pending–Mass Loaded. If another schedule already meets this demand, you can cancel the pending schedule, otherwise you can release it. You can also adjust existing schedules according to suggestions.

**Note:** Oracle Planning does not take existing schedules into account when performing its planning function.

### From Other Systems

You can import and implement planned schedules from other systems as pending schedules in Oracle Work in Process. You can load the Open Job and Schedule Interface table from any system. After loading the demands in the interface, you can import them as pending schedules.

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Reports and Processes > Report Processes > Import Jobs and Schedules

**Note:** Refer to the Open Job and Schedule interface in the Online Help.

You can use the Repetitive Mass Interface Status Load report to review the schedules that were loaded from the interface table.

## Viewing Pending Schedules

---

### Viewing Pending Schedules

You can use the Pending Jobs and Schedules window to view, update, delete, or resubmit schedule records that have failed validation and remain in the Open Job and Schedule Interface table. You can also view the error messages associated with failed schedule records.



(N) WIP > Repetitive > Pending Jobs and Schedules

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### Pending Jobs and Schedules

(Help) Oracle Manufacturing Applications > Oracle Work in Process >  
Tools Menu (H) Processing Pending Jobs and Schedules

### Review Question

**Repetitive schedules can come from:**

- **Oracle Purchasing**
- **Oracle Planning**
- **Oracle Inventory**
- **Other systems**
- **Oracle Workflow**

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### Answer to Review Question

**Repetitive schedules can come from:**

- Oracle Purchasing
- **Oracle Planning**
- Oracle Inventory
- **Other systems**
- Oracle Workflow

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## Lesson 2: Defining Repetitive Schedules

---

### Lesson 2: Defining Repetitive Schedules

- Lesson 1: Overview
- **Lesson 2: Defining repetitive schedules**
- Lesson 3: Creating operations and resource requirements
- Lesson 4: Creating material requirements
- Lesson 5: Updating repetitive schedules
- Lesson 6: Summary

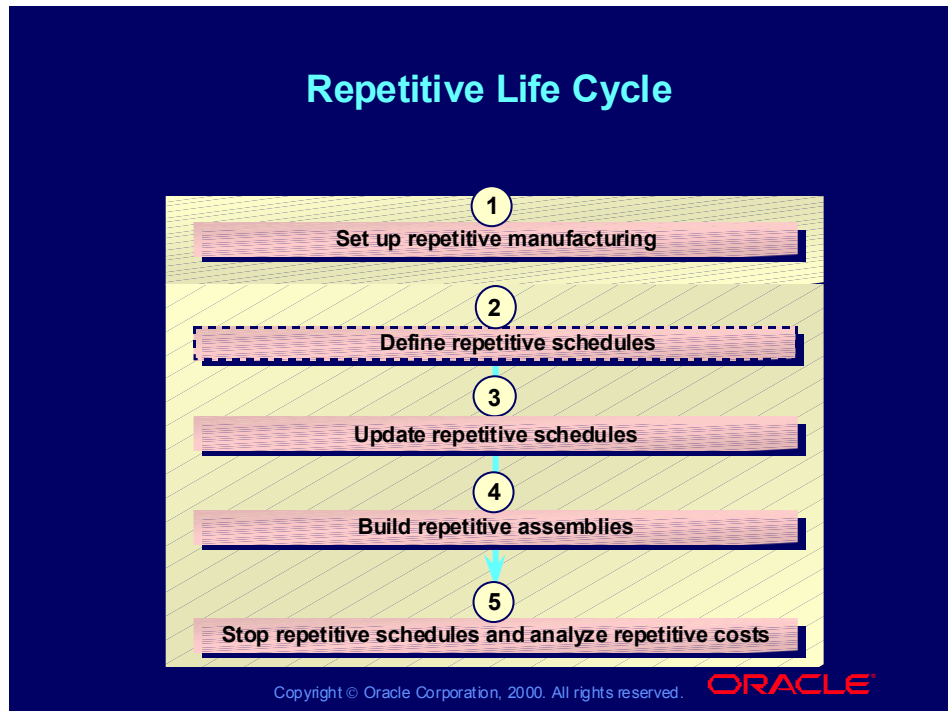
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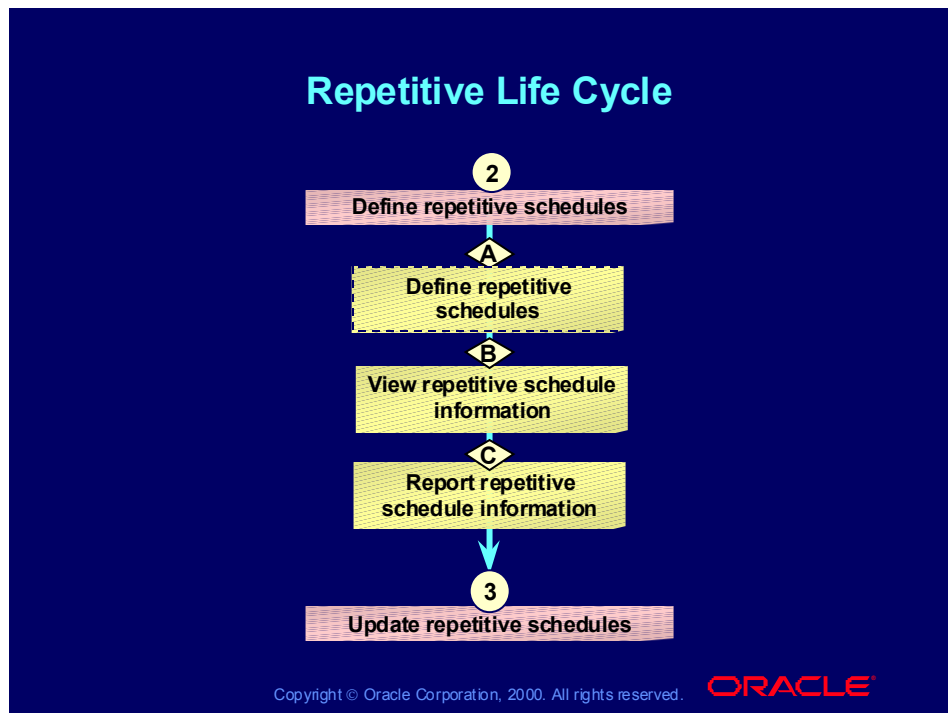
## Repetitive Life Cycle

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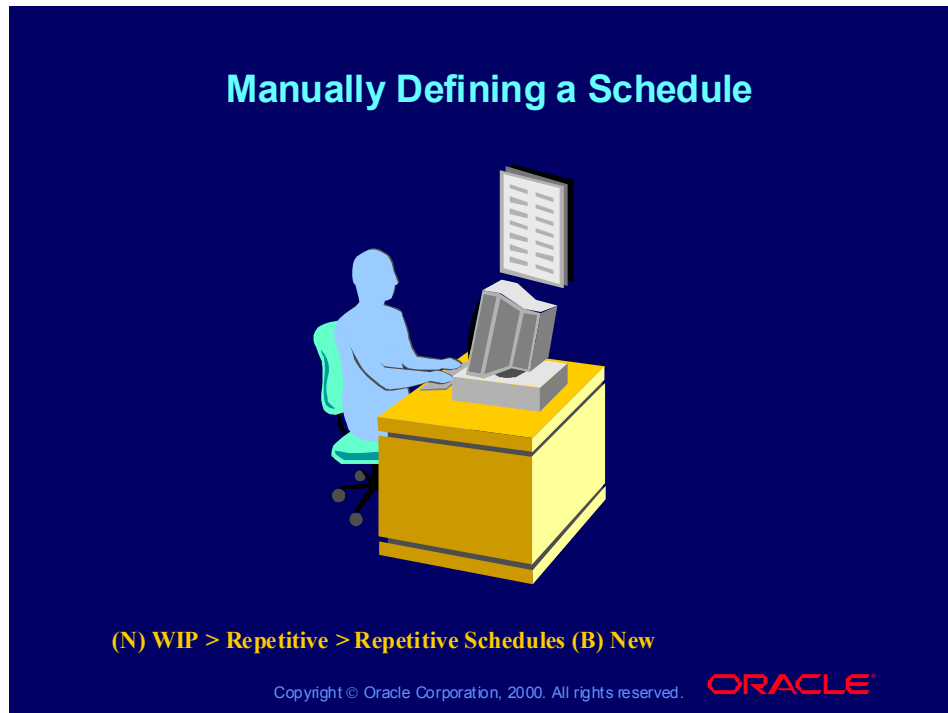
## Repetitive Life Cycle

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## Manually Defining a Schedule

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### **Manually Defining a Schedule**

You can manually define repetitive schedules using the Repetitive Schedules window.

You can define as many schedules as you need for each assembly and production line combination.

You can specify a line and Oracle Work in Process defaults the scheduling method, routing, bill, WIP accounting class, supply type, and completion subinventory or locator tied to the line.

(Help) Oracle Manufacturing Applications > Oracle Work in Process >  
Repetitive Manufacturing > Creating Repetitive Schedules >  
Defining Repetitive Schedules Manually

### Repetitive Schedule Elements

- **Daily Quantity:** The number of completed assemblies that you plan to produce each day. The daily rate can be any positive number, including decimals.
- **Days:** The number of days that you plan to work, from the first unit start date to the last unit start date. The processing days can be any positive number, including decimals.
- **Total Quantity:** The number of completed assemblies that you plan to produce.

**Note:** If you enter any two of the three values, the third one is automatically computed.

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## Repetitive Schedule Dates

---

### Repetitive Schedule Dates

Date	Description
First Unit Start Date (FUSD)	The date and time you plan to begin production of the first assembly on a repetitive schedule
	Equal to start of lead time
First Unit Completion Date (FUCD)	The date and time you plan to complete production of the first assembly on a repetitive schedule
	Equal to FUSD plus the lead time

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#### Note

You do not have to enter all the dates and times mentioned previously when defining a schedule manually. You can enter any one of the dates, the total quantity, and the daily quantity (or days) and Oracle Work in Process calculates the remaining three dates.

You can define a schedule with past dates.

You cannot overlap repetitive schedules for the same assembly on the same line. For example, if the last unit start date on the previous schedule is 01-FEB-2001 at 12:00, then the first unit start date of the next schedule for that assembly on that line must be at least 01-FEB-2001 at 12:01.

## More Dates

---

### More Dates

Date	Description
Last Unit Start Date (LUSD)	The date and time you plan to begin production of the last assembly on a repetitive schedule
	Calculated based on the FUSD, repetitive processing days, and hourly production rate
Last Unit Completion Date (LUCD)	The date and time you plan to complete production of the last assembly on a repetitive schedule
	Equal to LUSD plus the lead time

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### Revisions

**Bill revision:** The bill revision and revision date determine the version of the bill of material that Oracle Work in Process uses to create the material requirements for the repetitive schedule. It uses the revision and revision date for the assembly based on the schedule's first unit start date to create the material requirements. You can enter any valid revision or revision date.

**Routing revision:** The routing revision and revision date determine the version of the routing that Oracle Work in Process uses to create the operations for the repetitive schedule. It uses the revision and revision date for the assembly based on the schedule's first unit start date to create the schedule's operations. You can enter any valid revision or revision date.

**Note:** If the profile option WIP: Exclude Open ECOs is set to No, you can use released, scheduled, implemented, or open bill revisions. If the profile option WIP: See Engineering Items is set to No, you cannot select an engineering bill revision.

**Note:** The default revision and revision date are not displayed when you define a schedule. Oracle Work in Process displays the actual revision and revision date used after the schedule has been defined.

## Repetitive Schedule Statuses

---

### Repetitive Schedule Statuses

Status	Description
Unreleased	The schedule is not released to the shop floor. You cannot perform transactions against this schedule.
Released	The schedule is available to begin production.
Complete	You have completed the schedule but can still perform transactions on the schedule.
Complete—No Charges	You have completed the schedule and cannot perform any more transactions on the schedule or update its definition. You cannot reverse this status for repetitive schedules.
On Hold	You have placed the job on hold and cannot perform any transactions on it.

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### Repetitive Schedule Statuses

With repetitive schedule statuses you can describe various stages in the life cycle of a repetitive schedule and control activities that you can perform on the schedule.

- Oracle Work in Process assigns some of these statuses based on events. For example, Oracle Work in Process automatically updates a schedule to Complete-No Charges and updates the status of the next schedule to Released when you complete all the assemblies on the first schedule.
- You can define a schedule with one of the following statuses: Unreleased, Released, or Hold.

## More Statuses

---

### More Statuses

Status	Description
Canceled	You have canceled the schedule before completing it. You cannot perform transactions on the schedule or update its definition. You cannot reverse this status for repetitive schedules.
Pending—Mass Loaded	You have implemented a suggested repetitive schedule as a pending schedule from the Open Job and Schedule Interface or from the Planner Workbench window in Oracle Planning. You cannot perform transactions on the schedule or update its definition.

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### Note

There is no Closed status for individual repetitive schedules because they are period costed.

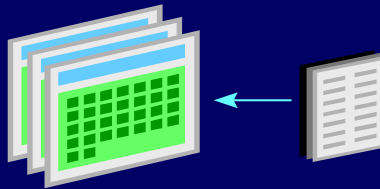


## Repetitive Schedule Attachments

---

### Repetitive Schedule Attachments

- You can attach any number of attachments to a repetitive schedule.
- You can add these attachments when defining a schedule or later as necessary. For example, you can highlight special line sequencing instructions by attaching an appropriate document or graphic.



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## Review Question

---

### Review Question

**Which statuses allow you to perform transactions against the schedule?**

- **Unreleased**
- **Released**
- **Complete**
- **Complete—No Charges**
- **On Hold**
- **Canceled**
- **Pending—Mass Load**

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### Answer to Review Question

**Which statuses allow you to perform transactions against the schedule?**

- Unreleased
- **Released**
- **Complete**
- Complete—No Charges
- On Hold
- Canceled
- Pending—Mass Load

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## Lesson 3: Creating Operations and Resource Requirements

---

### Lesson 3: Creating Operations and Resource Requirements

- Lesson 1: Overview
- Lesson 2: Defining repetitive schedules
- **Lesson 3: Creating operations and resource requirements**
- Lesson 4: Creating material requirements
- Lesson 5: Updating repetitive schedules
- Lesson 6: Summary

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## Operations and Resource Requirements

---

### Operations and Resource Requirements

**When you define a repetitive schedule, Oracle Work in Process creates operations and resource requirements based on the routing of the assembly.**

Operations		
Op Seq	Operation Description	Department
10	Assemble Upgrade Kit	UPGRADE
20	Package Upgrade Kit	UPGRADE

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### Creating Operations

The routing now becomes a work-in-process routing that can be modified without affecting the manufacturing routing.

### Creating Resource Requirements

Resources associated with the operations on a routing represent activities that should be performed at the operation.

Upon schedule definition, Oracle Work in Process calculates the resource requirements for the schedule.

For item-based resources:

$$\text{Resource requirements} = \text{Resource usage rate} * \text{Job quantity}$$

For lot-based resources:

$$\text{Resource requirements} = \text{Resource usage rate} * 1$$

**Note:** You cannot create resource requirements without operations.

## Resource Requirements

---

### Resource Requirements

Resource Requirements						
Op Seq	Res Seq	Resource Code	Basis Type	Usage Rate	Required Qty	Scheduled
10	10	LBR-UPGRAD	Item	.1	20	no
20	10	PAK-UPGRAD	Item	.1	20	no

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### Example

Assume a repetitive schedule for the Envoy Upgrade Pack assembly on the Case production line. The daily rate is 50 and the repetitive processing days is 4. This results in a system-calculated total quantity of 200.

When you apply the formula for item-based resources, the result is:

Resource requirements = .1 \* 200 = 20

For explanation of the usage rate, refer to the Lead Time Management topic in Oracle's Bills of Material application.

## Review Question

---

### Review Question

**You can create resource requirements without operations.**

- True
- False

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## Answer to Review Question

---

### Answer to Review Question

**You can create resource requirements without operations.**

- True
- **False**

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## Lesson 4: Creating Material Requirements

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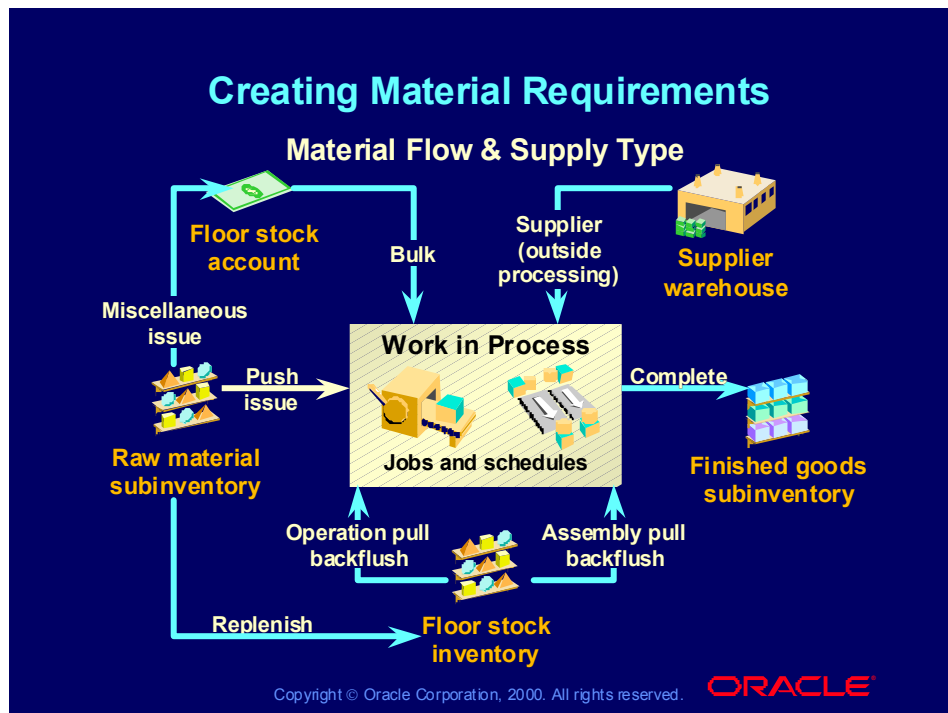
### Lesson 4: Creating Material Requirements

- Lesson 1: Overview
- Lesson 2: Defining repetitive schedules
- Lesson 3: Creating operations and resource requirements
- **Lesson 4: Creating material requirements**
- Lesson 5: Updating repetitive schedules
- Lesson 6: Summary

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## Creating Material Requirements



### Overview

When you define a repetitive schedule, Oracle Work in Process creates material requirements for the appropriate components based on the specified bill of material. You can use supply types to control how to supply your components to fulfill material requirements for the schedule.

The single level bill of material is exploded. It now becomes a work in process bill of material that you can modify without affecting the manufacturing bill of material.

Subassemblies and components become material requirements. Phantom assemblies do not become requirements. Their bills are exploded and the components become material requirements.

Each material requirement is associated with an operation on the routing and is assumed to be due at the beginning of that operation each day.

Material requirements = (Component usage / Component yield) \* Schedule quantity

## WIP Supply Types

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### WIP Supply Types

Name	Description
Based on bill	Oracle Work in Process creates component requirements with supply types equal to those on the bill of material or those on the item master. Oracle Work in Process defaults this value when you define a job.
Assembly pull	Oracle Work in Process issues assembly pull components to a schedule when you complete assemblies into inventory.
Bulk	Oracle Work in Process does not automatically transact bulk components to the schedule.

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#### Note

You can create material requirements without a routing. Oracle Work in Process creates a default operation sequence 1 to assign the requirements to.

Oracle Planning sees demand from material requirements for repetitive schedules based on the assembly bill bucketed by day.

Supply types are defined on the bill in Oracle Bills of Material.

If you change the supply type in the Repetitive Line/Assembly Associations window, you can override the supply types defined in Oracle Bills of Material for all the components on all the schedules for an assembly and production line combination.

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Associating Lines and Assemblies

## More WIP Supply Types

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### More WIP Supply Types

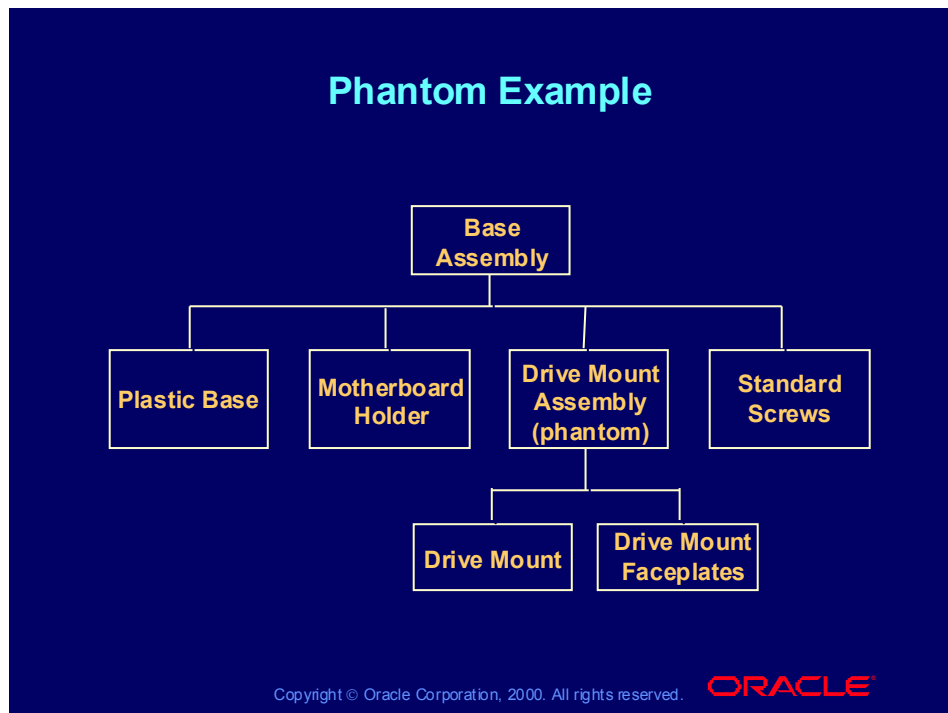
Name	Description
Operation pull	Oracle Work in Process issues operation pull components to a schedule when you complete the operation where the components are consumed.
Push	You issue push components to a schedule using the WIP Material Transaction window in advance of consumption.
Supplier	A supplier delivers components directly to Work in Process.

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## Phantom Example

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## Material Requirements: Example

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### Material Requirements: Example

Op Seq	Component	Supply Type	Qty
10	Envoy Plastic Base	Assembly Pull	200
10	Envoy Motherboard Holder	Assembly Pull	200
10	Envoy Drive Mount	Operation Pull	200
10	Disk Drive Mount—Faceplates	Operation Pull	200
10	Standard Screws	Assembly Pull	2800

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#### Example

The material requirements for the schedule to build 200 Envoy Base assemblies on the EnvBase1 line are shown in the slide.

**Note:** The bill of material was exploded and its components became material requirements. The Envoy drive mount and disk drive mount components were derived from the bill for the Envoy drive mount assembly (phantom component of the base assembly).

### Review Question

**When is the material requirement for an operation assumed to be due?**

- 1 When it is moved out of inventory**
- 2 When the previous operation is completed**
- 3 At the beginning of that operation each day**

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### Answer to Review Question

**When is the material requirement for an operation assumed to be due?**

- 1 When it is moved out of inventory
- 2 When the previous operation is completed
- 3 **At the beginning of that operation each day**

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## Lesson 5: Updating Repetitive Schedules

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### Lesson 5: Updating Repetitive Schedules

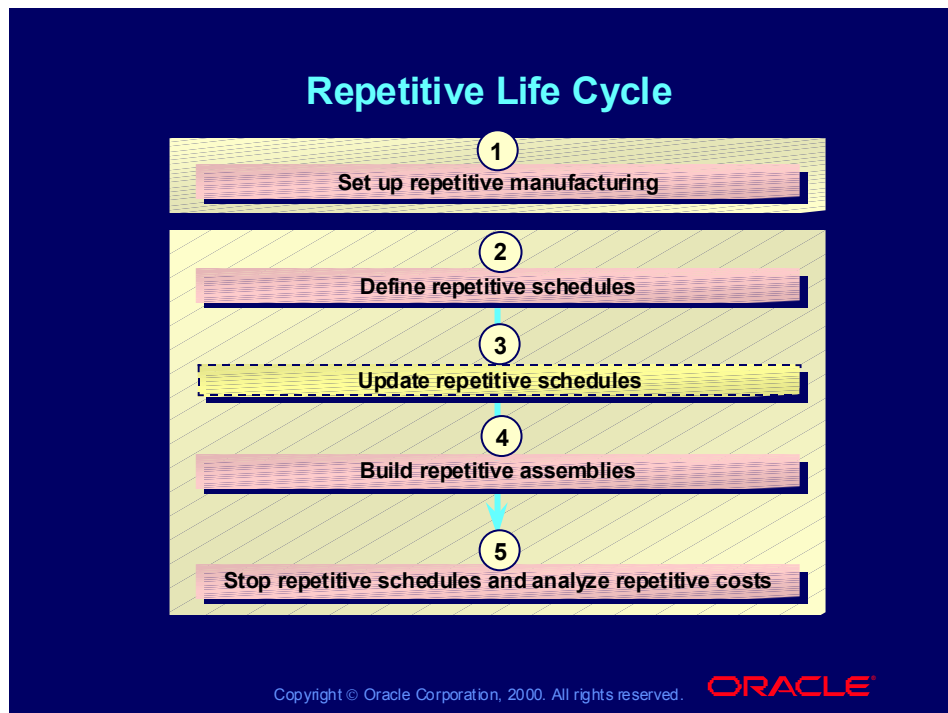
- Lesson 1: Overview
- Lesson 2: Defining repetitive schedules
- Lesson 3: Creating operations and resource requirements
- Lesson 4: Creating material requirements
- **Lesson 5: Updating repetitive schedules**
- Lesson 6: Summary

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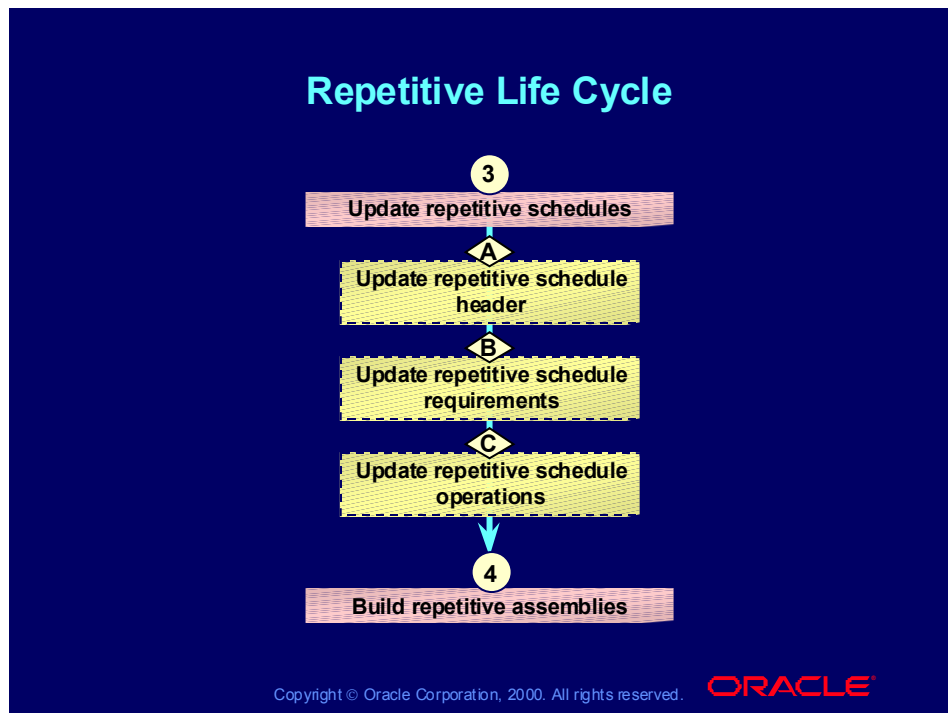
## Repetitive Life Cycle

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## Repetitive Life Cycle

---



## Repetitive Schedules Window

**Repetitive Schedules Window**

Field \ Status	Unreleased	Released	On Hold	Complete
Status	✓	✓	✓	✓
Firm	✓	✓	✓	✓
Daily Quantity	✓	✓	✓	✓
Days	✓	✓	✓	✓
Total Quantity	✓	✓	✓	✓
Quantity Completed				
Date Released				
Description	✓	✓	✓	✓
Descriptive Flexfield	✓	✓	✓	✓
Demand Class	✓	✓	✓	✓

(N) WIP > Repetitive > Repetitive Schedules (B) Open

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With Oracle Work in Process, you can update the repetitive schedule header information based on the schedule's status.

### Releasing a Schedule

- You can update a repetitive schedule from Unreleased to Released to release it to the shop floor. This signifies that you are ready to begin building your assemblies.
- When a schedule is released, Oracle Work in Process loads the total quantity into the Queue intraoperation step of the first operation.

### Updating a Repetitive Schedule Status

- If no net charges exist against the schedule and if it is not the only remaining schedule for that assembly, you can unrelease a schedule after releasing it to the shop floor.
- You can put a schedule on hold to momentarily stop the production of your repetitive assemblies.
- You can give a schedule the Complete or Complete—No Charges status to indicate that you finished building your assemblies.
- Unlike discrete jobs, you cannot close repetitive schedules.
- You cannot change a schedule's status from Canceled or Complete—No Charges back to an active status.

## Repetitive Schedules Window

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Repetitive Schedules Window				
Status Field	Unreleased	Released	On Hold	Complete
First Unit Start Date/Time (FUSD)	✓	✓	✓	✓
First Unit Completion Date/Time (FUCD)	✓	✓	✓	✓
Last Unit Start Date/Time (LUSD)	✓	✓	✓	✓
Last Unit Completion Date/Time (LUCD)	✓	✓	✓	✓

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### Modifying Repetitive Schedule Dates

- Optionally you can modify any of the dates, times, and processing days in a repetitive schedule.
- In Oracle Work in Process you cannot change dates and times to cause overlapping of schedules for the same assembly on the same line.
- When changing the repetitive processing days, you can decide which date to reschedule your schedule around: first unit start date, first unit completion date, last unit start date, or last unit completion date.
- Changing date or repetitive processing days does not affect the other schedule attributes such as bill revision and supply type.

## Repetitive Schedules Window

---

**Repetitive Schedules Window**

Field \ Status	Unreleased	Released	On Hold	Complete
Alternate Bill				
Bill Revision	✓			
Bill Revision Date/Time	✓			
Alternate Routing				
Routing Revision	✓			
Routing Revision Date/Time	✓			

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### Changing Bill and Routing Revisions

- Optionally you can change the bill and routing revisions and dates for any schedule with the status of Unreleased or Pending—Mass Loaded.

**Note:** If you change the First Unit Start Date/Time (FUSD) of an unreleased schedule, Oracle Work in Process does not change the revision and revision date for the bill or routing accordingly. You can update the revision and revision date manually only if the schedule is unreleased.

### Changing Attachments

You can attach, update, or delete standard WIP attachments at any time.

## Repetitive Schedule Operations

### Repetitive Schedule Operations

Repetitive Schedule Status	Add	Update	Delete *
Unreleased	✓	✓	✓
Released	✓*	✓	✓*
On Hold	✓*	✓	✓*
Complete	✓*	✓	✓*

\* See rules.

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### Rules to Delete Operations

- You can delete an operation from an unreleased schedule if
  - There are no assemblies at the operation.
  - No assemblies have been completed at the operation.
  - There are no pending transactions in the open move interface table.
  - No resources at the operation have been charged.
  - There are no pending transactions in the open resource interface table.
- You can add or delete operations from a schedule only if there is only one schedule with a status of Released, Hold, or Complete defined for that assembly on that line.

**Note:** If you delete an operation, Oracle Work in Process reassigns its material requirements to the first operation in the routing, or to operation sequence 1 if there are no operations in the routing.

**Note:** The restriction on adding or deleting operations for repetitive schedules is due to flow charging restrictions. Flow charging is a repetitive transaction method where you charge material, resource, move, and overhead transactions to a specific assembly on a line rather than a specific repetitive schedule.

## Repetitive Schedule Resources

---

### Repetitive Schedule Resources

Repetitive Schedule Status	Add	Update	Delete
Unreleased	✓	✓	✓
Released	✓	✓	✓
On Hold	✓	✓	✓
Complete	✓	✓	✓

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### Rules to Delete Resources

You can delete a resource requirement from a repetitive schedule if

- No resources at the operation have been charged.
- There are no pending transactions in the open resource interface table.



## Repetitive Schedule Requirements

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### Repetitive Schedule Requirements

Repetitive Schedule Status	Add	Update	Delete
Unreleased	✓	✓	✓
Released	✓	✓	Only if requirements have not been issued
On Hold	✓	✓	Only if requirements have not been issued
Complete	✓	✓	Only if requirements have not been issued

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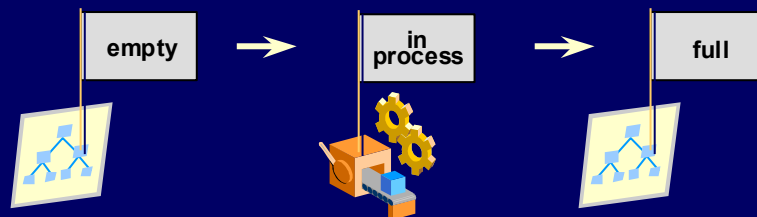
## Using a Production Kanban

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### Using a Production Kanban

Kanbans can also be replenished from an internal organization. The production kanban automatically creates or releases a production job (discrete job, repetitive schedule, or flow schedule).

Refer to the Oracle Inventory User's Guide for complete description of this functionality.



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**(Help) Oracle Manufacturing Applications > Oracle Inventory >  
Inventory Planning and Replenishment >  
Overview of Kanban Replenishment**

## Review Question

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### Review Question

**When you delete an operation, Oracle Work in Process does what with its assigned material requirements?**

- 1 Returns it to inventory**
- 2 Reassigns it to the first or only operation**
- 3 Applies it to the next operation**
- 4 Assigns it to the next schedule**

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### Answer to Review Question

**When you delete an operation, Oracle Work in Process does what with its assigned material requirements?**

- 1 Returns it to inventory
- 2 **Reassigns it to the first or only operation**
- 3 Applies it to the next operation
- 4 Assigns it to the next schedule

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## Lesson 6: Summary

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### Lesson 6: Summary

- Lesson 1: Overview
- Lesson 2: Defining repetitive schedules
- Lesson 3: Creating operations and resource requirements
- Lesson 4: Creating material requirements
- Lesson 5: Updating repetitive schedules
- **Lesson 6: Summary**

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### Summary

- You can define a repetitive schedule by specifying the assembly, the production line, the schedule status, at least one date, and two quantities (daily rate, repetitive processing days, total quantity).
- You can define a schedule in three ways:
  - manually define a schedule using the Repetitive Schedules window;
  - implement suggested repetitive schedules from Oracle Planning as pending schedules using the Planner Workbench window;
  - import planned orders from other systems using the Open Job and Schedule interface.

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### Summary

- When you define a schedule, Oracle WIP creates operations, resource requirements, and material requirements that you can later update as necessary.
- You can update the header information of a repetitive schedule based on the status of the schedule.
- You can add, delete, or update operations, resource requirements, and material requirements for a repetitive schedule.
- With a production kanban you can automatically create or release a repetitive schedule.

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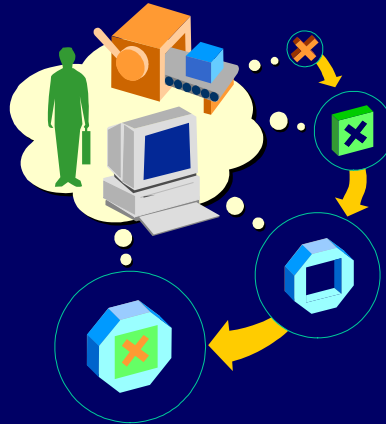
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## Practice 1 Overview

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### Practice 1 Overview

- Describing repetitive schedules



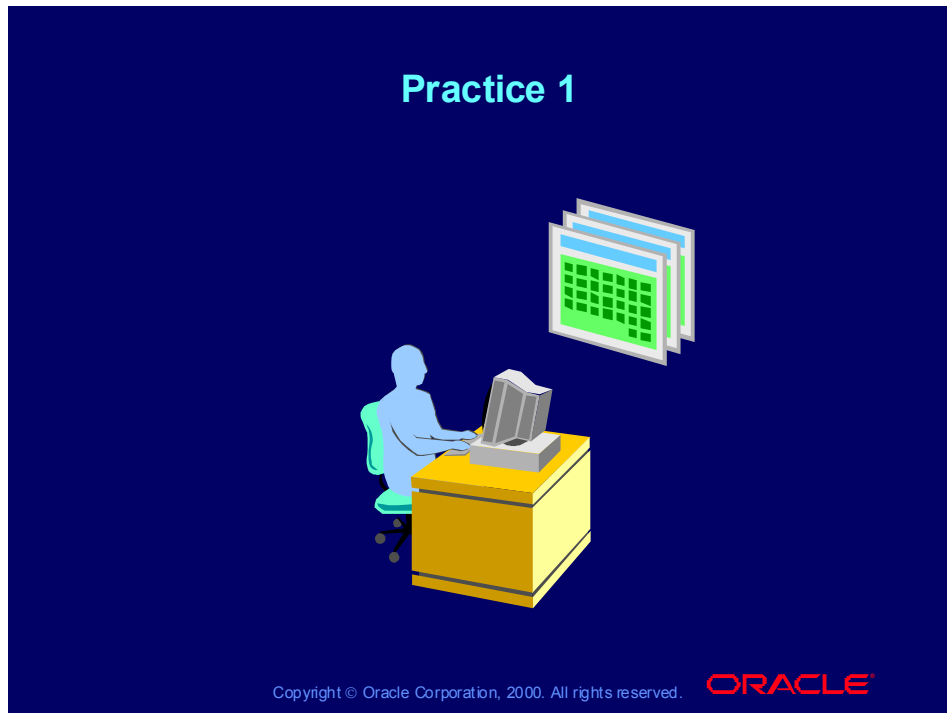
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## Practice 1

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- 1 Why might you want to have different ways of defining repetitive schedules?
- 2 What information about a repetitive schedule might you want to see once it is defined?
- 3 Must you always build the same assembly on the same production line? Why or why not?
- 4 What happens when you define a schedule for an assembly with a bill and routing that do not have matching operation sequences?
- 5 Can you manually define a schedule with a pending status?
- 6 Why would you increase the total quantity on a repetitive schedule?
- 7 Why would you change the dates on a repetitive schedule?

## Practice 1 Solution

---



- 1 Why might you want to have different ways of defining repetitive schedules?  
**Business need for schedule definition vary. If you define relatively few schedules and do not use MRP, you may want to use the Repetitive Schedules window. If you use Oracle Planning or another planning system, you may want to use the Planner Workbench or the Import Jobs/Schedules window.**
- 2 What information about a repetitive schedule might you want to see once it is defined?  
**You may want to see the start and end date, the scheduled operations, the resource requirements, and the material requirements.**
- 3 Must you always build the same assembly on the same production line? Why or why not?  
**No, you can build the same assembly on different lines. You can also build different assemblies on the same line.**
- 4 What happens when you define a schedule for an assembly with a bill and routing that do not have matching operation sequences?  
**The material requirements are consumed at the first operation.**
- 5 Can you manually define a schedule with a pending status?  
**No, you cannot. Schedules are assigned a pending status only through the Planner Workbench or the Open Job and Repetitive Schedule Interface. To prevent any activity on a schedule, you can place it on hold.**
- 6 Why would you increase the total quantity on a repetitive schedule?

## Practice 1 Solution (continued)

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**One example would be, you have received additional orders for the same assembly.**

- 7 Why would you change the dates on a repetitive schedule?

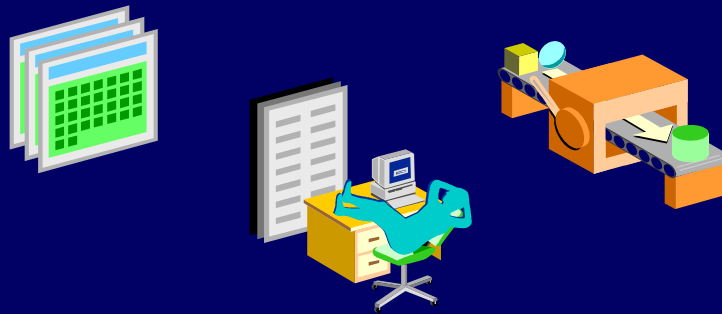
**For example, you just realized that you not be able to start building your assemblies as of the first unit start date. You might also want to update the revision and revision date for either the bill, or the routing, or both.**

## Practice 2 Overview

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### Practice 2 Overview

- Defining a repetitive schedule
- Adding an attachment
- Releasing a repetitive schedule

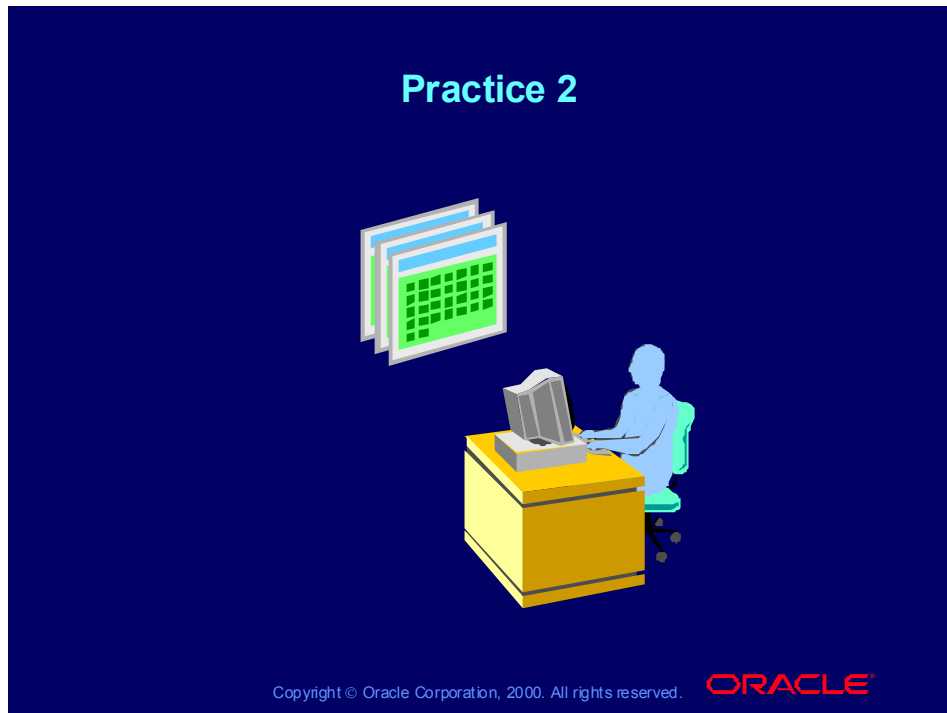


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## Practice 2

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### Instructions

You are a production manager at Vision in Seattle. You want to build 3600 SB86662 case assemblies repetitively on line Case in 12 days. There are no case assemblies in inventory.

- 1 Define a repetitive schedule.
- 2 Add an attachment to the schedule to indicate that this order is of the first priority (if necessary, define an attachment).
- 3 Release the schedule.

**Note:** Once your schedule is created, navigate to view the resource and material requirements assigned to your schedule.

## Practice 2 Solution

**Practice 2 Solution**

Line: Case Case Assembly Line  
Assembly: SB86662 Case Assembly  
Status: Unreleased ☒ Firm  
Daily Quantity: 300 Days: 12 Total Qty: 3600  
Quantity Ahead: Quantity Completed:  
Days Ahead: Quantity Scrapped:  
Date Released: Demand Class:  
Description: need to build 3600 units in 12 days  
Start Date: 07-AUG-2000 00:00:00 Completion Date: 07-AUG-2000 07:01:00  
First Unit: 22-AUG-2000 19:27:00 Last Unit: 22-AUG-2000 19:28:00  
Alternate: BOM Rev: A Rev Date: 31-JUL-2000 10:56:22  
Routing: A Rev Date: 31-JUL-2000 10:56:27

(N) WIP > Repetitive > Repetitive Schedules (B) New

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(Help) Oracle Manufacturing Applications > Oracle Work in Process >

Repetitive Manufacturing > Creating Repetitive Schedules >

Defining Repetitive Schedules Manually

- 1 Navigate to the Repetitive Schedules window. The Repetitive Schedule Summary window appears.
- 2 Click the New button to open the Repetitive Schedules window.
- 3 Select the Case production line and the SB86662 assembly. The status is defaulted to Unreleased but can be changed to Released or On Hold.
- 4 Select the Firm check box to firm your schedule. This prevents MRP from suggesting rescheduling and replanning recommendations when changes to supply or demand occur. Firming a repetitive schedule locks in that schedule's daily quantity as the recommended daily quantity for future schedules using the same line/assembly association.
- 5 Enter the number of days (12) and the total quantity (3600). Note that the daily quantity (300) is automatically calculated. Entering two of the three fields automatically calculates the third.
- 6 Optionally select a demand class.
- 7 Optionally enter a description. It can be used to identify repetitive schedules on standard reports.
- 8 Enter the first unit start date.

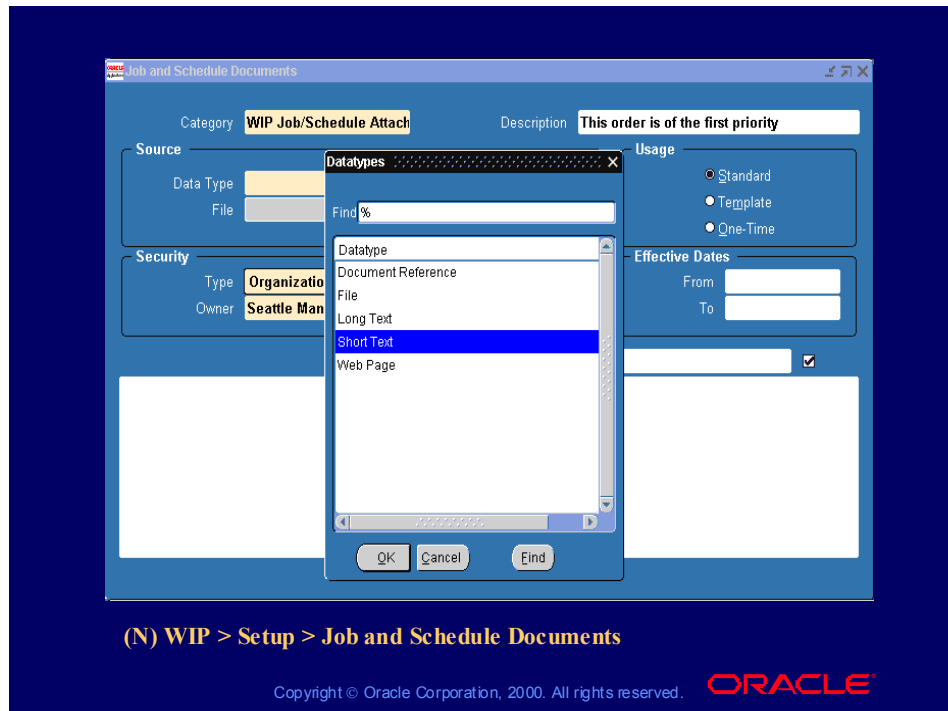
## Practice 2 Solution (continued)

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- 9 Save your work. The first unit completion date, last unit start date, last unit completion date, bill revision and revision date, and routing revision and revision date are defaulted. Also, the operations, resource requirements, and the material requirements are defaulted for the selected repetitive line/assembly association.

**Note:** Once your schedule is created, navigate to view the resource and material requirements assigned to your schedule.

## Practice 2 Solution (continued)



### WIP Standard Attachments

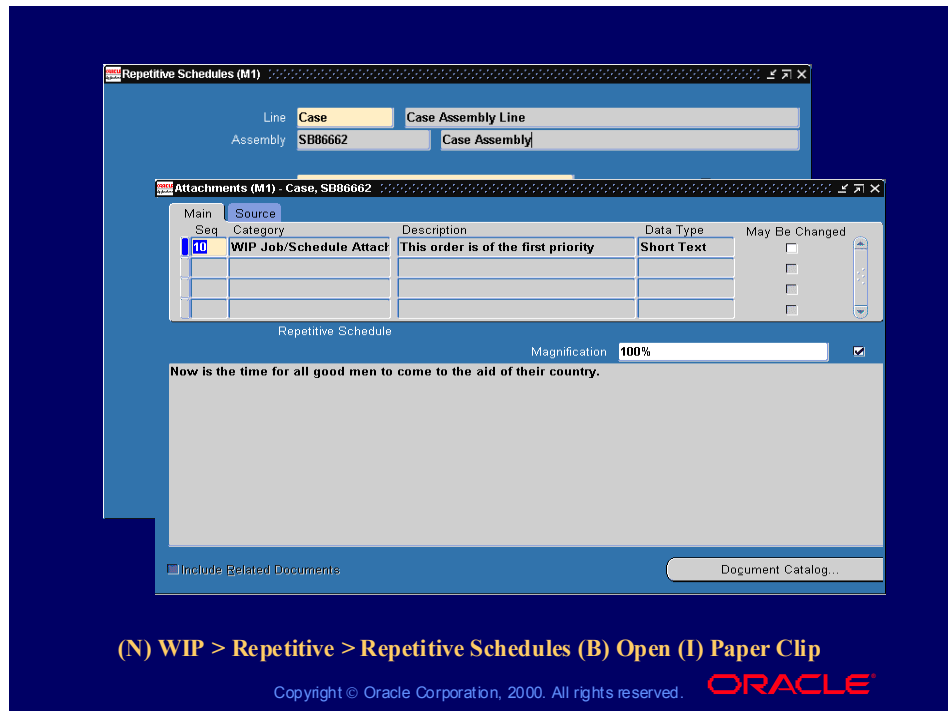
(Help) Oracle Manufacturing Applications > Oracle Work in Process > Setting Up > Defining Job and Schedule Documents

### Defining an Attachment

- 1 Define an attachment.
- 2 Save your work.



## Practice 2 Solution (continued)



### Repetitive Schedules

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Attaching Files to Jobs, Scheduled, and Operations

### Attaching Files to Repetitive Schedules

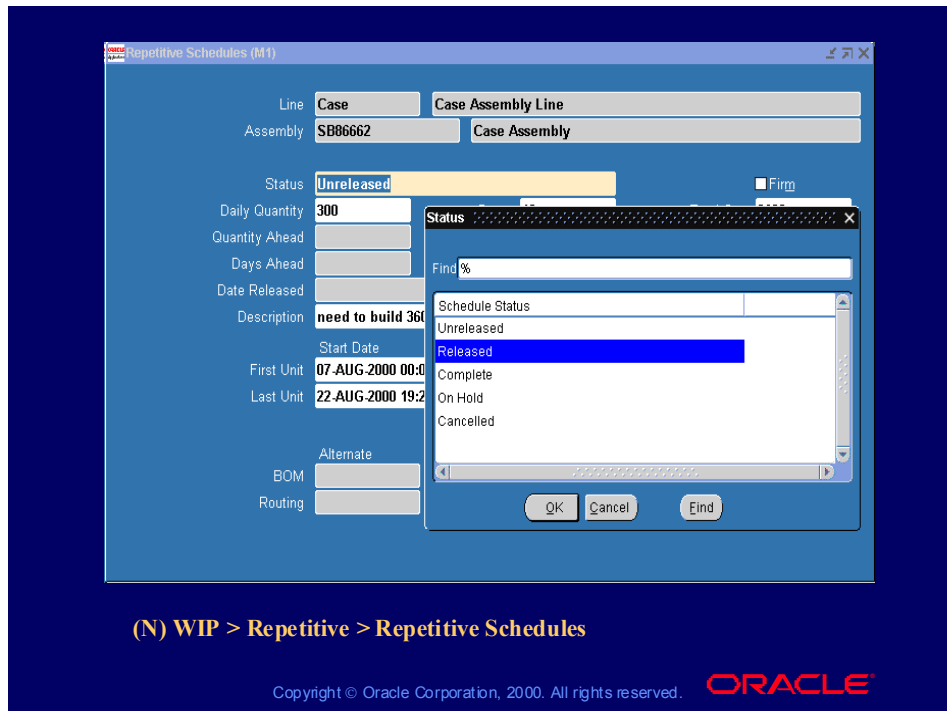
- 1 Navigate to the Repetitive Schedules window and select your schedule.

**Note:** You can define attachments only for schedules that have been saved.

- 2 Select your previously created attachment, using the paper clip icon.
- 3 Save your work.

**Note:** You also can create an attachment in the Repetitive Schedules window without first defining it.

## Practice 2 Solution (continued)



(N) WIP > Repetitive > Repetitive Schedules

### Repetitive Schedules

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Repetitive Manufacturing > Changing Repetitive Schedules >

(H) Changing Repetitive Schedules

### Releasing Your Schedule

- From the Status pull down list, select Released.
- Save your work.