

Oracle® Process Manufacturing

Process Execution User's Guide

Release 12.2

Part No. E49068-24

September 2024

Oracle Process Manufacturing Process Execution User's Guide, Release 12.2

Part No. E49068-24

Copyright © 1998, 2024, Oracle and/or its affiliates.

Primary Author: Laurel Dale, Sujata Patnaik

Contributing Author: Niraj Choubey, Swapna Kommineni, Venu Pedarla, Tummala Ramarao

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software, software documentation, data (as defined in the Federal Acquisition Regulation), or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed, or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software," "commercial computer software documentation," or "limited rights data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed, or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle®, Java, MySQL, and NetSuite are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Epyc, and the AMD logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customer access to and use of Oracle support services will be pursuant to the terms and conditions specified in their Oracle order for the applicable services.

Contents

Send Us Your Comments

Preface

1 Understanding Process Execution

- About this Guide..... 1-1
- About Process Execution..... 1-3
- Tasks and Responsibilities..... 1-4
- Process Flow..... 1-6
- Using the Process Execution Workbench Navigator..... 1-12

2 Process Manufacturing Command Center

- Process Manufacturing Command Center Overview..... 2-1
- Batch Status Dashboard..... 2-3
- Outside Processing Dashboard..... 2-17
- Production Quality Dashboard..... 2-24
- Genealogy and Trace Dashboard..... 2-31

3 Setting Up

- Setting Up in Other Applications..... 3-1
- Setting Up Parameters..... 3-3
- Setting Up Make to Order Rules..... 3-9
- Setting Up Profile Options..... 3-11

4 Process Manufacturing Command Center Setup

- Process Manufacturing Command Center Configuration..... 4-1

Setup and Configuration Steps.....	4-1
Setting Profile Options for Process Manufacturing Command Center.....	4-2
Configuring Descriptive Flexfields for Search.....	4-2
Loading Process Manufacturing Command Center Data.....	4-3

5 Firm Planned Orders

Understanding Firm Planned Orders.....	5-1
Finding a Firm Planned Order.....	5-2
Editing a Firm Planned Order.....	5-4
Rerouting a Firm Planned Order.....	5-11
Rescheduling a Firm Planned Order.....	5-11
Converting a Firm Planned Order to a Batch.....	5-12
Scaling a Firm Planned Order.....	5-16

6 Batch Creation

Understanding Batches.....	6-2
Understanding Batch Status.....	6-14
Finding a Batch.....	6-15
Creating a Batch or Firm Planned Order.....	6-17
Creating a Batch or Firm Planned Order in Response to a Sales Order.....	6-22
Heat Number.....	6-22
Substituting Items During Batch Creation.....	6-23
Selecting Validity Rules for a Batch.....	6-24
Rerouting a Batch.....	6-25
Editing a Batch.....	6-25
Understanding Mass Batch Transactions.....	6-40
Finding Batches for Mass Batch Transactions.....	6-40
Using the Mass Batch Actions Window.....	6-44
Picking Ingredients for a Batch.....	6-48
Defining Picking Rules.....	6-49
Understanding Task Creation.....	6-49
Understanding Cross Docking.....	6-50
Understanding Batch Step Quantity Calculations.....	6-50
Finding Batch Steps.....	6-52
Editing Batch Steps.....	6-53
Editing Batch Step Dependencies.....	6-65
Editing Batch Step Activities.....	6-67
Editing Batch Step Resources.....	6-70
Adding or Modifying Process Parameters.....	6-76
Associating Batch Steps with Items.....	6-79

Using the Theoretical Yield Calculation.....	6-81
Understanding Batch Scaling.....	6-81
Scaling a Batch or Firm Planned Order.....	6-90
Rescheduling a Batch.....	6-92
Yield Measurement in Process Manufacturing.....	6-93
Managing Batches Using the Batch Open Interface.....	6-100
7 Holding a Batch	
Overview of Batch Hold.....	7-1
Creating a Batch Hold.....	7-2
Defining a New Hold Reason.....	7-6
Releasing a Batch Hold.....	7-6
Viewing Hold History for a Batch.....	7-7
8 Batch Materials	
Using Reservations, Move Orders, and Transactions.....	8-2
Understanding Batch Reservations.....	8-3
Creating High-Level Reservations.....	8-3
Creating Detailed-Level Reservations.....	8-4
Entering Reservations.....	8-6
Creating Reservations Using the Simulator and Optimizer.....	8-6
Transacting Materials.....	8-6
Viewing Material Transactions.....	8-12
Linking Ingredient and Product Lots/Serial Numbers.....	8-12
Using the Lot Entry and Serial Entry Windows.....	8-14
Viewing Material Exceptions.....	8-15
Editing Material Transactions.....	8-19
Viewing Move Orders.....	8-23
Entering Pending Product Lots and Serials.....	8-24
Managing Inventory Shortages.....	8-26
Using the Select Available Inventory Window.....	8-28
Reserving a Batch as a Supply Source for Inventory Reservations.....	8-28
Integrating Process Execution with Mobile Supply Chain Applications.....	8-28
9 Ingredient Picking Workbench	
Understanding Ingredient Picking.....	9-1
Finding Ingredient Requirements for Picking.....	9-2
Viewing the Batch List Summary	9-5
Viewing Batch Summary Information.....	9-7
Picking Material.....	9-9

Viewing the Ingredient Summary.....	9-10
-------------------------------------	------

10 Batch Production

Releasing a Batch.....	10-1
Unreleasing a Batch.....	10-3
Releasing a Batch Step.....	10-3
Unreleasing a Batch Step.....	10-4
Checking Material Status When Consuming Ingredients.....	10-4
Checking Lot Status When Yielding Product.....	10-5
Understanding Incremental Backflushing.....	10-6
Calculating Resource Usage for an Incremental Backflush.....	10-12
Performing Incremental Backflushing.....	10-26
Editing Batch Steps in Production.....	10-29
Understanding Charges.....	10-29
Using Operation Charge Step Dependencies.....	10-30
Calculating Charges for Dependent Steps.....	10-30
Understanding Activity Factors.....	10-32
Editing Resource Transactions.....	10-33
Recording Batch Operation Work in Process.....	10-36

11 Batch Completion

Understanding Batch Completion.....	11-1
Completing a Batch.....	11-2
Reverting a Batch to Work in Process.....	11-2
Closing a Batch.....	11-3
Reopening a Closed Batch.....	11-3

12 Inquiries

Running a Production Schedule Inquiry.....	12-2
Interpreting a Production Schedule Inquiry.....	12-3
Running a Work in Process Inquiry.....	12-5
Interpreting a Work in Process Inquiry.....	12-6
Interpreting Work in Process Inquiry Details.....	12-7
Running a Material Variance Inquiry.....	12-9
Interpreting a Material Variance Inquiry.....	12-10
Interpreting a Material Variance - Ingredient Inquiry.....	12-12
Interpreting a Material Variance - Step Details Inquiry.....	12-15
Running a Batch Step Variance Inquiry.....	12-17
Interpreting a Batch Step Variance Inquiry - Summary.....	12-18
Interpreting Batch Step Variance Inquiry - Details.....	12-20

Interpreting Batch Step Variance Inquiry - Activities.....	12-23
Interpreting Batch Step Variance Inquiry - Activity Resources.....	12-25
Running a Resource Variance Inquiry.....	12-28
Interpreting Resource Variance Details.....	12-28
Interpreting Resource Usage.....	12-30
Interpreting Resource Usage Details.....	12-32
Viewing Material Details.....	12-34

13 Outside Processing in Oracle Process Manufacturing

Overview of OPM Outside Processing.....	13-1
OPM Outside Processing Setup and Planning.....	13-7
OPM Outside Processing Execution.....	13-10

14 Reports and Concurrent Programs

Running the Batch Pick List Report.....	14-2
Batch Pick List Report Output.....	14-3
Running the Batch Ticket Report.....	14-4
Batch Ticket Report Output.....	14-5
Running the Planned Production Activity Report.....	14-8
Planned Production Activity Report Output.....	14-9
Running the Batch Yield Variance Report.....	14-10
Batch Yield Variance Report Output.....	14-11
Running the Material Usage and Substitution Variance Report.....	14-13
Material Usage and Substitution Variance Report Output.....	14-14
Running the Item Substitution for Batches Concurrent Program.....	14-15
Item Substitution for Batches Concurrent Program Output.....	14-17
Running the OPM Outside Processing Report.....	14-17
OPM Outside Processing Report Output.....	14-18
Running the Ingredient Picking Concurrent Program.....	14-19
Running the Migration Recreate Open Batches Concurrent Program.....	14-21
Running the Make to Order Concurrent Program.....	14-21

15 Process Execution Workbench

Creating a Custom View.....	15-1
Viewing Batch Summary Information.....	15-4
Batch Summary Windows Details.....	15-5
Viewing Firm Planned Order Summary Information.....	15-9
Firm Planned Order Summary Windows Details.....	15-10
Finding a Firm Planned Order from the Workbench.....	15-12
Finding a Batch from the Workbench.....	15-13

16	Using the Oracle Forms-Based Production Scheduler Workbench	
	Understanding the Production Scheduler Workbench.....	16-2
	Using the Production Scheduler Workbench.....	16-8
	Configuring Scheduler Startup Parameters.....	16-10
	Using the Filter.....	16-11
	Displaying the Document Properties.....	16-12
	Displaying the Operation Properties.....	16-14
	Displaying the Activity Properties.....	16-15
	Displaying the Resource Properties.....	16-16
	Rescheduling a Batch or Firm Planned Order.....	16-17
	Rescheduling Batch Steps.....	16-19
	Displaying Composite Resources.....	16-20
	Rescheduling a List of Batches.....	16-21
	Changing or Finding an Organization.....	16-23
17	Using the HTML-Based Production Scheduler Workbench	
	Understanding the Production Scheduler Workbench.....	17-1
	Searching for Batches.....	17-2
	Viewing the Batch Schedule and Details.....	17-3
	Rescheduling Batches.....	17-5
A	Process Execution Navigator Paths	
	Process Execution Navigator Paths.....	A-1
B	Setting Up Process Execution Responsibilities and Menu Access	
	Setting Up Process Execution Responsibilities and Menu Access.....	B-1
C	Oracle E-Records Events in Process Execution	
	Oracle E-Records Events in Process Execution.....	C-1
	Events.....	C-3
D	Function Security	
	Function Security.....	D-1
E	Understanding Batch Open Interface	
	Understanding Batch Open Interface.....	E-1

F Troubleshooting / FAQ's

Troubleshooting / FAQ's..... F-1

Glossary

Index

Send Us Your Comments

Oracle Process Manufacturing Process Execution User's Guide, Release 12.2

Part No. E49068-24

Oracle welcomes customers' comments and suggestions on the quality and usefulness of this document. Your feedback is important, and helps us to best meet your needs as a user of our products. For example:

- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
- Are the examples correct? Do you need more examples?

If you find any errors or have any other suggestions for improvement, then please tell us your name, the name of the company who has licensed our products, the title and part number of the documentation and the chapter, section, and page number (if available).

Note: Before sending us your comments, you might like to check that you have the latest version of the document and if any concerns are already addressed. To do this, access the new Oracle E-Business Suite Release Online Documentation CD available on My Oracle Support and www.oracle.com. It contains the most current Documentation Library plus all documents revised or released recently.

Send your comments to us using the electronic mail address: appsdoc_us@oracle.com

Please give your name, address, electronic mail address, and telephone number (optional).

If you need assistance with Oracle software, then please contact your support representative or Oracle Support Services.

If you require training or instruction in using Oracle software, then please contact your Oracle local office and inquire about our Oracle University offerings. A list of Oracle offices is available on our Web site at www.oracle.com.

Preface

Intended Audience

Welcome to Release 12.2 of the *Oracle Process Manufacturing Process Execution User's Guide*.

This guide assumes that you have working knowledge of your business area's processes, tools, principles, and customary practices. It also assumes that you are familiar with Oracle Process Manufacturing. If you have never used Oracle Process Manufacturing, we suggest you attend one or more of the Oracle Process Manufacturing training classes available through Oracle University.

See Related Information Sources on page xviii for more Oracle E-Business Suite product information.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customer access to and use of Oracle support services will be pursuant to the terms and conditions specified in their Oracle order for the applicable services.

Structure

1 Understanding Process Execution

This chapter provides the fundamentals of Oracle Process Manufacturing Process Execution. It presents the basic tasks, responsibilities, and process flow required to produce a product. You are given a basic understanding of navigation and

workbenches.

2 Process Manufacturing Command Center

This chapter provides information about Oracle Process Manufacturing Command Center dashboards.

3 Setting Up

The Oracle Process Manufacturing Process Execution application is seamlessly integrated to the Product Development application. Therefore, setup in Oracle Process Manufacturing Process Execution is limited to modifications that are associated to recipes and validity rules in order to produce the production batch. This topic provides the setup requirements.

4 Process Manufacturing Command Center Setup

This chapter provides information about setup and configuration steps to enable and use Oracle Process Manufacturing Command Center dashboards.

5 Firm Planned Orders

This topic provides a general understanding of firm planned orders, including how to find one once it is created on the Create Batch/Firm Planned Order window. You are shown how to modify a firm planned order, how to select validity rules, and reroute it. You are also shown how to reschedule the firm planned order. This topic also discusses how to convert the firm planned order to a batch, how to display material details in the order, and how to scale the firm planned order. Creating a firm planned order is similar to creating a batch.

Refer to *Creating a Batch or Firm Planned Order*, page 6-17 for more information on creating a firm planned order.

6 Batch Creation

This topic provides a basic understanding of batches and batch status. You are shown how to find a batch, create a batch or firm planned order, select validity rules for a batch, reroute a batch, pick a batch, and how to edit a batch. The process of finding and editing batch details is presented. You are also shown how to find individual batch steps and edit specific information in them, including batch step dependencies, and step activities. Other topics covered are the editing of batch step resources, the association of batch steps to items, and using the theoretical yield calculation. You are shown how to scale a batch or firm planned order, and how to reschedule a batch.

7 Holding a Batch

This chapter explains how to create and release hold for a batch.

8 Batch Materials

Understand and use batch reservations, material move orders, and inventory transactions. Understand differences between high-level reservations and detailed-level reservations. Create detailed-level reservations. Understand material transactions. View move orders and enter pending product lots. Understand how to manage inventory shortages and to reserve a batch as a supply source for inventory reservations. Cross-integrate the Process Execution application with Mobile Supply Chain applications for Oracle Process Manufacturing.

9 Ingredient Picking Workbench

Understand how to find and pick ingredients for a batch. View the batch list summary information and identify picking materials and the ingredient summary.

10 Batch Production

This chapter provides procedures for releasing and unreleasing a batch, and also includes procedures for incremental backflushing.

11 Batch Completion

This topic provides a basic understanding of batch completion, including how to complete a batch and revert a completed batch to work in process. You are shown how to close and reopen a batch.

12 Inquiries

This topic shows you how to run and interpret inquiries for a production schedule, work in process, material variances, batch step variances, resource variances, and resource usage.

13 Outside Processing in Oracle Process Manufacturing

This chapter explains how to manage outside processed resources in Process Manufacturing.

14 Reports and Concurrent Programs

This topic explains several preformatted reports that assist you in the picking of production batch materials, ticketing of materials to use in production, evaluating scheduled batch and firm planned order production activities, assessing variances in actual and calculated batch yield, and evaluating unusual usage cost variances. The procedures for running the Item Substitution for Batches, Ingredient Picking, and Migration Recreate Open Batches concurrent programs are presented.

15 Process Execution Workbench

The Process Execution Workbench is a navigator that lets you view summary information about batches and firm planned orders by organization, batch, firm planned order, product, and status. There are two tabs located on the navigator - Batches and Firm Planned Orders. Click either tab to access the summary information that you are interested in. The batch and firm planned order summary information windows provide access to batch and firm planned order maintenance windows so that you can review or edit the data. You can also create custom views that provide a convenient method to locate and access a batch or firm planned order.

16 Using the Oracle Forms-Based Production Scheduler Workbench

This topic provides a basic understanding of the Production Scheduler Workbench including the bucketed load for a selected set of plant resources, continuous resource load, and a chart of activities to assist in the rescheduling of batches and firm planned orders. The Gantt chart lets you change plant assignments, adjust bucket sizes, and filter batches and firm planned orders based on selected criteria.

17 Using the HTML-Based Production Scheduler Workbench

A Process Execution Navigator Paths

B Setting Up Process Execution Responsibilities and Menu Access

C Oracle E-Records Events in Process Execution

D Function Security

E Understanding Batch Open Interface

Related Information Sources

Related Guides

Oracle Process Manufacturing shares business and setup information with other Oracle Applications products. Therefore, you may want to refer to other guides when you set up and use Oracle Process Manufacturing. You can read the guides online in the Oracle Help Center. Navigate to <https://docs.oracle.com>. Select On-Premises Applications, then E-Business.

Guides Related to All Products

Oracle E-Business Suite User's Guide

This guide explains how to navigate, enter and query data, and run concurrent requests using the user interface (UI) of Oracle E-Business Suite. It includes information on setting preferences and customizing the UI. In addition, this guide describes accessibility features and keyboard shortcuts for Oracle E-Business Suite.

Oracle Alert User's Guide

This guide explains how to define periodic and event alerts to monitor the status of your Oracle Applications data.

Oracle E-Business Suite Concepts

This book is intended for all those planning to deploy Oracle E-Business Suite Release 12.2, or contemplating significant changes to a configuration. After describing the Oracle E-Business Suite architecture and technology stack, it focuses on strategic topics, giving a broad outline of the actions needed to achieve a particular goal, plus the installation and configuration choices that may be available.

Oracle E-Business Suite Flexfields Guide

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

Oracle Application Framework Personalization Guide

This guide covers the design-time and run-time aspects of personalizing applications built with Oracle Application Framework.

Oracle E-Business Suite Installation Guide: Using Rapid Install

This book is intended for use by anyone who is responsible for installing or upgrading Oracle E-Business Suite. It provides instructions for running Rapid Install either to carry out a fresh installation of Oracle E-Business Suite Release 12.2, or as part of an upgrade to Release 12.2.

Oracle E-Business Suite: Administering Enterprise Command Centers

This book describes various tools and features of Oracle Enterprise Command Center Framework that can be used to manage and monitor Enterprise Command Centers.

Oracle E-Business Suite: Extending Enterprise Command Centers

This book provides an overview of the Oracle Enterprise Command Center Framework architecture and the anatomy of an Enterprise Command Center dashboard. It also describes how to extend Enterprise Command Center dashboards to meet requirements specific to your implementation.

Oracle Fusion Middleware Adapter for Oracle Applications User's Guide (Oracle Application Server Adapter for Oracle Applications User's Guide)

This guide covers the use of Adapter for Oracle Applications in developing integrations between Oracle E-Business Suite and trading partners.

Note that the user's guide can be found in the following documentation libraries:

- As part of the Oracle Fusion Middleware and SOA Suite in 11g, Oracle Fusion Middleware Adapter for Oracle Applications User's Guide is available in the Oracle Fusion Middleware 11g Documentation Library.
- As part of the Oracle Application Server in 10g, *Oracle Application Server Adapter for Oracle Applications User's Guide* is available in the Oracle Application Server 10g Documentation Library.

Oracle E-Business Suite Maintenance Guide

This guide contains information about the strategies, tasks, and troubleshooting activities that can be used to help ensure an Oracle E-Business Suite system keeps running smoothly, together with a comprehensive description of the relevant tools and utilities. It also describes how to patch a system, with recommendations for optimizing typical patching operations and reducing downtime.

Oracle E-Business Suite Security Guide

This guide contains information on a comprehensive range of security-related topics, including access control, user management, function security, data security, and auditing. It also describes how Oracle E-Business Suite can be integrated into a single sign-on environment.

Oracle E-Business Suite Setup Guide

This guide contains information on system configuration tasks that are carried out either after installation or whenever there is a significant change to the system. The activities described include defining concurrent programs and managers, enabling Oracle Applications Manager features, and setting up printers and online help.

Maintaining Oracle E-Business Suite

Use this guide to help you run the various AD utilities, such as AutoUpgrade, AutoPatch, AD Administration, AD Controller, AD Relink, License Manager, and others. It contains how-to steps, screenshots, and other information that you need to run the AD utilities. This guide also provides information on maintaining the Oracle

applications file system and database.

Oracle E-Business Suite Developer's Guide

This guide contains the coding standards followed by the Oracle Applications development staff and describes the Oracle Application Object Library components that are needed to implement the Oracle Applications user interface described in the *Oracle E-Business Suite User Interface Standards for Forms-Based Products*. This manual also provides information to help you build your custom Oracle Forms Developer forms so that the forms integrate with Oracle Applications.

Oracle e-Commerce Gateway User's Guide

This guide describes the functionality of Oracle e-Commerce Gateway and the necessary setup steps in order for Oracle Applications to conduct business with trading partners through Electronic Data Interchange (EDI). It also contains how to run extract programs for outbound transactions, import programs for inbound transactions, and the relevant reports.

Oracle e-Commerce Gateway Implementation Guide

This guide describes implementation details, highlights additional setups for trading partner, code conversion, and Oracle Applications as well as provides the architecture guidelines for transaction interface files. This guide also contains troubleshooting information and how to customize EDI transactions.

Oracle Report Manager User's Guide

Oracle Report Manager is an online report distribution system that provides a secure and centralized location to produce and manage point-in-time reports. Oracle Report Manager users can be either report producers or report consumers. Use this guide for information on setting up and using Oracle Report Manager.

Oracle iSetup User Guide

This guide describes how to use Oracle iSetup to migrate data between different instances of the Oracle E-Business Suite and generate reports. It also includes configuration information, instance mapping, and seeded templates used for data migration.

Oracle XML Gateway User's Guide

This guide describes Oracle XML Gateway functionality and each component of the Oracle XML Gateway architecture, including Message Designer, Oracle XML Gateway Setup, Execution Engine, Message Queues, and Oracle Transport Agent. The integrations with Oracle Workflow Business Event System and the Business-to-Business transactions are also addressed in this guide.

Oracle XML Publisher Report Designer's Guide

Oracle XML Publisher is a template-based reporting solution that merges XML data with templates in RTF or PDF format to produce a variety of outputs to meet a variety of business needs. Using Microsoft Word or Adobe Acrobat as the design tool, you can create pixel-perfect reports from the Oracle E-Business Suite. Use this guide to design

your report layouts.

Oracle XML Publisher Administration and Developer's Guide

Oracle XML Publisher is a template-based reporting solution that merges XML data with templates in RTF or PDF format to produce a variety of outputs to meet a variety of business needs. Outputs include: PDF, HTML, Excel, RTF, and eText (for EDI and EFT transactions). Oracle XML Publisher can be used to generate reports based on existing E-Business Suite report data, or you can use Oracle XML Publisher's data extraction engine to build your own queries. Oracle XML Publisher also provides a robust set of APIs to manage delivery of your reports via e-mail, fax, secure FTP, printer, WebDav, and more. This guide describes how to set up and administer Oracle XML Publisher as well as how to use the Application Programming Interface to build custom solutions.

Oracle interMedia User's Guide and Reference

This user guide and reference provides information about Oracle interMedia. This product enables Oracle9i to store, manage, and retrieve geographic location information, images, audio, video, or other heterogeneous media data in an integrated fashion with other enterprise information. Oracle Trading Community Architecture Data Quality Management uses interMedia indexes to facilitate search and matching.

Oracle Self-Service Web Applications Implementation Guide

This manual contains detailed information about the overview and architecture and setup of Oracle Self-Service Web Applications. It also contains an overview of and procedures for using the Web Applications Dictionary.

Guides Related to This Product

Oracle Process Manufacturing Cost Management User's Guide

The Oracle Process Manufacturing Cost Management application is used by cost accountants to capture and review the manufacturing costs incurred in their process manufacturing businesses. The guide describes how to set up and use this application.

Oracle Manufacturing Execution System for Process Manufacturing User's Guide

Oracle Manufacturing Execution System (MES) for Process Manufacturing provides a seamless integration to product development and process execution applications for rapid deployment and tracking of procedures, work instruction tasks, and batch records. Set up and manage material dispensing operations and produce electronic batch records interactively with full electronic signature control, nonconformance management, and label printing routines. The Oracle Manufacturing Execution System for Process Manufacturing User's Guide delivers the information to set up and use the application.

Oracle Process Manufacturing Product Development User's Guide

The Oracle Process Manufacturing Product Development application provides features to manage formula, routing, recipe, and validity rule development within process manufacturing operations. Use it to manage multiple laboratory organizations and

support varying product lines throughout the enterprise. Characterize and simulate the technical properties of ingredients and their effects on formula performance and cost. Simulate and optimize formulations before beginning expensive laboratory test batches. Product Development coordinates each development function to provide a rapid, enterprise-wide implementation of new products in your plants. The guide describes how to set up and use this application.

Oracle Process Manufacturing Quality Management User's Guide

The Oracle Process Manufacturing Quality Management application provides features to test material sampled from inventory, production, or receipts from external suppliers. The application lets you enter specifications and control their use throughout the enterprise. Customized workflows and electronic record keeping automate plans for sampling, testing, and result processing. Compare specifications to assist in regrading items, and match customer specifications. Aggregate test results and print statistical assessments on quality certificates. Run stability testing with unrivaled ease. Several preformatted reports and inquiries help manage quality testing and reporting. The guide describes how to set up and use this application.

Oracle Process Manufacturing System Administration User's Guide

This guide provides information on the few tasks that are specific to Oracle Process Manufacturing. It offers information on performing Oracle Process Manufacturing file purge and archive, and maintaining such things as responsibilities, units of measure, and organizations.

Oracle Process Manufacturing Regulatory Management User's Guide

Oracle Process Manufacturing Regulatory Management provides solutions for document management that help meet the FDA 21 CFR Part 11 and other international regulatory compliance requirements. Regulatory information management is facilitated by use of electronic signatures. Manage hazard communications by collaborating with Oracle partners to dispatch safety documents, attached printed documentation sets such as the MSDS to shipments, and set up workflows to manage documentation revisions, approvals, and transmittals. The *Oracle Process Manufacturing Regulatory Management User's Guide* provides the information to set up and use the application.

Oracle Engineering User's Guide

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

Oracle Inventory User's Guide

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

Oracle Bills of Material User's Guide

This guide describes how to create various bills of material to maximize efficiency,

improve quality and lower cost for the most sophisticated manufacturing environments. By detailing integrated product structures and processes, flexible product and process definition, and configuration management, this guide enables you to manage product details within and across multiple manufacturing sites.

Oracle Work in Process User's Guide

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

Oracle Quality User's Guide

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

Oracle Shipping Execution User's Guide

This guide describes how to set up Oracle Shipping to process and plan your trips, stops and deliveries, ship confirmation, query shipments, determine freight cost and charges to meet your business needs.

Oracle Purchasing User's Guide

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

Other Implementation Documentation

Maintaining Oracle E-Business Suite Documentation Set

Use this guide to help you run the various AD utilities, such as AutoUpgrade, AutoPatch, AD Administration, AD Controller, AD Relink, License Manager, and others. This guide also provides information on maintaining the Oracle applications file system and database.

Oracle Applications User Interface Standards for Forms-Based Products

This guide contains the user interface (UI) standards followed by the Oracle Applications development staff. It describes the UI for the Oracle Applications products and how to apply this UI to the design of an application built by using Oracle Forms.

Oracle Workflow Administrator's Guide

This guide explains how to complete the setup steps necessary for any product that includes workflow-enabled processes. It also describes how to manage workflow processes and business events using Oracle Applications Manager, how to monitor the

progress of runtime workflow processes, and how to administer notifications sent to workflow users.

Oracle Workflow Developer's Guide

This guide explains how to define new workflow business processes and customize existing Oracle Applications-embedded workflow processes. It also describes how to define and customize business events and event subscriptions.

Oracle Workflow User's Guide

This guide describes how users can view and respond to workflow notifications and monitor the progress of their workflow processes.

Oracle Workflow API Reference

This guide describes the APIs provided for developers and administrators to access Oracle Workflow.

Oracle eTechnical Reference Manuals

Each eTechnical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and programs for a specific Oracle Applications product. This information helps you convert data from your existing applications, integrate Oracle Applications data with non-Oracle applications, and write custom reports for Oracle Applications products. Oracle eTRM is available on My Oracle Support.

Integration Repository

The Oracle Integration Repository is a compilation of information about the service endpoints exposed by the Oracle E-Business Suite of applications. It provides a complete catalog of Oracle E-Business Suite's business service interfaces. The tool lets users easily discover and deploy the appropriate business service interface for integration with any system, application, or business partner.

The Oracle Integration Repository is shipped as part of the Oracle E-Business Suite. As your instance is patched, the repository is automatically updated with content appropriate for the precise revisions of interfaces in your environment.

Do Not Use Database Tools to Modify Oracle E-Business Suite Data

Oracle **STRONGLY RECOMMENDS** that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle E-Business Suite data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL*Plus to modify Oracle E-Business Suite data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle E-Business Suite tables are interrelated, any change you make using an

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

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

Understanding Process Execution

This chapter provides the fundamentals of Oracle Process Manufacturing Process Execution. It presents the basic tasks, responsibilities, and process flow required to produce a product. You are given a basic understanding of navigation and workbenches.

This chapter covers the following topics:

- About this Guide
- About Process Execution
- Tasks and Responsibilities
- Process Flow
- Using the Process Execution Workbench Navigator

About this Guide

The purpose of this guide is to provide reference information for end-level users of the Oracle Process Manufacturing (OPM) Process Execution application such as:

- Overviews of tasks and responsibilities in process execution.
- Prerequisite setup in other applications including OPM System Administration, Oracle Inventory, OPM process planning Applications, and OPM Product Development.
- Advice on setting up responsibilities, and menu selections available to the Production Supervisor and Production Operator.
- General discussions about firm planned orders (FPO), including procedures to create them and find them.

Procedures are provided for editing, rescheduling, and rerouting a firm planned order, using the workday calendar, and selecting validity rules for the FPO. The

topic discusses how to convert the firm planned order to a batch, display material details in the order, and scale the firm planned order.

- General discussions about batches including procedures to create and find them.
Procedures are provided for creating batches and firm planned orders in response to sales orders, editing a batch, using the Workday Calendar, finding and editing batch details, grouping batches, performing mass batch transactions, finding, editing, and canceling batch steps, editing batch step dependencies, and editing batch step activities, as well as rescheduling, rerouting, and canceling a batch. Procedures for editing resource details and associating batch steps with items are provided. Discussions of applying fixed process loss, batch scaling and firm planned order scaling are included.
- General discussions about batch reservations. Procedures are provided for editing batch transactions, determining unreserved items, managing inventory shortages, and selecting lots from the available inventory.
- General discussions on ingredient picking and integration with the Warehouse Management Systems (WMS) application. Procedures for finding ingredient requirements for picking and using the Ingredient Picking Workbench.
- Procedures for releasing a batch and unreleasing a batch.
Discussions of and procedures for incremental backflushing are provided. Procedures for recording batch production, editing resource transactions, and recording batch operation work in process are included.
- Discussions of batch completion, including the procedure for completing a batch. Procedures are provided for reverting a batch to work in process, closing a batch, and reopening a closed batch.
- Discussions of the capture and measurement of planned and actual yield, including yield for an operation/step, cumulative yield across steps, yield for a batch, and yield for a product. The impacts of transfer quantities and scrap on yield are also discussed.
- Procedures to run and interpret inquiries for a production schedule, work in process, material variances, batch step variances, resource variances, resource usage, and material details.
- Several preformatted reports including Batch Pick List, Batch Ticket, Production Activity, Batch Yield Variance, and Material Usage and Substitution Variance.
- Procedures to run and interpret concurrent programs including Item Substitution, Ingredient Picking, Migration Recreate Open Batches, and Process Manufacturing Make to Order.

- Discussions on the Process Execution Workbench including summary information about batches and planned orders by batch, firm planned order, organization, product, and status.
- Discussions on the Production Scheduler Workbench including an understanding of the bucketed load for a selected set of plant resources, continuous resource loading, and a chart of activities to assist in the rescheduling of batches and firm planned orders. You can reschedule batches and firm planned orders, or batch steps by using the resize option, or by using the drag-and-drop option.

Depending on your system's security profile, it is possible that you do not have access to all of the windows and functions described in this guide. If you do not see a menu option described, and you need to access it, then contact your system administrator.

About Process Execution

Increasing productivity while minimizing labor and operational costs is key to successful product profitability. Oracle Process Manufacturing (OPM) Process Execution responds to the need for an efficient production environment by providing a seamless coordination of human and material resources within the process manufacturing environment. The application helps businesses respond quickly to changing customer requirements while maintaining or enhancing product margins.

Competitive urgencies are on the rise as plants ready themselves to meet the challenge of e-Business. The e-Business accelerates the need for real time visibility of shop floor activities. Managers must understand how labor is being utilized in their facilities so they can identify the impact of unplanned overtime on overall profitability. All cost variances must be accessible to Production Supervisors and upper managers so they can take immediate corrective action.

Drive Product Costs Below the Competition

There are three requirements for businesses to offer products at a lower cost than their competitors:

- Inflation adjusted product costs must decrease.
- Logistics costs must decrease.
- Manufacturers need to know true cost and profit for each product.

Each requirement must be analyzed thoroughly before change is implemented, as cutting costs can damage product quality.

Use Cost Control Oriented Data

To identify the cost of an activity, a continuing analysis of planned and actual time to

manufacture finished goods must be traced throughout the production process. The OPM Process Execution application generates this cost control oriented data needed for critical decision making in the plant. Manufacturers use this information to track the financial impact of improvements to production processes. As part of total quality initiatives, production facilities can document improvements based on planned and actual times required for a manufacturing process. As a management decision-making tool, cost analysis provides the financial support data to help managers offer products at a lower cost than their competitors.

Optimize Inventory Costs While Maintaining Customer Satisfaction

The dynamics between on-time delivery and the cost of inventory requires careful planning to maintain high customer satisfaction. The Process Execution application keeps inventory current with thorough reservation procedures and incremental backflushing. Material and resource usage inquiries help managers evaluate production and inventory variances. Oracle process planning Applications assist in the management of on-hand inventory quantities to reduce physical inventory and cycle counting. To optimize inventory carrying costs, managers identify the cost of putting away stock receipts and moving material within an organization, including the time spent in these non-value added activities. OPM Process Execution helps operations managers increase productivity while minimizing labor and material costs to continuously improve product profits while maintaining a high level of customer satisfaction.

Tasks and Responsibilities

Efficient production is the result of coordinating and optimizing the availability of human and material resources within production facility. Effective information transfer is the key to success. Each job role must collaborate at various points throughout the production cycle.

The following represents the work breakdown structure required to produce a production batch. It lists most of the key tasks and the job titles responsible for those tasks:

- Set up organization parameters.
 - Production Supervisor

- Create a lab batch.
 - Production Supervisor

- Create a batch.
 - Planner

- Production Supervisor
- Manage batch group associations.
 - Production Supervisor
- Define make to order rules.
 - Production Supervisor
- Scale a batch.
 - Planner
 - Production Supervisor
- Reserve lots from which ingredients are consumed.
 - Production Supervisor
- Start a batch.
 - Production Operator
 - Production Supervisor
- Start a batch step.
 - Production Operator
 - Production Supervisor
- Scale a work in process batch.
 - Production Supervisor
- Complete a batch step.
 - Production Operator
- Complete a batch.
 - Production Supervisor
 - Production Operator
- Close a batch.

- Production Supervisor
- Print product labels.
 - Production Operator
 - Production Supervisor
 - MES for Process Manufacturing Administrator
- Reprint product labels
 - MES for Process Manufacturing Administrator
- View batch e-records.
 - Production Operator
 - Production Supervisor

Accessing Windows

The Production Supervisor has access to all windows and functions in this application. The Production Operator has access to fewer windows depending on the implementation. Contact the System Administrator to add window access to this responsibility.

Process Flow

The Oracle Process Manufacturing (OPM) Process Execution application records production batch information. This process can begin with a firm planned order or a production schedule requirement. The process can also begin in response to the requirement to reprocess materials that do not meet expected quality specifications. The application enables you to:

- Plan the production schedule with information from the process planning applications.
- Create firm planned orders.
- Convert firm planned orders into single or multiple production batches.
- Schedule production batches.
- Reserve ingredients for batch production.

- Record actual ingredient usage.
- Record actual resource usage.
- Record actual product production quantities.
- Complete and close production batches.
- Analyze variances in actual production quantities used as compared to planned quantities.

The OPM Process Execution application provides a seamless integration of the work breakdown structure outlined in Tasks and Responsibilities, page 1-4. The Process Execution process flow consists of the following steps in each of the applications listed. Prerequisite setup is required before the remaining steps are completed.

The OPM Product Development application provides all tasks required for creation of formulas, operations, routings, and recipes. The OPM Process Execution application begins with the requirement to produce material from a recipe created by the OPM Product Development application using a specific validity rule.

Prerequisite Setup

Prerequisite setup must be completed for each of the following applications:

- Oracle Inventory
 - Set up organizations, subinventories, locators, items, unit of measure types, units of measure, and picking rules. Refer to the Setting Up chapter for more information.
 - Set up required profile options as described in the *Oracle Inventory User's Guide*.
- OPM Product Development
 - Set up Product Development parameters, formulas, recipes, operations, routings, activities, resources, and validity rules. Refer to Setting Up for more information.
 - Set up the required profile options as described in the *Oracle Process Manufacturing Product Development User's Guide*.
- OPM Process Execution
 - Set up Process Execution parameters and profile options. Refer to Setting Up for detailed information.

Creating Planned Production Orders

Create planned production orders through the Oracle Process Manufacturing (OPM) process planning applications. Production orders are recommendations to manufacture products. Planned orders are controlled by individual material requirement planning applications available to OPM, such as the Advanced Planning and Scheduling application. If demand causes the planning application to recommend that an order is changed or canceled, then the planning application can recommend, resize, reschedule, or delete the requirement. Detailed discussions of the planning applications are outside the scope of this documentation.

There is no requirement to run a planning application to create planned orders to manufacture products in the OPM Process Execution application. This is an optional step. However, planning applications assist in the optimization of production operations and must be considered as a tool to streamline production efficiencies.

Creating Firm Planned Orders

A Firm Planned Order represents an intent to manufacture a product. Firm planned orders are not controlled by planning applications. The planning application does not change or delete firm planned orders, and are treated as firm orders. You can change the start date, completion date, and required date on a firm planned order. Create a firm planned order by:

- Approving the requirement in the planning application that interfaces to Process Execution.
- Entering the firm planned order directly on the Create Batch/Firm Planned Order window.
- Selecting New on the Find Firm Planned Order window.

Enter firm planned orders for master production schedule items that are finished goods or saleable items. There is no need to enter a firm planned order to manufacture products. This is an optional step.

Creating Batches

Creating a batch is the same as scheduling a batch. Create a batch by:

- Converting from a requirement in the planning application that interfaces to OPM Process Execution.
- Converting from a firm planned order.
- Using a make to order rule to generate a batch in response to a sales order.
- Importing a batch using the batch open interface tables.

- Entering the batch directly on the Create Batch/Firm Planned Order window.
- Selecting New on the Find Batches window.
- Selecting New on the Batch Details window accessed from the Process Execution Workbench.
- Generating a batch directly from the Generate/Optimize Formulation window accessed from the Least Cost Formulation Workbench. Refer to the *Oracle Process Manufacturing Product Development User's Guide* for more information.

When you create a batch, the status is Pending.

Reserving Ingredients

Reserve ingredients for a batch manually or automatically. If any of the ingredients in the batch are lot and serial-controlled or location-controlled, then reserve lots, serials, and locations for ingredients required to make the batch. Set up ingredients to be reserved automatically in the Oracle Inventory application by using picking rules. If you have not made any reservations, then you can specify the lots at the time of consumption. Reservations can be made against on-hand inventory, batches, or purchase orders.

Timing Ingredient Reservation

Determine when to reserve ingredients. Reserve material before releasing a batch while the batch has a status of Pending. Reserve material after a batch is released while it has a status of WIP.

Reserving a Batch Before Releasing

Specify the material to use in a batch. The advantage to reserving material before the batch is released is that you can print a Pick List to provide lot and location information to production resources responsible for staging material for the production run. You can reserve ingredients automatically if appropriate parameters are set up.

Releasing Batches

Releasing a batch indicates the batch is started. Batches that contain automatic consumption ingredients consume these ingredients upon release as long as these ingredients are reserved. For reserved ingredient lines set to automatic consumption, releasing a batch creates completed transactions and consumes them from inventory. This action also changes the status of a batch from Pending to WIP. Release a batch by choosing Release from the Actions menu of the Batch Details window.

Entering Pending Products Lots

If products or byproducts yielded by the batch are lot-controlled or location-controlled, then you enter the code for the lot produced and the location where the product is

yielded on the Pending Product Lots window. Refer to Entering Pending Product Lots, page 8-24 for more information.

Completing Batches

Complete a batch to indicate that it is done. Batch products and byproducts set to automatic yield are yielded. This action also changes the status of the batch from WIP to Completed. Complete a batch by selecting Complete from the Actions menu of the Batch Details window.

If you have not specified the item lots or locators from which to consume or yield, then when you try to complete a batch, then the application indicates these items as exceptions on the Material Exceptions window. Transact the items listed on this window to finish the batch completion. Make adjustments to ingredient, product, and byproduct quantities at this point or after batch completion.

Incrementally Backflushing a Batch

Process manufacturing ingredients are sometimes consumed in portions throughout the production cycle to yield incremental product quantities. To keep inventory levels current, record material consumption and production yield as they occur. Incremental backflushing lets you record production output incrementally prior to the batch completion, and enables the application to calculate and backflush ingredient usage.

Incremental backflushing can only be done on batches with a status of WIP or batches that contain manual or incremental release items. If you do not specify any lots and locators for ingredients, products, or byproducts, then the Incremental Backflushing batch routine displays these material lines on the Material Exceptions window.

Directly Completing a Batch

You can directly complete a batch with a status of Pending. This action completes all steps.

Closing Batches

The final step in the production cycle is closing the batch. Closing a batch prevents any further editing of the batch. Do this after you are confident all the batch information is recorded correctly. Closing a batch also closes all steps.

Canceling Batches

If a batch has a status of Pending, then it can be canceled.

Unreleasing Batches

Unreleasing a batch reverses any completed transactions associated with the ingredients or products in the batch and recreates reservations or pending product lot records. The actual starting date is removed from the batch header. Unrelease a WIP batch by choosing Unrelease from the Actions menu of the Batch Details window. You can recreate reservations or pending lots from the transactions being reversed.

When you unrelease a batch, the following question appears: "Are you sure you want to unrelease the batch?". If you click Yes, then "Do you want to recreate reservations for ingredients and pending product lot records?" appears. Click Yes to unrelease the batch and recreate reservations and pending product lots based on the information, such as lots and locators to release, in the completed transactions. Click No to unrelease the batch without recreating reservations and pending product lots.

Unreleasing Batch Steps

Unreleasing a WIP batch step reverses any completed resource transactions. Completed material transactions for ingredients associated to the step with a consumption type of automatic by step are also reversed.

Reverting Batches to Work in Process

When you revert a batch to work in process, the batch status changes from Completed to WIP and the actual completion date is removed.

Reverting Batch Steps to Work in Process

Reverting a batch step to work in process reverses transactions for all product and byproduct lines associated with the step with a yield type of Automatic by Step.

Reopening Batches

Reopening a batch changes its status from Closed to Completed. When you attempt to reopen a closed batch:

- Batch transactions cannot be purged.
- Batch close cannot be posted to the subledger.
- Actual costing cannot be run on the batch if the financial period is closed. You receive a warning that actual costing was run if an actual costing period is still open when you attempt to reopen a batch. You can proceed.

The application displays the question: Do you want to reopen all the steps?

- If you respond Yes, then all steps are opened.
- If you respond No, then only the batch is opened. Batch steps must be opened individually.

Reopening Batch Steps

Reopening a batch step changes the status of the step from Closed to Completed. The batch must have a status of WIP or Complete.

Understanding Phantom Batches

Phantoms are intermediate item components produced in the process of making finished goods. They are tracked in inventory only by the ingredients they consume. Phantoms provide a convenient method to embed manufactured items rather than individual raw materials into a formula. These items are specified as ingredients in a

formula although they themselves are products. Explode phantoms manually or automatically.

When a production batch is created from a recipe based on a formula containing phantoms, each of the ingredients set up as an automatic phantom is exploded to generate a batch that produces the ingredient. This is a phantom batch. The formula used in the phantom batch could itself contain ingredients set up as phantoms. These individual components could also result in generating additional phantom batches. A phantom batch allows reservation and transaction actions only. All the other batch actions can only be performed on the parent batch.

Items set up as manual phantoms are not exploded automatically and are exploded manually. If the phantom is not exploded, then the only way that the parent batch can be released is to change the item properties of the phantom ingredient so that it is no longer a phantom. Once this is done, the ingredient is treated identically to an ingredient consumed from inventory.

When all required phantom explosions are completed, the structure of batches resembles a tree with branches, so that the lowest level batches yield products for the higher levels to consume as ingredients.

If you perform incremental backflushing on a batch that has a phantom ingredient set up as an incremental release item, then the phantom batch is also backflushed in the same ratio used for the parent batch.

Terminating Batches

Select Terminate from the Actions menu of the Batch Details window to terminate a batch. This is used when you want to terminate batch processing. The batch status is changed to Completed and the Terminated indicator is set. Terminating a batch does not affect material or reserved quantities. Adjust these quantities after termination.

Reworking Batches

You have the option to rework any product from a previous batch, if necessary. When you rework a product from a previous batch, create a rework batch. When creating a rework batch, you must specify the original batch number of the product. Original batches are eligible for rework if they have a status of WIP, Complete or Closed, but, in order to rework a product, the product material transaction must have occurred in the original batch before you can reprocess the product in a rework batch.

If the product is lot controlled, you must rework the lot produced in the original batch, without exceeding the quantity originally produced. You also have the option to add more ingredient lines that are required for the rework, as well as more product lines in order to produce additional, non-reworked products.

The rework of serial controlled products is not supported.

Using the Process Execution Workbench Navigator

The following information is a summary of more detailed discussions found in the

Oracle E-Business Suite User's Guide. In addition to the standard menu and tool palette, a hierarchical navigator displays the objects in a treelike framework known as a workbench.

Node and Leaf

The top-level nodes in the navigator are expanded to display groups of individual objects. Lower-level nodes, and the objects they contain, are indented to indicate that they belong to these higher-level nodes. The terminal node in a branch is called a leaf node.

Data Organizer

The Data Organizer groups objects on separate tabs. Each has a unique icon and its own hierarchy. Data Organizer tabs group batches and firm planned orders. Refer to *Identifying Nodes and Tabs on the Navigator*, page 1-12 for information regarding the specific nodes and tabs used in Process Execution.

Summary Views

Summary views provide the highest level of business information and only display information. When you select any container on the Data Organizer, the summary view can also list the contents of the container in a multirecord block.

Detail Views

Detail views let you display and edit information. Refer to the *Oracle E-Business Suite User's Guide* for more information on navigation.

To navigate the application from the workbench:

The following is a typical flow through the Process Execution application:

1. Log in to your assigned Responsibility.
2. Select Workbench from the Navigator menu.
3. Click the region that contains the object type of interest. For example, the Process Execution Workbench includes these tabs:
 - Batches
 - Firm Planned Orders
4. Select the appropriate View By field. This field presents records sorted and grouped by the selection you make. The Process Execution View By fields are:
 - Organization
 - Firm Planned Order or Batch, depending on the tab selected
 - Status

- Product
5. Use one of the following methods to find the appropriate folder:
 - Expand or collapse entries in the hierarchical Data Organizer.
 - Find the appropriate object from the results. Optionally, save the data or query in a Personal or Public folder.
 6. Select the object in the Summary View and click Details.
 7. Perform actions on the selected object.
 8. Navigate from the detailed view to other related windows.

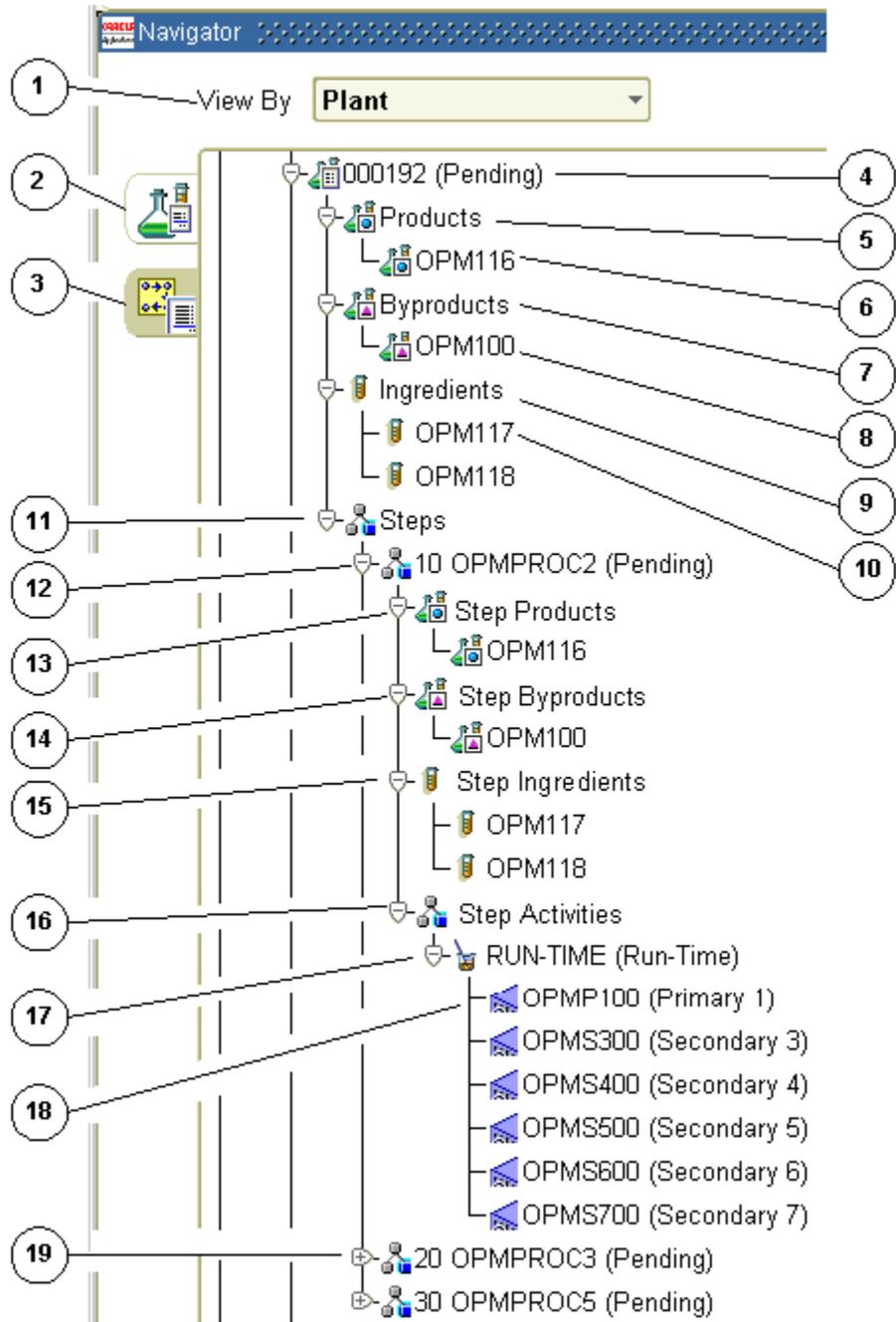
Identifying Nodes and Tabs on the Navigator:

The following lists some of the typical elements that display on the navigator when you view a batch by the organization scheduled to manufacture it:

- 1 is the View By box to view the list by Organization, Status, Batch, or Product.
- 2 is the Batches tab. Click it to display all batches available.
- 3 is the Firm Planned Orders tab. Click it to display all firm planned orders available.
- 4 is batch 000192 with the status Pending.
- 5 is the Products node for the batch.
- 6 is the product produced by the batch.
- 7 is the Byproducts node for the batch.
- 8 is the byproduct produced by the batch.
- 9 is the Ingredients node for the batch.
- 10 is the first of two ingredients used in the batch.
- 11 is the Steps node for the batch.
- 12 is step 10 in the batch. This batch step has a status of Pending.
- 13 is the Step Products node for step 10.
- 14 is the Step Byproducts node for step 10.

- 15 is the Step Ingredients node for step 10.
- 16 is the Step Activities Node for step 10.
- 17 is an activity in step 10.
- 18 is a batch resource used to perform the activity.
- 19 is step 20 in the batch. It has not been expanded.

The following graphic illustrates the previously described nodes and tabs in the navigator window:



Process Manufacturing Command Center

This chapter provides information about Oracle Process Manufacturing Command Center dashboards.

This chapter covers the following topics:

- Process Manufacturing Command Center Overview
- Batch Status Dashboard
- Outside Processing Dashboard
- Production Quality Dashboard
- Genealogy and Trace Dashboard

Process Manufacturing Command Center Overview

The Process Manufacturing Command Center increases operational efficiency and provides key insight into batch production transactions. Production supervisors, production managers, production schedulers and quality managers can use key metrics, drillable graphs, tag clouds, and network diagrams to quickly identify, track, and intervene in problem areas and outstanding issues. Based on your role, you can use the Process Manufacturing Command Center to:

- Monitor pending material issues, shortages, and resources.
- Identify and resolve shop floor schedule delays.
- Manage customer order delays and production schedule changes.
- Track outside processing operations.
- Ensure production batches comply with regulatory mandates.
- Track and trace the manufacturing production network to visualize the lot and serial units used across the supply chain including purchase orders, production

batches, and sales orders.

The Process Manufacturing Command Center includes the following dashboards:

- **Batch Status** dashboard, page 2-3 - Use this dashboard to monitor production batch status, batch schedules, and expiring lots. You can also track and analyze production delays and unallocated items.
- **Outside Processing** dashboard, page 2-17 - Use this dashboard to monitor outside processing operations for pending and work in process (WIP) batches. You can identify delays, and schedule exceptions to ensure outside processing operations are on time.
- **Production Quality** dashboard, page 2-24 - Use this dashboard to monitor the production quality processes. You can review quality samples, test evaluations, and nonconformances.
- **Genealogy and Trace** dashboard, page 2-31 - Use this dashboard to trace the manufacturing production network, both forward and backward, to track the source of material lots or serial units used in specific production batches, identify and isolate problems with these lots, and view the customers impacted by the production lots or serial units.

Note: The Oracle Process Manufacturing application configuration and setup must be completed after the installation and common configurations are completed as described in My Oracle Support Knowledge Document 2495053.1, *Installing Oracle Enterprise Command Center Framework*. For additional ECC Overview information, see *Overview of Oracle Enterprise Command Center Framework, Oracle E-Business Suite User's Guide*.

Searching Enterprise Command Center Dashboards

Use the dashboard sidebars to refine (filter) the data on each dashboard. You can select a value or record from the **Available Refinements** component, or use **Search** to find a keyword, a value, or a specific record. The type-ahead feature suggests matches for your entry that correspond to the available refinements. When you submit a search, the search term is added to the Selected Refinements list, and the dashboard data is refined to include only records that match the search. You can add multiple refinements and remove any of them at any time. Use **Saved Search** to create and save your search. You can edit, delete, or refer to this saved search. You can also search using Descriptive Flexfield (DFF) attributes. For a list of Process Manufacturing Command Center flexfields, refer to the "Configuring Descriptive Flexfields for Search" section in the chapter "Process Manufacturing Command Center Setup".

Use an asterisk (*) or percent sign (%) to perform a partial keyword or record search

that matches any string of zero or more characters. You can also use a question mark (?) to perform a partial search that matches any single character.

Additional Information: For more information about searching for and refining data in enterprise command centers, see *Search in Highlights of an Enterprise Command Center, Oracle E-Business Suite User's Guide*.

Batch Status Dashboard

The **Batch Status** dashboard offers insight into production schedules, delays, unallocated items, and expiring lots and additional batch production information. As a production supervisor and production manager, you can use this dashboard to:

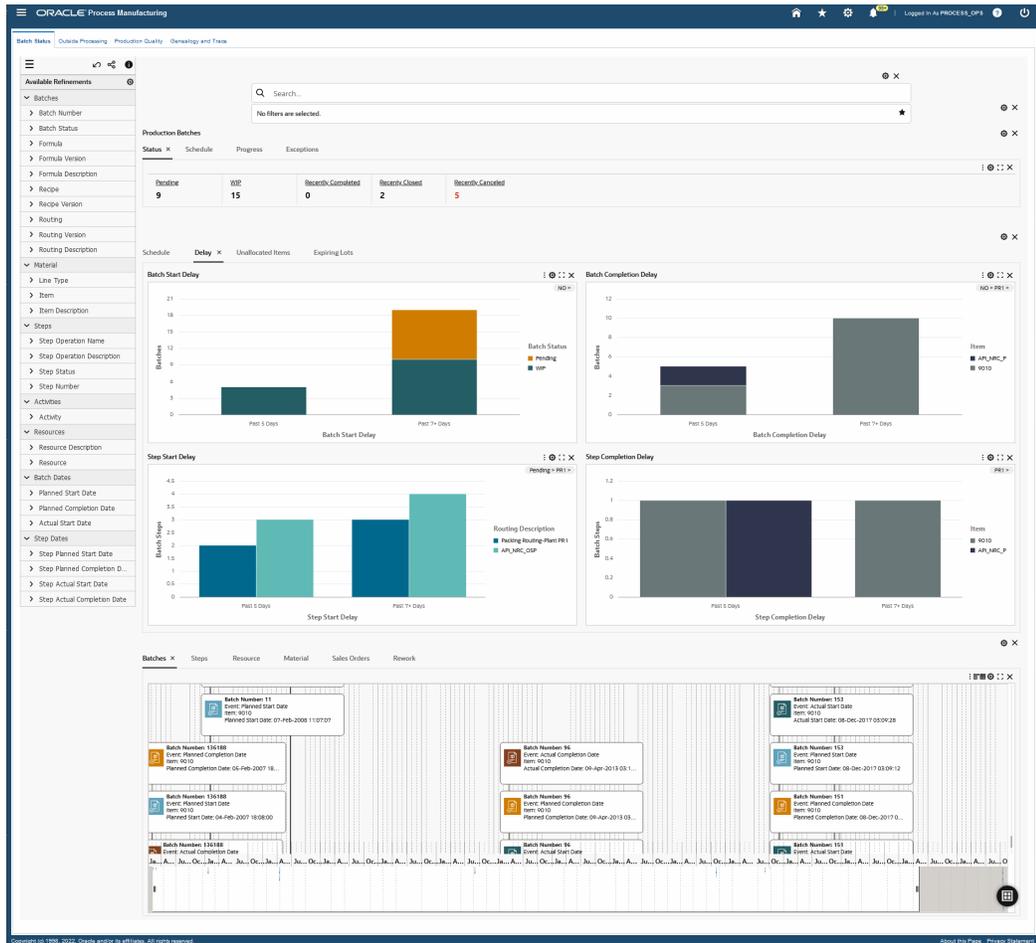
- Monitor status of production batches and operations.
- Track and manage production delays and production exceptions.
- Manage expiration information of reserved lots for batches.
- Identify customers and sales orders impacted by production delays.
- Manage batch holds in case of material shortages or equipment issues.

Using refinements, you can search this dashboard for batches, material, batch steps, resources, resource parameters, sales orders, batch dates, batch step dates, sales order dates, expiring lots, and organization details. See the Process Manufacturing Command Center Overview, page 2-1 for more information.

Navigate to the **Batch Status** dashboard:

(N) **Production Supervisor >Process Manufacturing Command Center >Batch Status**
(tab)

Batch Status Dashboard



The following table describes the **Batch Status** dashboard components:

Component	Description
Production Batches (summary bar)	<p>The Production Batches summary bar displays key metrics about production batch transactions in the following tabs:</p> <ul style="list-style-type: none"> • Status <ul style="list-style-type: none"> • Pending <p>This metric displays the number of production batches scheduled for the future.</p> • WIP <p>This metric displays the number of production batches that are in progress.</p> • Recently Completed <p>This metric displays the number of production batches that were recently completed in the last two weeks.</p> • Recently Closed <p>This metric displays the number of production batches that were recently closed in the last two weeks.</p> • Recently Canceled <p>This metric displays the number of production batches that were canceled in the last two weeks.</p> • Schedule <ul style="list-style-type: none"> • Starting Today <p>This metric displays the number of production batches that are starting today.</p> • Finishing Today

Component	Description
	<p>This metric displays the number of production batches that are finishing today.</p>
	<ul style="list-style-type: none"> <p>• Start Delayed</p> <p>This metric displays the number of pending production batches that have not yet started and are delayed from their scheduled planned date.</p> <p>• Started Late</p> <p>This metric displays the number of in progress production batches that started late.</p> <p>• Completion Delayed</p> <p>This metric displays the number of production batches that were not completed as scheduled.</p> <p>• Progress</p> <ul style="list-style-type: none"> <p>• On Track</p> <p>This metric displays the number of production batches that are on track as scheduled.</p> <p>• On Hold</p> <p>This metric displays the number of production batches that are on hold.</p> <p>• Exceptions</p> <ul style="list-style-type: none"> <p>• Unallocated</p> <p>This metric displays the number of production batches that have products with unallocated ingredients.</p> <p>• With Expiring Lots</p>

Component	Description
	<p>This metric displays the number of production batches that have expiring lots.</p> <ul style="list-style-type: none"> <p>Recently Terminated</p> <p>This metric displays the number of production batches that were terminated in the last two weeks.</p> <p>Recently Under Rework</p> <p>This metric displays the number of production batches that have required rework in the last two weeks.</p> <p>Original Batch Requiring Rework</p> <p>This metric displays the number of original production batches that require rework.</p> <p>The metrics display in color codes for warnings, alerts, or exceptions. To refine the dashboard data, click a metric link.</p>

Component	Description
Schedule (tab)	<p>The Schedule tab displays the following charts:</p> <ul style="list-style-type: none"> • Batch Start Schedule - This chart displays the number of batches started for a specific start date range. Click the Options icon to select Batch Start Date, Organization, Item, or Customer from the Group Dimensions menu. • Batch Completion Schedule - This chart displays the number of batches for a specific completion date range. Click the Options icon to select Batch Completion Date, Organization, Item, or Customer from the Dimension menu and the Group Dimensions menu. • Step Start Schedule - This chart displays the number of batch steps for a specific start date range. Click the Options icon to select Step Start Date, Organization, Routing Description, Step Operation Description, or Item from the Dimension menu and Group Dimensions menu. • Step Completion Schedule - This chart displays the number of batch steps for a specific completion date range. Click the Options icon to select Step Completion Date, Organization, Routing Description, Step Operation Description, or Item from the Dimension menu and the Group Dimensions menu. <p>The Batch Status and Step Status dimensions in the charts are color coded to show that the batches are in the following status:</p> <ul style="list-style-type: none"> • Pending • WIP

Component	Description
Delay (tab)	<p>The Delay tab displays the following charts:</p> <ul style="list-style-type: none"> • Batch Start Delay - This chart displays the number of batches delayed for a specific date range. Click the Options icon to select Organization, Item, Customer, Batch Start Delay, or Batch Status from the Dimension menu. Select Batch Start Delay, Organization, Item, Customer, or Batch Status from the Group Dimensions menu. • Batch Completion Delay - This chart displays the number of batches with completion delays for a specific date range. Click the Options icon to select Organization, Item, Customer, or Batch Completion Delay from the Dimension menu. Select Batch Completion Delay, Organization, Item, or Customer from the Group Dimensions menu. • Step Start Delay - This chart displays the number of batch steps delayed for a specific date range. Click the Options icon to select Organization, Routing Description, Item, Step Operation Description, Step Start Delay, or Step Status from the Dimension menu. Select Step Start Delay, Organization, Routing Description, Item, Step Operation Description, or Step Status from the Group Dimensions menu. • Step Completion Delay - This chart displays the number of batch steps with completion delays for a specific date range. Click the Options icon to select Organization, Routing Description, Item, Step Operation Description, or Step Delay Completion from the Dimension menu. Select Step Completion Delay, Organization, Routing Description, Item, or Step Operation Description from the Group Dimensions menu.

Component	Description
Unallocated Items (tab)	<p>The Batch Status and Step Status dimensions in the charts are color coded to show that the batches are in the following status:</p> <ul style="list-style-type: none"> • Pending • WIP <p>The Unallocated Items tab displays the following charts:</p> <ul style="list-style-type: none"> • Batches with Unallocated Ingredients - This chart displays the number of batches that contain unallocated ingredients, by item and organization. • Products with Unallocated Ingredients - This chart displays the number of batches that contain unallocated products, by item and organization. Click the Options icon to select Organization or Item from the Dimension menu.

Component	Description
Expiring Lots (tab)	<p>The Expiring Lots tab displays the following chart and table:</p> <ul style="list-style-type: none"> <p>Batches Reserved with Expiring Lots - This chart displays the number of batches reserved with expiring lots. Click the Options icon to select Organization, Item, or Scheduled Consumption from the Dimension menu. Select Lot Expiration Period, Organization, or Item from the Group Dimensions menu.</p> <p>Details of Batches Reserved with Expiring Lots - This results table displays shows detailed information to identify expiration of reserved lots with reference to a batch. You can view information about item, item description, expiring lots, lot expiration dates, lot expiration periods, shelf life remaining before consumption, on-hand quantity, and so on.</p> <p>You can use the Reservation Details icon in this table to navigate to the Item Reservation window.</p>

Component	Description
Results Tables (tab layout)	<p>The Batch Status dashboard results tables display production batch details under the following tabs:</p> <ul style="list-style-type: none"> • Batches <p>Use this tab to select and view batch details information based on the following options available from the drop-down list:</p> <ul style="list-style-type: none"> • Batch Details • Batch Dates • Batch Information <p>On the Batches tab, click the Actions icon, and select from the following:</p> <ul style="list-style-type: none"> • Update - Click this action link to navigate to the Batch Details window. • Network - Click this action to view the Material Lot and Serial Unit Genealogy diagram for a batch in the Genealogy and Trace dashboard. You can also select multiple batch numbers in the Batches tabs, and then select View Network from the Actions menu. • Batch Quick Actions - Click this action link to perform the following for a selected batch if applicable: <ul style="list-style-type: none"> • Release - To release a batch, select Release from the Actions list of values, enter a date in the Actual Start Date field, optionally select to Bypass Material Exceptions, and then click Submit.

Component	Description
	<ul style="list-style-type: none"> <li data-bbox="1068 310 1463 531">• Complete - To release a batch, select Release from the Actions list of values, enter a date in the Actual Completion Date field, optionally select to Bypass Material Exceptions, and then click Submit. <li data-bbox="1068 573 1463 730">• Reschedule - To release a batch, select Release from the Actions list of values, enter a date in the Planned Completion Date field and then click Submit. <li data-bbox="1068 772 1463 867">• Cancel - To release a batch, select Cancel from the Actions list of values and click Submit. <li data-bbox="1068 909 1463 1486"> <ul style="list-style-type: none"> <li data-bbox="1068 909 1463 1098">• Hold - To pause or stop a batch due to material shortages or equipment issues, select Hold from the Actions list of values, enter the following information, and then click Submit: <ul style="list-style-type: none"> <li data-bbox="1117 1119 1463 1182">• Hold Type - Select pause or stop. <li data-bbox="1117 1224 1463 1381">• Hold Reason - Select from the list of values to enter a hold reason, such as sample testing, machine damage, or material shortage. <li data-bbox="1117 1423 1463 1486">• Hold Comments - Enter comments if any. <p data-bbox="1081 1539 1438 1696">Note: Currently, e-signatures are not supported on the Process Manufacturing Command Center in ECC pop-up actions such as batch quick actions.</p>

Component	Description
	<p>The Hold Alert column in the Batches tab displays the Hold icon for which the tooltip displays either Pause or Stop depending on the hold type of a batch number. To release the batch hold use the following steps:</p> <ol style="list-style-type: none"> 1. Click the icon in the Batch Hold column for a batch that is in the Pause or Stop status. 2. In the Release Comments field, enter comments if any. 3. In the Hold End Date field, select and enter a date. 4. Click Submit. <ul style="list-style-type: none"> • Steps <p>Use this tab to select and view batch step information based on the following options available from the drop-down list:</p> <ul style="list-style-type: none"> • Step Details • Step Dates • Batch Steps Information <p>You can view the information in the Batches and Steps tabs in the results tables using the Timeline View or Table View options.</p> <p>Click the Timeline View icon in the Batches or the Steps tab to see the following events for a batch or a batch step:</p> <ul style="list-style-type: none"> • Planned Start Date • Planned Completion Date

Component	Description
	<ul style="list-style-type: none"> <li data-bbox="1019 304 1247 336">• Actual Start Date <li data-bbox="1019 373 1323 405">• Actual Completion Date <p data-bbox="1019 447 1414 541">Right-click each event in the Timeline View to select Show Details or any applicable action.</p> <p data-bbox="1019 562 1446 783">Click the Timeline View Option icon to enable the overview display and select the optimum number of records within the maximum limit of 500 to view all the dates for each batch and batch step. You can also use the Timeline View Option icon to add and remove events.</p> <ul style="list-style-type: none"> <li data-bbox="971 825 1128 856">• Resources <p data-bbox="1019 884 1442 1003">Use this tab to select and view resources related information based on the following options available from the drop-down list:</p> <ul style="list-style-type: none"> <li data-bbox="1019 1035 1242 1066">• Resource Details <li data-bbox="1019 1104 1226 1136">• Resource Dates <li data-bbox="1019 1173 1286 1205">• Resource Parameters <li data-bbox="1019 1243 1409 1274">• Batch Steps Activity Information <li data-bbox="971 1325 1112 1356">• Material <p data-bbox="1019 1383 1442 1436">Use this tab to select and view materials related information.</p> <p data-bbox="1019 1467 1458 1520">On the Batches tab, click the Actions icon, and select from the following:</p> <ul style="list-style-type: none"> <li data-bbox="1019 1551 1458 1772">• Network - Click this action to view the Material Lot and Serial Unit Genealogy diagram for a batch in the Genealogy and Trace dashboard. You can also select multiple batch numbers in the Batches tabs, and then select View Network from the

Component	Description
	<p>Actions menu.</p> <ul style="list-style-type: none"> • View Item Details - Click this action link to navigate to the Items dashboard. • Sales Orders Use this tab to select and view sales order related information. • Rework Use this tab to select and view batch rework related information based on the following options available from the drop-down list: <ul style="list-style-type: none"> • Rework Batch Details • Batch Dates • Batch Information • Batch Hold Details <p>Click the link icon in the Network column on the Batches and Material tabs to view the Material Lot and Serial Unit Genealogy diagram for a batch in the Genealogy and Trace dashboard. You can also select multiple batch numbers in the Batches and Material tabs, and then select View Network from the Actions menu.</p> <p>Click the links in the table columns to refine the information available on the dashboard.</p> <p>The following actions are available from the Options icon in the Batch Status dashboard tables:</p> <ul style="list-style-type: none"> • Compare - Select multiple rows to compare information.

Component	Description
	<ul style="list-style-type: none"> • Export - Export the search results in a comma-separated values (CSV) file format.

Outside Processing Dashboard

The **Outside Processing** dashboard offers insight into outside processing operations for pending and work in process (WIP) batches. As a production supervisor or production scheduler, you can use this dashboard to:

- Identify delays in outside processing operations.
- Track and notify suppliers about schedule delays.
- Ensure outside processing operations are executed on time.

Using refinements, you can search on suppliers, resources, and batches to view and organization details. See *Process Manufacturing Command Center Overview*, page 2-1 for more information.

Navigate to the **Outside Processing** dashboard:

(N) **Production Supervisor >Process Manufacturing Command Center >Outside Processing** (tab)

Outside Processing Dashboard

Outside Processing Operations Summary:

- Outside Processing Operations: 8
- Start Delay: 10
- Operations with PO Record Delays: 10
- Suppliers with PO Record Delays: 1

OSP Items with Open Quantity in Receiving:

- OSP_PRODUCT_A08: 1
- OSP_PRODUCT_B01: 1
- OSP_ORP1: 1
- OSP_ORP2: 1

Operation Start Delay Chart:

Start Date	Operations
Today	~1.5
Past 7 Days Start Date	~4.0
Past 7+ Days	~1.5

Operation Completion Delay Chart:

Completion Date	Operations
Today	~1.5

Batch Step Details Table:

Batch Number	Step Number	Organization Code	Organization	Step Operation Name	Step Operation Description	Step Status	Step Planned Quantity	Step Actual Quantity	Formula Version	Routing	Routing Version	Routing Class	Batch Hold Indicator	Batch Terminated
145	10	PR1	PR1	OSPORP0AS	Operations for OSP Ass Item	Delayed	20		1	OSPOTR0AS	1		No Hold	NO
147	10	PR1	PR1	OSPORR0ES	OSP Operation with OSP Resource	Delayed	20		1	OSPOTR0ES	1		No Hold	NO
148	10	PR1	PR1	OSPORP0AS	Operations for OSP Ass Item	Delayed	20		1	OSPOTR0AS	1		No Hold	NO
149	10	PR1	PR1	OSPORP0AS	Operations for OSP Ass Item	Delayed	20		1	OSPOTR0AS	1		No Hold	NO
237	10	PR1	PR1	OSP_ORP1	OSP_ORP1	Delayed	252.53		1	APL_NRC_OSP	1		No Hold	NO
237	30	PR1	PR1	OSP_ORP2	OSP_ORP2	Delayed	252.53		1	APL_NRC_OSP	1		No Hold	NO
279	10	PR1	PR1	OSP_ORP1	OSP_ORP1	Work	25		1	APL_NRC_OSP	1		No Hold	NO
279	30	PR1	PR1	OSP_ORP2	OSP_ORP2	Delayed	25		1	APL_NRC_OSP	1		No Hold	NO
280	10	PR1	PR1	OSP_ORP1	OSP_ORP1	Delayed	25		1	APL_NRC_OSP	1		No Hold	NO
280	30	PR1	PR1	OSP_ORP2	OSP_ORP2	Delayed	25		1	APL_NRC_OSP	1		No Hold	NO

The following table describes the **Outside Processing** dashboard components:

Component	Description
Outside Processing Operations (summary bar)	<p>The Outside Processing Operations summary bar displays the following key metrics:</p> <ul style="list-style-type: none"> • Pending This metric displays the number of outside processing steps that are scheduled for the future. • WIP This metric displays the number of outside processing steps that are in process. • Start Delay This metric displays the number of outside processing steps with start delays for pending and WIP batch steps. • Operations with PO Receipt Delay This metric displays the number of outside processing operations with PO expected receipts that are past the current date. • Suppliers with PO Receipt Delay This metric displays the number of suppliers with PO expected receipts that are past the current date. <p>The metrics display in color codes for warnings, alerts, or exceptions. Click a metric link to refine the dashboard data.</p>
OSP Items with Open Quantity in Receiving (grid)	<p>The OSP Items with Open Quantity in Receiving grid shows information about the outside processing items that are yet to be procured from the suppliers. You can click the links in this summary bar to refine the information in the dashboard.</p>

Component	Description
Schedule (tab)	<p>The Schedule tab displays the following charts:</p> <ul style="list-style-type: none"> • The Operation Start Schedule - This chart displays the start schedule information for pending outside processing operations. Click the Options icon to select Organization Code, Status, Operation Code, or Resource in the Dimension menu. Select Start Date, Organization Code, Status, Operation Code, or Line Item from the Group Dimensions menu. • Operation Completion Schedule - This chart displays the completion schedule information for outside processing steps for WIP outside processing operations. Click the Options icon to select Organization Code, Status, Operation Code, or Resource in the Dimension menu. Select Completion Date, Organization Code, Status, or Line Item from the Group Dimensions menu.

Component	Description
Delay (tab)	<p>The Delay tab displays the following charts:</p> <ul style="list-style-type: none"> <p>Operation Start Delay - This chart displays information about the outside processing operations with start delays. Click the Options icon to select Organization Code, Step Status, or Resource in the Dimension menu. Select Start Date, Organization Code, Operation Code, or Line Item from the Group Dimensions menu.</p> <p>Operation Completion Delay - This chart displays the information about the outside processing operations with completion delays. Click the Options icon to select Organization Code, Step Status, or Resource in the Dimension menu. Select Completion Date, Organization Code, Status, Operation Code, or Line Item from the Group Dimensions menu.</p>

Component	Description
Supplier (tab)	<p>The Supplier tab displays the following information:</p> <ul style="list-style-type: none"> <p>Outside Processing Suppliers - This tag cloud displays the list of the top 10 suppliers for whom the number of outside operations are in pending and WIP. The entities are displayed in relative sizes by frequency of occurrence. You can click an entity in the tag cloud to filter the data in the dashboard. Outside processing operations that are not associated to any supplier, will be tagged as PO Not Created.</p> <p>Outside Processing Operations - This chart displays information about the supplier outside processing operations. Click the Options icon to select Organization Code, Step Status, Operation Code, or Resource in the Dimension menu. Select Supplier, Operation Code, or Resource from the Group Dimensions menu.</p>

Component	Description
Results Tables (tab layout)	<p>The Outside Processing dashboard results tables display outside processing operation information for batches with the status Pending and WIP under the following tabs:</p> <ul style="list-style-type: none"> • Batch Steps <p>Use this tab to select and view batch step information based on the following options available from the drop-down list:</p> <ul style="list-style-type: none"> • Batch Step Details • Step Dates • Batch Steps Information <p>Click the link icon in the Update column on the Batch Steps tab to navigate to the Batch Steps window.</p> • Resource Details <p>Use this tab to select and view resources related information based on the following options available from the drop-down list:</p> <ul style="list-style-type: none"> • Resource Details • Resource Dates • Resource Parameters • Batch Steps Activity Information • Material <p>Use this tab to select and view material related information</p> <p>Click the icon in the View Item Details column on the Material tab to navigate to the Items dashboard.</p>

Component	Description
	<ul style="list-style-type: none"> <li data-bbox="878 310 1029 342">• Suppliers <p data-bbox="922 365 1338 422">Use this tab to select and view supplier related information</p> <p data-bbox="873 464 1360 716">Click the link icon in the Network column on the Batches and Material tabs to view the Material Lot and Serial Unit Genealogy diagram for a batch in the Genealogy and Trace dashboard. You can also select multiple batch numbers in the Batches and Material tabs, and then select View Network from the Actions menu.</p> <p data-bbox="873 743 1338 800">Click the links in the table columns to refine the information available on the dashboard.</p> <p data-bbox="873 827 1338 919">The following actions are available from the Options icon in the Outside Processing dashboard tables:</p> <ul style="list-style-type: none"> <li data-bbox="878 947 1284 1003">• Compare - Select multiple rows to compare information. <li data-bbox="878 1045 1321 1136">• Export - Export the search results in a comma-separated values (CSV) file format.

Production Quality Dashboard

The **Production Quality** dashboard offers insight into quality samples, test evaluations, and nonconformances. As a production supervisor, you can use this dashboard to:

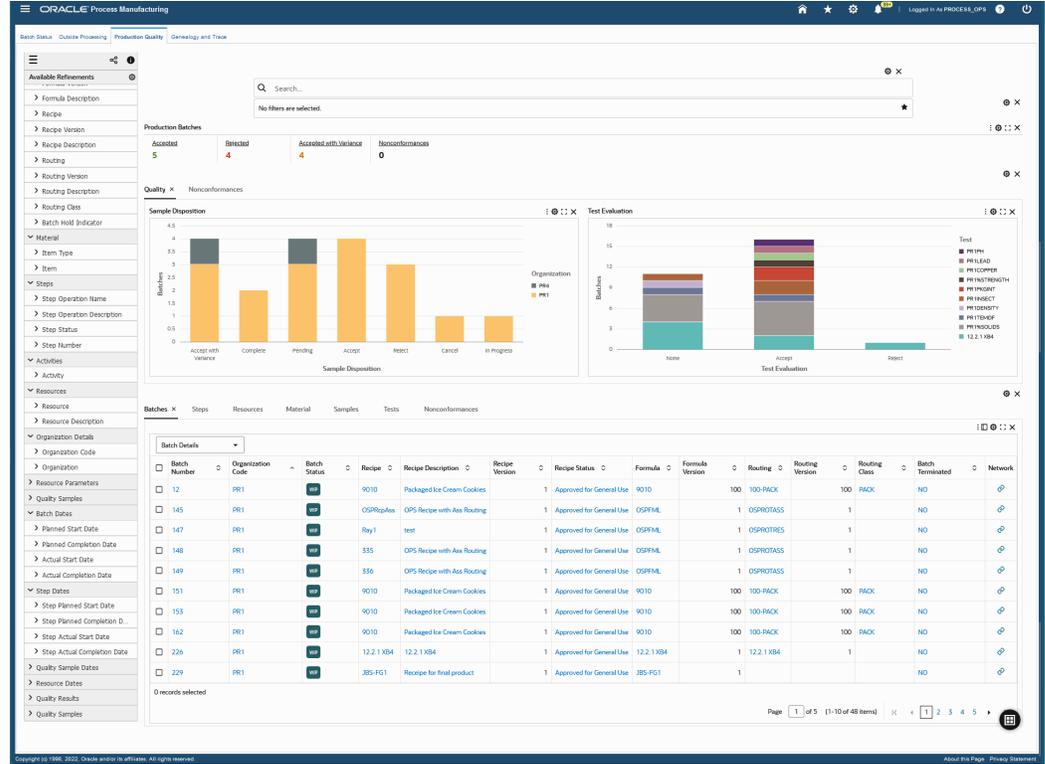
- Ensure the process and product quality.
- Identify the issues that cause low yield.
- Monitor and analyze product nonconformances.

Using refinements, you can search on batches, material, batch steps, resources, organization details, resource parameters, quality samples, batch dates, batch step dates, quality sample dates, resource dates, and quality results. See *Process Manufacturing Command Center Overview*, page 2-1 for more information.

Navigate to the **Production Quality** dashboard:

(N) Production Supervisor >Process Manufacturing Command Center >Production Quality (tab)

Production Quality Dashboard



The following table describes the **Production Quality** dashboard components:

Component	Description
Production Batches (summary bar)	<p>The Production Batches summary bar displays the following key metrics:</p> <ul style="list-style-type: none"><li data-bbox="878 401 1360 548">• Accepted This metric displays the number of production batches with samples that are accepted.<li data-bbox="878 590 1360 737">• Rejected This metric displays the number of production batches with samples that are rejected.<li data-bbox="878 779 1365 926">• Accepted with Variance This metric displays the number of production batches that are accepted with variance sample dispositions.<li data-bbox="878 968 1349 1073">• Nonconformances This metric displays the total number of nonconformances reported. <p>The metrics display in color codes for warnings, alerts, or exceptions for the selected organizations. Click a metric link to refine the dashboard data.</p>

Component	Description
Quality (tab)	<p>The Quality tab displays the following charts:</p> <ul style="list-style-type: none"> <p>Sample Disposition - This chart displays the number of batches and their dispositions organized by the items included in the batches. Click the Options icon to Organization, Item, or Sample Disposition in the Dimension menu. Select Sample Disposition, Organization, or Item from the Group Dimensions menu.</p> <p>The Sample Disposition dimension in the chart is color coded to show the following sample dispositions:</p> <ul style="list-style-type: none"> Accept Accept with Variance Reject Planned Pending In Progress Complete Cancel <p>Test Evaluation - This chart displays the number of batches and their dispositions organized by the tests included in the batches. Click the Options icon to select Test, Organization, or Test Evaluation from the Dimension menu. Select Test Evaluation, Test, or Organization from the Group Dimensions menu.</p> <p>The Test Evaluation dimension in the chart is color coded to show test results that you can:</p>

Component	Description
Nonconformances (tab)	<ul style="list-style-type: none"> • Accept • Accept with Variance • Reject <p>The Nonconformances tab displays the following information:</p> <ul style="list-style-type: none"> • The Top 10 Nonconformances tag cloud displays the highest number of occurring nonconformance reasons. The entities are displayed in relative sizes by frequency of occurrence. You can click an entity in the tag cloud to filter the data in the dashboard. • Nonconformances - This chart displays the number of nonconformances and the nonconformance severity levels. Click the Options icon to select Nonconformance Severity or Nonconformance type from the Dimensions menu. Select Organization, Item, Routing, or Resource from the Group Dimensions menu.

Component	Description
Results Tables (tab layout)	<p>The Production Quality dashboard results tables display batch production quality information under the following tabs:</p> <ul style="list-style-type: none"> • Batches <p>Use this tab to select and view batch details information based on the following options available from the drop-down list:</p> <ul style="list-style-type: none"> • Batch Details • Batch Dates • Batch Information • Steps <p>Use this tab to select and view batch step information based on the following options available from the drop-down list</p> <ul style="list-style-type: none"> • Step Details • Step Dates • Batch Steps Information • Resources <p>Use this tab to select and view resources information based on the following options available from the drop-down list:</p> <ul style="list-style-type: none"> • Resource Details • Resource Dates • Resource Parameters • Batch Steps Activity Information • Material

Component	Description
	<p>Use this tab to select and view material related information.</p> <p>Click the icon in the View Item Details column on the Material tab to navigate to the Items dashboard.</p> <ul style="list-style-type: none"> <p>• Samples</p> <p>Use this tab to select and view sample related information.</p> <p>Click the icon in the View Sample Details column on the Samples tab to navigate to the Sample Inspection dashboard.</p> <p>• Tests</p> <p>Use this tab to select and view information about test related information.</p> <p>• Nonconformances</p> <p>Use this tab to select and view nonconformances related information.</p> <p>Click the link icon in the Network column on the Batches, Material, and Samples tabs to view the Material Lot and Serial Unit Genealogy diagram for a batch in the Genealogy and Trace dashboard. You can also select multiple batch numbers in the Batches, Material, and Samples tabs, and then select View Network from the Actions menu.</p> <p>Click the links in the table columns to refine the information available on the dashboard.</p> <p>The following actions are available from the Options icon in the Production Quality dashboard tables:</p> <ul style="list-style-type: none"> <p>• Compare - Select multiple rows to compare information.</p>

Component	Description
	<ul style="list-style-type: none"> • Export - Export the search results in a comma-separated values (CSV) file format.

Genealogy and Trace Dashboard

The **Genealogy and Trace** dashboard provides quality analysts and quality managers a quick and easy traceability solution to track the supply chain and analyze manufacturing information to isolate problems and resolve issues. For example, during quality recall scenarios, you can identify the specific production batches that produced recalled lots and trace back to the ingredient lots with quality issues. You can also view all production batches that have used similar quality lots to analyze any customer impacts. You can also identify, isolate, and put a hold on the likely defective product lots that are still in the warehouse.

Use this dashboard to:

- Visualize the end-to-end supply chain and manufacturing information comprising of purchase orders, material lots, work orders, production serial units, and sales orders.
- Trace the network forward and backward to track the source of material lots consumed in specific production work orders along with customer information.
- Analyze the broader impact of specific material lot from its consumption pattern.
- View details for a node and take action on the specific batch, material lot, serial unit, sales order and so on.

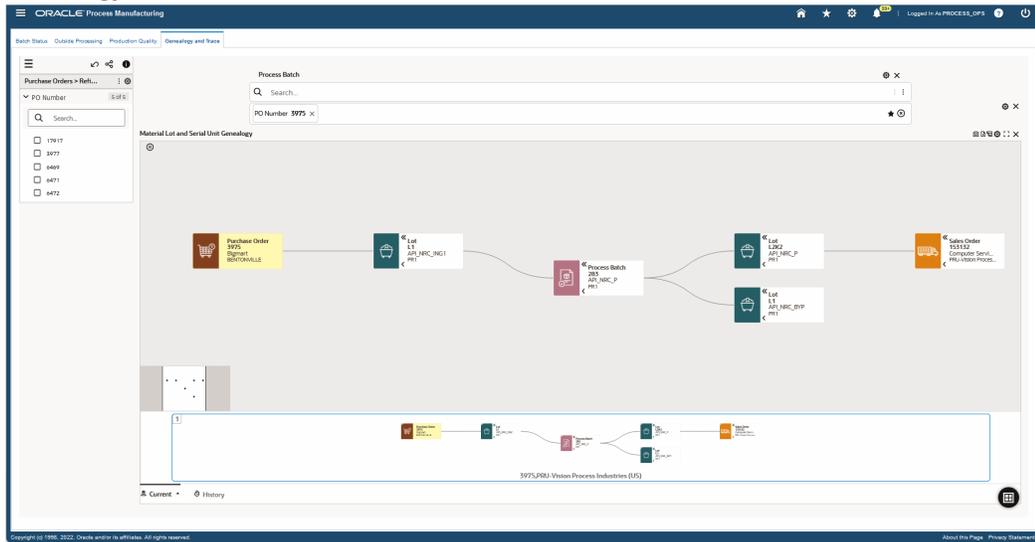
The **Material Lot and Serial Unit Genealogy** diagram displays the network relationship of the entity that you query. You can use the Search field to find a batch number . You can also select from the available refinements for process batches, serial numbers, purchase orders, sales orders, and lot numbers such as batch, product, ingredient, serial number, item, PO number, supplier, operating unit, order number, lot number and so on to filter the information that displays in the diagram. See the Process Manufacturing Command Center Overview, page 2-1 for more information.

Navigate to the **Genealogy and Trace** dashboard:

(N) **Production Supervisor >Process Manufacturing Command Center >Genealogy and Trace** (tab)

The following table describes the **Genealogy and Trace** dashboard components:

Genealogy and Trace Dashboard



Component

Description

Material Lot and Serial Unit Genealogy
(diagram)

This diagram displays the network details for the node you query or the refinements that you select. Right-click a node to view available **Actions** and to select from the following options:

- **Make Anchor Node** - Select this option to make a node the main node.
- **Show Adjacent Nodes** - Select this option to expand a node to see its related nodes.
- **Highlight Path** - Select this option to highlight the specific path of a node. You can right-click and select **Unhighlight Path** to remove highlighting a path.
- **Explore Node** - Select this option to explore the node further.
- **Compare** - Select multiple nodes and click Compare for a side-by-side comparison of the records of each selected node.
- **Show Details** - Select this for a node to view details. On the Details window that opens, select multiple filters and then click **Find Similar** to apply these filters to the diagram.

Based on your search and selected refinements, the network diagram displays the following nodes:

- **Purchase Order** - This node displays the purchase order number, supplier name, and the operating unit. Right-click and select:
 - **Show Details** - Click this link to view the document type, supplier site, status, operating unit, buyer, document type, amount, and currency.
 - **View Purchase Order** - Click this

action link to navigate to the **Standard Purchase Order** page.

The Purchase Order node displays the Hold icon for open and current purchase orders that are on hold.

- **Lot** - This node displays the lot number, item name, and the organization code. Right-click and select:
 - **Show Details** - Click this link to view the document type, item, item description, organization name, status code, grade code, origination date, origination type, origination transaction, retest date, expiration date, expiration action date, hold date, supplier lot, parent lot, and if the lot is disabled or not.
 - **View Item Lots** - Click this action link to navigate to the **Lot Number** window.
 - **View Lot Transactions** - Click this action link to navigate to the **Material Transactions** window.
 - **View Quality Results** - Click this action link to navigate to the:
 - Quality Command Center's **Sample Inspection** or **Sample Analysis** dashboards for the lots in process manufacturing organizations.
 - Quality Command Center's **Collection Results** dashboard for the lots in discrete manufacturing organizations. Note that this link defaults to the **Collections Results** tab, and to the Discrete Manufacturing Attributes.

-
- **View Material Workbench** - Click this action link to navigate to the **Material Workbench** page (for Release 12.2.9 and above) or to the **Material Workbench** window (if lower than Release 12.2.9).

The Lot node displays the following icons:

- **Status** - This icon indicates the different status codes of a lot.
 - **Expired** - This icon indicates that the lot is expired and still not completely consumed.
 - **Grade** - This icon indicates the grade code of a lot.
- **Process Batch** - This node displays the batch number, primary product item name, and the organization code. Right-click and select:
 - **Show Details** - Click this link to view the document type, batch, product, description, status, recipe, recipe version, plan start date, plan completion date, actual start date, actual completion date, close date, product plan quantity, product actual quantity, product UOM, and if the batch is terminated or not.
 - **View Batch Details** - Click this action link to navigate to **Batch Details** window.
 - **View Batch Status** - Click this action link to navigate to **Batch Status** dashboard.
 - **View Production Quality** - Click this action link to navigate to **Production Quality** dashboard.

The Process Batch node displays the following icons:

- **Hold** - This icon indicates that a batch is actively on hold.
- **Terminated** - This icon indicates that a batch is terminated.
- **Rework** - This icon indicates a rework batch.
- **Serial** - This node displays the serial unit, item name or assembly name, and the organization code. Right-click and select:
 - **Show Details**- Click this link to view the document type, serial number, item, item description, organization name, serial status, origination date, initialization date, completion date, ship date, parent lot number, parent serial number, supplier lot number, supplier serial, number, and material status.
 - **View Serial Numbers** - Click this action link to navigate to the **Serial Number** window.
 - **View Serial Transactions** - Click this action link to navigate to the **Material Transactions** window to view serial transactions.
 - **View Quality Results** - Click this action link to navigate to the Quality Command Center's **Collection Results** dashboard. Note that this link defaults to the **Collections Results** tab, and to the Discrete Manufacturing Attributes.
 - **View Material Workbench** - Click this action link to navigate to the **Material Workbench** page (for Release 12.2.9 and above) or to the

Material Workbench window (if lower than Release 12.2.9).

- **Sales Order** - This node displays the sales order number, customer name, and the operating unit. Right-click and select:
 - **Show Details** - Click this link to view the document type, order number, customer, operating unit, order type, ordered date, booked date, and the sales representative for the sales order.
 - **View Sales Order** - Click this action link to navigate to the **Sales Order** page.

The Sales Order node displays the Hold icon for open and current sales orders.

The following icons are available for the Material Lot and Serial Unit Genealogy diagram:

- **Export to Image** - Export the Material Lot and Serial Unit Genealogy diagram information as image.
 - **Export to CSV** - Download and export the information as a CSV file.
 - **Export to PDF** - Download and export the information in the PDF format.
 - **Row Expander** - View network relationship for the entity you have queried in a hierarchical row format. To go back to the diagram view, click the **Network Diagram** icon.
-

Setting Up

The Oracle Process Manufacturing Process Execution application is seamlessly integrated to the Product Development application. Therefore, setup in Oracle Process Manufacturing Process Execution is limited to modifications that are associated to recipes and validity rules in order to produce the production batch. This topic provides the setup requirements.

This chapter covers the following topics:

- Setting Up in Other Applications
- Setting Up Parameters
- Setting Up Make to Order Rules
- Setting Up Profile Options

Setting Up in Other Applications

Following find the setup that is required in other applications. Set up these prerequisites prior to running the Oracle Process Manufacturing (OPM) Process Execution application. Refer to the details for setting up these requirements provided in the application user's guides indicated. Depending on your individual requirements, there may be OPM related or additional setup required. If this is the case, then the details are provided below.

Setting Up in Oracle Inventory

Set up the following in the Oracle Inventory application. Refer to the *Oracle Inventory User's Guide* for details.

- Inventory Organization
Required
- Organization Parameters

Required

- Subinventories

Required

- Locators

- Unit of Measure Classes

Required

- Units of Measure

Required

- Master Item

Required

- Organization Items

Required

Set the Process Execution Enabled flag on the Process Manufacturing tab. Enter Supply Subinventory, Supply Locator, Yield Subinventory, and Yield Locator on the Process Manufacturing tab to specify a default subinventory and locator from which to consume and yield the item.

Enter Fixed and Variable leadtimes on the Lead Times tab to calculate the duration of a batch. The leadtimes are for production of a single unit.

- Material Status codes
- Picking Rules
- Pick Slip Grouping Rules

Setting Up in Oracle Warehouse Management System

Set up the following in Oracle Warehouse Management System (WMS) application for a WMS-enabled Organization. Refer to the *Oracle Warehouse Management User's Guide* for details.

- Organization Parameters
Required
- Picking Rules
- Pick Slip Grouping Rules

Setting Up in Oracle Bills of Material

Set up the Workday Calendar in Oracle Bills of Materials application. Refer to the *Oracle Bills of Material User's Guide* for details.

Setting Up in Oracle Process Manufacturing Product Development

Set up the following in the OPM Product Development application. Refer to the *Oracle Process Manufacturing Product Development User's Guide* for details.

- Product Development Parameters
Required
- Formulas
Required
- Activities
- Operations
- Routings
- Recipes
Required
- Recipe Validity Rules
Required
- Resources
- Plant Resources
- Process Parameters

Setting Up Parameters

The Oracle Process Manufacturing (OPM) Process Execution parameters are defined at the organization level. The OPM Product Development and Oracle Inventory Organization Parameters must be defined to set up OPM Process Execution parameters.

Prerequisites

- Set up organizations in the Oracle Inventory application.

- Complete setting up in OPM Product Development.

To set up OPM Process Execution parameters:

1. Navigate to the Process Execution Parameters window.
2. The following fields are display only and are set up on the OPM Product Development Parameters window:
 - Name is the name of the organization.
 - Plant is selected if the current organization is a plant.
 - Laboratory is selected if the current organization is a laboratory.

Batch Setup

3. Select Display Unconsumed/Unyielded Material to view the unconsumed ingredients and unyielded products when a batch is complete.
4. Select Scale Reservations to match changes to planned quantities resulting from batch scaling.

Note: This only applies to ingredients with detailed reservations.

5. Set Allow Material Deletion to:
 - Pending to allow material deletion only when a batch is pending.
 - Pending and WIP to allow material deletion when a batch is in pending or WIP status.
6. Set Validate Plan Dates to:
 - Validate Both Planned Dates to validate both planned start and planned completion dates, against the validity rule date range, when creating or rescheduling a batch or firm planned order.
 - Validate Planned Start Date Only to validate only planned start dates, against the validity rule date range, when creating or rescheduling a batch or firm planned order.
7. Set Incremental Backflush Factor to:
 - Single Product to calculate the incremental backflush factor as a ratio of the incremental quantity of an item to WIP planned quantity of a single product.

- Total of Product to calculate the incremental backflush factor as a ratio of the incremental quantity of an item to total WIP planned quantity of all products.
8. Enter number of days in Rule Based Reservation Time Fence. Detailed reservations based on picking rules are created for batches which have material requirement date within this number of days.
 9. Select the Ingredient Substitution Date to use for substitutions defined on the Item Substitution List:
 - Batch planned start date
 - Ingredient requirement date
 - Batch planned completion date
 10. Select the Availability Based Substitution Time to run the Item Substitution for Batches concurrent program:
 - Select Manual (default) to manually request the Item Substitution for Batches concurrent program.
 - Select At Batch Creation to automatically run the Item Substitution for Batches concurrent program after saving a batch.

Setting up Incremental Backflush Parameter (IB_CHECK_PROD)

You can add a parameter IB_CHECK_PROD to the form function GMETTMTX_F through Application Developer responsibility.

11. Set the value for this parameter to display different messages when product allocation is not entered for the backflushed quantity:
 - 1 - A warning message displays when products are not fully allocated. You can select Yes to continue or No to stay on the Material Exceptions window.
 - 2 - An error message displays if products are not fully allocated. You remain on the Material Exceptions window until you allocate the exception quantity for the product or cancel the operation by closing the window
 - If the value for parameter IB_CHECK_PROD is not set or set to any value other than 1 or 2, the incremental backflush is performed without any product allocation.

Create Batch

12. Select Check Shortages to check inventory shortages during batch creation. The shortages are checked at the inventory organization level.

13. Select Copy Formula Text to copy text from the formula header and details to the batch header and details during the batch creation process.
14. Select Copy Routing Text to copy text from routing steps, activities, and resources to the batch steps during batch creation.
15. Select Create High Level Reservations to create reservations at the item level for ingredients during batch creation. Note that high level reservations are not created for lot indivisible items.
16. Enter a Reservation Time Fence as the number of days within which high level reservations are made during batch creation. The material requirement dates must be within this time fence to create high level reservations during batch creation. If Create High Level Reservations is set to NO, then this field is not enabled.
17. Select Create Move Order to create move orders during batch creation for the ingredients that do not have sufficient inventory in the supply subinventory.
18. Enter a Move Order Time Fence as the number of days within which a move order can be created for an ingredient. The material requirement dates must be within this time fence to create move orders. If Create Move Orders parameter is set to NO, then this field is not enabled. Required.
19. Set Apply Fixed Process Loss to:
 - Manually to be able to apply fixed process loss individually, for each batch, during batch creation. Default.
 - To All Batches for applying fixed process loss to all batches.
Refer to Allowing for Process Loss for more information.
20. Set Auto Detail Batch to:
 - Create: This creates detailed reservation automatically when a batch is created.
 - Release: This creates detailed reservation automatically when a batch is released.
 - Create and Release: This creates detailed reservation automatically when a batch is created and released with sufficient on-hand ingredients. If an ingredient has insufficient on-hand quantity, detailed reservations are created only when inventory is added for that ingredient and batch is released.
 - Null: No reservations are created upon batch creation or release.

Batch Steps

21. Select Step Controls Batch Status to allow a step to control the status of the batch. For example, if the batch is pending and a step is released, then the batch is also released.
22. Select Backflush Resource Usage to backflush resource usage when incremental backflushing is performed on the product.
23. Select Default Actual Resource Usage to copy the planned resource usage to the actual resource usage upon step completion when the actual resource usage has not been entered.
24. Select Calculate Interim Resource Usage to calculate the actual step quantity and resource usages when a step is in WIP status. This only applies when using Automatic Step Quantity Calculation.
25. Select Allow Qty Below Min Capacity to allow a resource process quantity to be less than the resource capacity.
26. Select Display Non Working Days to display the nonworking days in the Production Scheduler.
27. Select Automatic Step Release to release either the first step or all steps in the batch automatically, upon release of the batch. If you set the value to None (the default value), then you must manually release each step.
 - You can only automatically release batch steps if the Step Release Type is also set to Automatic for the routing used. See: *Setting Up Parameters, Oracle Process Manufacturing Product Development User's Guide*
 - The first step is the step with the earliest Plan Start Date. If more than one step has the same earliest Plan Start Date, then the step with the lowest Step field value is considered the first step.

Document Numbering

28. Set Batch Numbering as:
 - Automatic to generate the batch numbers automatically.
 - Manual to enter a batch number manually.
29. Enter the last batch number assigned in Batch Last Assigned, if using Automatic

numbering for batches. The automatic batch numbering starts by adding one to this number. Required.

30. Set Firm Planned Order Numbering as:
 - Automatic to generate the Firm Planned Order (FPO) numbers automatically.
 - Manual to enter a FPO number manually.
31. Enter the Last FPO Number Assigned, if using Automatic numbering for FPOs. The automatic numbering of FPOs starts by adding one to this number. Required.
32. Set Group Numbering for multi-batch transactions as:
 - Automatic to generate group numbers automatically.
 - Manual to generate group numbers manually.
33. Enter the last group number assigned in Group Last Assigned, if using Automatic numbering for groups. The automatic group numbering starts by adding one to this number.

Inventory Transactions

34. Select Autoconsume From Supply Subinventory Only to consume ingredients automatically only from the supply subinventory.
35. Select Onhand Subinventories/Locators Only to display only those subinventories and locators with onhand inventory.
36. Enter Supply Subinventory as the subinventory from which to consume ingredients by default (required). Once the ingredient line is created, this value is not used. This is used as the default when a supply subinventory is not specified on the Organization Items window in the Oracle Inventory application. Refer to the *Oracle Inventory User's Guide* for more information on this window.
37. Enter Supply Locator to indicate the locator from which to consume ingredients by default (required). Note that this field is available only when a supply subinventory is defined.
38. Enter Yield Subinventory to indicate the subinventory to which products and byproducts are yielded by default (required). Once the product line is created this value is not used. This is used as the default when a yield subinventory is not specified on the Organization Items window.
39. Enter Yield Locator to indicate the locator to which products and byproducts are yielded by default. Note that this field is available only when a yield subinventory is defined.

40. Select an appropriate Pick Slip Grouping Rule from the list. This is used while transacting the move orders created automatically upon batch creation. The grouping rule is used to group tasks based on the pick method. For example, if you select the Bulk Picking rule, all pick tasks for the same component item- across multiple move orders and operations - are picked. Rules are defined on the Pick Slip Grouping Rules window in Oracle Inventory. See: Pick Slip Grouping Rules, *Oracle Inventory User's Guide*.

Note: This parameter follows Create Batch logic for creation of explicit move orders.

41. Select the method to Auto Map Lots/Serials from the list. This field enables you to automatically link (map) ingredient lots and serial numbers to product lots and serial numbers in order to view an accurate lot or serial genealogy. See: Linking Ingredient and Product Lots/Serial Numbers, page 8-12. Methods include:
 - Manual: Ingredients are not automatically linked to products. You must manually link them, if needed for genealogy purposes, using the Map Lots/Serials window.
 - Based on Steps: Automatically links ingredients to products based on item step associations and step dependencies.
 - Based on Steps and Transaction Dates: Automatically links ingredients to products based on item step associations, step dependencies, and transaction dates. The WIP Issue ingredient transactions must occur before the WIP Completion product transactions in order to enable automatic linking.

Outside Processing

42. For information about setting the parameters in the Outside Processing tab, see Setting Up OPM Process Execution, page 13-9.

Setting Up Make to Order Rules

The Make to Order Rules window enables you to define rules for creation of Production supply in response to a sales order through a batch or FPO. Each rule specifies whether:

- Production supply must be created always or created only in response to a shortfall in available inventory
- Attachments associated to the sales order line must be copied to the Batch or FPO document.

You must also define assignments to each rule to specify when and under what conditions the rule is activated.

To set up make to order rules:

1. Navigate to the Make to Order Rules window.
2. Enter a rule name in the Rule field.

Rule

1. Enter the following information in the Production Supply section:
 - Select to create a batch or an FPO in the Batch/FPO field. Default is Batch.
 - Select the user to create batches from the LOV in the Batch Creation User field.
 - In the Recipe Usage field, select whether to use a recipe for a specific customer or a standard recipe. Select one the following values:
 - No Preference - the user can choose to use any recipe when creating the batch.
 - Only Customer Recipes - the recipe selected when creating the batch must list the same customer name and ship to location as the make to order rule.
 - Prefer Customer Recipes - the user can choose to use any recipe when creating the batch, but the recipe that lists the same customer name and ship to location as the make to order rule is listed first.

Note: Use the Recipe Details window to associate a customer name and ship to location to a recipe. See: *Entering Recipe Details, Oracle Process Manufacturing Product Development User's Guide.*

- Select Check Availability if you want the application to check for on-hand inventory before creating a batch. if you do not select the check box, then a batch is created for the order quantity irrespective of the on-hand quantity.
 - Select Auto Lot Generation to generate lot numbers for the batch automatically. This is not enabled for firm planned orders.
 - Select the Firm Indicator to prevent the Advanced Planning and Scheduling (APS) engine to reschedule the batch. This is not enabled for firm planned orders.
2. Enter the following information in the Attachments section:

- Select Copy Attachments to copy attachments from the sales order to the batch or firm planned order document.
- Select the attachment to copy from a list of attachments in the LOV of the SO Attachment Name field.
- Select an attachment name to designate to the attachment that is copied to the batch document. You can select a name from a list of suggested names in the LOV of the Batch Attachment Name field.

Assignments

1. Select the Warehouse to which you want to assign the rule. You can enter only process organizations that are defined as Plants. Required.
 2. Enter an Item to which you want to apply the rule. If you do not enter any item, then the rule is applicable to all the items in the Warehouse.
 3. Enter an Item Type to which you want to apply the rule.
 4. Enter a Customer Name to whom you want to apply the rule. If you do not enter a customer name, then the rule is applicable to all customers.
 5. Enter the location to ship the finished product in the Ship to Site field. If you do not enter any location, then all the sites of the customer can be considered for shipping the product. This field is not enabled if you do not enter a customer name.
3. Save your work.

Setting Up Profile Options

Each applications user's guide provides details on how the application uses profile options. Set a value for selected profile options to specify how the application controls access to and processes data. Set up Oracle Process Manufacturing (OPM) profile options prior to implementation. Your System Administrator sets user profile options at one or more of the following levels: Site, Application, Responsibility, and User. Use the Personal Profile Options window to view or set your profile options at the user level. Consult the *Oracle E-Business Suite System Administrator's Guide* for a list of profile options common to all Oracle Applications.

The following table lists and describes various profile options and their recommended change level.

Profile Option Name	Description	Default	Options	Recommended Change Level
GME: Batch Prefix for WIP Entities	This profile option specifies the alphanumeric string to add to the batch number to form the WIP Entity Name.	Batch	Alphanumeric character string.	Site
GME: FPO Prefix for WIP Entities	This profile option specifies the alphanumeric string to add to the Firm Planned Order number to form the WIP Entity Name.	FPO	Alphanumeric character string.	Site

Process Manufacturing Command Center Setup

This chapter provides information about setup and configuration steps to enable and use Oracle Process Manufacturing Command Center dashboards.

This chapter covers the following topics:

- Process Manufacturing Command Center Configuration
- Setup and Configuration Steps
- Setting Profile Options for Process Manufacturing Command Center
- Configuring Descriptive Flexfields for Search
- Loading Process Manufacturing Command Center Data

Process Manufacturing Command Center Configuration

The Process Manufacturing Command Center application configuration and setup must be completed after the installation and common configurations are completed as described in My Oracle Support Knowledge Document 2495053.1, *Installing Oracle Enterprise Command Center Framework*

Setup and Configuration Steps

To complete the setup of the Process Manufacturing Command Center:

1. Set profile options, page 4-2
2. Configure descriptive flexfields for search, page 4-2
3. Load Process Manufacturing Command Center Data, page 4-3

Setting Profile Options for Process Manufacturing Command Center

Set a value for the following profile options to specify how the Process Manufacturing Command Center controls access to and processes data:

Profile Option Name	Description	Default Value
GME: Days for Endeca cancelled batches load	This site-level profile option sets the number of days you want to load data for cancelled batches.	No default value
GME: Days for Genealogy & Trace Data Load	This site-level profile option specifies the maximum number of days that the Process Genealogy and Trace Command Center Data Load considers to load data. This profile is used for the Genealogy and Trace dashboard. You can change the number of days to beyond 365 days or less based on your business requirement.	365 days GME: Days for OPM ECC Dataload
GME: Days for OPM ECC Dataload	This site-level profile option enables you to run a full data load to collect the open batches that are in the Pending and WIP status for the specified number of days. You can provide the value as 180 or 240 days and so on.	180 days

Configuring Descriptive Flexfields for Search

Enterprise command centers support Descriptive Flexfields (DFFs) that enable you to search on DFF attributes. After you configure DFFs you must run the data load process to ensure the DFF attributes are available in the command center.

For additional information about configuring and customizing flexfields, see the *Oracle E-Business Suite Flexfields Guide* and My Oracle Support Knowledge Document 2495053.1, *Installing Oracle Enterprise Command Center Framework, Release 12.2*.

The following table describes the DFFs available in the Process Manufacturing Command Center dashboards:

Dashboard	Data Set	DFF Title	DFF Name	DFF Attribute Group Name
Batch Status	gmo-batch gmo-batch-md gmo-batch-q	Batch Information	BATCH_FLEX	Batch Information
Batch Status	gmo-batch gmo-steps gmo-steps-q	Batch Steps Information	BATCH_STEPS_DTL_FLEX	Batch Steps Information
Batch Status	gmo-batch gmo-res gmo-res-q	Batch Steps Activity Information	GME_BATCH_STEP_ACTIVITIES_FLEX	Batch Steps Activity Information
Batch Status	gmo-batch gmo-res gmo-res-q	Batch Steps Resource Information	GME_BATCH_STEP_RESOURCES_FLEX	Batch Steps Resource Information
Batch Status	gmo-batch gmo-material gmo-material-q	Detail Information	BATCH_DTL_FLEX	Detail Information
Production Quality	gmo-quality gmo-sample	Quality Samples	GMD_SAMPLES_FLEX	Quality Samples
Production Quality	gmo-quality gmo-test	Quality Results	MD_QC_RESULTS_FLEX	Quality Results

Loading Process Manufacturing Command Center Data

The Process Manufacturing Command Center uses the following concurrent programs to load EBS Enterprise Command Center data sets into the dashboards:

- Process Manufacturing Command Center Data Load** - Use this concurrent program to load EBS data into the Batch Status, Outside Processing, and Production Quality dashboards.

- **Process Genealogy and Trace Command Center Data Load** - Use this concurrent program to load EBS data into the Genealogy and Trace dashboard.

Note: To set up profile options before running data loads, see: Setting Profile Options for Process Manufacturing Command Center, page 4-2.

Run the concurrent program from the **Submit Request** window.

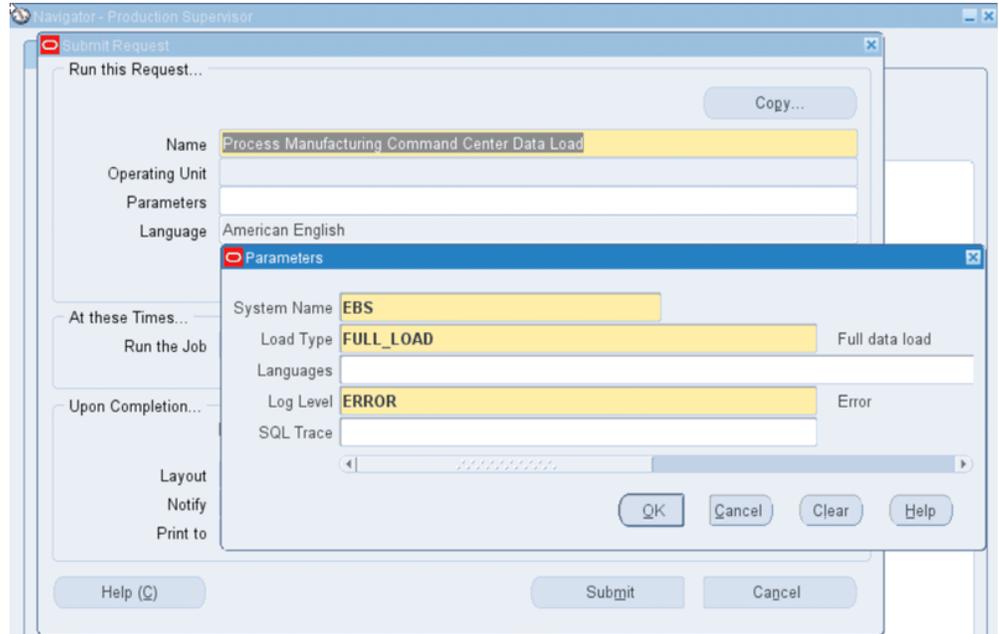
(N) **Production Supervisor >Concurrent Programs >View**

To load data into the Process Manufacturing Command Center:

1. Click **Submit a New Request**.
2. In the **Name** field on the **Submit Request** window, select or enter:
 - **Process Manufacturing Command Center Data Load** to load data into the Batch Status, Outside Processing, and Production Quality dashboards.
 - **Process Genealogy and Trace Command Center Data Load** to load data into the Genealogy and Trace dashboard.
3. Use the **Parameters** window to enter the parameters information.
4. The **System Name** field defaults to **EBS**.
5. Select the appropriate load type:
 - **Full Load** - This process loads all Process Manufacturing data and is required to be run for the first data load. The full data load process also includes metadata load. If you select and run full load for subsequent requests, then this program clears all Process Manufacturing data from ECC and loads fresh data
 - **Incremental Load** - This process loads the data modified and updated from the previous load only. Incremental load should be scheduled to run as often as required to keep the ECC dashboard current.
 - **Metadata Load** - This process ensures the application waits for other tasks such as consolidation, data entry, or other load processes to finish before it loads the files. You must initially run the Metadata Load to load Descriptive Flexfield (DFF) setup information to Enterprise Command Center. After the DFF setup is initially loaded, running incremental or full data loads on a regular basis will maintain the DFF attributes.
6. Enter one or more language codes in the **Languages** field for the output. For multiple language codes, use the format AA,BB,NN. For example, enter US,AR,KO. If the field is blank, then the data will be loaded for the base language only (usually

US).

7. In the **Log Level** field select the program to report. The default value is **Error**.
8. Select **True** to enable **SQL trace**. Otherwise, select **False**.



9. Click **OK** on the **Parameters** window.
10. Click **Submit** to submit the concurrent request.
11. Review your request using the **Requests** page.
12. Monitor data loading using the **Data Load Tracking** page of the ECC Developer responsibility.

To review request details:

1. From the menu, click **Requests**. The **Find Requests** window appears.
2. Select the **All My Requests** radio button and click **Find**. The **Requests** window appears and displays all of your requests.
3. In the **Requests** window, select the row that contains your request and then click **View Details**. The **Request Detail** window appears and displays the ECC- Run Data Load information.
4. Click **OK** to exit and close the window.

Firm Planned Orders

This topic provides a general understanding of firm planned orders, including how to find one once it is created on the Create Batch/Firm Planned Order window. You are shown how to modify a firm planned order, how to select validity rules, and reroute it. You are also shown how to reschedule the firm planned order. This topic also discusses how to convert the firm planned order to a batch, how to display material details in the order, and how to scale the firm planned order. Creating a firm planned order is similar to creating a batch.

Refer to *Creating a Batch or Firm Planned Order*, page 6-17 for more information on creating a firm planned order.

This chapter covers the following topics:

- Understanding Firm Planned Orders
- Finding a Firm Planned Order
- Editing a Firm Planned Order
- Rerouting a Firm Planned Order
- Rescheduling a Firm Planned Order
- Converting a Firm Planned Order to a Batch
- Scaling a Firm Planned Order

Understanding Firm Planned Orders

Firm Planned Orders are designed for medium and long range production planning. Inventory planners manage discrepancies between net requirements and actual orders that cover them. Unplanned events can change gross requirements. Planners cannot change the actual quantities of these gross requirements directly, however they can change the timing and quantities of material on orders. The firm planned order enables them to do this.

Creating a Firm Planned Order

You create firm planned orders:

- From the MRP Action Messages Inquiry.
- From an Oracle Applications Advanced Planning and Scheduling Planner Workbench run.
- On the Create Batch/Firm Planned Order window.
- By selecting New on the Find Firm Planned Orders window.
- By selecting New on the Find Firm Planned Orders window from the Process Execution Workbench.

Firm planned orders serve as a guideline for batch creation. When you convert a firm planned order to one or more batches, the application selects the appropriate formula or recipe and validity rule to use. If more than one validity rule exists, then select the appropriate one for the production run. The application displays the appropriate Recipe Validity Rules Summary window for this selection. If you are converting a firm planned order to more than one batch, then you can use one validity rule for all batches, or you can select individual validity rules for each batch. Since batches are created from firm planned orders based on a formula or recipe that is set up in the Oracle Process Manufacturing (OPM) Product Development application, and not on the firm planned order itself, you cannot edit the products, ingredients, or byproducts on the firm planned order. Since the batch is based on a formula and not directly on the firm planned order, you cannot edit the quantities of these items directly. If you were permitted to edit these fields on the firm planned order, then the changes would be lost when you converted the firm planned order to a batch. However, you can scale a firm planned order. Since a batch is based on the firm planned order product quantity, the batch is automatically scaled when it is created.

Refer to Creating a Batch or Firm Planned Order, page 6-17 for more information.

Finding a Firm Planned Order

The Find Firm Planned Orders dialog box lets you search for firm planned orders that are created for a plant.

Prerequisites

- Create a firm planned order.

To find a firm planned order:

1. Navigate to the Find Firm Planned Orders dialog box.

2. Make no entries to search all records. Enter any of the following criteria to narrow the search:
 - **Status** of the firm planned order as:
 - **Canceled** to find canceled firm planned orders.
 - **Converted Firm Planned Order** to find firm planned orders that were converted to batches.
 - **Pending** to find pending firm planned orders.
 - **Document** number to find a specific firm planned order using its document number.
 - **Step number** to find a specific batch using its step number.
 - **Recipe** and **Version** to find firm planned orders that use a specific recipe or recipe and version combination.
 - **Formula** and **Version** to find firm planned orders that use a specific formula or formula and version combination.
 - **Routing** and **Version** to find firm planned orders that use a specific routing or routing and version combination.
 - **Product** to find firm planned orders that produce specific product.
 - **Revision** to find firm planned orders that produce a specific revision of the product.
 - **Planned Dates** for the firm planned order, including its:
 - **From Start** date and **To Start** date to find a specific range of planned starting dates for firm planned orders.
 - **From Completion** date and **To Completion** date to find a specific range of planned completion dates for firm planned orders.
 - **From Required** date and **To Required** date to find a specific range of dates firm planned orders are required.
3. Click Find. The Firm Planned Order: Details window displays the results of the search.

To enter a new firm planned order from the Find Firm Planned Orders window:

1. Click New.
2. Enter the new firm planned order as described in *Creating a Batch or Firm Planned Order*, page 6-17.

Editing a Firm Planned Order

The Firm Planned Order: Details enables you to edit an existing firm planned order. You can edit text, convert the firm planned order to a batch, cancel the order, reroute or reschedule, and scale the firm planned order.

You can use folders and flexfields with this window.

See *Oracle E-Business Suite User's Guide* and *Oracle E-Business Suite Flexfields Guide*.

Prerequisites

- Create a firm planned order.

To edit a firm planned order:

1. Navigate to the Firm Planned Order: Details window.

Main

2. The following fields are display only:
 - Document is the document number assigned when you created the firm planned order.
 - Status is the current status of the firm planned order as:
 - Pending indicates that the order is pending.
 - **Canceled** indicates that the firm planned order is canceled.
 - **Converted Firm Planned Order** indicates that the firm planned order has been converted to one or more batches.
 - Step is the step number for a firm planned order query.
 - Recipe is the code for the recipe used in the firm planned order.
 - Recipe Version is the version of the recipe used for the firm planned order.

- Parent is the parent firm planned order number if the firm planned order is a phantom.
 - Phantom is selected for a phantom firm planned order.
 - Planned Completion displays the date that is calculated automatically from the routing or item leadtime.
3. Planned Start displays the planned start date for the firm planned order. This field defaults from the date assigned on the Create Batch/Firm Planned Order window. Edit this field for a Pending Firm Planned Order by choosing Reschedule from the Actions menu.
 4. Enter the Required Completion date for the firm planned order.

Additional Information

5. The following fields are display only:
 - Formula is the code for the formula used in the firm planned order.
 - Automatic Step Calculation is selected when the automatic step quantity calculation feature is enabled.
 - Formula Version is the formula version used in the firm planned order.
 - Routing is the code for the routing used in the firm planned order. Edit this field on a pending firm planned order by choosing Reroute from the Actions menu.
 - Routing Version is the routing version used in the firm planned order.
 - Enforce Step Dependency is selected when Enforces Step Dependency is set on the routing. Refer to Understanding Batches, page 6-2 for more information.
 - Recipe Description is a brief description of the recipe.
 - Formula Description is a brief description of the formula.
 - Routing Description is a brief description of the routing.
6. Routing is the code for the routing used in the firm planned order. Edit this field on a pending firm planned order by choosing Reroute from the Actions menu.
7. Firmed is selected when the WPS engine should not reschedule the firm planned order. You can edit this indicator.

Refer to Defining Firmed Batches in the *Oracle Process Manufacturing Process*

Planning User's Guide for additional information.

Ingredients

8. The following fields are display only:

- Line is the firm planned order line number for the ingredient.
- Item is the item code for the ingredient.
- Description is a brief description of the ingredient as it appears on the Item Master.
- Revision is the revision of the item in the line.
- Original Qty is the initial quantity of each ingredient when the firm planned order was first created. This field is a baseline from the initial creation of the firm planned order, and cannot be changed.
- Planned Qty is the quantity of ingredients that were planned. The Planned Qty can only be changed by scaling the firm planned order.
- UOM is the unit of measure in which the quantities are expressed.
- Consumption Type displays the type of ingredient consumption as:
 - **Automatic** when ingredients are consumed automatically when the batch is released.
 - **Manual** when ingredients are consumed manually.
 - **Incremental** when ingredient quantities are backflushed by incremental backflushing.
 - **Automatic by Step** when ingredients are consumed automatically as the step is released.
- Requirement Date is the date the ingredient is planned to be consumed.
- Subinventory is the supply subinventory of the line.
- Locator is the supply locator of the line.
- Contribute to Yield displays as Yes if the ingredient contributes to yield.
- Scale Type displays:
 - Fixed if the ingredient is not scalable.

- Proportional if the ingredient is scalable.
- Integer if the ingredient is scalable by multiples.
- Scale Multiple displays the scaling increment for the ingredient if the scale type is Integer.
- Scale Rounding Variance % displays the percent variance allowable for rounding when the Scale Type is Integer.
- For Integer scale type, Rounding Direction displays
 - Down if the acceptable rounding direction is down to the nearest multiple.
 - Up if the acceptable rounding direction is up to the nearest multiple.
 - Either if the acceptable rounding direction is up or down to the nearest multiple.
- Dispensable is selected if the ingredient can be dispensed.
- Scrap Factor % is the anticipated percentage of ingredient lost in adding the ingredient to the manufacturing process. For example, if the Scrap Factor is 10 percent, then an additional 10 percent of material is added to accommodate for this loss. You can enter a scrap factor ranging from 0 to 1000000. If you enter a scrap factor below 0 or above 1000000, then an error message displays.
- Scrap Qty is the anticipated quantity of ingredient lost in adding the ingredient to the manufacturing process. You can enter scrap qty ranging from 0 to 1000000. If you enter a scrap factor below 0 or above 1000000, then an error message displays.
- Phantom Type displays as:
 - Not a phantom indicates the ingredient is not a phantom item.
 - Automatic indicates that the ingredient is a phantom item that is exploded automatically.
 - Manual indicates that the ingredient is a phantom item that requires manual explosion from the Actions menu.
- Phantom displays as:
 - Exploded if the phantom ingredient is exploded.
 - Unexploded if the phantom ingredient is not exploded.

- Contribute to Step Qty displays Yes if the ingredient contributes to the step quantity.
- Step is the step associated to the ingredient.

Products

9. The following fields are display only:

- Line is the firm planned order line number for the product.
- Item is the item code for the product.
- Description is a brief description of the product.
- Revision is the revision of the item on the line.
- Original Qty is the initial quantity of each product when the firm planned order was first created. This field is a baseline from the initial creation of the firm planned order, and cannot be changed.
- Planned Qty is the quantity of product that is planned to be produced. The Planned Qty can only be changed by scaling the firm planned order.
- UOM is the unit of measure in which the quantities are expressed.
- Yield Type displays the type of product yield as:
 - Automatic when products are yielded automatically when the batch is completed
 - Manual when products are yielded manually.
 - Incremental when product yield is calculated by incremental backflushing.
- Yield Date is the date the material is planned to be yielded, based on the planned completion date of the firm planned order or step.
- Subinventory is the yield subinventory. For a phantom batch, the yield subinventory defaults to the supply subinventory of the ingredients.
- Locator is the yield locator.
- Scale Type displays as:
 - Fixed if the product is not scalable.
 - Proportional if the product is scalable.

- Cost Allocation is the decimal cost allocation for the product.
- Contribute to Step Qty displays Yes if the product quantity is used in calculating step quantities.
- Step is the step associated to the product.

By-Products

10. The following fields are display only:

- Line is the firm planned order line number for the byproduct.
- Item is the item code for the byproduct.
- Description is a brief description of the byproduct.
- Revision is the item revision on the line.
- Original Qty is the initial amount of each byproduct when the firm planned order was first created. This field is a baseline for the initial creation of the firm planned order, and cannot be changed.
- Planned Qty is the quantity of byproduct that is planned to be produced. The Planned Qty can only be changed by scaling the firm planned order.
- UOM is the unit of measure in which the quantities are expressed.
- By-Product Type displays as any one of the following:
 - Rework
 - Sample
 - Waste
 - Yield
- Yield Type displays the type of byproduct yield as:
 - Automatic when byproducts are yielded automatically when the firm planned order is completed.
 - Manual when byproducts are yielded manually.
 - Incremental when byproduct yield is calculated by incremental backflushing.

- Automatic by Step when byproducts are yielded automatically as the step is completed.
- Yield Date is the date the material is planned to be yielded, based on the planned completion date of the firm planned order or step.
- Subinventory is the yield subinventory for the item.
- Locator is the yield locator for the item.
- Scale Type displays:
 - Fixed if the byproduct is not scalable.
 - Proportional if the byproduct is scalable.
- Contribute to Step Qty displays Yes if the product quantity is used in calculating step quantities.
- Step is the step associated to the byproduct.

To edit text in a firm planned order:

1. Select Edit Text from the Tools menu. The Select Text Paragraph window displays.
2. Make appropriate text changes.

To display process instructions:

Select Process Instructions from the Tools menu.

To display the workday calendar:

Select Workday Calendar from the Tools menu.

To display recipe validity rules:

Select View Validity Rule from the Tools menu.

To navigate from a phantom firm planned order to its parent firm planned order:

Select Edit Parent from the Tools menu from the phantom firm planned order.

To navigate to the phantom firm planned order that produces a phantom ingredient:

1. Select a phantom ingredient.

2. Select Edit Phantom from the Tools menu.

To convert a firm planned order to a batch:

1. Select Convert To Batch from the Tools menu.
2. Convert a firm planned order into one or more batches as described in *Converting a Firm Planned Order to a Batch*, page 5-12.

To scale a firm planned order:

1. Select Scale Firm Planned Order from the Tools menu.

Refer to *Scaling a Batch or Firm Planned Order*, page 6-90 for more information.

Rerouting a Firm Planned Order

The Recipe Validity Rules Summary dialog box displays when you reroute a firm planned order so that you can select the appropriate validity rule.

Prerequisites

- Create a firm planned order.

To reroute a firm planned order:

1. Navigate to the Firm Planned Order: Details window.
2. Select Reroute from the Actions menu. The Recipe Validity Rules Summary dialog box displays so that you can select a validity rule with a different routing. A message displays when no other validity rules exist for the formula.
3. Select a new validity rule.
4. The following message displays:
"Use Workday Calendar?"
5. Click Yes to use the workday calendar.

Refer to the *Oracle Process Manufacturing Product Development User's Guide* for a complete discussion of selecting and using recipe validity rules.

Rescheduling a Firm Planned Order

The Reschedule dialog box is available from the FPO: Material Details window. You use it to change a scheduled firm planned order. You can change the planned start date and time and the planned completion date and time on a firm planned order.

By changing the planned start date and time, you also change the planned start date and time for any pending ingredient transactions. By changing the planned completion date and time, you also change the planned completion date and time for any pending product and byproduct transactions.

If you change either the Planned Start or Planned Completion field, then the application queries whether to apply the change to the other field. If you respond Yes, then the application calculates the difference between the original date and time and the new date and time, and applies this difference to the entry in the field you did not enter. For example, if you add three days to the planned start date three days, then the application adds three days to the planned completion date and time.

Prerequisites

- Create a firm planned order.

To reschedule a firm planned order:

1. Navigate to the Reschedule dialog box.
2. Enter one of the following:
 - Planned Start date for the firm planned order.
 - Planned Completion date for the firm planned order.
3. Select Use Workday Calendar to use the Workday Calendar for rescheduling the firm planned order.
4. Click OK. The following message displays:

Do you want the application to calculate the other date based on the batch duration? If you click No then date gaps or date truncation may occur.
5. Click Yes to recalculate either the Planned Start or Planned Completion dates based on the date entered in step 2.
6. Click OK.

Converting a Firm Planned Order to a Batch

The Convert Firm Planned Order To Batch window enables you to create one or more batches based on the firm planned order.

This window displays when you select Convert to Batch from the Tools menu of the Firm Planned Orders: Details window. After you complete all required fields on the Convert Firm Planned Order To Batch window, the Recipe Validity Rules Summary window displays when there is more than one validity rule. You can use a different validity rule for the batch than you used for the firm planned order.

Leadtime defaults are based on the item leadtimes, but can be changed. The Use Leadtime Entered indicator lets you select whether to use the leadtime, or have the batch creation process use the calculated duration from the production rules or the routing, if one exists.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Create a firm planned order.

To convert a firm planned order to a batch:

1. Navigate to the Convert Firm Planned Order To Batch window.

Enter the appropriate information in the following fields. The following table lists and describes various fields in the Batch window

Field Name	Description
Product	Displays the product code and product description for the primary product produced by the firm planned order.
Start the Completion	Enter the start the completion date. Required.
Use Workday Calendar	Select this option to schedule the Firm Planned Order-to-batch conversion according to the workday calendar associated to the organization.
Quantity Per Batch	Enter the quantity of product to produce by each batch created from the firm planned order. You can change the default value. Required.
Product Quantity	Displays the quantity of product to produce by the batch.

Field Name	Description
Batches	Enter the total number of batches to produce from the firm planned order. The default is one. If you enter a Quantity Per batch that is less than half the Product Quantity, then it changes to Product Quantity divided by the Quantity Per Batch. Required.
Assigned	Displays a quantity that is equal to the quantity per batch multiplied by the number of batches, and can be greater than the initial Firm Planned Order quantity.
Unassigned	Displays the difference between the product quantity and the assigned quantity. This quantity remains in the Firm Planned Order.
Offset Type	<p>Enter the multiple batch scheduling method to use by selecting:</p> <ul style="list-style-type: none"> <li data-bbox="898 1003 1365 1224">• Start to Start if the Firm Planned Order requires scheduling of several batches that can start one after the other, their start dates separated only by any offset that is specified in the Batch Offset field, or start simultaneously if you enter a zero offset. <li data-bbox="898 1266 1365 1392">• Finish to Start if the Firm Planned Order requires scheduling of several batches that can only start after each individual batch has finished. <p>Finish to Start is required when multiple batches are scheduled.</p>

Field Name	Description
Batch Offset	<p>Enter the amount of time between batches. This field is dependent on the scheduling method selected in the Offset Type field.</p> <ul style="list-style-type: none"> • If you select the Start to Start scheduling method, then the value entered indicates the number of hours from the start of one batch to the start of another batch. For example, if you enter an offset value of 2, and the first batch starts at 8:00 a.m., then the next batch begins at 10:00 a.m. • If you select the Finish to Start scheduling method, then the value entered indicates the number of hours from the end of one batch to the start of another batch. For example, if you enter an offset value of 2, and the first batch ends at 10:00 a.m., then the next batch begins at noon.
Leadtime	<p>Enter the number of hours required to manufacture one batch. This is added to the Planned Start date to calculate the Planned Completion date. If the leadtime can be calculated from the batch steps or item leadtime, then any value entered here is overridden unless you select Use Leadtime Entered. Required.</p>
Use Leadtime Entered	<p>Select this option to enforce the leadtime you entered. Deselect this indicator to use the calculated duration from the item leadtime or the routing.</p>

2. The following table lists and describes various fields

Note: All the fields are display only.

Field Name	Description
Seq	Displays the sequential number for each batch.
Batch Num	Displays the batch document number. This is initially assigned as NEW. This field is editable when you use manual document numbering.
Batch Quantity	Displays the quantity of product to produce by the batch.
Planned Start	Displays the planned start date and time for the batch.
Planned Completion	Displays planned completion date and time for the batch.

To display the workday calendar:

Click Workday Calendar to display the workday calendar.

Scaling a Firm Planned Order

The Scale Batch window enables you to scale a batch or firm planned order by a percentage or a specific amount. Enter a percentage to scale any selected item up or down by a percent of the displayed quantity. For example, from the product, if you enter 100 percent, then the product quantity is scaled up by 100 percent, or doubled, and the ingredient quantities are increased accordingly. If you enter -50, or negative fifty percent, then the product quantity is decreased by half. Alternatively, you can manually enter the scale quantity. For more information about how to scale a firm planned order, see *Scaling a Batch or Firm Planned Order*, page 6-90.

Batch Creation

This topic provides a basic understanding of batches and batch status. You are shown how to find a batch, create a batch or firm planned order, select validity rules for a batch, reroute a batch, pick a batch, and how to edit a batch. The process of finding and editing batch details is presented. You are also shown how to find individual batch steps and edit specific information in them, including batch step dependencies, and step activities. Other topics covered are the editing of batch step resources, the association of batch steps to items, and using the theoretical yield calculation. You are shown how to scale a batch or firm planned order, and how to reschedule a batch.

This chapter covers the following topics:

- Understanding Batches
- Understanding Batch Status
- Finding a Batch
- Creating a Batch or Firm Planned Order
- Creating a Batch or Firm Planned Order in Response to a Sales Order
- Heat Number
- Substituting Items During Batch Creation
- Selecting Validity Rules for a Batch
- Rerouting a Batch
- Editing a Batch
- Understanding Mass Batch Transactions
- Finding Batches for Mass Batch Transactions
- Using the Mass Batch Actions Window
- Picking Ingredients for a Batch
- Defining Picking Rules
- Understanding Task Creation

- Understanding Cross Docking
- Understanding Batch Step Quantity Calculations
- Finding Batch Steps
- Editing Batch Steps
- Editing Batch Step Dependencies
- Editing Batch Step Activities
- Editing Batch Step Resources
- Adding or Modifying Process Parameters
- Associating Batch Steps with Items
- Using the Theoretical Yield Calculation
- Understanding Batch Scaling
- Scaling a Batch or Firm Planned Order
- Rescheduling a Batch
- Yield Measurement in Process Manufacturing
- Managing Batches Using the Batch Open Interface

Understanding Batches

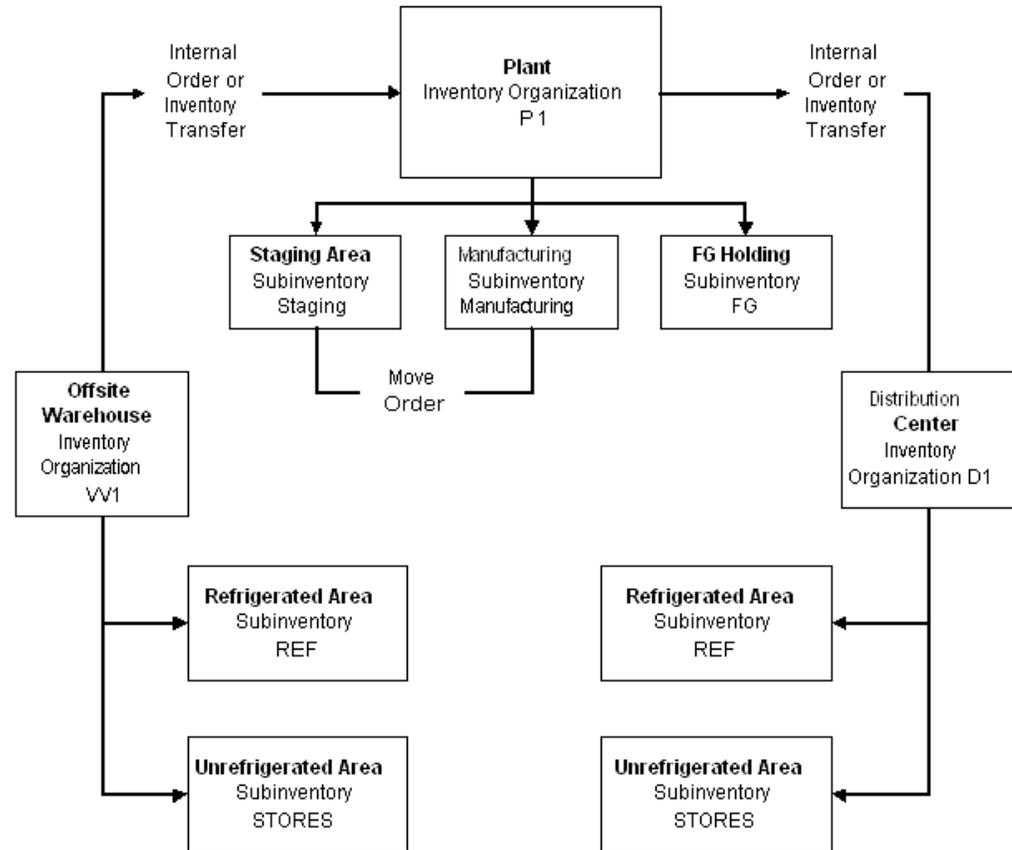
Batch manufacturing is characterized by discrete and independent production events called batches. These events are processed through a series of steps on resources that occur at different work centers. Specific ingredients are consumed at individual batch steps. Products, co-products, or byproducts are yielded at specific steps.

Continuous Manufacturing is sometimes referred to as a continuous process run. This type of production is usually done on dedicated equipment. For example, paper production is performed using continuous manufacturing. From the entry of raw material at the beater box to the output of product onto a roll, production progresses without intermission.

Organization

A typical manufacturing plant is organized into warehouse, staging area, manufacturing area, holding area, and distribution centers. Oracle Process Manufacturing (OPM) Process Execution introduces the Inventory Organization Structure that supports all the aspects of manufacturing. The following figure depicts an example of an inventory organization structure.

Inventory Organization Structure



Inventory Organization

Inventory Organization is a plant where the batches are produced or an organization that holds the inventory at specified locations. Offsite warehouses and distribution centers are also designated as inventory organizations. For example: Plant P1, Offsite Warehouse W1, Distribution Center D1.

Subinventory

Subinventory is a subdivision of an inventory organization representing either a physical area or a logical grouping of items, such as a storeroom or damaged inventory. Inventory balances are tracked here. Reservations can be placed against inventory at this level. Items can be restricted to certain subinventories. A subinventory can also be a division of a warehouse that holds inventory with similar planning and reservation characteristics. For example, staging area, manufacturing area, and distribution center.

Supply Subinventory is the subinventory from which the items required for batch production are consumed. It can be the shop floor or a staging location.

Locator is a specific physical area within a subinventory such as a row, aisle, bin, or

shelf.

Supply Locator is a locator from which the items required for production are consumed.

Yield Subinventory is a subinventory where the produced items are stored.

Yield Locator is a specific physical area within the yield subinventory where the produced items are stored.

Item

A multi segment number is supported for an item in an organization and any item entered on a batch is designated in the Item Master as Process Execution-enabled. An item revision can be entered if a specific revision is consumed or produced. The default supply subinventory and yield subinventory for an item is defined within an inventory organization.

Refer to *Setting Up* for more information.

Refer to the *Oracle Inventory User's Guide* for additional information.

Understanding Batch Security

Your access to batches depends on the implementation of Process Execution in your facility. Contact your System Administrator when you have questions about your individual access or assigned responsibility.

Creating a Batch

Batches are created through:

- Conversion from a firm planned order.
- Conversion from a material requirements planning order as discussed in the *Oracle Process Manufacturing Process Planning User's Guide*.
- Entry in the Create Batch/ Firm Planned Order window.
- By selecting new on the Find Batches window.
- the Make to Order flow.

When a batch is created, it is assigned a status of Pending.

Batch Creation Calculations

When the batch is created, the total output of the batch is divided by the routing quantity to compute a scale factor. The individual routing steps are then multiplied by this scale factor to calculate the batch step quantities. Based on these step quantities, the resource usages are computed according to the scale type assigned to each resource (proportional, fixed, or by charge). From these resource usages, the duration of the

resources, activities, steps, and batch are computed considering offsets defined at the activity and resource level. Step dependency is also considered in the calculation.

Allowing for Process Loss

Process loss is the material lost or is unrecoverable in a production step, due to factors such as evaporation or changeovers in production processes. Lost materials need to be planned for to achieve the targeted process quantity for steps. The loss can vary depending on the material being processed. Therefore, a production loss factor can be defined at the routing level and this loss must be reflected in both planning for and production of ingredients associated with a particular step. Oracle Process Manufacturing Product Development enables the entry of process loss factors to facilitate better material planning. Refer to the *Oracle Process Manufacturing Product Development User's Guide* for more information.

In OPM, the following types of process loss are recognized and can be planned for in production processes:

- **Theoretical Process Loss** is the expected quantity of material lost for a range of material processed during a specified routing. Theoretical Process Loss can vary depending on the routing or the individual quantity being processed by a routing. This loss is defined at the routing level and is based on a minimum and maximum range of quantities.
- **Planned Process Loss** is the loss of process material observed during production of a batch using the recipe as a percentage. When creating a batch, you can allow for a planned process loss to reflect the planned percentage of material lost for a specific routing.
- **Fixed Process Loss** is a constant number or quantity of material lost in a production process irrespective of the amount of ingredient used or product produced and is expressed in fixed quantities. For example, consider a production process, where several ingredients are mixed in a mixer. The material is brought to the production equipment from the supply tanks through a series of pipelines. At the end of the production cycle or before a change over to a completely different product, a specific quantity of residual material is left over in the pipeline that is flushed before the next production process can start. The residual material is the fixed process loss that is constant irrespective of the amount of material that has flown through the pipeline and is dependant on the parameters of the pipeline. Fixed process loss is not considered for material planning.

You can choose to apply fixed process loss automatically to all batches created in an organization or to specific batches individually, by setting up the Apply Fixed Process Loss parameter. Refer to *Setting Up Parameters and Creating a Batch or Firm Planned Order*, page 6-17 for more information.

Customizing the Lot Expiration Date Calculation Method

You can use a custom routine to specify the lot expiration date calculation method. The

custom routine specifies the computation of lot expiration date based on any of the individual processes that are involved in lot creation, including ingredient step additions, or operations that start the expiration timeframe. These operations could include heating, chilling, or other physical treatments that affect product shelf life. Refer to the *Oracle Inventory User's Guide* document for more information.

Customizing the Lot Expiration Date

You can define a lot expiration date by writing a custom PL/SQL routine in the `INV_CUST_CALC_EXP_DATE.get_custom_lot_expiration_date` API. Without customization, the expiration date is calculated by adding the shelf life days to the origination date. If you customize the PL/SQL routine to return a new date, then that date is used for calculating the lot expiration date.

The custom lot expiration date calculation is applicable to items with Lot Expiration Control set to Shelf-Life Days.

Refer to the Inventory Attribute Group topic in *Oracle Inventory User's Guide* for more information on how to set up lot expiration (shelf life) control.

Custom lot expiration lets you:

- Calculate the lot expiration date in Oracle Process Manufacturing (OPM) Process Execution when a lot is yielded for the first time on these windows:
 - WIP Transaction
 - Create Material Transaction
 - Correct Material Transaction
 - Material Exception
 - Create Pending Lots on Mobile Supply Chain Application (MSCA)
- Calculate the lot expiration date in Oracle Inventory and Purchase Order (PO) transactions, such as:
 - Miscellaneous Receipts
 - Alias Receipts
 - PO Receipts
- Update the following lot attributes in the Lot Master window in OPM Process Execution:
 - Expiration Date

- Hold Date
- Retest Date
- Expiration Action Code
- Expiration Action Date
- Lot Attributes DFF

Prerequisite

Ensure that the Lot onhand quantity is zero, and that the Lot Origination date is Null. This lets you update lot attributes when the lot is yielded for the first time.

Responsibilities

- Oracle Inventory
- Production Supervisor

To calculate a custom lot expiration date and update lot attributes:

1. Navigate to the Lot Master window to define a lot.
2. Select Shelf-Life Days for Lot Expiration control.
3. Define the lot expiration date, in the INV_CUST_CALC_EXP_DATE. get_custom_lot_expiration_date procedure by editing the PL/SQL routine. Use the appropriate date calculation logic for your implementation. This procedure appears as follows prior to editing and recompilation:

```

PROCEDURE get_custom_lot_expiration_date
(p_lot_rec          IN  MTL_TRANSACTION_LOTS_TEMP%ROWTYPE,
p_mtl_trx_line_rec IN  MTL_MATERIAL_TRANSACTIONS_TEMP%ROWTYPE,
x_lot_expiration_date OUT NOCOPY DATE,
x_return_status    OUT NOCOPY VARCHAR2)
IS BEGIN
x_return_status := FND_API.G_RET_STS_SUCCESS;

/* Put the custom code here to calculate the lot expiration date. If
custom logic is not required for the calculating lot expiration date
then return lot expiration date as NULL */
END get_custom_lot_expiration_date;

```

If the custom API returns Null, then the lot expiration date is calculated by adding the shelf life days to the origination date.

4. Override the following API parameters:

```
p_mtli_lot_rec = Mtl_transaction_lots_interface row type
p_mti_trx_rec = Mtl_transactions_interface row type
p_mtl_lot_rec = Mtl_transaction_lots_temp row type
p_mmtt_trx_rec = Mtl_material_transactions_temp row type
If p_table is equal to:
  1 - Interface table is populated
  2 - Temp table is populated
x_lot_expiration_date = Out parameter of custom logic which returns
the date to be used as lot expiration date
x_return_status = Out return status parameter
```

Note: Based on transaction type, a subset of all columns in the aforementioned tables contains the data.

Using the Oracle Process Manufacturing Product Development Simulator and Optimizer Tool

The OPM Product Development Simulator and Optimizer windows:

- Optimize the quantities for batch material lines
- Update a batch with the result of optimized quantities
- Rebalance a batch

Refer to the *Oracle Process Manufacturing Product Development User's Guide* for a complete discussion of the Simulator and Optimizer.

Understanding Material Requirement Date

The requirement date for autoconsumption ingredients is the batch planned start date. For ingredients with consumption of automatic by step, manual, or incremental, the step planned start date is the requirement date.

When you select Completed, to complete a transaction for a manual consumption ingredient, the transaction date defaults to the system date. Similarly, when a transaction for an incremental consumption ingredient is completed either through incremental backflushing, or by selecting Completed, the transaction date also defaults to the system date. These rules apply to manual and incrementally yielded products.

Selecting Appropriate Validity Rules

When you create a batch, select a validity rule. A validity rule determines whether a recipe can be used for a particular batch. This is based on manufacturing requirements such as, product quantity, planned start, and completion dates. Process loss can be overridden at the validity rule level, since quantities at the recipe level may not represent those quantities used in manufacturing. However, the standard quantity entered on a validity rule usually does represent these quantities. You can override the process loss on individual validity rules. Process Execution uses this process loss if it

has been defined.

Workday Calendar Impact on Scheduling Batches and Firm Planned Orders

The workday calendar lets production planners specify when a plant is operational and when it is not operational. Uptime and downtime can be based on the day of week, and edited for individual days to take into account holidays, overtime, and other nonworking time. Planning applications such as Advanced Planning and Scheduling (APS) use the workday calendar when planning production. These applications do not recommend starting a batch during plant downtime.

When you create a batch, the workday calendar is used to calculate the batch duration. If you attempt to reschedule, scale, reroute, or create an existing batch or batch step, and the organization is associated to a workday calendar, then the rescheduling operation considers the workday calendar when you select Use Workday Calendar.

How does this impact other Oracle applications?

Applications such as APS that query pending resource transactions in OPM Process Execution can be affected, because resource transactions can be created in multiple segments instead of a single segment. Refer to the *Oracle Process Manufacturing Process Planning User's Guide* for a complete discussion on setting up the workday calendar.

Implementation Considerations

Following are implementation considerations that define the limits of the workday calendar feature:

Rescheduling the Batch and Batch Steps

All dates must comply with working time available on the workday calendar if one is available for use. Steps are rescheduled by recalculating dates. This is enforced whether or not the workday calendar is used.

Date Changes for Batches and FPOs without Routing or Production Rules

If you enter dates for a batch or an FPO without a routing or a production rule, then it is assumed that the dates entered are accurate and reflect any downtime that occurs during production. The application does not consider the workday calendar to adjust for downtime under these circumstances. However, dates entered are validated against the workday calendar to warn you of scheduling during nonworking time. When the dates are accepted, the batch is created in a single, contiguous block of time.

The following actions do not make use of the workday calendar:

- Editing a step and step details
- Changing step dependencies
- Deleting a step or step details

Limitations for Staggered Activities

Following is an example of staggered activities affected by workday calendar scheduling of nonworking time:

- Act1 is the startup activity
- Act2 is the actual process
- Act3 is the cleanup

In order to model this to be a startup, process, and cleanup, stagger these activities with offsets so that they follow each other:

- Act1 has an offset of zero and usage of one hour
- Act2 has an offset of one hour and usage of two hours
- Act3 has offset of three hours and usage of one hour

Assume that:

- Act1 starts at noon and lasts until 1 p.m.
- Act2 starts at 1 p.m. and lasts until 3 p.m.
- Act3 starts at 3 p.m. and lasts until 4 p.m.

If a workday calendar is applied that has working hours for a shop day defined from noon until 2 p.m. and from 3 p.m. until 5 p.m., then the times are:

- Act1 starts at noon and lasts until 1 p.m.
- Act2 starts at 1 p.m. and lasts until 4 p.m., and consists of two transactions:
 - Transaction1: 1 p.m. to 2 p.m.
 - Transaction 2: 3 p.m. to 4 p.m.
- Act3 starts at 3 p.m. and lasts until 4 p.m. Note this is not properly sequenced, because you do not begin cleanup until Act2 is complete.

The activities are modeled to be offset from the beginning of the step and not from each other. There is currently no way to accommodate dependencies among these activities.

Understanding Warning Conditions

Warnings are issued for the reasons specified:

- If you attempt to schedule a batch that starts during nonworking time
- If you enter a planned completion date during nonworking time

- If the batch step spans nonworking time
- If the Contiguous indicator is set to Yes, and the batch spans nonworking hours

Workday Calendar Impact on Enforcing Step Dependencies

If Enforce Step Dependency is selected, then you can change either the Planned Start Date or the Planned Completion Date, but you cannot change both dates. When you change one of these dates, then the other date is disabled. This restriction is enforced because the application must recalculate all dates based on a single date change. Business rules must maintain synchrony with the underlying data already entered.

If Enforce Step Dependency is not selected, the following displays:

Do you want the application to recalculate the other date based on current resource usage? If you click No, then date gaps or date truncation can occur.

Date gaps occur when the span of the batch dates becomes larger than the calculated duration for the batch. The batch start date and batch completion date are truncated to meet the actual dates you enter on the Reschedule dialog box.

If there is no routing, then you can enter one or both dates, and no truncation errors are reported.

Terminating Batches

The Terminate Batch option on the Actions menu of the Batch Details window lets you terminate the remainder of a batch. This option is available only for WIP batches. When you terminate a batch, the application:

- Selects the Terminated indicator on batch header.
- Completes all the WIP steps without incurring more consumption or resource usage and sets indicators on these steps to Terminated.
- Cancels steps that are Pending. A Step Status of canceled is assigned.
- Deletes all pending resource transactions.
- Retains actual quantities and actual usages as they were at termination. This action does not change actual values.
- Permits entry of the actual completion date (termination date) as when completing a batch. The default is the system date.
- Completes the batch. Search for completed batches that were terminated.
- Deletes any remaining move orders and reservations.
- Deletes any pending product lots in the batches.

When a batch is terminated, the sample creation workflow notifications open are canceled. Manage any samples that are physically taken against the batch. You can edit transactions and actual quantities for a terminated batch but you cannot revert the batch to WIP.

Tip: Use the Mass Batch Actions window to terminate multiple WIP batches at the same time. See: Using the Mass Batch Actions Window, page 6-44.

Terminating Batch Steps

Pending steps canceled have no actual values. Phantom batches associated to pending steps are canceled regardless of their connection to a quality control sampling activity. WIP steps are completed, and are marked with the terminated indicator. Completed steps remain as they were at batch termination. A batch with a Terminated status can be closed in the same way as a Completed batch. A batch history record is created on terminating the batch. When a batch step is terminated, the sample creation workflow notifications open for this step are canceled. Manage any samples physically taken against the batch step.

Managing Insufficient On-hand Inventory

At batch release, if an automatic consumption, non-lot-or-location-controlled ingredient has insufficient on-hand quantity, and inventory cannot be driven negative, then the available quantity of material is consumed, and the remaining quantity displays in the material transaction as exception quantity on the Material Exceptions window. This only works for a plain or locator-controlled item where supply subinventory and locator is specified. For the lot-controlled items, only reservations are automatically consumed, and the reservations are a guarantee of the availability. If the actual quantity is not equal to the WIP planned quantity and the Process Execution parameter Display Unconsumed/Unyielded Material is setup, then the Material Exceptions window displays.

Understanding the Enforce Step Dependency Indicator

The Enforce Step Dependency indicator is set on the routing header. If a recipe uses this routing, then batches created from the recipe have the indicator selected on the Batch Details window.

When Enforce Step Dependency is selected, several business rules apply:

- The Step Release Type field is set to Manual to indicate the step must be released and completed manually.
- You cannot change the step dependency and step release type at the step level.
- All steps must be completed before you can complete the batch.

- All steps must be closed before you can close the batch.
- To close a step that is dependent on its previous step, the previous step must be closed.
- To unrelease the batch step, its succeeding dependent step must be pending.
- Release a step before you can complete it.
- Before you can revert a dependent batch step to work in process, revert any preceding completed or closed dependent batch steps to work in process.
- Business rules validate step start and completion dates and times for appropriate batch step rescheduling.

Refer to Editing Batch Step Dependencies, page 6-65.

Using Minimum Transfer Quantities

In the process of defining a routing, you can define a Minimum Transfer Quantity (MTQ) for a step. However, this limits the definition of what the routing step actually yields. By entering an MTQ value for a specific product in the batch step item association, the routing definition is enhanced beyond the ingredient level to the product level. The product must be associated to a batch step to permit the proper calculation of the time point where yield can be consumed. The value entered can be blank (null) to indicate that the material is consumed at the end of the step, or greater than or equal to zero. When a value greater than or equal to zero is entered, Advanced Planning and Scheduling (APS) identifies the point in the batch step where the material yielded can be consumed by another demand. If you only define the MTQ, then APS can only identify when the material can be taken. This does not constrain the timeframe in which the material can be consumed. Definition of a minimum delay and maximum delay, also known as a hardlink, applies this constraint to the MTQ yield point in the step for material yielded.

Record the minimum and maximum delay on the Batch Step/Batch Item Association window. This entry is in the hour unit of measure for actual calendar time. The minimum delay informs APS there is a waiting period after the MTQ yield point before material can be consumed. The maximum delay is added to the MTQ yield point to create the hard constraint for material being consumed by another batch. The maximum delay informs APS that the material cannot be consumed after the defined time point.

The values for the minimum delay and maximum delay cannot be negative. If you enter a maximum value, then the minimum must be less than or equal to it. The entry of a MTQ for any of the products is not required for the entry of stationary or hardlink values. Refer to *Oracle Process Manufacturing Process Planning User's Guide* for more information.

Understanding Batch Status

The status of the whole batch and individual batch steps progresses from Pending to Work in Process to Completed to Closed.

Use the Batch Details window to change whole batch status. Select an action from the Actions menu:

- From Pending to Work in Process, select Release.
- From Work in Process to Pending, select Unrelease.
- From Pending or Work in Process to Completed, select Complete.
- From Completed to Work in Process, select Revert to WIP.
- From Completed to Closed, select Close.
- From Closed to Completed, select Reopen.
- Select Terminate to terminate a WIP batch.
- From Pending, select Cancel to cancel the batch or Firm Planned Order.

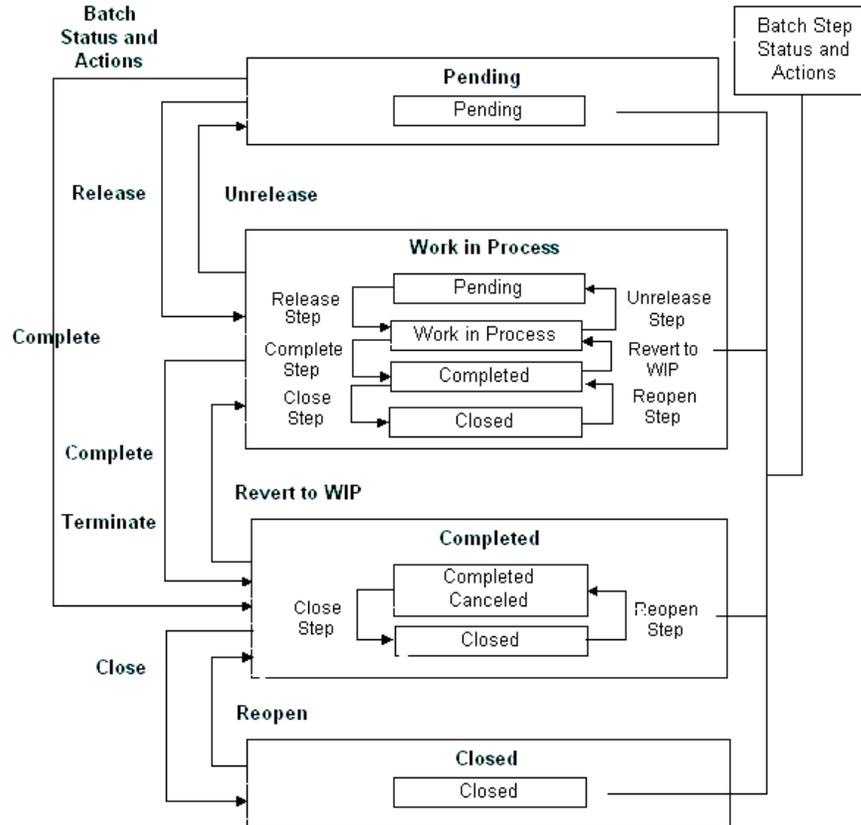
Change batch step status on the Batch Steps window.

Pending batches can only have batch steps with a status of Pending. Work in Process batches can have batch steps with a status of Pending, Work in Process, Completed, or Closed. Completed batches can have batch steps with a status of Completed or Closed. Closed batches can only have batch steps with a status of Closed.

To change batch step status, select the action indicated from the Actions menu:

- From Pending to Work in Process, select Release Step.
- From Work in Process to Pending, select Unrelease Step.
- From Pending or Work in Process to Completed, select Complete Step.
- From Completed to Work in Process, select Revert to WIP.
- From Completed to Closed, select Close Step.
- From Closed to Completed, select Reopen Step.

Terminating a batch cancels any remaining pending steps. The following diagram summarizes the previous discussion:



Finding a Batch

The Find Batches dialog box lets you search for batches entered for an organization.

Prerequisites

- Create a batch.

To find a batch:

1. Navigate to the Find Batches dialog box.
2. Make no entries to search for all records. Enter any of the following criteria to narrow the search:
 - **Status** of the batch as:
 - **Canceled** to find canceled batches.
 - **Pending** to find batches that are scheduled.

- **WIP** to find batches that are work in process.
- **Completed** to find batches that are complete.
- **Closed** to find batches that are closed.
- **Terminated** as:
 - **Yes** to find batches that were terminated.
 - **No** to find batches that were not terminated.
- **Document** number to find a specific batch using its document number.
- **Step** to find a specific batch using its step number.
- **Recipe** and **Version** to find batches that use a specific recipe or recipe and version combination.
- **Formula** and **Version** to find batches that use a specific formula or formula and version combination.
- **Routing** and **Version** to find batches that use a specific routing or routing and version combination.
- **Product** to find batches that produce a specific product.
- **Batch Type** as:
 - **Lab** to find a lab batch.
 - **Production** to find a production batch.
- **Revision** to find batches that produce a specific version of the product.
- **Planned Dates** for the batch, including its:
 - **From Start** date and **To Start** date to find a specific range of planned starting dates for batches.
 - **From Completion** date and **To Completion** date to find a specific range of planned completion dates for batches.
 - **From Required** date and **To Required** date to find a specific range of dates batches are required.
- **Actual Dates** for the batch, including its:

- **From Start** date and **To Start** date to find a specific range of actual starting dates for batches.
 - **From Completion** date and **To Completion** date to find a range of specific actual completion dates for batches.
 - **From Batch Close** date and **To Batch Close** date to find a specific range of actual batch closing dates
3. Click Find. The Batch Details window displays the results of the search.

To create a new batch from Find Batches page:

1. Click the New button. The Create Batch/Firm Planned Order page appears.
2. Create the new batch as described in *Creating a Batch or Firm Planned Order*, page 6-17.

Creating a Batch or Firm Planned Order

The Create Batch/Firm Planned Order window lets the Production Supervisor responsibility create a batch or a firm planned order. If you have this responsibility, then you can access this window from the Batches or the Firm Planned Order windows. Also access this window from the navigator.

Planned Start date, Planned Completion date, and Required Completion date fields are calculated as follows:

- Planned Start date defaults to the current date. You are warned when you enter a date earlier than the current date for a new batch or firm planned order.
- Planned Completion date is calculated automatically from the routing item leadtimes. If a routing exists, then the total routing time is added to the Planned Start date to calculate the Planned Completion date. If a routing does not exist, then the fixed and variable leadtimes entered on the Item Master are added to the Planned Start date to calculate the Planned Completion date. If neither a routing nor leadtimes exist, then the Planned Completion date can be entered manually and defaults to the Planned Start date. If Planned Start Date is not entered, then it is calculated from the Planned Completion date entered. The calculated Planned Completion date displays after the batch is saved.

For calculation of planned completion dates for a batch, the resources used in the batch must have a usage UOM that is in the same UOM class as the value for the BOM: Hour UOM profile option. See: *Oracle E-Business Suite Bills of Materials User's Guide* for more information about the BOM: Hour UOM profile option.

- Required Completion date defaults to the planned completion date, and is not used in calculations.

The application uses a manually entered Planned Completion date when a routing or production rule does not exist. For each batch, either the planned start date or both the planned start date and planned completion date are validated against the validity rule dates depending on the setting of the Process Execution parameter Validate Plan Dates. The date cannot be outside the date range defined on the validity rule.

If you enter the recipe and version on the Recipe tab, then the batch is created for the standard quantity specified on the item or formula. If you want to specify a different quantity, then use the Total Output tab or the Product Output tab to enter the recipe, version, and output quantity (quantity of products and byproducts). If you have only one product, then this is equivalent to entering the product quantity on the Product Output tab.

Prerequisites

- Set up the application as described in Setting Up, page 3-1.

To create a batch or firm planned order:

1. Navigate to the Create Batch/ Firm Planned Order window.
2. Select the context organization from the Organizations window.
3. Organization Name defaults to the organization that owns the batch.
4. Enter the appropriate Document Type to indicate entry of a Batch or creation of a Firm Planned Order. The Document Type defaults when you arrive from the Batch Details window, the Firm Planned Orders window, or from the navigator. The default Document Type is Batch when you access the window from windows that relate to both batches and firm planned orders. Required.
5. Determine whether to use automatic or manual document numbering. The Document Number associated with the batch or firm planned order is entered as follows:
 - If you are using automatic document numbering, then a document number is assigned automatically and displays in this field after the batch is created.
 - If you are using manual document numbering, then enter the number for the batch or firm planned order.
6. Determine whether to use automatic or manual group numbering. The Group Number associated with the batches or firm planned orders is entered as follows:
 - If you are using automatic group numbering, then a document number is

assigned automatically and displays in this field after the group is created.

- If you are using manual group numbering, then enter the number for the group of batches or firm planned orders,
7. Enter a description for the group of batches or firm planned orders in the Description field.
 8. Laboratory Batch indicator is:
 - Selected if the current organization is a laboratory only and cannot be changed.
 - Deselected if the current organization is a plant only. You can select this indicator for a lab batch.
 9. Select Update Inventory to update the inventory when inventory transactions are created. This is selected by default and can be deselected only for laboratory batches.
 10. Select Apply Fixed Process Loss if you want to account for a fixed production process loss during batch creation. This is enabled only for a batch. The checkbox is selected by default if you set the Apply Fixed Process Loss parameter to To All Batches. Refer to Setting Up Parameters, page 3-3 for more information.
 11. Click one of the following tabs to enter the batch or firm planned order:
 - **Recipe** to enter by specifying a recipe version with its default output quantity. Proceed to step 12.
 - **Product Output** to enter by specifying the product and quantity of a product required. Proceed to step 13.
 - **Total Output** to enter by specifying a recipe version and a required output quantity. Proceed to step 14.
 - **Total Input** to enter by specifying a recipe version and defined input quantity. Proceed to step 15.
 - **Rework** to enter by specifying a batch whose product requires reprocessing. Proceed to step 16.

Required.

Recipe

12. To enter the batch or firm planned order by specifying a recipe with its default output quantity:

1. Enter the Recipe to use in the batch or firm planned order. The Recipe Description displays. Required.
2. Enter the recipe Version to use in the batch or firm planned order. Required.
3. Proceed to step 17.

Product Output

13. To enter the batch or firm planned order by specifying the quantity of product required.
 1. Enter the Product code. The Product Description displays. Required.
 2. Optionally, enter the required Revision of the product. If you select a revision, then only those validity rules display, that are associated with the selected revision. You can select the required validity rule.
 3. Optionally, enter the Product Quantity and its UOM. The UOM Description displays. Required.
 4. Proceed to step 17.

Total Output

14. To enter the batch or firm planned order by specifying a recipe version and a required output quantity:
 1. Enter the Recipe to use in the batch or firm planned order. The Recipe Description displays. Required.
 2. Enter the recipe Version to use in the batch or firm planned order. Required.
 3. Enter the Output Quantity and its UOM. The UOM Description displays. Required.
 4. Proceed to step 17.

Total Input

15. To enter the batch or firm planned order by specifying a recipe version and defined input quantity:
 1. Enter the Recipe and Version to use in the batch or firm planned order (required). The Recipe Description displays.
 2. Enter the Input Quantity and its UOM (required).

3. Proceed to step 17.

Rework

16. To enter the batch by specifying a previous batch whose product requires reprocessing:
 1. Enter the Batch which produced the product requiring rework. Required.
 2. Enter the Rework Product which requires reprocessing. The product's Description and UOM displays. Required.
 3. Enter the Quantity of the product to rework. Required.
The quantity must be less than or equal to the quantity produced in the original batch.
 4. Optionally, enter a Routing.

The following steps refer to any of the four ways to create a batch:

17. Enter the Planned Start date for the batch or firm planned order. The current date and time is the default.
18. Enter the Planned Completion date for the batch or firm planned order. This date is calculated as described at the beginning of this topic. If you enter a Planned Start date, and the batch or firm planned order uses a routing or there are production rules for the product, then the Planned Completion date you enter is not used by the application.
19. Enter the Required Completion date to indicate the date and time required for batch completion. The Planned Completion date is the default.
20. Select Use Workday Calendar to use the workday calendar for batch scheduling.
21. Select View Validity Rules by Cost to view the validity rules in the order of least cost. Refer to the *Oracle Process Manufacturing Product Development User's Guide* for more information.
22. Click OK to create the batch or firm planned order. The Recipe Validity Rules Summary dialog box displays when there is more than one validity rule that is valid for creating the batch. Select the appropriate validity rule as described in *Selecting Validity Rules for a Batch*, page 6-24, and click OK.
23. Note the document number assigned.

Displaying the Workday calendar in batch scheduling:

If a workday calendar is associated to the organization then Workday Calendar is

enabled.

1. Click Workday Calendar.
2. View the workday calendar to determine available working time and nonworking time.

Creating a Batch or Firm Planned Order in Response to a Sales Order

The Make to Order feature in Process Execution provides the ability to create a batch or an FPO in response to a Sales Order. When a sales order is booked, it is determined based on configurable and user-defined rules, whether it qualifies for Make-to-Order. If the sales order qualifies for Make-to-Order, then a batch or an FPO is generated by running the Make to Order concurrent program. The Customer Service Representative then receives a notification with details of the created batch or FPO. The production supply is also reserved immediately to the Sales Order.

To create a batch or an FPO in response to a sales order:

- Set up rules in the Make to Order Rules window. Refer to Setting Up Make to Order Rules, page 3-9 for more information.
- Run the Make to Order concurrent program. Refer to Running the Make to Order Concurrent Program, page 14-21 for detailed information.

Heat Number

A heat number is an identifying number assigned to the product at the time of melting in an electric arc furnace: e.g. 19345. Sometimes, but not universally, the first digit indicates the furnace number; the second digit indicates the year in which the heat was melted. The last three (and sometimes four) digits show that this was the 345th heat melted in No. 1 furnace.

You can enter the Heat Number on an initial production batch which designates this batch as the Heat batch and the lots produced out of the Heat batch also carry the same heat number. The lots received through the other routes like PO receipts do not have the heat number stamped.

When the lots produced out of the heat batch are consumed in the next set of production batches, the batches get stamped with the same heat number. The lots produced from the batches are stamped with the heat number of the parent batch.

In the Additional Information tab of the Batch Details form, the Heat Number field is defaulted as Null, and you can enter the heat number manually. If you want to generate a heat number based on a specific logic, you can define a custom hook and click the Heat Number button to generate a heat number. If there is no custom hook defined a warning message is displayed. You can write custom logic to generate and return heat number using the `GME_YIELD_CUSTOMIZATION_PVT.generate_heat_number` API.

The following validations are applied at the time of entering or generating a heat number:

1. The custom hook has the batch_id passed so that the required batch information gathered to derive the heat number.
2. For the first heat or root batch, the heat number can be updated as long as the batch is in pending to completed statuses.
3. The Heat number is validated such that it can only be updated to the heat number of the lots consumed in the batch for all the child batches except for the root or starting batch.
4. The E-Record generated for all the batch events include the heat number as part of the E-Record template.

Substituting Items During Batch Creation

Item Substitution lists (see: *Creating and Approving Item Substitution Lists, Oracle Process Manufacturing Product Development User's Guide*) are used during the batch creation process. When you create a batch or a firm planned order from a formula which contains an item with a valid substitute, the batch or firm planned order is created with the substitute item. Item substitutions are based on the substitution type selected in the item substitution list; select from either a valid substitution date range or base the substitution on the active item's availability. The Item Substitution for Batches concurrent program performs date-based substitutions first, in order of preference if date ranges overlap for multiple date-based substitution items. The program then performs availability-based substitutions for the active formula items, if needed, in order of preference. If an active formula item quantity required is 100, but only 50 are available, the availability-based substitution must replace the entire required quantity of 100. No partial substitutions are allowed.

When substituting based on a date range, the Item Substitution for Batches concurrent program updates batches and replaces the formula's active item with the substitute item based on the Material Requirement Date. The Planned End Date is used if entered in the Create Batch window. Phantom items are not substituted. The program substitutes the item and displays output that lists the updated batches and errors encountered during the substitution. Refer to *Running the Item Substitution for Batches Concurrent Program*, page 14-15 for more information.

When substituting based on the formula's active item availability (after performing date-based substitutions), the substitution takes place if the quantity required for the active item exceeds the quantity Available to Transact minus prior demand (Quantity Required > ATT - prior demand), which the Item Substitution for Batches concurrent program calculates as follows:

If the Quantity Required > [ATT - pending batch demand - open demand quantities in WIP batches], then a substitution occurs.

For availability-based substitutions, the Item Substitution for Batches concurrent program also substitutes the item and displays the output that lists the updated batches and errors encountered during the substitution, but you can choose to run the program automatically, at batch creation, or manually, at a later time.

For material substitution when a batch is placed on hold, refer to *Creating a Batch Hold*, page 7-2.

Updating Pending Batches with Item Substitutions

Sometimes a batch is scheduled and after the batch is created a substitute is defined for an item that is effective for the material requirement date. Using the Item Substitution for Batches concurrent program, you can query and substitute items in pending batches that match specified criteria, such as batch number range, old item number, and effective date range. The pending batches with a material requirement date within the effective date range that you enter are checked and substitutions made where required. Existing reservations and move orders for the original item are deleted. If the item is reservable and transactable, then autodetail reservation is done for the substitute item. When you reschedule a batch to a date range for which there is an item substitute in effect, the items are not automatically substituted. Run the concurrent program to substitute the item.

Scaling a Batch with Substituted Items

When you scale a batch that contains a substituted item, select the Planned Quantity as the basis for scaling. If you scale the batch using Formula Quantity, then the scaling is based on the quantity of the effective item in the formula, as of the material requirement date of the batch.

Selecting Validity Rules for a Batch

Validity rules determine the conditions under which a recipe is used. If more than one validity rule meets the criteria entered for creating the batch, then the Recipe Validity Rules Summary window displays. Select the validity rule to use and click OK. Refer to the *Oracle Process Manufacturing Product Development User's Guide* for a complete discussion of selecting and using recipe validity rules.

Using the Validate Plan Dates Parameter

The Validate Plan Dates parameter validates the planned start date and planned completion date against the validity rule dates used for the batch. Dates cannot be outside the date range defined on the validity rule. This is enforced during batch creation and batch rescheduling, scaling, and routing. Certain business scenarios require extension of the planned completion date beyond the date entered on the validity rule without losing the planned start date validation.

This capability is also extended to validation of planned start date and planned

completion date for firm planned orders.

The Process Execution parameter Validate Plan Dates controls how batch and firm planned order dates are validated against the validity rule used:

- Set to Validate Both Planned Dates. The planned completion and planned start dates are validated against the validity rule date range when creating or rescheduling a batch or firm planned order.
- Set to Validate Planned Start Date Only. Only the planned start dates are validated against the validity rule date range when creating or rescheduling a batch or firm planned order.

Rerouting a Batch

Rerouting is the process of selecting a different routing for the batch by selecting a new validity rule that specifies a different recipe that has the same formula but a different routing. When you reroute a batch, the Recipe Validity Rules Summary dialog box displays to select the appropriate validity rule.

For rerouting when a batch is placed on hold, refer to *Creating a Batch Hold.*, page 7-2

Prerequisites

- Create a batch.

To reroute a batch:

1. Navigate to the Batch Details window.
2. Select Reroute from the Actions menu.
3. Select an effective validity rule with a different routing. A message displays when other validity rules do not exist for the formula.
4. Select a new validity rule.
5. Click OK.

Refer to the *Oracle Process Manufacturing Product Development User's Guide* for a complete discussion of using recipe validity rules.

Editing a Batch

The Batch Details page enables you to enter or modify header and product information for the batch, and displays all ingredients, products, and byproducts required for a batch. Update the actual quantities on this window or by using the Update Material Detail API that meets these criteria:

- Material is an item with no lot control, no location control, and no serial control.
- Batch status is WIP or complete.
- Only one real completed transaction exists for the material. It is updated automatically based on the actual quantity entered.

You can update the actual quantity for lot or location control items that have a single completed transaction. You can also update an effective plain item with a zero actual quantity. This creates a new completed transaction for the quantity you specify in the Actual Qty field.

You can use folders and flexfields with this window.

See: *Oracle E-Business Suite User's Guide* and *Oracle E-Business Suite Flexfields Guide*.

Prerequisites

- Set up the application as described in Setting Up, page 3-1.
- Create a batch.

To edit a batch:

1. Navigate to the **Batch Details** page.
2. Query the batch **Document** number.

Main

3. The following fields are display only:
 - **Document** is the batch number.
 - **Status** is the current status of the batch:
 - **Pending** if a batch is created, but not yet released.
 - **WIP** if a batch is released to work in process.
 - **Completed** if a batch is completed, but not yet closed.
 - **Closed** if a batch is closed.
 - **Canceled** if a batch is canceled.
 - **Hold Type** is the current hold status for the batch.
 - **Step** is the step number entered on the Find Batches window.

- **Recipe** is the code for the recipe used in the batch.
 - **Terminate Reason** is the reason for termination.
 - **Terminated** is selected if the batch was terminated.
 - **Recipe Version** is the recipe version for the validity rule associated with the batch.
 - **Parent Batch** is the parent batch number or the firm planned order batch number if the batch or firm planned order is a phantom.
 - **Phantom** is selected when the batch is a phantom batch.
4. **Planned Start** displays the planned start date for the batch. This field defaults from the date assigned on the **Create Batch/Firm Planned Order** window. Edit this field for a pending batch by choosing **Reschedule** from the **Actions** menu.
 5. **Actual Start** displays the date and time when the batch was released.
 6. **Laboratory Batch** is selected for a lab batch.
 7. **Planned Completion** displays the date calculated automatically from the routing or production rules. Edit this field by choosing **Reschedule** from the **Actions** menu.
 8. **Actual Completion** displays the actual completion date for the batch.
 9. **Update Inventory** is selected when inventory transactions are created and inventory levels updated. This is selected by default and deselected only for a laboratory batch.
 10. Enter the **Required Completion** date for the batch. This field is for reference purposes only and is the batch due date. You can edit this field for pending and WIP batches.
 11. **Batch Close** displays the date and time entered on the Close Batch dialog box.

Additional Information

12. The following fields are display only:
 - **Formula** is the code for the formula used in the batch.
 - **Formula Version** is the formula version used in the batch.
 - **Automatic Step Calculation** is selected when the automatic step quantity calculation feature is enabled. Automatic Step Calculation is selected on the Recipe Details window in the Oracle Process Manufacturing Product

Development application. When Automatic Step Calculation is selected, quantities shown for each step are cumulative, and represent a dynamic accounting of step materials as ingredients are consumed and products, coproducts, and byproducts are yielded by the step. Deselect the box to turn off the automatic step quantity calculation feature. You cannot select this indicator for a batch.

- **Routing** is the code for the routing used in the batch. Edit this field for a Pending batch by choosing Reroute from the Actions menu.
- **Routing Version** is the routing version used in the batch.
- **Enforce Step Dependency** is selected when the batch enforces step dependency. Refer to Understanding Batches, page 6-2 for more information.
- **Recipe Description** is a brief description of the recipe.
- **Firmed** is selected when the WPS engine should not reschedule the batch. Refer to the *Oracle Process Manufacturing Process Planning User's Guide* for additional information.
- **Formula Description** is a brief description of the formula.
- **Finite Scheduled** is selected when the WPS engine reschedules the batch.
- **Routing Description** is a brief description of the routing used in the batch.
- **Priority** indicates how important the batch is. Lower numbers are higher priority. Refer to *Oracle Process Manufacturing Process Planning User's Guide* for detailed information.
- **Firm Planned Order** is the firm planned order document number that created the batch. This field is blank when the batch is not created from a firm planned order.
- **Heat Number** is an identifying number assigned to the initial batch at the time of melting in an electric arc furnace. See the topic Heat Number, page 6-22 for detailed information about entering or generating a heat number.

Ingredients

13. The following fields are display only:

- **Line** is the line number for the ingredient.

- **Item** is the item code for the ingredient.
 - **Item Description** is a brief description of the ingredient as it displays on the Item Master.
 - **Revision** is the revision of the item in the line.
 - **Actual Qty** is the actual quantity of each ingredient used in batch production.
 - **Backordered Qty** is the quantity backordered for the line.
 - **Unit of Measure** is the unit of measure for the actual quantity.
 - **WIP Plan Qty** is the work in process planned quantity of the ingredients.
 - **Original Qty** is the initial quantity of each ingredient when the batch was first created. This field is a baseline from the initial creation of the batch, and cannot be changed.
 - **Planned Qty** is the quantity of ingredients that were planned. You can edit this field for a pending batch.
 - **Reserved Qty** is the sum of all reservations for the line.
 - **UOM** is the unit of measure for the original and planned quantities. You can edit this field for a pending batch.
 - **Dispensable** is selected if the ingredient must be dispensed.
14. Select a **Consumption Type** for ingredient consumption:
- **Automatic** when ingredients are consumed automatically when the batch is released.
 - **Manual** when ingredients are consumed manually.
 - **Incremental** when ingredient quantities are backflushed by incremental backflushing.
 - **Automatic by Step** when ingredients are consumed automatically as the step is released.
- You can edit this field for a pending batch.
15. Enter a **Requirement Date** as the date the ingredient is required.
16. Enter the **Subinventory** as the supply subinventory for the line. You can edit this field.

17. Enter the **Locator** as the supply locator for the line. You can edit this field.
18. **Contribute to Yield** displays as Yes when the ingredient contributes to yield. You can edit this field for a pending batch.
19. Select a **Scale Type** as:
 - **Fixed** if the ingredient is not scalable.
 - **Proportional** if the ingredient is scalable.
 - **Integer** if the ingredient is scalable by multiples.
20. Enter a **Scale Multiple** as the scaling increment for the ingredient.
21. Enter **Scale Rounding Variance %** as the percent variance allowable for rounding when the Scale Type is Integer. If the Rounding Variance field is left blank, then rounding occurs without regard to variance.
22. Select **Rounding Direction** as:
 - **Down** to allow the acceptable rounding direction down to the nearest multiple.
 - **Either** to allow the acceptable rounding direction up or down to the nearest multiple.
 - **Up** to allow the acceptable rounding direction up to the nearest multiple.

You can edit this field.
23. **Dispensable** is selected if the ingredient must be dispensed.
24. Enter a **Scrap Factor%** as the anticipated amount of ingredient lost in the manufacturing process as a percentage. For example, if the Scrap Factor is 10 percent, then an additional 10 percent of material is added to accommodate for this loss. You can edit this field for a pending batch. You can enter a scrap factor ranging from 0 to 1000000. If you enter a scrap factor below 0 or above 1000000, then an error message displays.
25. Enter the **Scrap Qty** as the actual quantity of the ingredient lost in the production process. You can enter scrap qty ranging from 0 to 1000000. If you enter a scrap factor below 0 or above 1000000, then an error message displays.
26. Select **Phantom Type** as:
 - **Not a Phantom** when the ingredient is not a phantom item.
 - **Automatic** when the ingredient is a phantom item that is exploded

automatically.

- **Manual** when the ingredient is a phantom item that requires manual explosion from the Actions menu.
27. **Phantom** displays as:
- **Exploded** if the phantom ingredient is exploded previously.
 - **Unexploded** if the phantom ingredient is not exploded.
28. **Contribute to Step Qty** displays as **Yes** if the ingredient contributes to step quantity.
29. **Step** is the batch step number to which the ingredient is associated.

Products

30. The following fields are display only:
- **Line** is the batch line number for the product.
 - **Item** is the item code for the product.
 - **Item Description** is a brief description of the product as it appears on the Item Master.
 - **Revision** is the revision of the item on the line.
 - **Original Qty** is the initial quantity of each product when the batch was first created. This field is a baseline from the initial creation of the batch, and cannot be changed.
 - **UOM** is the unit of measure for the original and planned quantities. You can edit this field for a pending batch.
 - **Actual Qty** is the actual quantity of products yielded. This field displays on batches with a status of WIP or Completed.
31. Enter the **Planned Qty** as the amount of product to produce by the batch. The Planned Qty changes when the batch is scaled, and is editable in a batch with a status of Pending.
32. Enter **Allocated Qty** as the product quantity that is already allocated to pending lots.
33. Select a **Yield Type** as the type of product yield as:

- **Automatic** when products are yielded automatically when the batch is completed.
- **Manual** when products are yielded manually.
- **Incremental** when product yield is calculated by incremental backflushing.
- **Automatic by Step** when products are yielded automatically as the step is completed.

You can edit this field for a pending batch.

34. Enter the **Yield Date** as the planned completion date of the batch or batch step. When the materials are inserted in WIP status, the actual completion dates display.
35. Enter the **Subinventory** as the yield subinventory. You can edit this field. For a phantom batch, the yield subinventory defaults to the supply subinventory of the ingredients.
36. Enter the **Locator** as the yield locator. You can edit this field.
37. Select a **Scale Type** as:
 - **Fixed** if the product is not scalable.
 - **Proportional** if the product is scalable.
38. Enter the **Cost Allocation** as the percent cost allocation for the product. You cannot edit this field for completed batches. Cost allocation defaults to zero for a new product line.
39. **Contribute to Step Qty** displays as Yes if the product contributes to the step quantity
40. **Step** is the step associated to the product.

By-Products

41. The following fields are display only:
 - **Line** is the batch line number for the byproduct.
 - **Item** is the item code for the byproduct.
 - **Item Description** is a brief description of the byproduct as it displays on the Item Master.
 - **Revision** is the item revision on the line.

- **Original Qty** is the initial amount of each byproduct when the batch was first created. This field is a baseline for the initial creation of the batch.
 - **Planned Qty** is the amount of byproducts that were planned. The Planned Qty changes when the batch is scaled, and is editable in a batch with a status of Pending.
 - **UOM** is the unit of measure for the original and planned quantities. You can edit this field for a pending batch.
 - **Actual Qty** is the actual quantity of byproducts yielded. This field displays on batches with a status of WIP or Completed.
42. Enter **Allocated Qty** as the by-product quantity that is already allocated to pending lots.
43. Select the **By-Product Type** as any one of the following:
- Rework
 - Sample
 - Waste
 - Yield
44. Select a **Yield Type** as any one of the following:
- **Automatic** when byproducts are yielded automatically when the batch is completed.
 - **Manual** when byproducts are yielded manually.
 - **Incremental** when byproduct yield is calculated by incremental backflushing.
 - **Automatic by Step** when byproducts are yielded automatically as the step is completed.
45. Enter the **Yield Date** as the planned completion date of the batch or batch step. When the materials are inserted in WIP status, the actual completion dates display.
46. Enter the **Subinventory** as the yield subinventory. You can edit this field.
47. Enter the **Locator** as the default yield locator for the item.
48. Enter a **Scale Type** as:

- **Fixed** if the byproduct is not scalable.
 - **Proportional** if the byproduct is scalable.
49. **Contribute to Step Qty** displays as Yes if the ingredient contributes to step quantity.
 50. **Step** displays the step associated to the byproduct.
 51. Click **Batch Steps** to navigate to the **Batch Steps** window.

To edit text in a batch:

1. Select Edit Text from the Tools menu.
2. Make appropriate changes.

To display process instructions:

1. Select Process Instructions from the Tools menu.
2. View all process instructions.

To display e-record details:

1. Select eRecord Details from the Tools menu.
2. Click on the individual event name for details.

To display the workday calendar:

Select Workday Calendar from the Tools menu.

To view validity rules for a batch:

Select View Validity Rules from the Tools menu.

To edit a parent batch:

1. Select the parent batch.
2. Select Edit Parent from the Tools menu. Edit the parent batch.
This option is available only for a phantom batch.

To edit a phantom batch:

1. Select a phantom ingredient.

2. Select Edit Phantom from the Tools menu.

To display specifications for a batch:

Select Specifications from the Tools menu.

To apply fixed process loss to a batch:

Click **Apply Fixed Process Loss**. This button is available only for pending batches. Refer to *Allowing for Process Loss*, page 6-2 for more information.

To display samples for a batch:

1. Select Samples from the Tools menu.
2. View the sample summary details associated with the material.

Refer to the *Oracle Process Manufacturing Quality Management User's Guide* for information.

To scale a batch:

1. Select Scale Batch from the Tools menu.
2. Scale the batch as described in *Scaling a Batch or Firm Planned Order*, page 6-90.

To apply theoretical yield:

1. Select Theoretical Yield from the Tools menu.
2. Apply the yield as described in *Using the Theoretical Yield Calculation*, page 6-81.

To display the batch progression:

1. Select Batch Progression from the Tools menu.
2. View the batch progression details.

Refer to the *Manufacturing Execution System for Oracle Process Manufacturing User's Guide* for more information.

To release a batch:

1. Select Release from the Actions menu.
2. Enter the Actual Start Date for the batch.
3. Click OK.

To complete a batch:

1. Select Complete from the Actions menu.
2. Enter the Actual Completion Date as the date the batch was completed.
3. Click OK.

To close the batch:

1. Select Close from the Actions menu.
2. Enter the Batch Close Date.
3. Click OK.

To cancel the batch:

Select Cancel from the Actions menu. If a batch has a status of Pending , then it can be canceled. To cancel a WIP batch, you must unrelease the batch. You cannot restore a canceled batch.

To unrelease a batch:

1. Select Unrelease from the Actions menu.
2. The batch Status changes to Pending.

To revert a batch to WIP:

1. Select Revert to WIP from the Actions menu.
2. The batch Status changes to WIP.

To reopen a batch:

Select Reopen Batch from the Actions menu. The Batch Status field displays Completed.

To reschedule a batch:

1. Select Reschedule from the Actions menu.
2. Reschedule the batch as described in Rescheduling a Batch, page 6-92.

To reroute a batch:

1. Select Reroute from the Actions menu

2. Select a recipe validity rule. A message displays when no other validity rules exist for the formula.
3. Click OK.

To terminate a batch:

1. Select Terminate from the Actions menu. A message displays:
Are you sure you want to terminate the batch? Yes/No.
2. Select Yes to terminate the batch. The following information displays:
3. Actual Start Date displays the actual start date of the batch.
4. Enter the Batch Termination Date as the date the batch is terminated
5. Enter a Terminate Reason.
6. Click OK.

To incrementally backflush a batch:

1. Select Incremental Backflush from the Actions menu.
2. Perform the incremental backflushing as described in Performing Incremental Backflushing, page 10-26.

To create a phantom:

1. Select an unexploded phantom ingredient.
2. Select Create Phantom from the Actions menu. This option is available only for a phantom type material.

To print labels:

Select **Print Labels** from the **Actions** menu. Refer to the *Manufacturing Execution System for Oracle Process Manufacturing User's Guide* for more information.

To display the batch e-records:

Select Batch E-Records from the Actions menu. Refer to Oracle e-Records Events in Process Execution, page C-1.

To maintain reservations:

Select Maintain Reservations from the Inventory menu. Refer to Entering Reservations,

page 8-6 for more information.

To create high level reservations for a batch:

Select Reserve Batch from the Inventory menu. Refer to Creating High-Level Reservations, page 8-3 for more information.

To create high level reservation for a material line:

1. Select Reserve Line from the Inventory menu.
2. View the reserved quantity on the Batch Details window.

Refer to Creating High-Level Reservations, page 8-3 for more information.

To create detail level reservations for a batch:

Select Auto Detail Reserve Batch from the Inventory menu. Refer to Creating Detailed-Level Reservations, page 8-4 for more information.

To create detail level reservation for a material line:

1. Select Auto Detail Reserve Line from the Inventory menu.
2. View the reserved quantity on the Batch Details window.

To enter the pending product lots:

1. Select Pending Lots from the Inventory menu.
2. Enter the pending product lots information. Refer to Entering Pending Product Lots, page 8-24 for more information.

To transact material reservations:

1. Select Transact Material from the Inventory menu.
2. Transact the material requirements for the batch. Refer to Transacting Materials, page 8-6 for more information.

To edit material transactions:

1. Select Correct Material Transactions from the Inventory menu.
2. Make the corrections to the material transactions. Refer to Editing Material Transactions, page 8-19 for more information.

To pick ingredients for a batch:

1. Select Picking from the Inventory menu.
2. Query the batch and perform ingredient picking as described in Finding Ingredient Requirements for Picking, page 9-2.

To display move orders:

Select View Move Order from the Inventory menu. Refer to Viewing Move Orders, page 8-23 for more information.

To display a summary of available inventory for an item:

1. Select the item.
2. Select Material Summary from the Inventory menu. Refer to the *Oracle Inventory User's Guide* for more information.

To display inventory shortages:

Select View Org Level Shortages from the Inventory menu. Refer to Managing Inventory Shortages, page 8-26 for more information.

To display subinventory shortages:

Select View Subinventory Level Shortages from the Inventory menu. Refer to Managing Inventory Shortages, page 8-26 for more information.

To view material transactions:

Select View Material Transactions from the Inventory menu. Refer to Transacting Materials, page 8-6 for more information.

To add a batch to or remove from a batch group or view batch group associations:

1. Select Batch Group Association from the Inventory menu.
2. The Batch Group Association window displays. Refer to Using the Mass Batch Actions Window, page 6-44 for more information. Note that if a batch is associated to a group, then the group name and description display on the title of the Batch Details window.
3. Select Add to Group to add the batch to a group or select Remove to remove the batch from a group.

Understanding Mass Batch Transactions

In certain production processes, there may be a need to group several batches of similar nature and transact them together to save time. For example, batches for a specific product can be sequenced to complete production before a cleanup and the next setup. OPM Process Execution provides the mass batch transactions functionality that enables you to perform transactions on a group of batches.

You can perform the following using the Mass batch transaction feature:

- Search for related batches
- group related batches
- Add or delete batches from a group

You can perform the following transactions on a group of a batches:

- Autodetail batch
- Release
- Complete
- Close
- Unrelease
- Reopen
- Revert to WIP
- Cancel
- Terminate

Finding Batches for Mass Batch Transactions

Use the Find Batches window to search for a list of batches to perform mass batch transactions.

Prerequisites

- Set up the application as described in the Setting Up chapter.
- Create batches.

To search for batches for performing mass transactions:

1. Navigate to the Process Execution Group Management window.
2. The Find Batches window displays. Enter search criteria in the Standard and Advanced sections of the window to search for batches.
3. Enter any of the following criteria in the Standard section of the window:
 - Organization displays the default organization. You can edit this field to search for batches of a different organization.
 - Status of the batch as:
 - Canceled to find canceled batches.
 - Pending to find batches that are scheduled. find batches that are scheduled.
 - WIP to find batches that are work in process.
 - Completed to find batches that are complete.
 - Closed to find batches that are closed.
 - Document to search for a specific batch.
 - Group number to search for a batch belonging to a specific group.
 - Product to find batches that produce a specific product.
 - Revision to find batches that produce a specific version of the product.
 - Ingredient to find batches that consume a specific ingredient.
 - Revision to find batches that consume a specific revision of the ingredient.
 - Byproduct to find batches that produce a specific byproduct.
 - Revision to find batches that product a specific revision of the byproduct.
 - Resource to find batches that use a specific resource.
 - Operation to find batches in which a specific operation is performed.
 - Version to find batches in which a specific version of the operation is performed.
 - Recipe and Version to find batches that use a specific recipe or recipe and

version combination.

- Formula and Version to find batches that use a specific formula or formula and version combination.
 - Routing and Version to find batches that use a specific routing or routing and version combination.
 - Planned Dates for the batch, including its:
 - From Plan Start date and To Plan Start date to find a specific range of planned starting dates for batches.
 - From Plan Completion date and To Plan Completion date to find a specific range of planned completion dates for batches.
 - From Actual Start date and To Actual Start date to find a specific range of actual starting dates for batches.
 - From Actual Completion date and To Actual Completion date to find a range of specific actual completion dates for batches.
4. Enter any of the following criteria in the Advanced section of the window:
- Select any of the following Items:
 - Organization
 - Document
 - Document Status
 - Group
 - Product
 - Ingredient
 - Byproduct
 - Routing
 - Routing Version
 - Resource
 - Resource Version

- Operation
 - Operation Version
 - Recipe
 - Recipe Version
 - Formula
 - Formula Version
 - Plan Start
 - Plan Completion
 - Actual Start Date
 - Actual Completion Date
- Condition enables you to select a comparison operator. Select one of the following Conditions for the item to build a relational expression:
 - Equal
 - Greater Than
 - Less Than
 - Greater or Equal
 - Less or Equal
 - Like
- The following Conditions are available for queries based on dates:
 - Greater or Equal To Today + to generate a list of batches for which the date specified in the Item field is greater than or equal to the current date plus the value entered.
 - Greater or Equal To Today - to generate a list of batches for which the date specified in the Item field is greater than or equal to the current date minus the value entered.
 - Less or Equal To Today + to generate a list of batches for which the date specified in the Item field is less than or equal to the current date plus the

value entered.

- Less or Equal To Today - to generate a list of batches for which the date specified in the Item field is less than or equal to the current date minus the value entered.
 - Today to generate a list of batches for which the date specified in the Item field is equal to the current date.
- Enter a Value for the selected condition.
5. Click Find.
 6. View the results in the Mass Batch Actions window.

Using the Mass Batch Actions Window

The Mass Batch Actions window displays the list of batches that meet the criteria entered on the Find Batches window. Use the Mass Batch Actions window to view the results of the search on the Find Batches window, group batches, and to perform mass batch transactions.

Prerequisites

- Perform Setup as described in Setting Up.
- Create batches.
- Perform a search for batches using the Find Batches window.

To view the results of the search on the Find Batches window:

1. Perform search as described in Finding Batches for Mass Batch Transactions, page 6-40.
2. Click Find. The Mass Batch Actions window displays.
3. The following fields display for each batch in the list:

Field Name	Description
Organization	Displays the default organization.

Field Name	Description
Document	Displays the batch document number.
Status	Displays the batch status.
Terminated	This option is selected if the batch is terminated.
Formula	Displays the code for the formula used in the batch.
Formula Version	Displays the formula version used in the batch.
Formula Description	Displays a brief description of the formula used in the batch.
Recipe	Displays the code for the recipe used in the batch.
Recipe version	Displays the recipe version used in the batch.
Recipe Description	Displays a brief description of the recipe used in the batch.
Routing	Displays the code for the routing used in the batch.
Routing Version	Displays the routing version used in the batch.
Routing Description	Displays a brief description of the routing used in the batch.
Product	Displays the code for the product produced by the batch.
Revision	Displays the revision of the product produced by the batch.

Field Name	Description
Product Description	Displays a brief description of the product produced by the batch.
Planned Quantity	Displays the quantity of product planned to be produced by the batch.
UOM	Displays the unit of measure of the product.
Planned UOM	Displays the unit of measure in which the planned product quantity is produced by the batch.
Actual Quantity	Displays the actual quantity of product yielded by the batch.
Actual Quantity UOM	Displays the unit of measure in which the actual quantity is produced by the batch.
Actual Unit of Measure	Displays the unit of measure of the actual product quantity.
Planned Start Date	Displays the planned start date for the batch.
Planned Completion	Displays the planned completion date for the batch.
Actual Start Date	Displays the actual start date of the batch.
Actual Completion Date	Displays the actual completion date for the batch.

1. Actual Start date will be displayed only when you select the Release action.
2. Actual Start and Actual Completion dates will be displayed when you select Complete action.
3. Actual Start date can be used only for pending batches that are being completed, while Actual Completion date can be used for

WIP and pending batches.

4. Batch Close date will be displayed when you select Close batch action.
5. Batch Termination Date will be displayed when you select Terminate action.

Note: The above date fields will not be displayed for actions other than Release, Complete, Close, and Terminate. Dates, if entered, will be used to perform the selected batch actions such as Release, Complete, Close, and Terminate.

To perform mass batch transactions:

1. Navigate to the Mass Batch Transactions window.
2. Select the batches on which you want to perform transactions together.
3. Select any one of the following transactions that are available in the Select Action field and click Go:

Transaction Name	Description
Add to Group	To create a group or add batches to a group.
Remove from Group	To remove a batch from a group.
Auto Detail	To create detailed-level material reservations for batches.
Release	To release the batches.
Complete	To complete the batches.

Note: The Bypass Material Exception check box is displayed only for Release and Complete batch actions.

Selecting the Bypass Material Exception check box will ignore exceptions for Release and Complete batch actions only.

Transaction Name	Description
Close	To close the batches.
Reopen	To reopen the batches.
Revert to WIP	To revert the status of completed batches to WIP.
Unrelease	To unrelease the batches.
Cancel	To cancel batches.
Terminate	To terminate batches.

To create a group of batches:

1. Navigate to the Mass Batch Actions window.
2. Select the batches that you want to group.
3. Select Add to Group option in the Select Action field.
4. Click Go. The Batch Group Associations window displays.
5. Enter the Group number to add the batch. If you set the Group Numbering parameter to Automatic then a group number is generated automatically.

Picking Ingredients for a Batch

Pick releasing a batch allows you to pick material for the batch. Move orders are created when you pick material. Move orders are requests for the movement of material within an organization. Refer to Picking Material for more information.

Move order is equal to the open requirement minus the unreserved material in the supply subinventory:

- If the move order quantity is less or equal to zero, then a move order is not created for this ingredient line and the open requirement is fulfilled by reserving the material in the supply subinventory.
- If the move order quantity is greater than zero, then the material is reserved in the supply subinventory and a move order is created to transfer the remaining quantity.

When transacting the move order, the ingredient quantities are moved to the manufacturing staging area or supply subinventory. The source locations for picking material are derived from picking rules. Reservations are also considered during picking. Refer to Ingredient Picking Workbench for more information on ingredient picking.

Defining Picking Rules

Predefined picking rules determine the source locations for each ingredient and help in streamlining the management of material flow for production. Picking rules are defined on the Picking Rules window in Oracle Inventory. If the Oracle Warehouse Management Systems (WMS) is installed, then the picking rules are defined on the WMS Rules window in Warehouse Manager. Refer to the *Oracle Warehouse Management User's Guide* for information on setting up picking rules for a WMS-enabled organization. Refer to the *Oracle Inventory User's Guide* for information on setting up inventory picking rules.

Understanding Task Creation

Move orders in the Oracle Warehouse Management Systems (WMS) enabled organization are dispatched in the form of tasks for execution on a mobile device. WMS tasks can only be transacted on mobile devices. The Oracle Mobile Supply Chain Applications (MSCA) supports the interface of a mobile client device with a networked computer system. This application performs shop floor and warehouse transactions from any location in a facility using wireless radio frequency devices. MSCA supports WMS tasks related to production batches. Refer to the *Oracle Process Manufacturing Mobile Supply Chain Applications User's Guide* for more information.

The process flow for the task creation and execution is as follows:

- Pick releasing a batch creates preapproved move orders for the ingredient requirements.
- The move order is allocated based on predefined WMS picking rules. If insufficient inventory is available, then a backorder is recorded. Backordered quantity is selected for cross docking. Refer to Understanding Cross Docking, page 6-50 for more information.
- Move orders are labeled with a system task type (Pick), and cannot be edited.
- A user-task type is assigned to the task. They are assigned based on predefined Task Type Assignment Rules. The task type controls the skill set and equipment required to perform the task. Task type assignment does not assign a task to an operator, but rather to a skill set and optionally to an equipment item.
- Tasks can be split if necessary based on the capacity of equipment required to

perform the tasks. Tasks are dispatched to the users when they log into the application through their mobile devices and request a task. The user receives the highest priority task sequenced by subinventory and locator picking order and based upon their current location in the warehouse.

- Operators can load or drop a task. Loading a task indicates that the material was loaded onto a piece of equipment or into the hands of a warehouse operator.
- Task drop confirms that the material is moved to the manufacturing staging subinventory.

Understanding Cross Docking

Cross docking moves the received material directly to the source of unfulfilled demand, without putting it away in its usual storage location. For example, when material arrives, pick requirements on the truckload are selected. If there are requirements, then the material needed is routed directly from receiving to a shipping dock or a shipment staging area. Backordered quantities are selected for cross docking. Cross docking is available only for the Oracle Warehouse Management Systems (WMS) enabled organizations and supports the following flows:

- Purchase receipt to sales order
- Purchase receipt to batch demand
- Batch yield to sales order
- Batch yield to batch demand

Note: If you are using rules-based picking in a WMS-enabled organization, and the warehouse is enabled for cross docking, then the WMS rules engine checks for backorders and creates move orders to put material directly into the staging area.

Understanding Batch Step Quantity Calculations

The quantity of material required in a specific step is dependent on the quantity of material that passes into and out of that step. Input material consists of ingredients injected directly into steps or material transferred from preceding steps.

If you use automatic step quantity calculations, then the plan step quantities are calculated from the quantities of the items in the formula, after you tie the routing and formula together in a recipe, and specify the item-step associations and routing step dependencies. Plan step quantities are calculated from the quantity of ingredients being added to each step, and the quantity that comes from previous steps based on step

dependencies. This is where the planned yield percentage defined on the recipe and the transfer percent affects. The transfer percentage is used to specify how much of the quantity yielded from a step flows on to a subsequent step, after subtracting out any product or byproduct yielded by the step.

If you are not using automatic step quantity calculation, then you enter step quantities. When you create a batch, the total output quantity is compared to the routing quantity to determine a scale factor. The scale factor is applied to the routing step quantities to scale them up or down for the batch step quantities.

The following example shows how material can be input, transferred, and output from a series of production steps:

Step 1: Add 50 pounds of Ingredient 1 to 50 pounds of Ingredient 2. The step quantity at step1 is 100 pounds. Planned yield is 95%. So the total output is resulted as 95% of 100 pounds, 95 pounds.

The total output is comprised of 5 pounds of Byproduct1 and 90 pounds of Intermediate 1. There is a complete, 100 percent transfer of 90 pounds of Intermediate 1 to step 2.

Step 2: The material transferred to step 2 is processed with 100% yield and split as follows:

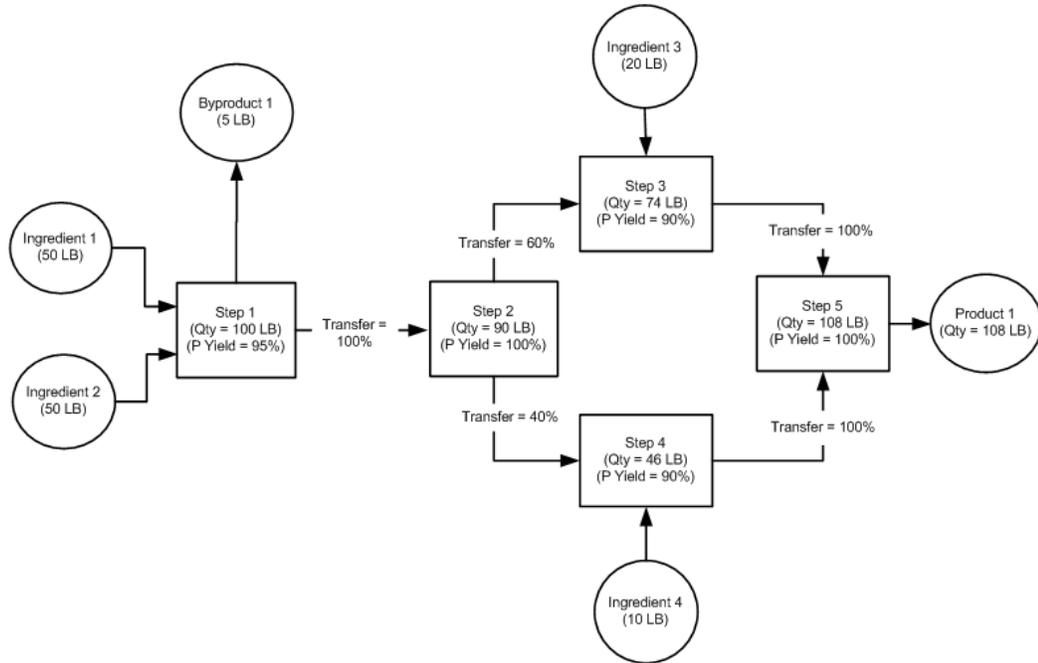
- 60 percent, representing 54 pounds, is transferred to step 3.
- 40 percent, representing 36 pounds, is transferred to step 4.

Step 3: Add 20 pounds of Ingredient 3 to the 54 pounds of material transferred from step 2. The total 74 pounds of material is processed with 90% yield and the result, 66.6 pounds is all transferred to step 5.

Step 4: Add 10 pounds of Ingredient 4 to the 36 pounds of material transferred from step 2. The total 46 pounds of material is processed with 90% yield and the result, 41.4 pounds is all transferred to step 5.

Step 5: This step processes the 108 pounds of material from steps 3 and 4 to produce product 1.

The following depicts the previously described example. LB is equal to pounds.



Finding Batch Steps

The Find Batch Steps dialog box lets you find batch steps using batch status, batch document number, routing, or routing version as search criteria.

Prerequisites

Create a batch.

To find batch steps:

1. Navigate to the Find Batch Steps dialog box.
2. Make no entries to search all records. Enter any of the following criteria to narrow the search:

Field Name	Description
Status	Enter appropriate batch step: <ul style="list-style-type: none"> • Canceled to find canceled batch steps • Pending to find pending batch steps. • WIP to find batch steps that are work in process. • Completed to find batch steps that are completed. • Closed to find batch steps that are closed.
Terminated	Enter Yes to find terminated batches.
Document	To find batch steps in a specific batch document number in the listed organization.
Routing	To find batch steps in a specific routing.
Version	To find batch steps associated to a specific routing version.

Click Find. The Batch Steps window displays the results of the search.

Editing Batch Steps

The Batch Steps window lets you display and edit batch steps in a specific production run. View the planned and actual values for start dates, completion dates, step quantities, charges, due date, and step date. The Batch Steps window also lets you release, cancel, complete, or close a batch step. In addition, view planned operations, planned start dates, planned completion dates, and the status of each batch step.

The Batch Steps window also allows you to enter intermediate transfer quantities of material between the steps and uses this information along with information derived from material transactions and step material association to calculate and display various types of yields for the batch steps and the batch. See Yield Measurement in Process Execution, page 6-93 for detailed information about various types of yields and yield measurement.

For information regarding adding or removing a batch step when a batch is placed on hold, refer to *Creating a Batch Hold.*, page 7-2

The Firm Planned Order Steps window is display only. Field definitions are the same except they apply to a firm planned order.

E-Record and E-Signature Approvals

There can be an e-signature event associated with this window. Refer to *eRecords Appendix*, page C-1 for additional information on e-record and e-signature approvals associated with this window.

You can use folders with this window.

See *Oracle E-Business Suite User's Guide* for more information.

Prerequisites

- Create a batch.

To edit batch steps:

1. Navigate to the Batch Steps page.
2. Query the Document number.
3. The following fields are display only:
 - **Document** displays the batch document number.
 - **Status** displays the status of the batch as:
 - **Canceled** if a batch is canceled.
 - **Completed** if a batch is completed, but not yet closed.
 - **Closed** if a batch is closed.
 - **Pending** if a batch is created, but not yet released.
 - **WIP** if a batch is released to work in process.
 - **Terminated** is selected if the batch was terminated.
 - **Enforce Step Dependency** is selected when the batch enforces step dependency. Refer to *Understanding Batches*, page 6-2 for more information.
 - **Automatic Step Calculation** is selected when the automatic step quantity calculation feature is enabled. When Automatic Step Calculation is selected, quantities display for each step are cumulative, and represent a dynamic accounting of step materials as ingredients are consumed, and products,

coproducts, and byproducts are yielded by the step.

- **Routing** displays the code for the routing used in the batch.
- **Routing Version** displays the routing version used in the batch.
- **Production Routing Qty** displays the total quantity of material planned to be yielded.
- **Routing Qty UOM** displays the unit of measure for the Batch Routing Qty field.

Planned Dates

4. If you insert a new step, then you can edit information. The following fields display step-specific information:
 - **Step** displays the step number for the operation in the routing, and can be edited when you enter a new step.
 - **Operation** displays the code for the operation performed in the step, and can be edited when you enter a new step.
 - **Version** displays the operation version number.
 - **Step Status** displays the status of the step as:
 - **Completed** for a step that is completed.
 - **Closed** for a step that is closed.
 - **Canceled** for a step that is canceled.
 - **Pending** for a step that has not started.
 - **WIP** for a step that is work in process.
5. **Start** displays the planned start date for the batch step. Enter a new Start date when the batch step status is Pending by choosing **Reschedule** from the **Actions** menu.
6. **Completion** displays the planned completion date for the batch step. Enter a new completion date for the batch step when the batch step status is Pending or WIP by choosing **Reschedule** from the **Actions** menu.
7. **Due Date** is the scheduled due date for the batch step.

Actual Dates

8. If you insert a new step, then you can edit information. The following fields display step-specific information:
 - **Step** displays the step number for the operation in the routing, and can be edited when you are entering a new step.
 - **Operation** displays the code for the operation performed in the step, and can be edited when you are entering a new step.
 - **Version** displays the operation version number.
 - **Step Status** displays the status for each operation step number.

9. The following fields are display only:
 - **Start** is the actual start date for each step entered on the **Release Step** window.
 - **Completion** is the actual completion date for each step entered on the **Complete Step** window. You cannot edit this field until the step is closed.
 - **Close Date** is the date the step was closed.

Step Quantities

10. If you insert a new step, then you can edit information. The following fields display step-specific information:
 - **Step** displays the step number for the operation in the routing.
 - **Operation** displays the code for the operation performed in the step.
 - **Version** displays the operation version number.
 - **Step Status** displays the status for each operation step number.

11. **Planned** displays the planned step quantity for each step as follows:
 - If the automatic step quantity calculation feature is on, then the planned step quantity is calculated from item step associations and step dependencies.
 - If the automatic step quantity calculation feature is off, then the planned step quantity defaults to the routing step quantity, as it is scaled to the total batch quantity.

12. **Actual** displays the actual step quantity for each step with its **UOM**. If you do not enter a value in this field, then it defaults as follows:

- If the automatic step quantity calculation feature is on, then the actual step quantity is calculated from item step associations and step dependencies.
- If the automatic step quantity calculation feature is off, then the actual step quantity is the planned quantity when the step is completed.

Charges

13. If you insert a new step, then you can edit information. The following fields display step-specific information:

- **Step** displays the step number for the operation in the routing.
- **Operation** displays the code for the operation performed in the step.
- **Version** displays the operation version number.
- **Step Status** displays the status for each operation step number.
- **Capacity** displays the maximum step capacity with its **UOM**. This is calculated as the smallest maximum capacity of the resources marked as capacity constraining.
- **Planned Charges** displays the planned number of charges for the operation. It is calculated from the step quantity and step capacity.
- **Actual Charges** displays the actual number of charges for the operation. It is calculated from the step quantity and step capacity.

Others

14. If you insert a new step, then you can edit information. The following fields display step-specific information:

- **Step** displays the step number for the operation in the routing.
- **Operation** displays the code for the operation performed in the step.
- **Version** displays the operation version number.
- **Step Status** displays the status for each operation step number.
- **Release Type** displays:
 - **Automatic** to indicate the step is automatically released or completed when subsequent steps are released or completed.
 - **Manual** to indicate that the step must be released and completed manually,

or by completing the batch.

Required.

- **Minimum Transfer Quantity** is used by the Oracle Advanced Planning and Scheduling application. It is intended to reduce overall lead times by defining the minimum amount of material produced in a step at a specific production operation and resource before the next operation can begin. This reduces bottlenecks by letting processes transfer an interim quantity of completed material to the next step without the requirement to complete the entire step.
- **Quality Status** displays requirements for the step specified in the Oracle Process Manufacturing Quality Management application:
 - **No Sample Required** indicates a quality inspection sample is not required for the step.
 - **Sample Required** indicates a quality inspection sample is required for the step.
 - **Results Required** indicates that results are required for the step.
 - **No Results Required** indicates that test results are not required for the step.
 - **Action Required** indicates a follow-up response is required for the test result.
 - **In Spec** indicates the result conforms to the specification.

Refer to the *Oracle Process Manufacturing Quality Management User's Guide* for more information on quality statuses.

- **Terminated** is selected if the step was terminated.
- **Outside Processing** is selected in case of an outside processing operation.

Operation Yield

15. The Operation Yield tab displays information related to yield measurement for the selected batch and batch steps. The following fields display step-specific information:

- **Step** displays the step number for the operation in the routing
- **Operation** displays the code for the operation performed in the step.
- **Version** displays the operation version number.

- **Step Status** displays the status for each operation step number.
- **Step UOM** displays the unit of measure for the step as defined in the Product Development parameters.
- **Material In Qty** displays the sum of actual quantities of the ingredients associated with the step.
- **Intermediate In Qty** displays the total quantity of intermediate material transferred into the step from the previous steps.
- **Intermediate Out Qty** displays the total quantity of intermediate material transferred out of this step.
- **Material Out Qty** displays the sum of the actual quantity of the products and by products produced out of the step.
- **Total In Qty** displays the total quantity of Material In and Intermediate in quantities of the step.
- **Total Out Qty** displays the total quantity of Intermediate out and Material out quantities of the step.
- **Yield Loss** displays the difference between the total out quantity and the total in quantities of the step.
- **Actual Yield %** displays the yield percentage, which is the ratio of the total output to the total input quantity and it cannot be more than 100%.
- **Actual Cum Yield %** displays the cumulative yield percentage, which is the ratio of the total output to the cumulative input quantity.
- **Planned Step Yield %** displays the planned yield for this step and is derived from the step yield defined at recipe.
- **Planned Step Cum Yield %** displays the planned cumulative yield, which is the ratio of the total planned output to the cumulative input quantity.

The Step Transfer Details region allows you to enter the transactions for the intermediate quantities transferred from one step to another See Entering Intermediate Transfer Quantities and Viewing Yield Information topic for detailed information. The following fields are displayed:

- In the **To Step** field, enter the step number in the operation to which the material is being transferred.
- **Operation** displays the code for the operation performed in the step.

- **Description** displays a brief description of the operation.
- In the **Qty Out** field, enter the quantity of material that you want to transfer to the step that you entered in the To Step field.
- The **From** and **To Step UOM** fields displays the step UOM of the From Step and To Step.
- **Qty In** displays the quantity of material coming into the step that you entered in the To Step field. You can edit this field if the From and To Step UOMs do not belong to the same class.
- In the **Transaction Date** field, enter the date on which the material must be transferred to the specified step. This date must be between step start date and actual completion date.

16. Click **BatchDetails** to display the Batch Details page.

To insert a new step in a batch:

1. Select the first blank Step field after the last step displayed on the Operation Details pane.
2. Enter the new Step number.
3. Complete all required fields.
4. Save the window.
5. Close the window and reopen it to display the new Step in its proper sequence.

To edit text in a batch:

1. Select Edit Text from the Actions menu.
2. Make appropriate text changes.
3. Save the window.

To display activity details for a step:

1. Select the Step for which you want to display activity details.
2. Select Activity Details from the Actions menu.

To display batch step and batch item associations:

1. Select the Step for which you want to see batch step and batch item associations.
2. Select Item-Step Association from the Actions menu.

To display batch step dependencies:

1. Select the Step for which you want to view dependencies.
2. Select Step Dependencies from the Actions menu.

To cancel a batch step:

1. Select the Step that you want to cancel.
2. Select Cancel Step from the Actions menu.

Note: Step status changes from Pending to Canceled. Associated ingredients remain, but are no longer associated with the step. Any step dependencies and resource transactions are deleted.

To cancel a released batch step, you must first unrelease the step.

To release a batch step:

1. Select the Step that you want to release.
2. Select Release Step from the Actions menu.
3. Enter the Actual Start Date. If you do not enter a date, then this field defaults to system date.
4. Click OK. Step status changes from Pending to WIP.

To unrelease a batch step:

1. Select the Step that you want to unrelease.
2. Select Unrelease Step from the Actions menu. The Step Status changes from WIP to Pending.

To complete a batch step:

1. Select the Step that you want to complete.

2. Select Complete Step from the Actions menu.
3. Enter the Actual Start Date. You can enter the Actual Start Date only for a Pending Batch.
4. Enter the Actual Completion Date. This field defaults to the system date and time.
5. Click OK.

To revert a completed step to work in process:

1. Select the Step that you want to revert to work in process.
2. Select Revert to WIP from the Actions menu. The Step Status changes from Complete to WIP.

To close a batch step:

1. Select the completed Step that you want to close.
2. Select Close Step from the Actions menu.
3. Enter the Batch Step Close Date. If you do not enter a Batch Step Close Date, then this defaults to the system date and time.
4. Click OK.

To reschedule a batch step:

1. Select the Step that you want to reschedule.
2. Select Reschedule Step from the Actions menu.
3. Enter the rescheduled Planned Start date.
4. Select Reschedule Preceding Steps to reschedule the steps preceding the current step.
5. Select Reschedule Succeeding Steps to reschedule the steps succeeding the current step.
6. Click OK.
7. If the batch is finite scheduled, then the following message displays:
This batch step was previously scheduled by Manufacturing Scheduler, continue (Y/N)?

Click Yes to reschedule. Note if the batch step is rescheduled, then the finite scheduled indicator on the Batch window is reset.

To reschedule a batch step using the workday calendar:

1. Select the batch step that you want to reschedule.
2. Select Reschedule Step from the Actions menu.
3. Select Use Workday Calendar to schedule the batch step according to the workday calendar associated to the organization.
4. Enter one of the following:
 - Planned Start to reschedule the step planned start date.
 - Planned Completion to reschedule the step planned completion date.

Click Yes to indicate whether you want the application to recalculate the other date based on the batch duration.
5. Select Reschedule Preceding Steps to reschedule the steps preceding the current step.
6. Select Reschedule Succeeding Steps to reschedule the steps succeeding the current step.
7. Click OK.
8. If the batch is finite scheduled, then the following message displays:

This batch step was previously scheduled by Manufacturing Scheduler, continue (Y/N)?

Click Yes to reschedule. Note if the batch step is rescheduled, then the finite scheduled indicator on the Batch window is reset.

To display resource details for an activity:

1. Select the Step for which you want to display resource details for an activity.
2. Select Activity Details from the Actions menu. The Step Activities window displays.
3. Select the Activity.
4. Select Resource Details from the Actions menu.

To display transaction details for a step:

1. Select the Step for which you want to display transaction details.
2. Select Activity Details from the Actions menu. The Step Activities window displays.
3. Select the Activity.
4. Select Resource Details from the Actions menu. The Step Resources window displays.
5. Select the Resource.
6. Select Transactions from the Actions menu.

To reopen a step:

1. Select the Step that you want to reopen.
2. Select Reopen Step from the Actions menu. The Step Status changes from Closed to Completed.

To display the E-Record Generic Query:

Select E-Record Details from the Actions menu. The E-Record Generic Query displays if this option is implemented in your application. Refer to eRecords appendix, page C-1 for information on e-records.

To display the workday calendar:

Select Workday Calendar from the Actions menu.

To display process instructions:

Select Process Instructions from the Tools menu.

To log nonconformance:

1. Select Log nonconformance from the Tools menu.
2. View the quality results.

Refer to the *Oracle Process Manufacturing Quality Management User's Guide* for more information.

To view batch progression:

Select Batch Progression from the Tools menu. Refer to the *Manufacturing Execution System for Oracle Process Manufacturing User's Guide* for more information.

Editing Batch Step Dependencies

The Batch Step Dependencies window lets you create, modify, or delete batch step dependencies. Step dependencies are relationships between individual routing steps that assign how and when steps can start. Some steps cannot start until a previous step completes. For example, a cooling operation cannot begin until the heating operation that precedes it is complete. Batch step dependencies are used to calculate planned start times and can be overwritten. Do not create circular step dependencies. For example, do not create dependencies where step 10 must occur before step 20, and step 20 must occur before step 10.

Step Dependencies are definable as:

- Finish-to-start with no offset, to indicate that a process step begins immediately after the completion of its preceding step. For example, a consecutive addition of ingredients is required without interruption.
- Finish-to-start with positive offset, to indicate that a process step begins a specified period of time after the completion of its preceding step. For example, time is required to rest material before the addition of another ingredient.
- Finish-to-start with negative offset, to indicate that a process step begins a specified period of time before the completion of its preceding step. For example, a production device needs to be activated before the addition of the next ingredient.
- Start-to-start with no offset, to indicate that a process step begins at the same time as the step it depends on. For example, there is a need for simultaneous addition of ingredients without interruption.
- Start-to-start with positive offset, to indicate that a process step begins a specified time after the beginning of its preceding step. This is similar to finish-to-start with negative offset, but by specifying that the dependency is start-to-start, you ensure the positive offset is maintained when the previous dependent step finishes early.

The offset is defined in the Standard Delay field as a positive or negative number. The application uses step dependencies when individual steps are rescheduled.

You can edit step dependencies only for a pending batch.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

For information regarding editing batch step activities when a batch is placed on hold, refer to *Creating a Batch Hold.*, page 7-2

Prerequisites

- Create recipes.

- Create a batch or firm planned order.

To edit batch step dependencies:

1. Navigate to the Batch Steps window.
2. Select the Step to make dependent on another step.
3. Select Batch Step Dependencies from the Actions menu. The Step Dependencies window displays for the selected step.
4. The following table lists and describes various fields in the Step Dependencies window.

Note: All the fields are display only.

Field Name	Description
Document	Displays the batch document number.
Batch Step	Displays the batch step selected on the Batch Steps window.
Routing	Displays the routing identification number associated to the step.
Routing Version	Displays the routing version number.
Routing Description	Displays a brief description of the routing.
Operation	Displays the operation associated with the batch step displayed.
Operation Version	Displays the version number of the operation.
Operation Description	Displays a description of the operation.

Dependencies

5. Enter the Previous Step that the Batch Step displayed is dependent on. The dependent step must follow the Routing Step entered in this field. For example, if the displayed Batch Step is step 30, and the previous step number is dependent on

is step 20, then you enter 20.

6. The following fields are display only:
 - Operation displays the operation associated with the batch step.
 - Version displays the version of the operation associated with the batch step.
7. Select a Dependency Type:
 - **Start-to-start** if the start of the step specified in the Batch Step field is dependent on the start of the step displayed in the Previous Step field.
 - **Finish-to-start** if the start of the step specified in the Batch Step field is dependent on the completion of the step displayed in the Previous Step field. For example, when Step 20 is dependent on Step 10 and there is no specified offset, then Step 20 is scheduled to start when Step 10 finishes. If an offset of one hour is specified, then Step 20 is scheduled to start one hour after Step 10 ends. Create overlapping steps by defining a Finish-to-start dependency with a negative offset so that Step 20 starts before step 10.
8. Enter the Standard Delay as the standard number of hours from the end of the preceding step to the start of the current step, or the start of the preceding step to the start of the current step, depending on the Dependency Type entered. This field is used to calculate step start times. If you enter a value equal to zero, then the step following the current step begins immediately after the step ends or starts. If the Dependency Type is finish-to-start, then enter a negative Standard Delay to create overlapping steps.
9. Enter the Transfer Percent as the percentage of material that goes to the dependent step after all products and byproducts are yielded. If automatic step quantity calculations are on, then this percentage is used to calculate the quantity of the dependent step. For example:
 - If 40 percent of the material from the Previous Step comes into the current Batch Step as a result of 60 percent of the material going to another step, then enter 40 for the Transfer Percent.
 - If 90 percent of the material from the Previous Step comes into the current Batch Step as the result of 10 percent being lost to evaporation or being retained by processing equipment, then enter 90 for the Transfer Percent.

Editing Batch Step Activities

The Step Activities window lets you view activity details for each batch step.

The Firm Planned Order Step Activities window is display only. Field definitions are

the same except they apply to a firm planned order.

You can use folders and flexfields with this window.

See: *Oracle E-Business Suite User's Guide* and *Oracle E-Business Suite Flexfields Guide*

For information regarding adding or removing batch step activities when a batch is placed on hold, refer to *Creating a Batch Hold.*, page 7-2

Prerequisites

- Create a batch.

To edit batch step activities:

1. Navigate to the Batch Steps window.
2. Select the Step containing the activities to edit.
3. Select Activity Details from the Actions menu. The Step Activities window displays for the selected step.
4. The following table lists and describes various fields in the Step Activities window.

Note: All the fields are display only:

Field Name	Description
Document	Displays the batch document number.
Status	Displays the batch status.
Step	Displays the batch step number.
Step Status	Displays the batch step status as: <ul style="list-style-type: none">• Completed for a step that is completed.• Closed for a step that is closed.• Canceled for a step that is canceled.• Pending for a step that has not yet started.• WIP for a step that is work in process.

Field Name	Description
Terminated	This option is selected if the batch step was terminated.
Operation	Displays operation number associated with the displayed batch step.
Operation Version	Displays the version of the operation displayed.
Operation Description	Displays a brief description of the operation.
Planned Start	Displays the planned start date for the batch step.
Planned Completion	Displays the planned completion date for the batch step.

Planned

5. The following fields are display only:
 - **Activity** displays the activity required for the batch operation.
 - **Description** displays a brief description of the activity.
6. Offset (Hours) displays the planned number of hours from the start of the step to the start of the activity. You can edit this field. Required.
7. Enter a Start date for the activity.
8. Enter a Completion date for the activity.
9. Factor displays the number of times the activity is performed. You can edit this field.
10. If Sequence is selected, then the step is a sequence-dependent activity.

Actual

11. The following fields are display only:
 - **Activity** displays the activity required for the batch operation.

- **Description** displays a brief description of the activity.
12. Enter a Start date for the activity.
 13. Enter a Completion date for the activity.
 14. Factor displays the actual number of times the activity was performed. You can edit this field.

To edit text in a batch:

1. Select Edit Text from the Actions menu.
2. Make appropriate text changes.
3. Save your work.

To display resource details:

1. Select Resource Details from the Actions menu.
2. Make appropriate changes.
3. Save your work.

Editing Batch Step Resources

The Step Resources window lets you display detailed planned information about batch resources at the step level. This information includes the planned and actual throughput, planned and actual production dates, scheduling information, capacity, cost, and production parameters.

Process quantity is the quantity that is processed by the resource. At the operation level, it is used along with usage to define a throughput rate.

The Firm Planned Order Step Resources window is display only. Field definitions are the same except they apply to a firm planned order.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

For information regarding adding or removing batch step resources when a batch is placed on hold, refer to *Creating a Batch Hold.*, page 7-2

Prerequisites

- Create a batch.

To enter batch step resources:

1. Navigate to the Batch Steps window.
2. Select the Step containing the resources to edit.
3. Select Activity Details from the Actions menu. The Step Activities window displays.
4. Select the Activity containing the resources to edit.
5. Select Resource Details from the Actions menu. The Step Resources window appears for the selected step.

The following table lists and describes various fields in the Step Resources window

Note: All the fields are display only:

Field Name	Description
Document	Displays the batch document number.
Status	Displays the status of the batch.
Step	Displays the batch step that you selected on the Batch Steps window.
Step Status	Displays the batch step status as: <ul style="list-style-type: none">• Completed for a step that is completed.• Closed for a step that is closed.• Canceled for a step that is canceled.• Pending for a step that has not yet started.• WIP for a step that is work in process.
Terminated	Selected if the batch step was terminated.
Operation	Displays the operation associated with the batch step with the Operation Version

Field Name	Description
Operation Description	Displays a brief description of the operation.
Activity	Displays the activity associated to the displayed operation.
Activity Description	Displays a brief description of the activity.

Note: If you want to display or modify process parameters, then click Process Parameters at the bottom of the window.

Planned

6. The following fields are display only:
 - Resource displays the resource associated with the displayed step.
 - Description displays a brief description of the resource.
 - Count displays the planned number of resources needed for this activity.

7. Enter appropriate information in various fields. The following table lists and describes various fields

Field Description	Description
Count	Enter the planned number of resources needed for this activity.
Process Qty	Enter the planned quantity of material for the resource to process. This value combined with the Usage defines the usage rate. For example, if a resource can mix 200 gallons per hour, enter 200 as the Process Quantity, enter 1 for the Usage, and the UOM for hours.
UOM	Is the unit of measure for the planned process quantity.

Field Description	Description
Total Usage	Enter the planned amount of time the resource can be used. This value is usually expressed in hours or partial hours. For example, enter one hour and 15 minutes as 1.25. Resource Usage = Count * Usage * Charges
Usage UOM	<p>Is the unit of measure for the Usage field, and is usually expressed in hours. However, usage can also be calculated for electrical power and process flow rate.</p> <p>The Usage UOM should be in the same UOM class as the BOM: Hours UOM profile option in order for batch and batch step duration to be calculated based on the resource usage. See: <i>Oracle E-Business Suite Bills of Materials User's Guide</i></p>
Start	Enter the date as the planned start date for the resource in the displayed step. This field can be edited while the batch step has a status of Pending.
Completion	Enter the date as the planned completion date for the resource in the displayed step. This field can be edited while the batch step has a status of Pending or WIP.

Actual

8. The following fields are display only:

- Resource displays the resource associated with the displayed step.
- Description displays a brief description of the resource.

Enter appropriate information in the following fields. The following table lists and describes various tables:

Field Name	Description
Count	Enter the actual count for the planned number of resources needed for this activity.
Process Qty	Enter the actual quantity of material processed by the resource. This can be edited for a WIP and Completed step.
UOM	Displays the unit of measure for the actual process quantity.
Total Usage	Enter the actual usage for the resource. For example, one hour and 15 minutes is entered as 1.25. Required.
Usage UOM	Displays the unit of measure for the Usage field.
Start	Enter the actual start date for the resource in the displayed step.
Completion	Enter the actual completion date for the resource in the displayed step.

Scheduling Information

9. The following fields are display only:

- Resource displays the resource associated with the displayed step.
- Description displays a brief description of the resource.

10. Select one of the following as Resource Type:

- Primary to indicate that this is the rate determining resource. It limits or determines throughput. It is also referred to as the bottleneck or critical resource. For example, the labor needed to operate the mixing equipment and the tank that holds the paint are two listed resources for paint production. The tank must be the primary resource, since even when there is an increase in labor, the time required to mix the paint does not change, since tank capacity is constant.

- Secondary to indicate a resource that replaces the primary resource when it is not available. This resource performs the same task as the primary resource. It is unconstrained, and it has usage. The Advanced Planning and Scheduling application does not schedule the secondary resource.
 - Auxiliary for resources that work as companions with the primary resources to perform an activity.
11. Enter the Offset (Hours) interval as the time delay from the start of the activity to the point where the resource is actually required. Required.
12. Select one of the following as Scale Type:
- Proportional if the resource usage is scaled in a ratio that is proportional to the quantity of material being processed.
 - Fixed if the resource usage is not scaled, regardless of the quantity of material being processed.
 - By Charge if resource usage is scaled in multiples based on the number of charges specified. With this type of scaling:
Resource Usage = Count * Usage * Charges
13. The following table lists and describes various fields.

Note: All the fields are display only:

Field Name	Description
Min Capacity	Displays the minimum capacity for the displayed resource.
Max Capacity	Displays the maximum capacity for the displayed resource.
UOM	Displays the unit of measure for capacity.

Field Name	Description
Constraint	<p>The following are constraints:</p> <ul style="list-style-type: none"> • Selected if the capacity of this resource is used in calculating the step capacity. • Deselected if this resource is not used in calculating step capacity.

Costing Information

14. The following fields are display only:

- Resource displays the resource associated with the displayed step.
- Description displays a brief description of the resource.

15. Enter the Analysis code for the resource. Analysis Codes are set up on the Cost Analysis Codes window in the Cost Management application. For example, you may want to distinguish between a value-added and a non-value-added activity.

16. Analysis Description displays a description of the analysis code.

17. Enter the Component Class code for the resource. Component classes group resources for reporting purposes.

18. Component Class Description displays a brief description of the Component Class field.

To enter or modify process parameters:

Click Process Parameters. Refer to Adding or Modifying Process Parameters, page 6-76 for more information on this window.

To enter or modify resource transactions:

Select Transactions from the Actions menu. Refer to Editing Resource Transactions, page 10-33 for information on this window.

Adding or Modifying Process Parameters

Process parameters are a component of the process instructions necessary to run resources during the batch process. They are usually machines or instruments and are the standard for executing a task. They can be generic or specific. Each industry and

company uses different machines and instruments, and there are different requirements for recording process parameters.

A process parameter details information such as temperature, pressure, or time that is pertinent to the product, but does not fall into the classification of input or output. You can use process parameters as set points, comparison values, or in conditional logic.

You can use folders and flexfields with this window.

See: *Oracle E-Business Suite User's Guide* and *Oracle E-Business Suite Flexfields Guide*

For information regarding adding or removing process parameters when a batch is placed on hold, refer to *Creating a Batch Hold.*, page 7-2

Prerequisites

- Set up process parameters.

See: *Oracle Process Manufacturing Process Planning User's Guide* and *Oracle Process Manufacturing Product Development User's Guide*.

To display the Resource Process Parameters window:

1. Navigate to the Resource Process Parameters window from the Step Resources window.
2. The following fields are display only:

Field Name	Description
Document	Displays the batch number where the process parameters actual values are added.
Status	Displays the batch status.
Step	Displays the step of the batch.
Step Status	Displays the status of the step.
Operation	Displays the operation of the step, the Operation Version, and the Operation Description.
Activity	Displays the activity related to the step and the Activity Description.

Field Name	Description
Resource	Displays the resource attached to the activity and the Resource Description. This is the resource that has the process parameters attached to it.
Device	Displays the code for the process device.

To enter or modify process parameters:

1. Enter one of the listed process parameters in the Process Parameter field. Required.
2. The following fields default from the process parameter set up in the planning application:
 - Process Parameter is the name of the process parameter.
 - Description is a description of the process parameter entered.
 - Target indicates the target value for the process parameter.
 - Actual displays the actual value from the machine or process. You can only enter this value if the step has a status of WIP or Complete.
 - Aggregate1 through Aggregate5 displays aggregated values of all readings entered if multiple readings are enabled for the process parameter.
 - Minimum is the lowest acceptable value for a numeric range type of process parameter.
 - Maximum is the highest acceptable value for a numeric range type of process parameter.
 - Units is the unit of measure for the process parameter.
3. Enter a flexfield for the process parameter, if desired.

To read the process parameter:

Select the process parameter and click Read Selected Process Parameter. Refer to the *Manufacturing Execution System for Oracle Process Manufacturing User's Guide* for more information.

Associating Batch Steps with Items

The Step Material Association window lets you modify the batch steps in pending batches, where items are introduced into or yielded from the production process.

It is currently an optional window used to record information for user defined reports. The application provides a record of ingredients or items that go into a given batch step. Use this window to change any of the steps where items are introduced into or yielded from the process.

For information regarding item-step association for a batch step when a batch is placed on hold, refer to *Creating a Batch Hold.*, page 7-2

Prerequisites

- Create a batch.

To associate batch steps with batch items:

1. Navigate to the to the Batch Steps window.
2. Select the Step that you want to modify.
3. Select Item-Step Association from the Actions menu. The Step Material Association window displays for the selected step.
4. The following table lists and describes various fields in the Step Material Association window.

Note: All the fields are display only:

Field Name	Description
Document	Displays the batch document number.
Status	Displays the status of the batch.
Routing	Displays the routing used in the batch.
Routing Version	Displays the routing version number.
Routing Description	Displays a brief description of the routing.
Formula	Displays the formula used in the batch.

Field Name	Description
Formula Version	Displays the formula version number.
Formula Description	Displays a brief description of the formula.
Step	Displays the batch step number.
Operation	Displays the operation code.
Version	Displays the operation version number.
Description	Displays a brief description of the operation.
Planned Quantity	Displays the planned quantity processed by the step with its UOM.

5. Enter the Step number to associate to the item listed on the same line.

6. The following fields are display only:

Field Name	Description
Line Type	Displays: <ul style="list-style-type: none"> • Ingredient if the item is an ingredient in the formula. • Product if the item is a product in the formula. • By-Product if the item is a byproduct in the formula.
Line	Displays the line number of the material in the formula.
Item	Displays the item code.
Revision	Displays the item revision.

Field Name	Description
Description	Displays a brief description of the item as it appears on the Item Master.
Planned Quantity	Displays the planned quantity of material to be used in the batch with its UOM.

Using the Theoretical Yield Calculation

The Calculate Theoretical Yield dialog box enables you to adjust the product quantities based on the ingredient quantities and a user-defined yield factor. The application sums the quantities of all ingredients that contribute to yield. This sum is multiplied by the yield percent, and the product quantities are adjusted to total the resulting quantity. This only adjusts the total product quantities, while leaving the ingredient quantities unchanged.

Prerequisites

- Create a batch or firm planned order.

To calculate theoretical yield for batches:

1. Navigate to the Calculate Theoretical Yield dialog box.
2. Enter the Yield Percent.
3. Click OK.

To calculate theoretical yield for firm planned orders:

1. Navigate to the Calculate Theoretical Yield dialog box.
2. Enter the Yield Percent.
3. Click OK.

Understanding Batch Scaling

Scale batches up or down by input or output:

- If the batch ingredients are scaled, then a specific scaling factor is applied to all scalable ingredients. A calculated output scale factor is applied to all scalable

outputs.

- If the batch outputs are scaled, then a factor is applied to all scalable outputs. A calculated input scale factor is applied to all scalable ingredients.

Specify whether the quantities of each item in the batch are fixed or scalable.

Proportional scaling is the least complex scale type since the given and calculated factors are applied appropriately to the scalable item inputs or outputs. In addition to being present in fixed or scalable quantities, items in a batch can contribute to the yield. In order to scale batches properly, specify whether the ingredients need to be increased using fixed or proportional scaling. It is possible to have fixed scale ingredients that do not contribute to yield.

For more information on scaling when a batch is placed on hold, refer to *Creating a Batch Hold*, page 7-2

Scale Type Definitions

The quantities of items which are fixed scale are not altered when a formula or batch is scaled. For example, if a formula has a fixed scale ingredient with a quantity of 10 kg and the formula is scaled by a factor of two, then the quantity remains fixed at 10 kg.

Items that are proportionally scaled have their quantities changed when a formula is scaled up or down. With proportional scaling, the scaling is continuous in that the scaled quantities can contain decimals. Proportionally scaled items may or may not contribute to yield.

While proportional scaling makes sense for many items in process industries, it does not make sense for all items.

The following lists the types of batch scaling available:

- Type 1 is Proportional scaling.
- Type 2 is Integer scaling.
- Type 0 is Fixed scaling.

The following lists the Contribute to Yield types available in Process Execution:

- Yes indicates that an ingredient contributes to yield.
- No indicates that an ingredient does not contribute to yield.

Understanding Scale Type Rules

The following summarizes the business rules in effect for scale types:

- The Contribute to Yield type for ingredients can be set to Yes or No.

- Products and byproducts cannot have an Integer scale type.
- Ingredients can be assigned a scale type of Fixed, Proportional, or Integer.
- If an ingredient is assigned a scale type of Integer, then it must also be assigned a:
 - Scale Multiple, to specify the multiple in which the ingredient can be used in a batch. For example, a Scale Multiple of 30 indicates the ingredient is used in quantities of 30, 60, or 90, and so forth.
 - Rounding Variance, to specify an acceptable percent deviation up or down from the calculated ingredient quantity. If the Rounding Variance field is left blank, then rounding occurs without regard to variance. You do not have to enter any value for ingredients that have a scale type of integer. If the rounding variance is not entered, then the value is appropriately rounded up or down to the integer value depending on the rounding direction without respect to the variance.
 - Rounding Direction, to specify whether the quantity of material must be rounded up to the next higher scale multiple of material, down to the next lowest scale multiple of material, or if the material can be rounded up or down. If the material can be rounded up or down, then it is rounded to the nearest multiple.

Fixed Scale

To scale a batch with fixed scale items, the application must convert the quantities of ingredients, products, and byproducts to a common unit of measure. The unit of measure used for this calculation is the base unit of measure specified by the Oracle Process Manufacturing (OPM) Product Development Parameter Default Consumption/Yield Type. This is usually mass. All items in the batch that contribute to yield must be convertible to this unit of measure.

Refer to Setting Up and the *Oracle Process Manufacturing Product Development User's Guide* for more information on OPM Product Development parameters.

If the batch contains fixed quantity ingredients that contribute to yield, then the scalable ingredients are scaled by an amount necessary to produce the new product quantity, not by the percent entered as the scale factor. If all products are set to fixed quantity, then no quantities in the batch are changed.

Fixed Scale With Yield Contribution

The quantities of items for this scale type are not altered when a batch or batch step is scaled. If a batch has a fixed scale ingredient with a quantity of 2000 kg and the batch output is scaled by a factor of 2, then the quantity remains fixed at 2000 kg.

These quantities are taken into account when calculating the factor to apply to the scalable ingredients so that the yield ratio is preserved. In the example that follows, the

ratio is 115:120 before scaling and 230:240 after scaling the output by a factor of 2.

Item	Batch Quantity	Quantity After Scaling
Product A	11500 kg	23000 kg
Ingredient A, Proportional Scaling	5000 kg	11000 kg
Ingredient B, Proportional Scaling	5000 kg	11000 kg
Ingredient C, Fixed and Contributing	2000 kg	2000 kg

Fixed Scale Without Yield Contribution

The quantities of items for this scale type are also not altered when a batch is scaled. This is the same as the previous example, however the item quantities are not considered when scaling the remaining ingredients. These quantities have no effect on scaling at all. For example, in the following, batch Ingredient C is fixed scale without yield contribution. If the product is scaled by a factor of 2, then the quantities after scaling appear as if ingredient C were not included.

Item	Batch Quantity	Quantity After Scaling
Product A	10000 kg	20000 kg
Ingredient A, Proportional Scaling	5000 kg	10000 kg
Ingredient B, Proportional Scaling	5000 kg	10000 kg
Ingredient C, Fixed and Noncontributing	2000 kg	2000 kg

See: *Oracle Process Manufacturing Inventory Management User's Guide*

Proportional Scale

If the batch contains proportionally scalable ingredients, then the scalable ingredients are increased in a direct ratio to produce the new product quantity. In the following example, Product A is proportionally scaled from 10000 kg to 20000 kg.

Item	Batch Quantity	Quantity After Scaling
Product A	10000 kg	20000 kg
Ingredient A, Proportional Scaling	5000 kg	10000 kg
Ingredient B, Proportional Scaling	5000 kg	10000 kg

With proportional scaling, Ingredient A and Ingredient B are multiplied by a factor of 2.

Examples of Single and Mixed Scale Types

The following discussion compares different scale types:

Single Type Scaling

If a batch consists solely of proportionally scalable items, then scaling the output or the input scales everything in the same ratio. It is also possible to construct a batch from items that are all fixed scale. This batch is ineligible for scaling.

Mixed Type Scaling: Fixed and Proportional With Yield Contribution

If a batch contains both fixed and proportionally scaled items, then the factor applied to the scalable quantities is not the same as the overall scaling factor. Consider a batch that yields 3000 kg of scalable product by converting 1000 kg of fixed scale Ingredient 1 and 2000 kg of scalable Ingredient 2. If the product is scaled by a factor of 2 to produce 6000 kg, then 5000 kg of Ingredient 2 is required, not 4000 kg. The factor applied to the Ingredient 2 quantity is therefore 2.5 rather than 2. If the inputs are scaled by a factor of 2, then the output is 5000 kg, or 2 times 2000 kg of Ingredient 2 plus 1000 kg of Ingredient 1. The yield of the product is scaled by a factor of 1.667 rather than by a factor of 2, as shown in the following:

Item	Batch Quantity	Quantity After Scaling
Product B	3000 kg	6000 kg
Ingredient 1 Fixed and Contributing	1000 kg	1000 kg
Ingredient 2 Proportional Scaling	2000 kg	5000 kg

Mixed Type Scaling: Proportional With Yield Contribution and Fixed Without Yield

Contribution

If the fixed quantity of an ingredient has no effect on batch yield, then the batch line yield contribution field must indicate this. When a fixed quantity item that does not contribute to yield is encountered by the scaling algorithms, the item quantity is not scaled, and is ignored when deriving the scale factor to apply to the remaining items. The batch is treated as consisting only of the remaining items.

If a batch is scaled so that 2000 kg of scalable product is made by converting 2000 kg of scalable Ingredient 1 in the presence of 1000 kg of fixed scale Ingredient 2 that does not contribute to the yield, then the output doubles. Scaling the inputs by a factor of 2 doubles the output quantity, since the fixed scale ingredient quantity is not to be changed. It does not matter if 100 kg of Ingredient 2 is used. The same is true when outputs are scaled.

Item	Batch Quantity	Quantity After Scaling
Product C	2000g	4000 kg
Ingredient 1 Proportional Scaling	2000 kg	4000 kg
Ingredient 2 Fixed and Noncontributing	1000 kg	1000 kg

Understanding Integer Scaling

Some material in process industries is picked from inventory in eases, such as a 30 pound bag of defoamant or a box of antistatic sheets. If an item is issued in 30 pound bags, then it is supplied in full bags and managed on the production floor appropriately. If the UOM used in the formula or batch is the bag, then scale in whole integer increments. To express the ingredient in pounds, the use of integer scaling is not sufficient. You need a way to specify that the ingredient must only be scaled in multiples of 30 pounds.

When materials are scaled by a multiple, a scaling direction and a rounding variation value need to be specified so that the scaled quantity is rounded properly. Scaling by a multiple results in ingredients being rounded up or down to the next whole multiple specified for the item in the batch. It is possible that the batch ingredient is not scaled as a result of not meeting the criteria to round up or down.

If the Rounding Variance field is left blank, then rounding occurs without regard to variance.

Examples of Integer Scaling

When the Integer scale type is selected, specify the Scale Multiple, Rounding Variance,

and Rounding Direction. In the following example, Product C is scaled up by 60 percent.

Simple Integer Scaling

The following is a simple example of using the Integer scale type with directional rounding:

Item	Batch Quantity	Quantity After Scaling
Product Pkg1	1000 kg	2500 kg
Ingredient 1 Proportional Scaling	1000 kg	2500 kg
Ingredient 2 Integer	1 pallet	3 pallets

Ingredient 2 has a Batch Quantity of 1 pallet with the following specifications:

- Scale Multiple = 1
- Rounding Variance = 100 percent
- Rounding Direction = Either

Since it is not possible to use 2.5 pallets, the Integer scale type rounds the requirement up to 3 pallets.

Complex Integer Scaling

The following example is a more complex example of using the Integer scale type with directional rounding:

Item	Batch Quantity	Quantity After Scaling
Product C	2000 kg	3200 kg
Ingredient 1 Proportional Scaling	2000 kg	3200 kg
Ingredient 2 Integer	25 kg	40 kg

Ingredient 2 has a Batch Quantity of 25 kg with the following specifications:

- Scale Multiple = 25 kg

- Rounding Variance = 30 percent of the Batch Quantity After Scaling. This is 0.3 of 40 kg, or up to 12 kg
- Rounding Direction = Down

The decision is whether to use 25 kg or 50 kg of material to produce Product C, since Ingredient 3 is only dispensed in multiples of 25 kg. The differences between the required Batch Quantity and the Scale Multiple is 10 kg for the Up Rounding Direction, and 15 kg for the Down Rounding Direction. The Down Rounding Direction is calculated as follows:

- Lower Scale Multiple - Quantity After Scaling
= 25 - 40
= -15 kg for the Down Rounding Direction

Take the absolute value of any negative Rounding Direction. In this case, the lower Rounding Direction has an absolute value of 15 kg.

The acceptable Rounding Variance is up to 12 kg. The Rounding Direction is Down, and the calculated absolute value for the down Rounding Direction is 15 kg, representing 3 kg more than the acceptable Rounding Variance. It is not acceptable to round down to 25 kg, so 40 kg of Ingredient 3 must be used in the batch.

If the Rounding Direction were Up, then it is acceptable to use 50 kg of Ingredient 3, since a 10 kg difference is less than the acceptable Rounding Variance of 12 kg. The Up Rounding Direction is calculated as follows:

- Upper Scale Multiple - Quantity After Scaling
= 50 - 40
= 10 kg for the Up Rounding Direction.

Limitations for Repeated Scaling of an Integer Scaled Item

Scaling issues occur when an item with an Integer scale type is scaled more than once during the production cycle. The following example presents the issues:

Item P1 is a product with an original quantity of 100 units. Its planned quantity before scaling is 100.

Item P1 is composed of the following ingredients:

- I1, ingredient one, has a original quantity of 100 units and is scaled proportionately.
- I2, ingredient two, has a original quantity of 50 units and is scaled proportionately.
- I3, ingredient three, has an original quantity of 25 units and is scaled with the Integer scale type. The increment is 25, the rounding tolerance is 100 percent, and the scaling direction of Up.

When item P1 is scaled from 100 to 150 units:

- I1 is scaled from 50 to 75 units.
- I2 is scaled from 25 to 37.5 units.
- I3 is scaled from 25 to 37.5, and rounded up to 50 using the specified increment and rounding tolerance.

If item P1 is scaled again from 150 units to 300 units, then a proportional scaling factor of two is applied to the planned quantity:

- I1 is scaled from 75 to 150 units.
- I2 is scaled from 37.5 to 75.

A scaling issue occurs with I3, since the quantity calculated at second scaling is 100. However, it must be scaled to 75. This calculation is obvious when the original quantity is used for scaling. If the original quantity is used, then there is no issue.

If an ingredient, I4, is added to the batch, then its original quantity is zero. When a scale factor is applied, the quantity remains zero. If the original quantity of P1 was itself an scale multiple, and scaling occurred at batch creation, then using the original quantity does not prevent the rounded quantity from being scaled. This results in an inflated quantity when the rounding direction is up, or a deflated quantity when the rounding direction is down.

Editing a Planned Quantity of Ingredient Manually

If a planned quantity is edited manually, then it is not possible to use either the original quantity or the formula quantity, since using either quantity results in loss of the manually entered quantity. For example, if the planned quantity of I1 is adjusted from 75 to 85 after the batch is scaled initially, then the application of the scale factor results in a new scaled quantity of 150, rather than 170.

Resolving the Issues

You have the option to choose either the original formula quantity or the planned quantity of an ingredient when you attempt to scale an item with an Integer scale type.

Using the Original Formula Quantity

The original formula quantity is used for scaling. No rounded quantities are used. If items are inserted in the batch, then there is no formula quantity, and these items are not scaled. Enter their quantities manually. The issue of inflated or deflated scaled quantities is eliminated.

Using the Planned Quantity

Edits made to the planned quantity are not lost. Rounded quantities are scaled. This results in either inflated or deflated quantities. Enter these quantities manually.

Scaling a Batch or Firm Planned Order

The Scale Batch window lets you scale a batch or firm planned order by a percentage or a specific amount. When a pending batch is scaled, the application updates the planned quantity of items and other planned numbers, such as step quantity and resource usage.

When a work in process batch is scaled, the application updates the work in process planned quantities for material, however step quantity and resource usage are not scaled.

- If the automatic step quantity calculation is off, then the planned numbers for Pending steps are scaled, and WIP and Completed steps are not changed.
- If the automatic step quantity calculation is on, then the step quantities and resource usage are not changed, since none of the material quantities used were changed. Once the steps are completed, the automatic step quantity calculation selects the appropriate actual quantities to use in calculations.

Using a Percent to Scale Materials

You enter a percentage to scale any scalable ingredient up or down by a percent of the displayed quantity. For example, if you enter 100 percent, then the quantity of the selected item is scaled up by 100 percent, or doubled, and the other quantities are increased accordingly. If you enter -50, or negative fifty percent, then the item quantity is decreased by half.

Using an Item Quantity to Scale Materials

This is the simplest method to scale any scalable ingredients. Enter a new quantity of material.

Prerequisites

- Create a batch or firm planned order.
- Batch status must be Pending or WIP.
- Completed batches must be reverted to work in process prior to scaling.

To scale material in a batch or firm planned order by a percentag:

1. Select the material to scale. For example, select the product.
2. Select one of the following from the Tools menu:
 - **Scale Batch.** The Scale Batch dialog box displays.
 - **Scale Firm Planned Order.** The Scale Firm Planned Order dialog box displays.

3. Select Percent.
4. Enter a percentage for the scaling Factor. For example, to double the material, enter 100.
5. Click OK.

To scale material in a batch or firm planned order by entering a new quantity:

1. Select the material to scale. For example, select the product.
2. Select one of the following from the Tools menu:
 - **Scale Batch.** The Scale Batch dialog box displays.
 - **Scale Firm Planned Order.** The Scale Firm Planned Order dialog box displays.
3. Select Item Quantity.
4. Select one of the following:
 - **Planned Qty** to scale the batch by the planned quantity.
 - **Formula Qty** to scale the batch by the original formula quantity.
5. The following fields are display only:

Field Name	Description
Line	Displays the line number of the material.
Item	Displays the item code of the material.
Description	Displays a brief description of the material.
Old Quantity	Displays the quantity to rescale with its UOM.

6. Enter a New Quantity for the material.
7. Select Recalculate Dates to calculate the new dates after scaling the batch.
8. Select Use Workday Calendar to use the workday calendar to recalculate the dates

9. Click OK.

To scale a completed batch:

1. Select Revert to WIP from the Actions menu to change the batch status to work in process.
2. Scale the batch as described in this topic.

Rescheduling a Batch

The Reschedule dialog box is available from the Batch window. Use it to change a scheduled batch. Change the planned start date and time on a Pending batch. You can also change the planned completion date and time on a Pending or WIP batch. Completed batches cannot be rescheduled.

By changing the planned start date and time, you also change the planned start date and time for any pending ingredient transactions. By changing the planned completion date and time, you also change the planned completion date and time for any pending autorelease product and byproduct transactions.

If you change either the Planned Start or Planned Completion dates, then the application queries whether to apply the change to the other field. If you respond Yes, then the application calculates the duration of the batch, and computes the other date by taking the workday calendar into account if it is selected for use.

Refer to *Workday Calendar Impact on Scheduling Batches and Firm Planned Orders*, page 6-2 for additional information on using the workday calendar to reschedule batches.

For more information on rescheduling when a batch is placed on hold, refer to *Creating a Batch Hold.*, page 7-2

Prerequisites

- Create a batch.

To reschedule a batch:

1. Navigate to the Reschedule dialog box.
2. Enter one of the following:
 - **Planned Start** date for the batch. You can only edit this field if the batch has a status of Pending.
 - **Planned Completion** date for the batch.
3. Select Use Workday Calendar to use the workday calendar to reschedule dates.

4. Click OK.
5. A decision box displays the message:
Do you want the application to recalculate the other date based on the batch duration? If you click No, then date gaps or date truncation can occur.
6. Click Yes to recalculate either the Planned Start or Planned Completion dates based on the date entered in step 2.
7. If the Batch is finite scheduled, then the following message displays:
This batch was previously scheduled by Manufacturing Scheduler, continue (Y/N)?
Click Yes to reschedule. Note that if the batch is rescheduled, then the finite scheduled indicator on the Batch Details window is reset.

Yield Measurement in Process Manufacturing

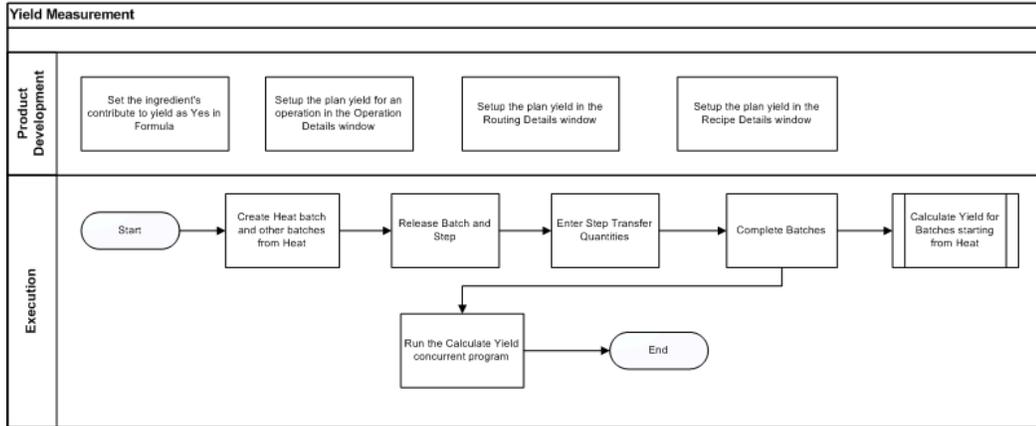
This section explains yield measurement in Oracle Process Manufacturing and covers the following topics:

- Overview
- Understanding Yield Calculations and Formulas
- Yield Measurement in Process Execution
- Entering Step Transfer Quantities and Viewing Yield Information
- Running the Calculate Yield Concurrent Program

Overview

Yield, in Process Manufacturing, is the usable output quantity divided by the input quantity at every stage of the production process. The Oracle Process Manufacturing Process Execution and Product Development applications allow you to measure the yield of a product during an operation. Product Development application allows you to define the planned yield for an operation, routing and recipe. When a batch is executed, the actual yield is calculated including yield for an operation/step, cumulative yield across steps, yield for a batch, and yield for a product. The timely capture and measurement of planned and actual yield allows users to evaluate, maintain, and maximize the efficiency of the manufacturing process.

The following diagram provides a high-level flow of the yield measurement process:



Understanding Yield Calculations and Formulas

Yield calculation begins at the operation level and rolls up to the batch and the products. It is influenced by various factors such as process loss, scrap and yield of incoming ingredients and applied to both products and by-products.

Actual Step Yield

Yield at every step of the batch is the ratio of total output quantity (including final products, byproducts, and the intermediate products) and the total input quantity (ingredients that contribute to yield and intermediates). Byproducts of yield type as 'yield' only are included in output, and the other types (waste, rework and sample) are excluded from the output quantity.

Actual Step Cumulative Yield

Cumulative yield at every step of the batch is defined as the ratio of total output quantity and the cumulative input material transferred from the previous steps to the current step.

Cumulative input at a step is calculated as the sum of the ingredient material added into that step and the ingredient material that has been converted into the intermediate transferred into that step.

The formula for cumulative input is:

$$\text{SUM} ((\text{Intermediate Input transferred to the current step from previous step} / \text{Previous step cumulative yield}), \text{Ingredient quantity})$$

Step cumulative yield is useful to understand the yield of the product or co-product or by-product that has been yielded out of that step. The products that are yielded out of the same step are considered to be of the same yield percentage.

Planned Step Yield

Planned yield at every step of the batch is derived from the planned yield defined on that of the recipe. For the new steps added on the batch, the planned yield is defaulted from that of the operation.

Planned Step Cumulative Yield

Planned Cumulative yield at every step of the batch is defined as the ratio of total planned output quantity and the cumulative input of material transferred from the previous steps to the current step.

The formula for cumulative input is:

$$\text{SUM} ((\text{Intermediate Input transferred to the current step from previous step} / \text{Previous step cumulative yield}), \text{Ingredient quantity added to the current step})$$

The formula for planned output is:

$$\text{SUM} ((\text{Intermediate Input transferred to the current step from previous step} / \text{Previous step cumulative yield}) * \text{Previous step plan cumulative yield}, \text{Ingredient quantity added to the current step}) * \text{current step planned yield}$$

Planned Step cumulative yield is useful to understand if the actual input material is converted as per the planned efficiency defined on the recipe operations or not.

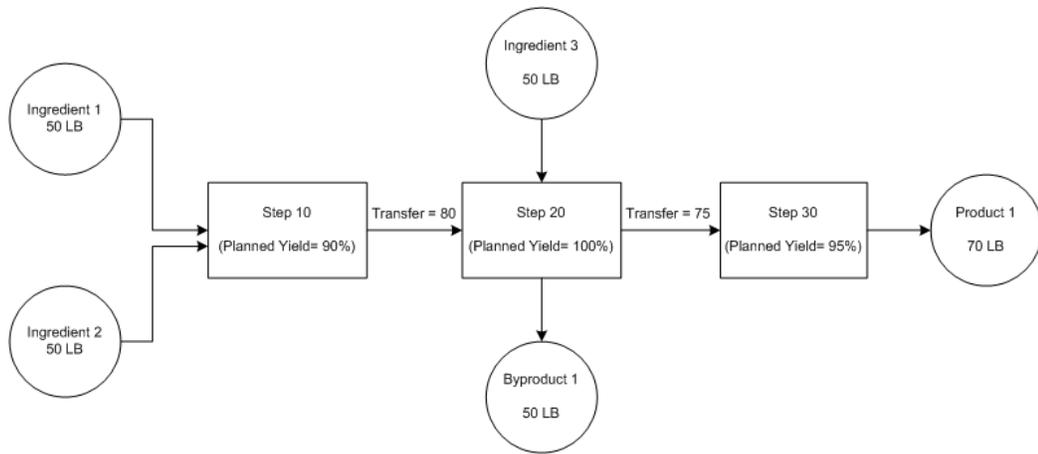
Batch Yield

Batch Yield is the ratio of the total actual output quantity to the total actual input quantity.

The total actual output quantity is the sum of actual quantities of all the products and byproducts yielded. The total actual input quantity is the sum of the actual quantities of ingredient issued. Ingredients that are contributing to the yield are only considered.

Yield Calculations for a Linear Routing

The following example illustrates yield calculations for a linear routing batch with byproduct of type, yield:



Actual Step Yield:

Yield for Step 10 = $80/100 = 80\%$

Yield for Step 20 = $125/130 = 96\%$

Yield for Step 30 = $70/75 = 93.3\%$

Actual Step Cumulative Yield:

Cumulative Input for Step 10 = $50 + 50 = 100$

Cumulative Yield for Step 10 = $80/100 = 80\%$

Cumulative Input for Step 20 = $(80/0.8) + 50 = 150$

Cumulative Yield for Step 20 = $125/150 = 83.333\%$

Cumulative input for Step 30 = $(75/0.83333) = 90$

Cumulative Yield for Step 30 = $70/90 = 77.778\%$

Planned Step Cumulative Yield:

Cumulative Planned Output for Step 10 = $(50 + 50) * 90\% = 90$

Planned Cumulative Yield for Step 10 = $90/100 = 90\%$

Cumulative Planned Output Step 20 = $((80/0.8) * 90\%) + 50 * 100 = 140$

Planned Cumulative Yield for Step 20 = $140/150 = 93.333\%$

Cumulative Planned Output for Step 30 = $((75/0.83333)*93.333\%)*95\% = 79.8$

Planned Cumulative Yield for Step 30 = $79.8/90 = 88.67018\%$

Batch Yield:

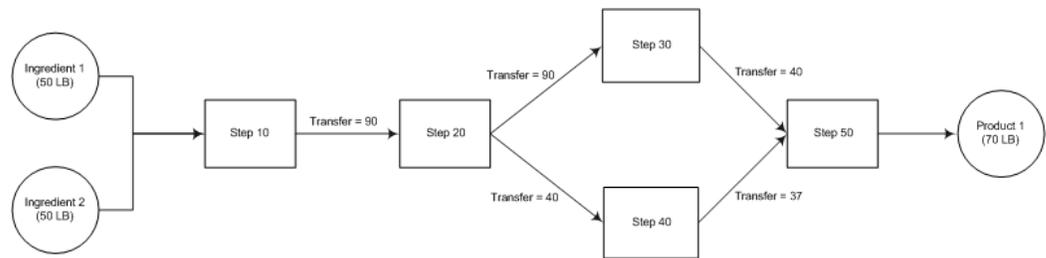
Batch Yield = $(70+50)/(50+50+50) = 80\%$

Yield for P1 = Cumulative yield for step 30 = 77.778%

Yield for BP1 = Cumulative yield for step 20 = 83.333%

Yield Calculations for a Network Routing

The following example illustrates yield calculations for a network routing batch:



Actual Step Yield:

Yield for Step 10 = $90/100 = 90\%$

Yield for Step 20 = $90/90 = 100\%$

Yield for Step 30 = $40/50 = 80\%$

Yield for Step 40 = $37/40 = 92.5\%$

Yield for Step 50 = $70/77 = 90.90909\%$

Actual Step Cumulative Yield:

Cumulative Input for Step 10 = $50 + 50 = 100$

Cumulative Yield for Step 10 = $90/100 = 90\%$

Cumulative Input for Step 20 = $90/0.9 = 100$

Cumulative Yield for Step 20 = $(50+40)/100 = 90\%$

Cumulative Input for Step 30 = $50/0.9 = 555.55556$

Cumulative Yield for Step 30 = $40/555.55556 = 72\%$

Cumulative Input for Step 40 = $40/0.9 = 444.44444$

Cumulative Yield for Step 40 = $37/444.44444 = 83.25\%$

Cumulative Input for Step 50 = $(50/0.9) + (40/0.9) = 100$

Cumulative Yield for Step 50 = $70/100 = 70\%$

Batch Yield:

Batch Yield = $70/(50 + 50) = 70\%$

Yield for Product 1 = Cumulative yield for step 50 = 70%

Yield Measurement in Process Execution

Oracle Process Manufacturing Process Execution enables you to enter the step-level transfer quantities for the intermediate products and automatically picks up the material input and material output quantity from the actual material transactions. The system considers the intermediate input and output quantities, the material Inputs (ingredients) and material outputs (products, byproducts) based on their actual quantities and calculates various yields at batch steps, batches and across batches.

Upon batch or batch step completion events, system calculates actual step yield, actual step cumulative yield, actual step grand cumulative yield, planned step cumulative yield, planned step grand cumulative yield and batch yield based on the input and output quantities.

The yield calculations are not accurate if:

- The input or output is null; the step yield cannot be calculated.
- The preceding steps are not complete; the step cumulative yield and grand cumulative yield cannot be calculated.
- The material transactions are not done.
- The intermediate transfer quantities are not entered.

Entering Intermediate Transfer Quantities and Viewing Yield Information

The Operation Yield tab on the Batch Steps form allows you to enter the transactions for the intermediate quantities transferred from one step to another. The Operation Yield tab mainly tracks the quantities that are useful for the yield calculation, the material

input, material output, Intermediate input and intermediate output quantities.

The Operation Yield tab consists of two regions:

1. **Summary:** This region displays output and input quantities for each step (one record per step). This region also displays various types of yields calculated and yield loss for the selected batch step and the complete batch.
2. **Step Transfer Details:** This region allows you to enter multiple transfer transactions of the intermediate quantities.

For example, if Step 10 has intermediate output quantity of 100 out of which 60 is transferred to Step 20 and 40 is transferred to Step 30, the Intermediate Output Quantity in the Summary region is displayed as 100 and Step Transfer Details region displays two transactions of 40 and 60. See Editing Batch Steps, page 6-53 for detailed information about various fields in the Operation Yield tab.

The following business rules and validations are applied on the Step Transfer Details region of the Operation Yield tab:

1. You can transfer material between the steps only when the status of step is released. The yield for a step is calculated when the status is changed to Complete.
2. UOM of the transferred quantity must be same as that of the step UOM.
3. The transfer quantity from the current step to the multiple steps at various points of time can be entered in the step transfer detail block. The To Step of the Transfer Details region defaults as per the step dependency but you can edit the value.
4. The Transfer Out Quantity that you enter in the Step Transfer Details region is displayed in the Transfer In Quantity and cannot be edited if the UOMs of quantities in the From and To Step UOM fields are same and they belong to the mass or volume UOM classes. If the UOMs are different or do not belong to the mass or volume classes, you can edit the quantity in the To Step UOM field which is defaulted according to the conversion in case of the unit of measures of two steps belonging to the same class.
5. Transaction Date in the Step Transfer Details region is defaulted to the system date of the transaction however; the date should be between the step actual start date and step actual completion date.
6. There should not be circular sequence created through the transfer quantities entered between the steps, for example, you cannot transfer quantities from step 10 to 20 and then step 20 to Step 10.
7. The batch step transfer quantities cannot be modified if the batch is on hold either in Stop or Pause mode.

The following business rules and validations are applied on the Summary region of the

Operation Yield tab:

1. The Material In quantity is derived from the total actual quantity of the associated ingredients which are set as Yes for Contribute to Yield and converted into the step UOM.
2. The Material Out Quantity is derived from the total actual quantity of the associated products and by products of type Yield and converted into the step UOM.
3. If there is no step-material association, then the ingredients are assumed to be associated with the first step and the products and byproducts are assumed to be associated with the last step.
4. The Intermediate In and Out quantities fields in the Summary region are non editable and are derived from the Transfer In and Transfer Out Quantities respectively for that step from the Step Transfer Details region.
5. The value in the Intermediate Out field in the Summary region should always match to the sum of the Transfer Out Quantity fields in the Step Transfer Details region.
6. The value of the step's Intermediate Out quantity must match with the sum of the input quantities of the following steps.

Running the Process Manufacturing Yield Calculation Concurrent Program

The process manufacturing yield calculation concurrent program allows you to calculate yield related information for all the steps in a completed batch.

This program is useful if there are any modifications or corrections to the step transfer quantities after the step or batch is complete, if there are any material transactions entered after step or batch is complete, if the parent batch is completed after the completion of a child batch etc.

Running the concurrent program before closing the batch gives the final picture of the yield. You can also schedule the Calculate Yield concurrent program to run at a scheduled frequency.

Managing Batches Using the Batch Open Interface

Users often have a requirement to upload data into Oracle Applications. Such needs can arise when working on a new implementation of Oracle Process Manufacturing to move legacy data into an Oracle OPM product, or to keep a legacy MES system in sync with the Oracle Process Manufacturing applications. In both cases, the volume of data to be uploaded can be quite large on a one-time or daily basis.

Oracle Process Manufacturing provides Open Interfaces to import production batches

from external systems, update production batches, and perform lifecycle transitions and resource and material transactions on existing batches using staging tables also called as Interface Tables. These interface tables are:

- GME_BATCH_HEADER_INTERFACE
- GME_BATCH_DTLS_INTERFACE
- GME_BATCH_ACTIONS_INTERFACE
- GME_RESOURCE_TXNS_INTERFACE
- GME_INTF_ERRORS

Note: For a detailed description of these tables, navigate to Integrated SOA Gateway > Integration Repository > Process Manufacturing > OPM Process Execution.

Inserting Records Into the Batch Open Interfaces

In order to insert records (rows) from your source system into the Interface Tables, you must write a PL/SQL program, a SQL script, or use a third party program. You must model your data to be supported by the current OPM Executions application.

For more information about migrating data from legacy systems, refer to *Oracle Process Manufacturing (OPM) Migration from 11i to Release 12.1 and Higher*.

Once the data are populated in the interface tables, you can launch the following concurrent programs to import the corresponding data:

- Batch Import Open Interface: Imports the data from GME_BATCH_HEADER_INTERFACE / GME_BATCH_DTLS_INTERFACE tables to create or update batch/batch detail objects
- Batch Actions Import Manager: Imports batch/step lifecycle actions from GME_BATCH_ACTIONS_INTERFACE table.
- Resource Transactions Manager: Imports resource transactions from GME_RESOURCE_TXNS_INTERFACE table.

Users are required to load the data into these staging interface tables with a Pending status before launching different open interface concurrent programs to import the batches and related information:

1. The data loaded to interface tables is in a Pending status.
2. The concurrent programs process the pending data.
3. The processed data is imported to the production tables after validation.

- All successfully imported rows are updated to a Successful status or Successful with Warnings status.
- Rows either failing validation or import are marked with an Error status.

Users can query, view, update and re-process the interface rows using the following forms:

1. Batch Header Interface
2. Batch Details Interface
3. Batch Actions Interface
4. Resource Transactions Interface

Viewing Batch Header Interface Information

Use the Batch Header Interface window to view and manage errors that occurred while importing a batch. This window displays the data from the GME_BATCH_HEADER_INTERFACE table and related error messages from the GME_INTF_ERRORS table. Launch the Batch Import Open Interface concurrent program to either import production batches from an external system or update existing production batches in bulk. You can perform the following actions using the Batch Header Interface window:

Details of all E-Business Suite interfaces reside in the Integration Repository, which can be accessed from the E-Business Suite Navigator using the following navigation path:

Integrated SOA Gateway > Integration Repository > Process Manufacturing > OPM Process Execution.

- Create a batch from a recipe.
- Update a batch.
- Reroute a batch.
- Reschedule a batch.

To view batch header information:

1. Navigate to the Find Batch Header Interface Rows window.
2. Enter any of the following criteria to search batch information:

Field Name	Description
Organization	Enter the organization code of the batch that you want to import.
Batch No	Enter the batch number range of an existing batch that you want to import or update in the respective fields.
Creation Date	Enter the creation date range for the batch that you want to import in the respective fields.
Creator	Name of the user who created the batch.
Load Type	<p data-bbox="992 772 1466 861">Select the type of action that you want to perform on a specific row during the import process:</p> <ul data-bbox="992 886 1317 1192" style="list-style-type: none"> <li data-bbox="992 886 1317 911">• Create Batch From Recipe <li data-bbox="992 957 1308 982">• Create Batch and Release <li data-bbox="992 1029 1187 1054">• Update Batch <li data-bbox="992 1100 1227 1125">• Reschedule Batch <li data-bbox="992 1171 1187 1197">• Reroute Batch
Group ID	Enter the group identifier used to group rows for processing.
Request ID	Do not update this column value. The Import process populates the identifier of the concurrent request that processes this row.

Field Name	Description
Process Status	<p>Select the appropriate check box:</p> <ul style="list-style-type: none"> • Pending: Batches which are pending import. • Error: Batches that encountered errors while processing. This check box is selected by default. • Successful with Warnings: Batches that were imported successfully with warning.

3. Click Find.

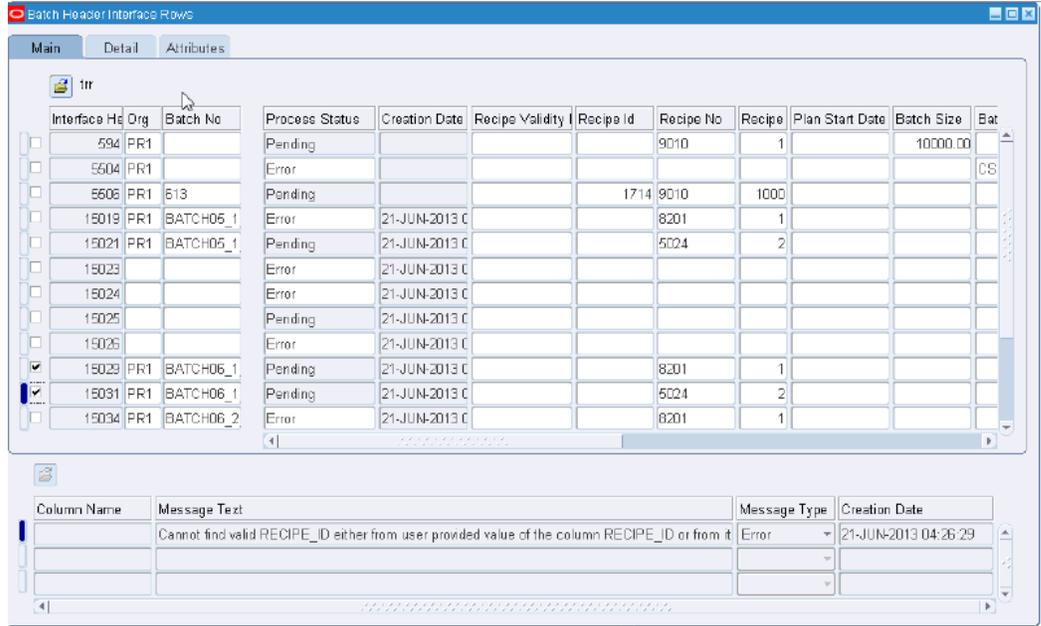
The details of the batch appear.

Updating Batch Header Information

Use the Batch Header Interface Rows page to view and modify header information for the batch. When a concurrent request completes with an error, the interface table GME_INTF_ERRORS is used to record the errors. You can view the details of the errors on the Batch Header Interface Rows page. You can then correct the errors, change the process status to Pending, and launch the concurrent program (Actions > Resubmit) to resubmit the batch for re-processing.

To update batch header information:

1. Navigate to the Find Batch Header Interface Rows window.
2. Query the batch. Refer to the Viewing Batch Header Interface Information section for more details.



Main

This tab displays batch information such as Batch Number, Organization, Process Status, Creation mode of the batch, and so on.

Detail

This tab displays details of the batch such as Group ID, Load Type, Org ID, Batch ID, planned completion date, Actual Start and Completion Date, and so on.

Attributes

This tab displays the additional information entered by the user about the batch using descriptive flexfields (Attribute 1 to Attribute 40) and Attribute Category.

For details regarding various columns in these tabs and the values that a user can modify, navigate to Integrated SOA Gateway > Integration Repository > Process Manufacturing > OPM Process Execution.

The Batch Header Interface Rows page also displays the details of the errors that occurred during batch interface processing. You can view the following details:

Field Name	Description
Column Name	Column name of the interface table where the error occurred.
Message Text	Text describing the error.

Field Name	Description
Message Type	Severity of the error. Values are Warning and Error.
Creation Date	Date when the error occurred.

Actions Menu

You can perform the following actions from the Actions menu on the Batch Header Interface Rows page:

Action	Description
Select All	Select all the records in the results table.
Clear All	Deselect all the selected records.
Resubmit	Re-process the pending rows of the groups in the results table. For each group that has at least one pending row in the result table, a separate batch import request will be launched.
Delete Rows selected	Delete selected records in the results table. The dependent batch detail rows will be deleted from the batch detail interface table after confirmation.
Bulk Status Change	Change the selected rows to Pending Status. Note: For rows with the Successful with Warnings status, the status is not changed.

Viewing Batch Details Interface Information

Use the Batch Details Interface window to view and update various details of a batch. This window displays the data from the GME_BATCH_DTLS_INTERFACE table and related error messages from the GME_INTF_ERRORS table. The GME_BATCH_DTLS_INTERFACE table is used to import and update additional material, steps, activities, resource transactions, step material details, and process parameters for a batch. You can launch the Batch Import Open Interface concurrent

program to either import production batches from an external system or update existing production batches in bulk.

Several combinations can be set to view Object and Load Types. The Object Type is used to identify the type of object that must be updated for a batch, and the Load Type identifies the operation that must be performed. For example, selecting Material for the Object Type, and Create from Recipe for the Load Type forms an instruction to add material to an existing batch.

Details of all E-Business Suite interfaces reside in the Integration Repository, which can be accessed from the E-Business Suite Navigator using the following navigation path:

Integrated SOA Gateway > Integration Repository > Process Manufacturing > OPM Process Execution.

Use the Batch Details Interface window to perform the following actions:

- Material Actions
 - Insert, update or delete material.
- Step Actions
 - Insert, update, delete, or reschedule a step.
- Activity Actions
 - Insert, update or delete an activity.
- Resource Actions
 - Insert, update or delete a resource.
- Process Parameter Actions
 - Insert, update or delete a process parameter.
- Step Item Association Actions
 - Insert, update or delete a step item association.

To view batch detail information:

1. Navigate to the Find Batch Details Interface Rows window.
2. Enter any of the following criteria to search batch information:

Field Name	Description
Organization	Enter the organization code that owns the batch that you want to import.
Object Type	<p>Select the type of object that you want to add to a batch:</p> <ul style="list-style-type: none"> • Material • Step • Activity • Resource • Step Item Association • Process Parameter
Load Type	<p>Select the type of action that you want to perform on a specific row during the import process:</p> <ul style="list-style-type: none"> • Create • Update • Reschedule • Reroute
Batch No	Enter batch number range for an existing batch that you want to update in the respective fields.
Creation Date	Enter or select the date range that you want to view.
Creator	Name of the user who created the batch.
Group ID	Enter the group identifier used to group rows for processing.

Field Name	Description
Request ID	Do not enter any value in this field. The Import process populates the identifier of the concurrent request that processes this row.
Process Status	<p>Select the appropriate check box:</p> <ul style="list-style-type: none"> • Pending: Batches which are pending import. • Error: Batches that encountered errors while processing. <p>Note: This check box is selected by default.</p>

3. Click Find.

The details of the batch appear.

Updating Batch Details Information

Use the Batch Details Interface Rows page to view and modify details for the batch. When a concurrent request completes with an error, the GME_INTF_ERRORS interface table is used to record the errors. You can view the details of the errors on the Batch Details Interface Rows page. You can then correct the errors, update batch details, change the Process State to Pending, save the records, and launch the concurrent program (Actions > Resubmit) to resubmit the batch for re-processing.

To update batch details:

1. Navigate to the Find Batch Details Interface Rows window.
2. Query the batch. Refer to the Viewing Batch Details Interface Information section for more details.

The screenshot shows a software interface window titled "Batch Details Interface Rows". It has several tabs: "Material", "Step", "Activity", "Resource", "Parameter", and "Attributes". The "Material" tab is selected. The main area contains a table with columns: Org, Batch No, Batch Id, Creation Date, Item, Line It, Line Type, Material Det, Actual Quantity, By Produ, Contribut, Contribut, Cost Alloc, and De. Below the table is a message log with columns: Column Name, Message Text, Message Type, and Creation Date.

Org	Batch No	Batch Id	Creation Date	Item	Line It	Line Type	Material Det	Actual Quantity	By Produ	Contribut	Contribut	Cost Alloc	De
PR1	501												
PR1	521							2000000.00					
PR1	123	990035		5236	7	Ingridi...			Yes	Yes			
PR1	12												
PR1	BATCH06	1676121		3002	7	Ingridi...			Yes	Yes			
PR1	465												
PR1	465												
PR1	465												
PR1	465				7	Ingridi...							
PR1	465												
PR1	465												
PR1	465												
PR1	465												

Column Name	Message Text	Message Type	Creation Date
RESCHEDULE_PR	Invalid value specified for RESCHEDULE_PRECEDING_STEPS.	Error	21-JUN-2013 00:39:21

Material

This tab displays batch material information such as Batch Number, Organization, Item, Actual Quantity, and so on.

Step

This tab displays batch step information such as Step Number, Step ID, Actual Start and Complete Date, and so on.

Activity

This tab displays batch activity information such as Activity, Batchstep Activity, Actual Start and Complete Date, and so on.

Resource

This tab displays batch resource information such as Batch Number, Organization, Resource, Batchstep Resource, Actual Start and Complete Date, and so on.

Parameter

This tab displays batch parameter information related to various parameters such as Parameter ID, Process Parameter ID, Actual and Target Value, and so on.

Attributes

This tab displays the additional batch information entered by the user using the descriptive flexfields (Attribute 1 to Attribute 30) and Attribute Category.

For details regarding various columns in these tabs and the values that a user can modify, navigate to Integrated SOA Gateway > Integration Repository > Process Manufacturing > OPM Process Execution.

The Batch Details Interface Rows page also displays the details of the errors that occurred during batch interface processing. You can view the following details:

Field Name	Description
Column Name	Column name of the interface table where the error occurred.
Message Text	Text describing the error.
Message Type	Severity of the error. The values are Warning and Error.
Creation Date	Date when the error occurred.

Actions Menu

A user can perform the following actions from the Actions menu on the Batch Details Interface Rows page:

Action	Description
Select All	Select all the records that appear in the results table.
Clear All	Deselect all the records selected in the results table.
Resubmit	Re-process the pending rows of the groups that appear in the results table. For each group that has at least one pending row in the result form, a separate batch import request will be launched.
Delete Rows selected	Delete multiple records in the results table. The dependent batch detail rows will be deleted from the batch detail interface table after confirmation.
Bulk Status Change	Change selected rows to Pending Status. Note: For rows with the Successful with Warnings status, the status is not changed.

Viewing Batch Action Interface Information

Use the Batch Action Interface window to import and process batch actions. This window displays the data from the GME_BATCH_ACTIONS_INTERFACE table and related error messages from the GME_INTF_ERRORS table. The Batches Actions Import Manager concurrent program enables you to process multiple batch actions for batches in bulk. The program permits the division of processing work into multiple work orders and executes these work orders in parallel. The Batch Release actions are processed first, followed by Complete actions and Close action. The ordering is based on the Object Type and Action combination. Step dependencies are considered while executing the step-level actions.

Details of all E-Business Suite interfaces reside in the Integration Repository, which can be accessed from the E-Business Suite Navigator using the following navigation path:

Integrated SOA Gateway > Integration Repository > Process Manufacturing > OPM Process Execution.

The Batch Actions Interface window enables you to perform the following actions:

- Batch
 - Release a batch.
 - Complete a batch.
 - Close a batch.
 - Cancel a batch.
 - Terminate a batch.
 - Reopen a batch.
 - Revert a batch to WIP.
 - Unrelease a batch.
- Step
 - Release a step.
 - Complete a step.
 - Close a step.
 - Unrelease a step.
 - Revert a step.

- Reopen a step.

To view batch action information:

1. Navigate to the Find Batch Actions window.
2. Enter any of the following criteria to search batch information:

Field Name	Description
Organization	Enter the organization code that owns the batch.
Object Type	Select the type of object for the batch. Values are Batch and Step.
Batch No	Enter the batch number range of an existing batch in the respective fields.
Batch Step No	Enter the batch step number range for an existing batch in the respective fields. Note: This field is enabled if the value for Object Type is selected as Step.
Creation Date	Enter or select the creation date range for the batch.
Creator	Name of the user who created the batch.

Field Name	Description
Action	<p>Select the type of batch action or batch step action that you want to perform:</p> <ul style="list-style-type: none"> • Release • Complete • Close • Re Open • Revert to WIP • Un Release • Terminate Batch • Cancel Batch
Process Status	<p>Select the appropriate check box:</p> <ul style="list-style-type: none"> • Pending: Batches which are pending import. • Error: Batches or steps that encountered errors while processing. This check box is selected by default. • Batches that were imported successfully with warnings.

3. Click Find.

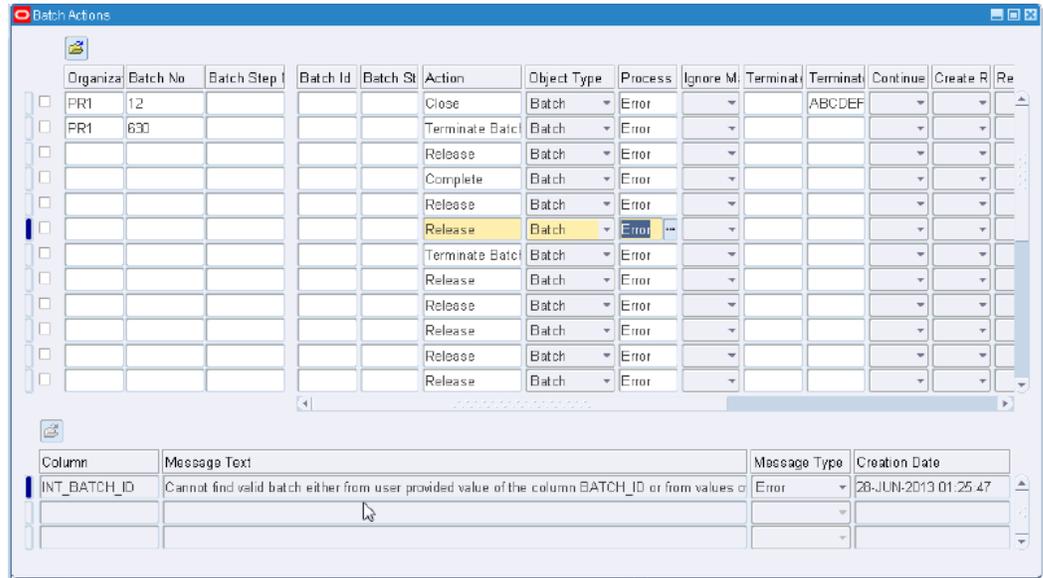
The details of the batch appear.

Updating Batch Action Information

Use the Batch Actions page to view and modify actions for the batch. When a concurrent request completes with an error, the GME_INTF_ERRORS interface table is used to record the errors. You can view the details of the errors on the Batch Actions page. You can then correct the errors, change the Process State to Pending, and launch the concurrent program (Actions > Resubmit) to resubmit the batch for re-processing.

To update batch action details:

1. Navigate to the Find Batch Action Interface window.
2. Query the batch. Refer to the Viewing Batch Action Interface Information section for more details.



Batch Actions

This page displays batch information such as Batch Number, Organization, Action, Object Type, Process, and various actions that you can perform on the batch, and so on.

For details regarding the various columns in these tabs and the values that a user can modify, navigate to Integrated SOA Gateway > Integration Repository > Process Manufacturing > OPM Process Execution.

The Batch Actions page also displays the details of the errors that occurred during batch interface processing. You can view the following details:

Field Name	Description
Column Name	Column name of the interface table where the error occurred.
Message Text	Text describing the error.
Message Type	Severity of the error. Values are Warning and Error.

Field Name	Description
Creation Date	Date when the error occurred.

Actions Menu

You can perform the following actions from the Actions menu on the Batch Actions page:

Action	Description
Select All	Select all the records that appear in the results table.
Clear All	Deselect all the selected records.
Resubmit	Re-process the pending rows of the groups that appear in the results table. For each group that has at least one pending row in the results table, a separate batch import request will be launched.
Delete Rows selected	Delete selected records in the results table. The dependent batch detail rows will be deleted from the batch detail interface table after confirmation.
Bulk Status Change	Change selected rows to Pending Status. Note: For rows with the Successful with Warnings status, the status is not changed.

Viewing Batch Resource Transaction Interface Information

The Batch Resource Transaction Interface window enables you to perform bulk resource transactions and post resource usage data on batches that have been created in the Oracle Process Manufacturing application. This window displays the data from the GME_RESOURCE_TXNS_INTERFACE table and related error messages from the GME_INTF_ERRORS table. After populating the data in the GME_RESOURCE_TXNS_INTERFACE table, you can launch the concurrent program, Resource Transactions Manager, to process the resource transactions. You must populate the data to identify the batch, resources used, and the resource usage

information to successfully import the resource transactions.

Details of all E-Business Suite interfaces reside in the Integration Repository, which can be accessed from the E-Business Suite Navigator using the following navigation path:

Integrated SOA Gateway > Integration Repository > Process Manufacturing > OPM Process Execution.

To view resource transaction information:

1. Navigate to the Find Resource Transactions window.
2. Enter any of the following criteria to search batch information.

Field Name	Description
Organization	Enter the organization code that owns the batch.
Batch No	Enter the batch number range of an existing batch in the respective fields.
Batch Step No	Enter the batch step number range for an existing batch in the respective fields.
Creation Date	Enter the creation date for the batch.
Creator	Name of the user who created the batch.
Activity	Enter the batch activity associated with the resource.
Resources	Enter the resource used for this transaction.
Process Status	Select the appropriate check box: <ul style="list-style-type: none">• Pending: Batches which are pending import.• Error: Batches that encountered errors while processing. <p>Note: This check box is selected by default.</p>

3. Click Find.

The details of the batch appear.

Updating Batch Resource Transaction Information

The Batch Resource Transactions page enables you to view and modify resource transactions for the batch. When a concurrent request completes with an error, the GME_INTF_ERRORS interface table is used to record the errors. You can view the details of these errors on the Batch Resource Transactions page. You can then correct the errors, change the Process State to Pending, and launch the concurrent program (Actions > Resubmit) to resubmit the batch for re-processing.

To update batch details:

1. Navigate to the Find Resource Transactions window.
2. Query the batch. Refer to the Viewing Batch Resource Transaction Interface Information section for more details.

The screenshot shows a window titled "Batch Resource Transactions" with two tabs: "Main" and "Attributes". The "Main" tab is active and displays a table with the following columns: Organiza, Batch No, Batch Id, Batch Sta, Process Statu, Resource Inst, Instance Id, Resource, Reason I, Reason Name, TXN Quo, and TXN Date. The table contains several rows, with the first row highlighted in yellow and labeled "Error". Below the table, there is a section for "Message Text" with columns for Column, Message Text, Message Type, and Creation Date. The message text reads: "Cannot find valid batch either from user provided value of the column BATCH_ID or from values o". The message type is "Error" and the creation date is "21-JUN-2013 04:46:20".

Main

This page displays batch information such as Batch Number, Organization, Resource Instance Number, Instance ID, Resource Usage, and so on.

Attributes

This tab displays the additional batch information entered by the user using the descriptive flexfields (Attribute 1 to Attribute 30) and Attribute Category.

For details regarding the various columns in these tabs and the values that a user can

modify, navigate to Integrated SOA Gateway > Integration Repository > Process Manufacturing > OPM Process Execution.

The Batch Resource Transactions page also displays the details of the errors that occurred during batch interface processing. You can view the following details:

Field Name	Description
Column Name	Column name of the interface table where the error occurred.
Message Text	Text describing the error.
Message Type	Severity of the error. Values are Warning and Error.
Creation Date	Date when the error occurred.

Actions Menu

You can perform the following actions from the Actions menu on the Batch Resource Transactions page:

Action	Description
Select All	Select all the records.
Clear All	Deselect all the records.
Resubmit	Re-process the pending rows of the groups. For each group that has at least one pending row in the results table, a separate batch import request will be launched.
Delete Rows selected	Delete selected records in the results table. The dependent batch detail rows will be deleted from the batch detail interface table after confirmation.
Bulk Status Change	Change selected rows to Pending Status. Note: For rows with the Successful with Warnings status, the status is not changed.

Holding a Batch

This chapter explains how to create and release hold for a batch.

This chapter covers the following topics:

- Overview of Batch Hold
- Creating a Batch Hold
- Defining a New Hold Reason
- Releasing a Batch Hold
- Viewing Hold History for a Batch

Overview of Batch Hold

A user can place a batch hold to pause or stop a process for a number of reasons, such as to obtain a supervisor's signature or because of a machine breakdown. When one of these events takes place, users can put a batch on hold to stop further processing until the reason is resolved. Then the hold can be removed and the manufacturing process can continue.

There are two types of Hold based on the issue. For some cases material could still be allowed to be issued to the batch, changed, moved to the next operation, or stay at the current operation. Some issues require the material to be removed from the resource and all transactions stopped, downstream operations cancelled or rescheduled.

You can place a hold in either one of two modes:

- **Stop:** In Stop mode, the batch is removed from the machine or resource. Downstream operations are removed from the schedule and no additional material is allocated or reserved. No activity related to the batch is allowed until the hold mode is changed to No Hold.
- **Pause:** In Pause mode, the batch is temporarily paused while an issue is being resolved. Material can still be issued to the batch, downstream operations can be rescheduled, and material can be moved to the next operation. The next operation

will not run until the hold is removed.

Note: To use E-Records, create AME rules and setup E-Records appropriately.

The following table explains the hold applicability on different batch statuses.

Batch Status	Hold Mode: No Hold	Hold Mode: Stop	Hold Mode: Pause
Pending	Yes	Yes	Yes
WIP	Yes	Yes	Yes
Complete	Yes	Yes	Yes
Closed/Cancel /Terminated	Yes	No	No

The following conditions apply when a batch is placed on hold:

- A batch can be put on only one active hold at any time.
- The system date is treated as the default start date. It is a read only field.
- The end date is disabled while holding a batch.
- You can only specify an end date while removing a batch from hold.
- The end date should be greater than the start date and cannot be later than the current date.
- If there is an active hold, the hold reason is displayed and the start date becomes read only.

Related Topics:

See: Creating a Batch Hold, page 7-2

See: Defining a New Hold Reason, page 7-6

See: Releasing a Batch Hold, page 7-6

See: Viewing Hold History for a Batch, page 7-7

Creating a Batch Hold

Oracle Process Manufacturing (OPM) Process Execution batches can have a number of

different statuses, from creation of the batch to the completion of the batch. You can place a batch on Hold for a number of different reasons before the batch is allowed to be further processed. A batch can be placed on hold in any status except a closed, cancelled or a completed batch with Terminated indicator enabled. When placing a batch on hold, you must select the appropriate hold mode and you must provide a reason for placing the hold. You can also provide additional details as required.

Prerequisites

- Create a batch
- Perform a search for the batch using the Find Batches window.

To place a batch on hold:

1. Navigate to the Batch Details window.
2. From the Tools menu, select Hold. The Batch Onhold window appears.
3. Select the Hold Type from the list. The available options are Stop and Pause.
4. Select an appropriate Hold Reason from the list. To create a Hold Reason, see Defining a New Hold Reason, page 7-6.
5. Once the batch hold E-Record is approved, the system date is treated as the Start Date.
6. Enter any additional information in the Hold Comments field.
7. Click OK to place the batch on hold or click Cancel to discard your changes and return to the Batch Details window.

The following table lists the actions that are allowed or not allowed when a batch is placed on hold:

Action	Hold Mode: Pause	Hold Mode: Stop
Transactions (Material/Reservation): New	Yes	No
Transactions (Material/Reservation): Backdated Transaction (Transactions created before the hold start date)	Yes	No

Action	Hold Mode: Pause	Hold Mode: Stop
Transactions (Material/Reservation): Corrections	Yes	No
Reservations/Picking/MO	Yes	No
Can batch be reserved for Demand	Yes	No
Planning	Yes	No
Pending Lots	Yes	No
Batch Actions: Reroute	No	No
Batch Actions: Scale	Yes	No
Batch Actions: Reschedule	Yes	No
Batch Actions: Step Actions	No	No
Batch Actions: Miscellaneous updates	Yes, except Actual Quantity and Date fields	No
Batch Actions: Addition of Batch Step	Yes	No
Batch Actions: Removal of Batch Step	Yes	No
Batch Actions: Addition of Material	Yes	No
Batch Actions: Removal of Material	Yes	No
Batch Actions: Addition of Activity	Yes	No
Batch Actions: Removal of Activity	Yes	No
Batch Actions: Addition of Resources	Yes	No
Batch Actions: Removal of Resources	Yes	No
Batch Actions: Addition of Process Parameter	No	No

Action	Hold Mode: Pause	Hold Mode: Stop
Batch Actions: Removal of Process Parameter	No	No
Batch Actions: Material Substitution	Yes	No
Step Actions: Item-Step Association	Yes	No
Step Actions: Batch Step Dependencies	Yes	No
Simulation	Yes	No
Nonconformance	Yes	Yes
Outsourced Process Planning: Resource Transactions on Receiving	No	No
MES: Dispense	No	No
MES: Processing Instructions	No	No
OPM Quality: Samples	Yes	Yes
OPM Quality: Results	Yes	Yes

Important: Actual Quantity and Date fields that are not allowed to be updated while the batch is in hold mode Pause are:

- Material Actual Quantity
- End Date of batch
- Actual Start Date of batch
- Batch Steps
- Activities
- Resources
- Actual Resource Usage of the resource

- Process Parameters

Defining a New Hold Reason

When you place a batch on hold you must select a reason from the list of values. If you do not find a suitable reason in the list, you can define a new hold reason using the Lookups.

To define a new hold reason:

1. Log in to Oracle Forms with the System Administrator responsibility.
2. Navigate to Application > Lookups.
3. Search for Process Manufacturing Process Execution. Select it and click Go. A list of lookups is displayed..
4. Click the Update icon for the Select Batch Onhold Reason Types. The Update Lookup Type: Batch Onhold Reason Types window appears.
5. In the Lookup Codes section, click the Add Another Row icon.
6. Enter a valid Code, a valid lookup Meaning and a brief Description for your lookup.
7. Optionally, enter a Tag to describe your lookup.
8. Enter the Effective Dates between which this Lookup will be active. If you do not enter a start date, your Lookup is valid immediately.
9. Select or clear the Enabled check box to indicate whether applications can use your Lookup. If you do not select this check box, users cannot insert additional records using your lookup, but can query records that already use this Lookup.
10. Click Apply.

Releasing a Batch Hold

Once a batch is placed on hold, the further processing of the batch is completely stopped or paused, depending on the hold type, until the hold is released. Once the issue stopping processing of the batch is resolved, you can release the hold and further processing of the batch is allowed. If you want to change the hold type for a batch, you must first release the hold and change the status to No Hold and then again place the batch on hold with a different hold type.

Prerequisites

- Create a batch
- Create a batch hold
- Perform a search for the batch using the Find Batches window

To release a batch hold:

1. Navigate to the Batch Details window.
2. From the Tools menu, select Hold Release. The Batch Onhold window appears.
3. Hold Type displays the current hold mode for the batch.
4. Hold Reason displays the reason that you selected when you placed the batch on hold.
5. The Start Date field displays the date on which the batch was placed on hold.
6. Hold Comments displays additional information that you entered when you placed the batch on hold.
7. Enter any additional information in the Release Comments field.
8. The End Date field is populated with the current system date.
9. Click OK to release the batch hold or click Cancel to discard your changes and return to the Batch Details window.

Viewing Hold History for a Batch

The Hold History button provides access to the Hold History window for the selected batch. While creating or releasing a batch hold, you can view the previous dates and reasons for holding or releasing the batch. This window displays and allows you to review all the details for the selected batch that were entered at the time of creating or releasing a hold such as hold type, hold reason, start date, end date, hold comments and release comments.

To view hold history for a batch:

1. Navigate to the Batch Onhold window.
2. Click the Hold History button. The Hold History window appears and displays all the details of the selected batch.

Batch Materials

Understand and use batch reservations, material move orders, and inventory transactions. Understand differences between high-level reservations and detailed-level reservations. Create detailed-level reservations. Understand material transactions. View move orders and enter pending product lots. Understand how to manage inventory shortages and to reserve a batch as a supply source for inventory reservations. Cross-integrate the Process Execution application with Mobile Supply Chain applications for Oracle Process Manufacturing.

This chapter covers the following topics:

- Using Reservations, Move Orders, and Transactions
- Understanding Batch Reservations
- Creating High-Level Reservations
- Creating Detailed-Level Reservations
- Entering Reservations
- Creating Reservations Using the Simulator and Optimizer
- Transacting Materials
- Viewing Material Transactions
- Linking Ingredient and Product Lots/Serial Numbers
- Using the Lot Entry and Serial Entry Windows
- Viewing Material Exceptions
- Editing Material Transactions
- Viewing Move Orders
- Entering Pending Product Lots and Serials
- Managing Inventory Shortages
- Using the Select Available Inventory Window

- Reserving a Batch as a Supply Source for Inventory Reservations
- Integrating Process Execution with Mobile Supply Chain Applications

Using Reservations, Move Orders, and Transactions

The following sequence of steps summarizes how you can use reservations, move orders, and transactions to control material movement from staging to production:

1. Create a batch.
2. Optionally, create high-level or detailed-level reservations or both.

Reservations are a guarantee of available inventory. When you create a batch, if there is sufficient available inventory, then you can configure the application optionally to create a high-level reservation. This high-level reservation guarantees the quantity you need is available at the time of batch production. Once the batch is created, you can also create detailed-level reservations. A detailed reservation specifies the lot or serial number to reserve, and the subinventory and locator from which to reserve it.

Refer to *Creating High-Level Reservations*, page 8-3 and *Creating Detailed-Level Reservations*, page 8-4 for more information.

3. Create a move order.

Move orders are documents used to control the movement of inventory. Move orders are useful to manufacturers to more closely model and control the movement of inventory from storage locations to a production staging location or shop floor. The use of move orders is optional in Process Execution. Use move orders by selecting Create Move Order parameter. Move order is allocated to the batch when you perform picking and is based on picking rules. The picking rules provide suggestions for picking material from the inventory. If you select the Rule Based Reservation Time Fence parameter, then you can use picking rules.

Refer to the *Setting Up* chapter for more information on setting up parameters.

4. Pick material and move to supply subinventory. This creates a detailed reservation to the batch in the supply subinventory.
5. Consume the ingredient from the supply subinventory by releasing the batch, releasing a step, performing incremental backflushing, or by consuming manually.
6. View the details of the ingredient consumption that are recorded as material transactions on the View Material Transactions window.

For transactions that are affected when a batch is placed on hold, refer to *Creating a Batch Hold*, page 7-2

Understanding Batch Reservations

A reservation is a guaranteed allotment of material to a specified demand or supply source. Reservations can be made against on-hand inventory or different document types like a batch, sales order, or purchase order. You can have high-level or detailed-level reservations for items in a batch. A high-level reservation guarantees that the quantity you need is available in the inventory when you execute the batch. A detailed reservation specifies the lot or serial number to reserve, and the subinventory and locator from which to reserve it. Once you have detailed reservations for a material to a batch, other sources of demand are prevented from reserving or using this inventory.

When inventory is allocated during picking, reservation is used as the basis for this allocation, and when the inventory is consumed the reservation is relieved. If there is no detailed reservation, then the allocation is done based on the picking rules. Refer to Ingredient Picking Workbench for information on ingredient picking and the *Oracle Inventory User's Guide* for detailed information on picking rules.

Reservations can be transferred from one demand or supply source to another, but reserved inventory cannot be allocated to another demand source or transferred to inventory. The Item Reservations window is used to view and update batch reservations. Reservations are updated automatically upon change in planned or WIP planned quantity. View all unconsumed reservations as exception quantities on the Material Exceptions window.

Firm planned orders cannot have reservations because they are used for planning a batch and actual inventory does not need to be reserved while planning. Lab batches with the update inventory indicator set to No cannot have any reservations. A lab batch with the update inventory indicator set to Yes is treated as a regular batch; it can have reservations and be both a source of demand or supply.

When reserving material for a rework batch, you must reserve the material produced in the original batch that you intend to rework. If the product from the original batch was assigned a lot number, then specify that lot number in your reservation. If you plan to use additional materials in the rework batch, then reserve them as a separate ingredient line item.

For reservation transactions that are affected when a batch is placed on hold, refer to *Creating a Batch Hold.*, page 7-2

Creating High-Level Reservations

Create high-level reservations to ensure that items required for batch production are available in the inventory organization. High-level reservations are created automatically during batch creation when Create High-Level Reservations is enabled and the material requirement date is within the Reservation Time Fence specified on the Oracle Process Manufacturing (OPM) Process Execution Parameters window. Refer to *Setting Up*, page 3-1 for information on OPM Process Execution parameters.

You can also create high-level reservations for a batch or a material line by choosing Reserve Batch and Reserve Line respectively from the Inventory menu on the Batch Details window.

If the entire planned quantity for an ingredient is not available in the inventory, then the high-level reservation is created only for the available quantity. You can create reservations for a batch or a material line. The creation of high-level reservation is allowed in the pending and WIP statuses of a batch or for items associated with steps. High-level reservations cannot be created for lot indivisible items.

Prerequisites

- Create a batch.

To create high-level reservations for a batch:

1. Navigate to the Batch Details window.
2. Select Reserve Batch from the Inventory menu. Reserved Qty displays the reserved ingredient quantity.

To create high-level reservation for a material line:

1. Navigate to the Batch Details window.
2. Select the material line.
3. Select Reserve Line from the Inventory menu. Reserved Qty displays the reserved quantity for that line.

Creating Detailed-Level Reservations

A detailed-level reservation is an inventory reservation for an item at a more detailed-level of inventory control-revision, lot, serial number, subinventory, and locator. Detailed reservations are 'hard' reservations; once you have reserved material to a batch, other sources of demand are prevented from reserving or using this inventory. Detailed-level reservations can also be partially detailed. For example, you can reserve a lot without having to specify the subinventory or locator. If the lot is moved around between the time you create the reservation and the time it is needed in the batch, then you do not have to update the reservation. If the lot exists in more than one location at the time it is needed, then it can be picked from any of those locations based on picking rules.

Reservation of a lot or serial-controlled item at the subinventory level cannot be created without specifying the lot or serial information. Detailed-level reservations can be created manually or automatically. A detailed reservation can be created in the following ways:

- Material can be selected automatically by the application using picking rules. This is also referred to as Rules Based Reservation.
- Material can be selected and reserved from the Select Available Inventory window.
- Detailed reservations can be entered manually on the Item Reservations window.

Rules Based Reservations

Rules based reservations enable the creation of detailed-level reservations based on suggestions from picking rules. Picking rules can be inventory picking rules or the Oracle Warehouse Management Systems (WMS) picking rules in case of WMS-enabled organization. The application determines whether the item qualifies for rule-based reservations depending on the Rule Based Reservations Time Fence parameter and the item requirement date. If the requirement date is within the reservation time fence, then the item qualifies for rules-based reservation. Refer to Setting Up for more information.

Note: Rule Based Reservation Time Fence parameter can be set up as null. If you do not set this up, then there is no limitation.

To create rules-based reservation automatically:

1. Navigate to the Batch Details window.
2. Select AutoDetail Batch from the Inventory menu. Reserved Qty displays the reserved quantity for the ingredients.

To create detailed-level reservation for a material line:

1. Navigate to the Batch Details window.
2. Select the material line.
3. Select AutoDetail Line from the Inventory menu. Reserved Qty displays the reserved quantity for that line.

To create a detailed-level reservation manually:

Create detailed-level reservation manually for a batch and material lines using the Select Available Inventory window from the Item Reservations window. Refer to Using the Select Available Inventory Window, page 8-28 for more information.

To create a detailed-level reservation using the Item Reservations window:

Create a detailed-level reservation manually for a batch and material lines using the Item Reservations window. Refer to Entering Reservations, page 8-6 for more

information.

Entering Reservations

The Item Reservations window lets you view, insert, and update the reservations for a batch.

To enter reservations:

1. Navigate to the Batch Details window.
2. Click Reservations or select Maintain Reservations from the Inventory menu.

Refer to the *Oracle Inventory User's Guide* for detailed information on the Item Reservations window.

Creating Reservations Using the Simulator and Optimizer

You can create reservations for a batch using the Oracle Process Manufacturing Product Development Simulator and Optimizer tool. Refer to the *Oracle Process Manufacturing Product Development User's Guide* for detailed information.

Transacting Materials

The Material Transactions window displays all the material transactions for a batch and can complete the transactions for materials reserved for a batch. If you do not have any material reservations for a batch, then enter material transactions by entering the required quantities on this window and then transacting them. The transaction date also displays and has the following defaults:

- When the batch is created, ingredient transactions default to the planned start date of the batch. Ingredients with a consumption type of Automatic by Step default to the planned start date of the step to which they are associated.
- When the batch is released, ingredients with a consumption type of automatic default to the actual start date and time and the transaction is completed.
- Ingredients with a consumption type of manual or incremental default to the system date and time when the completion indicator on the Line Allocations window is selected. For incremental consumption items, this happens through incremental backflushing.

Transaction dates do not update if you change the:

- Actual start date after releasing a batch.

- Actual completion date after completing the batch.

When you enter material transactions in the Material Transactions window, select a transaction type for:

- **Ingredients:**
 - **WIP Issue:** Issues ingredients from inventory to batches to fulfill material requirements. If you issue lot or serial-controlled ingredients, then identify the lot or serial to issue. If you issue lot and serial-controlled ingredients, then identify the lots and corresponding serials.
 - **WIP Return:** Returns ingredients from batches to inventory. For example, when you unrelease a batch it does not consume the ingredients and returns them to the inventory. WIP Returns reverse WIP Issues.
- **Products:**
 - **WIP Completion:** Issues the products produced from the batches to the inventory.
 - **WIP Return:** Returns the products from inventory to batches. For example, if you accidentally complete a batch and revert back to WIP, then the inventory returns the products.
- **Byproducts:**
 - **WIP Completion:** Issues the byproducts produced from the batches to the inventory.
 - **WIP Return:** Returns the byproducts from inventory to batches. For example if you accidentally complete a batch and then revert back to WIP, then the Inventory returns the products.

If you issue or return lot or serial-controlled ingredients, products, or byproducts, then specify the lots using the Lot Entry window and the serial numbers using the Serial Entry window. Refer to *Using the Lot Entry and Serial Entry Windows*, page 8-14 for more information.

For batches in WMS-enabled organizations, you can yield a product into a License Plate Number (LPN) or reserve and consume ingredients from an LPN, by specifying the LPN for the transaction on the Material Transactions window. Refer to *Integrating Process Execution with Mobile Supply Chain Applications*, page 8-28 for more information.

For material transactions that are affected when a batch is placed on hold, refer to *Creating a Batch Hold.*, page 7-2

Prerequisites

- Create a batch.
- Release the batch.

To transact material:

1. Navigate to the Batch Details window.
2. Select Transact Material from the Inventory menu.
3. The Material Transactions window displays.
4. The following table lists and describes various fields in the Material Transactions window.

Note: All the fields are display only.

Field Name	Description
Line Type	Displays the material type as ingredient, product, or byproduct.
Line	Displays the line number of the material in the batch.
Item	Displays the inventory item on the material line.
Revision	Displays the revision of the item on the material line.
Target Qty	Displays the quantity of the item to transact for the current transaction. This field has the following defaults: <ul style="list-style-type: none">• When you release a batch, the WIP planned quantity is the target quantity.• When you incrementally backflush a batch, the incremental quantity is the target quantity.

Field Name	Description
Transacted Qty	Displays the quantity of the item transacted in the current transaction.
Exception Qty	Displays the quantity of the item not transacted in the current transaction.
UOM	Displays the unit of measure in which the item is expressed.
Subinventory	Displays the subinventory for the item.
Locator	Displays the locator in the subinventory for the item.
WIP Plan Qty	Displays the planned quantity of the item to consume or yield.
Actual Qty	Displays the actual quantity of the item consumed or yielded.

5. Pending Move Orders is selected when pending move orders exist for this item. It is deselected when there are no pending move orders.
6. Pending Reservations is selected when unconsumed reservations exist for this item. It is deselected when there are no unconsumed reservations for the item.
7. Dispensable is selected if the item is to be dispensed. Refer to the *Manufacturing Execution System for Oracle Process Manufacturing User's Guide* for more information on dispensing.
8. Select Transact to select the material line to transact.
9. Enter the appropriate information in the following fields

Field Name	Description
Transaction Type	Enter a transaction type for: <ul style="list-style-type: none"> • Products as WIP Complete or WIP Complete Return • Ingredients as WIP Issue or WIP Return • Byproducts as WIP Complete
Item Revision	Enter item revision if the item is revision-controlled.
Serial	Enter the serial number if the item is serial-controlled.
Subinventory	Enter the subinventory from which the item is to be consumed.
Locator	Enter the locator in the subinventory from which the item is to be consumed.
Lot	Enter the lot number to use for the consumption if the item is lot-controlled. The list of values for the Lot field also displays lots with null expiration dates.
LPN	Enter the LPN to yield into an LPN or consume from an LPN. You can enter LPN for WIP Issue, WIP Issue Return, WIP Completion, and WIP Completion Return transactions. This field is enabled only WMS-enabled organizations.
Quantity	Is the quantity of material being consumed from the specified lot. This defaults to the reserved quantity of the item, if you have made reservations for this item. You can edit this field.
UOM	Is the unit of measure in which the quantity is expressed.

Field Name	Description
Secondary Qty	Is the quantity of material to consume or yield, if the item is dual unit of measure controlled.
Secondary UOM	Is the unit of measure in which the secondary quantity is expressed.
Reason	Enter a Reason code as the reason for the transaction.
Transaction Date	Displays the date of transaction.
Primary Qty	Displays the quantity of the item to consume or yield in the primary unit of measure.
Primary UOM	Displays the primary inventory unit of measure for the item.
Onhand Qty	Displays the total quantity available in inventory in the specified subinventory and locator.
Available to Transact	Displays the usable material that you can use for the transaction.

10. Click Transact to complete the transaction or click Cancel to cancel the changes and close the window.

To view move orders:

Click Move Order. Refer to Viewing Move Orders, page 8-23 for more information.

To select the available inventory for creating transactions:

Select the Select Available Inventory from the Actions menu. Refer to the *Oracle Inventory User's Guide* for more information on this window.

To assign lot or serial numbers:

Click Lot/Serial. Refer to Using the Lot Entry and Serial Entry Windows, page 8-14 for more information.

Additional Information: If you update the UOM conversion factor for a lot-controlled item, you can recalculate the primary and secondary item quantities of batch transactions before the batch completes. See: Lot-Specific Unit of Measure Conversions, *Oracle Inventory User's Guide*.

Viewing Material Transactions

You can view the material transactions for a batch using the View Material Transactions window. The configuration for this window is the same as the Material Transactions window except that the fields are not editable.

To view the material transactions for a batch:

1. Navigate to the Batch Details window.
2. Select View Material Transactions from the Inventory menu. Refer to Transacting Materials, page 8-6 for more information.

Linking Ingredient and Product Lots/Serial Numbers

You can link or unlink an ingredient lot or serial number to a product lot or serial number as needed. Since one batch can result in multiple lot or serial controlled products which can be produced at different steps and lot or serial controlled ingredients can be added at different steps, you may need to link or unlink an ingredient lot or serial number to a product in order to view an accurate lot or serial genealogy. Use the Map Lots/Serials window described below to both view existing and establish new linkages between ingredient and product lots and serial numbers.

Additional Resources: You can also map and unmap ingredients and product lots/serial numbers using the Lot Serial Genealogy API.

For more information on using the Lot Serial Genealogy API, navigate to the Integrated SOA Gateway responsibility > Integration Repository > Process Manufacturing > OPM Process Execution > Process Mfg Batch > Lot Serial Genealogy API.

Choose whether to link ingredients and product lots/serial numbers automatically or manually. If you choose to link them automatically, you must complete the prerequisites listed below, as well as set the Auto Map Lots/Serials field in the Process Execution Parameters window to one of the following values:

- Based on Steps: Automatically links ingredients to products based on item step associations and step dependencies.

- Based on Steps and Transaction Dates: Automatically links ingredients to products based on item step associations, step dependencies, and transaction dates. The WIP Issue ingredient transactions must occur before the WIP Completion product transactions in order to enable automatic linking.

For more information about this parameter, see: Setting Up Parameters, page 3-3. To link manually, follow the steps listed below.

Prerequisites

- Create a recipe with a formula that uses a lot or serial-controlled ingredient to produce a lot or serial-controlled product.
- Create a batch using the above recipe.
- Perform WIP issue and WIP complete inventory transactions for the lot or serial-controlled ingredient and product items. You can also map lot and serial numbers after closing a batch.

To link an ingredient lot or serial number to a product lot or serial number:

1. Navigate to the Map Lots/Serials window.
2. In the Find Batches window, search for and select a batch.
The selected batch appears in the Map Lots/Serials window.
3. Click a product/by-product lot/serial row.
4. Select the Map check box next to the ingredient lot(s) or serial number(s) used to produce the selected product or by-product.
5. (Optional) Update the default From Serial and To Serial numbers if needed.

Additional Information: If the range of serial numbers entered is less than the required ingredient transaction quantity, another row for the same ingredient is automatically added so you can enter more serial numbers.

6. Click Save.
The selected ingredient lot(s) or serial number(s) are now linked to the product/by-product lot or serial number.

To unlink an ingredient lot or serial number from a product lot or serial number:

Use the same process as described above, but deselect the Map check box, then click Save.

Related Topics

Viewing Lot Genealogy, *Oracle Inventory User's Guide*

Viewing Serial Genealogy, *Oracle Inventory User's Guide*

Using the Lot Entry and Serial Entry Windows

The Lot Entry window lets you choose lot numbers for the line item quantity to issue or return. You can view the Lot Entry window only for items that are lot-controlled. If a Lot is already entered on the Material Transactions window and if the line item quantity to issue or return also requires serial numbers, you can access the Serial Entry window from the Material Transactions window. Additionally, if you are reserving a serial item, you can access the Serial Entry window from the Item Reservation window.

Additional Information: If a lot-specific UOM conversion exists for an entered lot-controlled item, the system calculates the secondary quantity for the lot. If the conversion factor is updated before a batch completes, the system recalculates the primary and secondary item quantities of the lot-controlled item material transaction. See: Lot-Specific Unit of Measure Conversions, *Oracle Inventory User's Guide*

To assign lot numbers:

1. Navigate to the Material Transactions window.
2. Either enter the lot number in the Lot field or click Lot/Serial.

Refer to the *Oracle Inventory User's Guide* for a detailed description of the window.

To assign serial numbers for an item reservation:

1. Navigate to the Item Reservation window.
2. To assign only one serial number, use the Serial field in the Item Reservation window. To assign multiple serial numbers, click Serials.

Refer to the *Oracle Inventory User's Guide* for a detailed description of the Serial Entry window.

To assign serial numbers for a material transaction

After releasing the batch steps, which releases the item reservation to the batch step, you can transact material.

3. Navigate to the Material Transactions window.

4. Click Lot/Serial.

This takes you to the Lot Entry window.

5. Click Serial.

This takes you to the Serial Entry window. Refer to the *Oracle Inventory User's Guide* for a detailed description of the window.

Viewing Material Exceptions

The Material Exceptions window displays the items not transacted. This window has the same field definition as the Material Transactions window and displays when you:

- Release a batch and any ingredients with a consumption type of Automatic and are not fully transacted.
- Release a step and any ingredients associated with the step that have a consumption type of Automatic by Step and are not fully transacted.
- Use incremental backflushing and the quantities that are backflushed and are not fully transacted.
- Complete a batch and have not transacted any of the ingredients, products, or byproducts in the batch.
- Complete a batch step and any items associated to the step with a consumption type or yield type of Automatic by Step and are not fully transacted.

The Material Exceptions window lets you:

- View ingredients that have unconsumed or partially specified reservations with the reservation already entered in the transaction block.
- Manually create transactions for any material type.
- Use Select Available Inventory for ingredients to create either detailed reservations or transactions.

Prerequisites

- Create a batch.
- Create reservations.
- Release, complete, or incrementally backflush the batch.

To view material exceptions:

1. Navigate to the Material Exceptions window.
2. The following table lists and describes various fields in the Material Exceptions window.

Note: All the fields are display only:

Field Name	Description
Line Type	Displays the material type as ingredient, product, or byproduct.
Line	Displays the line number of the material in the batch.
Item	Displays the inventory item on the material line.
Revision	Displays the revision of the item on the material line.
Target Qty	Displays the quantity of the item to transact for the current transaction. This field has the following defaults: <ul style="list-style-type: none">• When you release a batch, the WIP planned quantity is the target quantity.• When you incrementally backflush a batch, the incremental quantity is the target quantity.

Field Name	Description
Transacted Qty	Displays the quantity of the item transacted in the current transaction.
Exception Qty	Displays the quantity of the item not transacted in the current transaction.
UOM	Displays the unit of measure in which the item is expressed.
Subinventory	Displays the subinventory for the item.
Locator	Displays the locator in the subinventory for the item.
WIP Plan Qty	Displays the planned quantity of the item to consume or yield.
Actual Qty	Displays the actual quantity of the item consumed or yielded.

3. Pending Move Orders is selected when pending move orders exist for this item. It is deselected when there are no pending move orders.
4. Pending Reservations is selected when unconsumed reservations exist for this item. It is deselected when there are no unconsumed reservations for the item.
5. Select Dispensable if the item is to be dispensed.
Refer to the *Manufacturing Execution System for Oracle Process Manufacturing User's Guide* for more information on dispensing.
6. Select Transact to select the material line to transact.
7. Enter the appropriate information in the following fields. The following table lists and describes various fields.

Field Name	Description
Transaction Type	Enter a transaction type for the following: <ul style="list-style-type: none"> • Products as WIP Complete or WIP Complete Return • Ingredients as WIP Issue or WIP Return • Byproducts as WIP Complete
Item Revision	Enter item revision if the item is revision-controlled.
Subinventory	Enter the subinventory from which the item is to be consumed.
Locator	Enter the locator in the subinventory from which the item is to be consumed.
Lot	Enter the lot number to use for the consumption if the item is lot-controlled. The list of values for the Lot field also displays lots with null expiration dates.
Serial	Enter the serial number if the item is serial-controlled. Click Lot/Serial to access the Lot Entry window, then click Serial to access the Serial Entry window.
Quantity	Displays the quantity of material being consumed from the specified lot or serial number. This defaults to the reserved quantity of the item, if you have made reservations for this item. You can edit this field.
UOM	Displays the unit of measure in which the quantity is expressed.
Secondary Qty	Displays the quantity of material to consume or yield, if the item is dual unit of measure controlled.

Field Name	Description
Secondary UOM	Displays the unit of measure in which the secondary quantity is expressed.
Reason	Enter a reason code as the reason for the transaction.
Transaction Date	Displays the date of transaction.
Primary Qty	Displays the quantity of the item to consume or yield in the primary unit of measure.
Primary UOM	Displays the primary inventory unit of measure for the item.
Onhand	Displays the total quantity available in inventory in the specified subinventory and locator.
Available to Transact	Displays the usable material that you can use for the transaction.

- Click Proceed to complete the transaction or Cancel to cancel the changes and return to the Batch Details window.

Editing Material Transactions

The Correct Material Transactions window displays the transactions for all materials of a batch and lets you make corrections to the displayed completed transactions.

Prerequisites

- Create a batch.
- Create reservations.
- Transact the batch reservations.

To correct transaction corrections:

- Navigate to the Batch Details window.

2. Select Correct Material Transactions from the Inventory menu.
3. The Correct Material Transactions window displays. The following table lists and describes various fields in the Correct Material Transactions window.

Note: The following fields are display only.

Field Name	Description
Line Type	Displays the material type as ingredient, product, or byproduct.
Line	Displays the line number of the material in the batch.
Item	Displays the inventory item on the material line.
Step	<p>Allows you to add or modify material association during the material transaction. By default, this field displays the step number to which the material is associated with however you can change the step number and associate the selected material with another step. You can change the step number, if:</p> <ol style="list-style-type: none"> 1. The batch is not having Calculate Step Quantity as enabled, non-ASQC batch. 2. The actual quantity of the material is zero. 3. If the material is not transacted or the transaction is not Saved. Transacting the material or clicking Save changes the step material association to the new step. <p>Note: Upon saving the transaction, the step material association is also changed if there is addition or modification of a step.</p>

Field Name	Description
Revision	Displays the revision of the item on the material line.
Target Qty	<p>Displays the quantity of the item to transact for the current transaction. This field has the following defaults:</p> <ul style="list-style-type: none"> • When you release a batch, the WIP planned quantity is the target quantity. • When you incrementally backflush a batch, the incremental quantity is the target quantity.
Transacted Qty	Displays the quantity of the item transacted in the current transaction.
Exception Qty	Displays the quantity of the item not transacted in the current transaction.
UOM	Displays the unit of measure in which the item is expressed.
Subinventory	Displays the subinventory for the item.
Locator	Displays the locator in the subinventory for the item.
WIP Plan Qty	Displays the planned quantity of the item to consume or yield.
Actual Qty	Displays the actual quantity of the item consumed or yielded.

4. Enter appropriate information in the following fields:

Field Name	Description
Pending Move Orders	This option is selected when pending move orders exist for this item. It is deselected when there are no pending move orders.
Pending Reservations	This option is selected when unconsumed reservations exist for this item. It is deselected when there are no unconsumed reservations for the item.
Dispensable	This option is selected if the item is to be dispensed. Refer to the <i>Manufacturing Execution System for Oracle Process Manufacturing User's Guide</i> for more information on dispensing.
Correct	Select this option to select the material transaction to correct.
Transaction Type	Enter appropriate transaction type for: <ul style="list-style-type: none"> • Products as WIP Complete or WIP Complete Return • Ingredients as WIP Issue or WIP Return • Byproducts as WIP Complete
Item Revision	Enter appropriate item revision if the item is revision-controlled.
Subinventory	Enter the subinventory from which the item is to be consumed.
Locator	Enter the locator in the subinventory from which the item is to be consumed.
Lot	Enter the lot number to use for the consumption if the item is lot-controlled. The list of values for the Lot field also displays lots with null expiration dates.

Field Name	Description
Quantity	Displays the quantity of material being consumed from the specified lot. This defaults to the reserved quantity of the item, if you have made reservations for this item. You can edit this field.
UOM	Displays the unit of measure in which the quantity is expressed.
Secondary Qty	Displays the quantity of material to consume or yield, if the item is dual unit of measure controlled.
Secondary UOM	Displays the unit of measure in which the secondary quantity is expressed.
Reason	Enter a reason code as the reason for the correction.
Transaction Date	Enter a new transaction date for the transaction.
Primary Qty	Displays the quantity of the item to consume or yield in the primary unit of measure.
Primary UOM	Displays the primary inventory unit of measure for the item.
Onhand Qty	Displays the total quantity available in inventory in the specified subinventory and locator.
Available to Transact	Displays the usable material that you can use for the transaction.

5. Click Correct to save the changes to the material transactions or Cancel to cancel the changes and return to the Batch Details window.

Viewing Move Orders

Move orders are documents used to control the movement of inventory. Move orders

are useful to manufacturers who want to more closely model and control the movement of inventory from storage locations to a production staging location or shop floor. Move orders enable planners and facility managers to request the movement of material within a warehouse or facility for purposes such as replenishment, material storage relocations, and quality handling. You can generate move orders either manually or automatically. Refer to the *Oracle Inventory User's Guide* for information on creating move orders.

You can configure the Oracle Process Manufacturing (OPM) Process Execution application to create move orders automatically during batch creation for items with insufficient inventory in the supply subinventory but available in another subinventory, by setting up the Create Move Order parameter. Move orders are created only if the item requirement date is within the Move Order Time Fence. The use of move orders is optional in Process Execution. Refer to Setting Up, page 3-1 for more information regarding the OPM Process Execution parameters.

Prerequisites

- Create a batch.

To view a move order:

1. Navigate to the Batch Details window.
2. Select View Move Order from the Inventory menu.

Refer to the *Oracle Inventory User's Guide* for detailed information on move orders.

Entering Pending Product Lots and Serials

The Pending Product Lots window enables you to specify the exact revision of the product and the lot where a product is yielded. If the product is also serial-controlled, you can access the Serial Entry window from the Pending Product Lots window and enter a serial number for the product.

To enter pending product lots and serials:

1. Navigate to the Batch Details window.
2. Select the product to view the pending product lots and/or serials.
3. Select Pending Lots from the Inventory menu.

Note: If the product is serial-controlled, but not lot- controlled, select Pending Serials from the Inventory menu. If the product is both lot and serial-controlled, select Pending Lots.

4. Enter the appropriate lot information in the following fields:

Field Name	Description
Sequence	Enter the order in which the lots are to be yielded.
Item Revision	Displays the item revision for the material line if it is revision-controlled. Otherwise, the highest revision displays. You can edit this field.
Parent Lot	Enter the number. This is the parent lot to which a new lot is associated. The lot has default attributes derived from this parent lot during creation. This field does not display for lab lots.
Lot	Enter the lot number.
Expiration Date	Displays the date of expiry for the product.
Quantity	Enter the quantity to yield into the lot.

5. The following lot fields are display only:
- UOM is the unit of measure for the material. This defaults to the UOM specified on the material line.
 - Secondary UOM is the secondary unit of measure for the material. This displays if the item is dual unit of measure controlled. The value defaults from the secondary UOM specified on the material line.
 - Primary Qty is the material transaction quantity calculated using the Primary UOM.
6. If the item is dual unit of measure controlled, then enter the Secondary Qty of the material in the secondary unit of measure.
7. Item Revision displays the item revision for the material line if it is revision-controlled. The highest revision displays by default. You can edit this field. The material is yielded in the specified Item Revision.
8. Enter a Reason Code to associate with the transaction.

9. Click OK.

10. Click Serials.

The Serial Entry window opens. For information about entering serial numbers, see: *Assigning Serial Numbers, Oracle Inventory User's Guide*.

To generate a new parent lot:

Click Generate Parent. A new parent lot is generated.

To generate a new lot:

Click Generate Lot. A new lot number is generated.

Managing Inventory Shortages

The Inventory Shortages window lets you view all inventory shortages for production batches during batch creation if material shortages exist. Shortages are based on material available to reserve (ATR) at the inventory organization level. The inventory shortages for phantom batches also display. For nonreservable items, the available to transact (ATT) values are used to compare against the planned quantity of the material to determine shortage. Inventory shortages do not display for lab batches when the Update Inventory indicator is deselected.

Select the Process Execution Parameter Check Shortages to display inventory shortages. The inventory shortages window displays:

- Shortages at the Inventory Organization level based on the material status and ATR in the inventory organization. The ATT is determined from the formula: $ATT = ATR - \text{On-hand not suitable for production}$.
- Shortages at the subinventory level based on the material status and ATT in the supply subinventory. Only ingredient lines that have a supply subinventory defined on the material line display.

In case of revision control items, the shortages are derived based on the revision of the item used as a material in the batch. Nonstockable items are not considered for checking shortages.

To display inventory shortages at the organization level:

1. Navigate to the Batch Details window.
2. Select View Org Level Shortages from the Inventory menu.
3. The following table lists and describes various fields in the Batch Details window.

Note: The following fields are display only:

Field Name	Description
Line	Displays the material line number.
Item	Displays the inventory item that corresponds to the material line.
Revision	Displays the item for which the shortages exist. This is the revision on the material detail line.
Item Description	Displays a brief description of the item.
Planned Qty	Displays the planned quantity for the item.
Reserved Qty	Displays the material quantity reserved in the line for high-level or detailed-level reservations.
UOM	Displays the unit of measure for the material line used in the batch.
Onhand Qty	Displays the quantity available for this item in the current organization.
Available to Reserve	Displays the quantity of the item in the current organization that can be reserved for this batch.
Available to Transact	Displays the quantity of the inventory item in the current organization that can be transacted for this batch.

To display inventory shortages at the subinventory level:

1. Navigate to the Batch Details window.
2. Select View Subinventory Level Shortages from the Inventory menu.

Using the Select Available Inventory Window

You can create a detailed-level reservation manually for a batch and material line using the Select Available Inventory window. The Select Available Inventory window displays the available to transact inventory organized based on the inventory picking rules defined for an item. Use this window to create a detailed-level reservation manually or a transaction for a batch and material line. Refer to the *Oracle Inventory User's Guide* for more information.

Reserving a Batch as a Supply Source for Inventory Reservations

You can reserve the product yield of a production batch as a source of supply for the inventory reservations. For example, reserve the product yield of a batch to a sales order. Refer to Function Security, page D-1, *Oracle Inventory User's Guide*, and *Using Oracle Order Management with Process Inventory* for more information on reserving a production batch to a sales order. If you reserve the output of a batch, you cannot perform any batch actions that result in deduction of the on-hand quantity.

Integrating Process Execution with Mobile Supply Chain Applications

Oracle Process Manufacturing (OPM) Process Execution supports the Mobile Supply Chain Applications (MSCA), if the Warehouse Management Systems (WMS) is installed. Using handheld mobile devices, you can record transactions. For example, ingredient consumption, product yield, and resource usage can be recorded. OPM Process Execution and WMS interact through the use of move orders. You can use WMS Picking and Putaway with OPM Process Execution, and yield products into a License Plate Number (LPN). An LPN, is the basic entity managed by WMS; it can, for example, represent a pallet or similar grouping of inventory. Refer to *Oracle Process Manufacturing Mobile Supply Chain Application for Oracle Process Manufacturing* for more information.

Ingredient Picking Workbench

Understand how to find and pick ingredients for a batch. View the batch list summary information and identify picking materials and the ingredient summary.

This chapter covers the following topics:

- Understanding Ingredient Picking
- Finding Ingredient Requirements for Picking
- Viewing the Batch List Summary
- Viewing Batch Summary Information
- Picking Material
- Viewing the Ingredient Summary

Understanding Ingredient Picking

Ingredient picking refers to the process of moving materials from one or more source locations and issuing them to a staging subinventory before they are consumed. This process is also called material staging to production. Firm Plan Orders (FPO) and lab batches with update inventory indicator set to No are not eligible for ingredient picking.

Ingredient picking allows paperless picking of raw materials required by production by using:

- Predefined picking rules in Oracle Warehouse Management Systems (WMS) and Oracle Inventory to source the best material for the batch.
- Warehouse picking task management to direct the personnel in the warehouse to retrieve material for the batch.
- Mobile technology to reserve material, release, and complete a batch or batch step using mobile transactions.

Refer to the *Oracle Process Manufacturing Mobile Supply Chain Application for Oracle*

Process Manufacturing guide for more information.

The use of the ingredient picking feature is optional and is designed to work with both Oracle Warehouse Management Systems (WMS) and non-WMS organization. If you install WMS, then the following features are available:

- Material Transactions based on the WMS picking rules engine
- Warehouse picking task management
- Yield into License Plate Number (LPN) and subsequent putaway
- Cross docking

Refer to the *Oracle Warehouse Management User's Guide* for more information.

When an ingredient line is picked:

- A move order is created based on the picking rules established through Oracle Inventory or Oracle WMS.
- The move order takes the inventory from the source subinventory and locator to the supply location required by the batch.
- When there is insufficient inventory, the ingredient line is backordered. If you are using WMS, then backordered lines can be repicked when inventory is available or are eligible for cross docking if you have installed WMS.
- Plan Tasks are supported as an option when using WMS. Tasks are not automatically dispatched, but can be planned together with other open tasks.

Refer to Understanding Task Creation, page 6-49 for more information.

All materials are verified for their material status so that their effective status is consumable by process production.

Finding Ingredient Requirements for Picking

The Find Batches window enables you to enter selection criteria to find batches that have ingredient requirements.

Prerequisites

- Create a batch.

To find batches with ingredient requirements:

1. Navigate to the Find Batches window.

2. Make no entries to search for all records. Enter a combination of any of the following search criteria in the **Standard** and **Advanced** tabs to narrow the search:

Standard

3. Enter Batches as:
 - All to include unpicked and backordered batches. Default.
 - Backordered for batches that have backordered requirements only.
4. Enter any of the following criteria in various fields to filter search results:

Search Criteria	Description
From Batch	To search for batches starting with this batch number.
To Batch	To search for batches between this batch number and batch number entered in the From Batch field.
Operation	To find batches that have open ingredient requirements for an operation.
Version	To find batches that have open ingredient requirements for a version of the operation.
Product	To find batches that produce a specific product.
Ingredient	To search for batches that use a specific ingredient.
Days Forward	Enter the number of days to consider requirements for the pick release.
Material Requirement Date, From and To	To search for batches that have ingredient requirements within a specific date range.
Include Pending	Select this option to search for pending batches.
Include WIP	Select this option to search for WIP batches.

Advanced

5. Select any of the following Items:
 - Batch
 - Recipe Number
 - Recipe Version
 - Formula Number
 - Formula Version
 - Routing Number
 - Routing Version
 - Planned Start Date
 - Planned Completion Date
 - Actual Start Date
 - Product
 - Ingredient

6. Condition enables you to select a comparison operator. Select one of the following Conditions for the item to build a relational expression:
 - Equal
 - Greater Than
 - Less Than
 - Greater or Equal
 - Less or Equal
 - Like

7. The following conditions are available for queries based on dates:
 - Greater or Equal To Today + to generate a list of batches for which the date specified in the Item field is greater than or equal to the current date plus the value entered.

- Greater or Equal To Today - to generate a list of batches for which the date specified in the Item field is greater than or equal to the current date minus the value entered.
 - Less or Equal To Today + to generate a list of batches for which the date specified in the Item field is less than or equal to the current date plus the value entered.
 - Less or Equal To Today - to generate a list of batches for which the date specified in the Item field is less than or equal to the current date minus the value entered.
 - Today to generate a list of batches for which the date specified in the Item field is equal to the current date.
8. Enter a Value for the selected condition.
 9. Click Find.
 10. The following information appears in the Results section:

Field Name	Description
Batch	Displays the batch number.
Status	Displays the batch status.
Plan Start Date	Displays the planned start date for the batch.
Actual Start Date	Displays the actual start date for the batch.

Viewing the Batch List Summary

The Batch List Summary window displays the list of batches that meet the criteria entered in the Find Batches window.

Prerequisites

- Create batches.

To view the batch list summary:

1. Navigate to the Find Batches window.
2. Query batches as described in Finding Ingredient Requirements for Picking, page 9-2.
3. Click Requirements.
4. Click the Batch node.
5. The following information displays:

Field Name	Description
Batch	Displays the batch number.
Status	Displays the batch status.
Plan Start Date	Displays the planned start date for the batch.
Plan Completion Date	Displays the planned completion date for the batch.
Product	Displays the name of the product produced by the batch.
Plan Qty	Displays the planned quantity of the product to be produced by the batch.
Actual Qty	Displays the actual quantity of the product produced.
UOM	Displays the unit of measure for the product.
Actual Start Date	Displays the actual start date for the batch.
Recipe	Displays the code for the recipe used in the batch.
Recipe Version	Displays the recipe version used in the batch.

Field Name	Description
Recipe Description	Displays brief description of the recipe.
Formula	Displays the code for the formula used in the batch.
Formula Version	Displays the formula version used in the batch.
Formula Description	Displays a brief description of the formula used in the batch.
Routing	Displays the code for the routing used in the batch.
Routing Version	Displays the routing version used in the batch.
Routing Description	Displays a brief description of the routing used in the batch.

6. Use the results to perform picking as described in Picking Materials, page 9-9.

Viewing Batch Summary Information

The Batch Summary window lets you view the batch information.

Prerequisites

- Create a batch.

To view batch summary information:

1. Navigate to the Batch List summary window.
2. Click the batch node for which you require the information.
3. The following information displays:

Field Name	Description
Batch	Displays the batch number.
Plan Start Date	Displays the planned start date for the batch.
Plan Completion Date	Displays the planned completion date for the batch.
Product	Displays the name of the product produced by the batch.
Plan Qty	Displays the planned quantity of the product to produce by the batch.
Actual Qty	Displays the actual quantity of the product produced.
UOM	Displays the unit of measure for the product.
Actual Start Date	Displays the actual start date for the batch.
Recipe	Displays the code for the recipe used in the batch.
Recipe Version	Displays the recipe version used in the batch.
Recipe Description	Displays brief description of the recipe.
Formula	Displays the code for the formula used in the batch.
Formula Version	Displays the formula version used in the batch.
Formula Description	Displays a brief description of the formula used in the batch.
Routing	Displays the code for the routing used in the batch.

Field Name	Description
Routing Version	Displays the routing version used in the batch.
Routing Description	Displays a brief description of the routing used in the batch.

Picking Material

Pick material for batches using the Batch List Summary window. A move order is created when you pick material. You can also plan tasks and create pick slips based on pick slip grouping rules.

Refer to the *Oracle Inventory User's Guide* and the *Oracle Warehouse Management User's Guide* for information on move orders, pick slip grouping rules, and creating tasks.

To pick material for a batch:

1. Navigate to the Batch List summary window.
2. Select Include to select the batch that you want to pick material for. When you select the batch, move orders are created for all the ingredients of the batch, that need to be moved to the supply subinventory. You cannot delete selected ingredients from a batch.
3. Enter a Pick Slip Grouping Rule.
4. Select Print Pick Slips to automatically submit a request to print the Pick Slip report.
5. Select Plan Tasks to create picking tasks for Oracle Warehouse Management Systems (WMS) to release the tasks. This is not enabled for non-WMS organizations.
6. Click Pick Material. When the pick release is complete a message displays the move order number.

If partial allocation occurs due to unavailable inventory, then the following message displays:

"Material requirements for some of the selected ingredients could not be fully allocated."

A backorder is created for the remaining quantities of the ingredients. You can perform repicking for these ingredients by querying batches with backorders. Refer to Finding Ingredient Requirements for Picking, page 9-2 for more information.

7. Click OK.

Viewing the Ingredient Summary

The Ingredient Summary window enables you to view the ingredient information for a specific batch.

To view the ingredient summary:

1. Navigate to the batch to view ingredient information.
2. Click the required ingredient.
3. The following information displays:

Field Name	Description
Line	Displays the number of the ingredient line containing the item.
Item	Displays the item number.
Revision	Displays the revision of the item used.
Item Description	Displays a brief description of the item.
Step	Displays the batch step number associated to the ingredient.
Operation	Displays the name of the operation used in the batch step.
Version	Displays the version of the operation used in the batch step.
Requirement Date	Displays the required date for the ingredient.
Plan Qty	Displays the planned quantity of the ingredient.
Actual Qty	Displays the actual quantity of the ingredient used.

Field Name	Description
Backordered Qty	Displays the quantity of the item that was not allocated due to inventory shortage.
Open Qty	Displays the quantity of the ingredient that is currently required.
UOM	Displays the unit of measure for the ingredient.
Subinventory	Displays the subinventory from which the ingredient is consumed.
Locator	Displays the locator from which the ingredient is consumed.
Plan Start Date	Displays the planned start date for the batch.
Plan End Date	Displays the planned completion date for the batch.
Actual Start Date	Displays the start date for the batch.

Batch Production

This chapter provides procedures for releasing and unreleasing a batch, and also includes procedures for incremental backflushing.

This chapter covers the following topics:

- Releasing a Batch
- Unreleasing a Batch
- Releasing a Batch Step
- Unreleasing a Batch Step
- Checking Material Status When Consuming Ingredients
- Checking Lot Status When Yielding Product
- Understanding Incremental Backflushing
- Calculating Resource Usage for an Incremental Backflush
- Performing Incremental Backflushing
- Editing Batch Steps in Production
- Understanding Charges
- Using Operation Charge Step Dependencies
- Calculating Charges for Dependent Steps
- Understanding Activity Factors
- Editing Resource Transactions
- Recording Batch Operation Work in Process

Releasing a Batch

The Release Batch dialog box enables you to enter a date for releasing a batch for production.

The application checks for the validity of the batch validity rule, and advises you, if the actual start date entered in the dialogue is outside the validity rule date range. The application checks for ingredient reservations to create transactions. If inventory shortages exist, then those ingredients are reported as exceptions. Solve these exceptions by manually specifying transactions or proceed with the release. If there are move orders in the inventory organization, then the move orders appear as exception if Autoconsume from Supply Subinventory parameter is set to Yes. It also checks for unexploded phantoms, except for those that are Automatic by Step with a step association. If unexploded phantoms are found, then you can explode the phantoms before releasing the batch. At this point, the application releases batches recursively, and consumes materials as follows:

- For a production batch or a laboratory batch with Update Inventory indicator set to Yes, the application checks lot status and expiration dates, checks for inventory shortages, completes transactions, consumes the ingredients marked for autoconsumption, and updates the WIP planned, planned and actual quantities.
- For a laboratory batch, with the Update Indicator set to No, the application updates the WIP planned quantity to the planned quantity for all materials, and then updates the actual quantity of ingredients to the planned quantity.
- Batch status is set to work in process.
- An actual start date is assigned to the batch.

Prerequisites

- Create a batch.
- Complete any pending mandatory clearance instructions, such as clearing the production line and equipment, before releasing a batch. See: *Clearing Dispense Areas, Oracle Manufacturing Execution System for Process Manufacturing User's Guide*.

To release a batch:

1. Navigate to the Batch Details window.
2. Query the batch Document to release.
3. Select Release from the Actions menu.
4. Enter the Actual Start Date for the batch.
5. Click OK.

Unreleasing a Batch

Once a batch is released, you can to revert its status from Released to Pending. Completed transactions are reversed, actual values are reset to zero, and inventory is updated.

Prerequisites

- Create and release a batch.

To unrelease a batch:

1. Navigate to the Batch Details window.
2. Query the batch Document to unrelease.
3. Select Unrelease from the Actions menu.
4. The following message displays:

Do you want to recreate reservations for ingredients and pending product lot records?

Click Yes to unrelease the batch and recreate reservations and pending product lot records from the transaction which is reversed.

Click No to unrelease the batch without recreating reservations.

5. The batch Status returns to Pending.

Releasing a Batch Step

The Release Batch Step dialog box lets you enter a date for releasing a batch step. You can release a step even if the batch is pending.

Prerequisites

- Create a batch.
- Complete any pending mandatory clearance instructions associated with the batch step, such as before releasing the step. See: *Clearing Dispense Areas, Oracle Manufacturing Execution System for Process Manufacturing User's Guide*.

To release a batch step:

1. Navigate to the Batch Steps window.
2. Query the batch Document containing the step to release.

3. Select the Step.
4. Select Release Step from the Actions menu.
5. Enter the Actual Start Date.
6. Click OK.

If the application finds ingredients associated with the step that have a consumption type of Automatic by Step and are not fully transacted, then the application consumes the ingredients and creates transactions. Refer to Transacting Materials, page 8-6 for more information on material transactions

The step status changes from Pending to WIP.

Unreleasing a Batch Step

Once a batch step is released, you can revert its status from Released to Pending. Completed transactions are reversed, actual values are reset to zero, and inventory is updated.

Prerequisites

- Release a batch step.

To unrelease a batch step:

1. Navigate to the Batch Steps window.
2. Query the batch Document containing the step to unrelease.
3. Select the Step.
4. Select Unrelease Step from the Actions menu.
5. The following message displays:

Do you want to recreate reservations for ingredients and pending product lot records associated to this step?

Click Yes to unrelease the batch step and recreate reservations and pending product lot records from the transactions which are reversed or Click No to unrelease the batch step without recreating reservations.

The step status changes from WIP to Pending.

Checking Material Status When Consuming Ingredients

Material status control specifies whether a transaction for a portion of inventory is

allowed or disallowed. While the item status is associated with a particular item, material status is related to the particular instance of the item. Material status control makes it possible to control the movement and usage of portions of on-hand inventory that might have distinct differences because of grade, quality, or maturity level. Material status can be defined at the subinventory, locator, lot, and serial level. Refer to the *Oracle Inventory User's Guide* on setting up Material Status codes.

If the material to consume has a status that is not usable for production and does not allow a WIP issue transaction, then you cannot consume it.

Warning When Consuming Ingredients with Negative Inventory

If you try to consume an ingredient without inventory, then the following caution displays:

"Quantity will drive inventory negative."

Checking Lot Status When Yielding Product

If the existing quantity has a status different from the default status for the item, then the inventory organization parameter Allow Different Lot Status is used to prevent yielding an additional quantity of a lot into a specific location.

Warning When Yielding Batch Material into an Existing Lot

Use the inventory organization parameter Allow Different Lot Status to prevent yielding a lot into a location where the lot already exists, but has a status different from the item default status:

- Set to No, the parameter prevents the yield transaction from being saved. The application displays an error message indicating that the lot already exists in the target location and that it has a status different from the default status.
- Set to Yes, the parameter lets the yield transaction retain the status of the material already in the target location.
- Set to Yes With Exception, the parameter allows the yield transaction to be saved only if the on-hand balance of the lot in the target location is 0. In this case, the quantity yielded assumes the default status for the item.

The parameter only applies when the lot has a status different from the item status. If a lot yielded has the item default status, then you can yield an additional quantity into the same location.

Warning When Editing or Reversing Batch Material Transactions

Editing product yield can drive inventory negative. For example, if 100 kg of material is

yielded into a location, subsequently moved to a different location, and you edit the original yield transaction from 100 kg to 90 kg, then a balance of -10 kg is posted.

The inventory organization parameter Allow Negative Balances determines whether or not inventory transactions drives the inventory balance of an item negative and warns you when editing or reversing product or byproduct yield:

- Set to No, if the change to the product or byproduct yield quantity drives inventory negative, then an error message displays and you cannot save your work.
- Set to Yes, you can save without warning or error.

Rechecking Negative Inventory and Lot Status When You Save

There is a possible delay between the entry of a transaction and the actual processing of the transaction as you save your work. The application rechecks the inventory balances when you save your work. An appropriate response displays depending on the settings previously described for the Allow Different Lot Status and Allow Negative Balances parameters.

Understanding Incremental Backflushing

Incremental backflushing lets you record production output or yield incrementally as it occurs prior to batch completion. The application calculates the ingredient usage by backflushing the ingredients based on product yield and WIP planned quantities. Set the Process Execution parameter Incremental Backflush Factor to calculate the incremental backflush factor as a ratio of incremental quantity of an item to WIP planned quantity of a single product or total WIP planned quantity of all products. Refer to Setting Up Parameters, page 3-3 for more information on setting up Process Execution parameters.

Incremental backflushing, both positive and negative, can only be performed on batches with a status of WIP, but negative incremental backflushing can also be performed on batches with a status of Completed. Items must have a consumption type of Incremental to be backflushed by incremental backflushing.

With incremental backflushing, the application calculates actual quantities for the items set to a consumption type of incremental in a WIP batch. The application calculates the quantity to be backflushed for each incremental type material, but does not enforce the complete transaction of the quantity. The application displays the Material Exceptions window if the calculated quantity is not transacted, but you can ignore that and complete incremental backflushing process. Calculations are proportional to the quantity of the item selected for incremental backflushing. The following example illustrates how this works as new incremental quantities of a product are entered. The batch formula used for the illustration consists of three items that have manual and incremental consumption types. Both Proportional and Fixed contributing to yield scale types are shown.

Item	Type	Scale Type	Quantity
Product 1	Manual Yield Type	Proportional	100
Ingredient 1	Incremental Consumption Type	Proportional	90
Ingredient 2	Incremental Consumption Type	Fixed Contributing to Yield	2
Ingredient 3	Manual Consumption Type	Proportional	8

Set incremental consumption types for formula lines in the Oracle Process Manufacturing (OPM) Product Development application. When the batch is released, the WIP planned and actual quantities are:

Item	WIP Planned Quantity	Actual Quantity
Product 1	100	0
Ingredient 1	90	0
Ingredient 2	2	0
Ingredient 3	8	0

An incremental backflushing is performed by entering an incremental quantity of 10 for Product 1.

When you accept the incremental backflushing, batch quantities become:

Item	WIP Planned Quantity	Actual Quantity
Product 1	100	10
Ingredient 1	90	9
Ingredient 2	2	2
Ingredient 3	8	0

When 10 units of Product 1 are incrementally backflushed, the actual quantity of Ingredient 1 is calculated to be 9. To calculate this, the application divides the incremental quantity of the item driving incremental backflushing by the WIP planned quantity of that item to calculate a scale factor. In the example, Product 1 drives incremental backflushing. The incremental quantity entered for Product 1 is 10 and the scale factor is 10/100 or 0.1. The WIP planned quantity of each scalable item with a consumption type of Incremental is multiplied by this factor to calculate the incremental increase in the actual quantity of these items. In this example, the WIP planned quantity of Ingredient 1 is 90, which when multiplied by 0.1 gives an incremental quantity of 9. This was added to the previous actual quantity of 0 to give a new actual quantity of 9.

The quantity of Ingredient 1 is calculated without considering the scalability of other items in the batch or whether the consumption type of other items is Incremental.

For nonscalable, incremental items, the application consumes the full WIP planned quantity the first time you perform an incremental backflushing. The actual quantity of Ingredient 2, therefore, is calculated as 2, and not 0.2.

Ingredient 3 has a consumption type of Manual. Its quantity is not affected by the incremental backflushing. Manually enter the actual quantities for items with a Manual consumption type.

If one unit of Ingredient 1 was lost through a spill, and the quantity consumed was actually 10 instead of 9, then adjust this quantity on the Batch Details windows. The new batch quantities become:

Item	WIP Planned Quantity	Actual Quantity
Product 1	100	10
Ingredient 1	90	10
Ingredient 2	2	2
Ingredient 3	8	0

When you edit items with a consumption type of Incremental on the Batch Details window, they function the same as items with a consumption type of Manual, and there is no effect on the quantities of the other items in the batch.

When you perform another incremental backflushing of 10 units of Product 1, batch quantities adjust as follows:

Item	WIP Planned Quantity	Actual Quantity
Product 1	100	20
Ingredient 1	90	19
Ingredient 2	2	2
Ingredient 3	8	0

Another 10 units is added to the actual quantity of Product 1, and the scale factor is calculated to be 0.1. An incremental quantity of 9 units of Ingredient 1 is calculated and added to the previous actual quantity of 10, resulting in a new actual quantity of 19. The actual quantities of Ingredient 2 and Ingredient 3 remain unchanged.

Each time an incremental backflushing is performed, the application creates completed transactions for the incremental quantity. Look at the transactions for Ingredient 1, assuming for the moment that it is neither lot, serial, nor location-controlled, then you see the following:

Status	Quantity	Comment
Complete	9	From the first incremental backflushing
Complete	1	From the manual adjustment
Complete	9	From the second incremental backflushing

The item that drives incremental backflushing does not require a consumption or yield type of Incremental. Since the quantity of the item that drives incremental backflushing is measured and entered, and is not calculated by the application, it generally has a consumption or yield type of Incremental or Manual. In the previous example, Product 1 drives incremental backflushing. The incremental backflushing can also be driven by a byproduct or ingredient. It does not have to be a product.

Reserving Ingredients for Incremental Backflushing

If any of the ingredients with a consumption type of incremental are lot, serial, or locator-controlled, and you enter reservations before the incremental backflushing, then the application attempts to consume the incremental actual quantity from those reservations automatically. For example, if Ingredient 1 in the previous example were

lot-controlled, and 30 units were reserved from each of three lots before the first incremental backflushing, when you perform the incremental backflushing, then the application consumes all nine units from the first lot reserved.

Similarly, if the product were lot, serial, or locator-controlled, and a pending product lot record was created before the incremental backflushing, then the application automatically yields into the lots and serial numbers in the same order that they were given out to the Pending Product Lots window. The application does not create new reservations with incremental backflushing. It consumes ingredients from already existing lot reservations.

Important: Create serial numbers for serial control product items before performing incremental backflushing.

For lot, serial, or locator-controlled items, the application determines the lot, serial, or locator for the full incremental quantity. This is required because all completed transactions for lot-controlled items must specify a lot. If this were not required, then the on-hand balances would not reflect the current total on-hand inventory. If there is insufficient quantity in reservations or pending product lots to consume from or yield into when an incremental backflushing is performed, then the Material Exceptions window displays the exception quantities. You can proceed with incremental backflushing without solving the exceptions.

You can also adjust quantities downwards by entering a negative incremental quantity or a new actual quantity that is less than the current actual quantity. If actual quantities are reduced through incremental backflushing, then the application recreates reservations.

Performing negative incremental backflushing using the `GME_INCREMENTAL_BACKFLUSH_PVT.incremental_backflush` API, creates reservations against supply sub inventory on the ingredient. To prevent creation of reservations while using the `GME_INCREMENTAL_BACKFLUSH_PVT.incremental_backflush` API, set the following parameters:

- **p_create_resv_pend_lots:** Set this parameter as zero if you do not want to create any reservations while performing negative incremental backflushing.
- **p_tolerance:** Set this parameter to a value which is greater than 1 and less than .99 to resolve the problems caused by rounding over the course of multiple incremental backflushes. The default value is .9997

Incremental Backflushing Scenarios

The following two scenarios show how to use incremental backflushing in a situation where the full planned quantities of the product and ingredients are reserved and when product lots are not reserved.

Full Planned Quantities of Product and Ingredient Reserved

1. Create a batch.
2. Reserve the planned quantity of the ingredients.
3. Enter the planned quantity of the product in the Pending Product Lots window.
4. Release the batch.
5. Each time you record a new quantity of the product yielded by the batch, enter it on the Incremental Backflushing window. Enter an incremental quantity, the new actual quantity, or the percent of planned quantity produced until the time of making the entry.
6. Click OK to save the batch with the actual quantity updated for the product and ingredients, and the quantities are consumed from the existing reservations.
7. When the batch is finished, select Complete from the Actions menu on the Batch Details window.

Product Lots Not Reserved

The planned quantity of the ingredients is reserved before the batch is run, but the product is not reserved. Each time a new lot of the product is yielded, the lot number and quantity produced is reported. The following are the steps in this scenario:

1. Create a batch.
2. Reserve the planned quantity of the ingredients.
3. Release the batch.
4. Each time a lot of the product is yielded, enter the new lot and quantity on the Pending Product Lots window available from the Batch Details window.
5. Click Generate Lot to generate a new lot number.
6. Click OK on the Pending Product Lots window. Return to the Batch Details window.
7. Select Backflush from the Actions menu on the Batch Details window. The Incremental Backflushing window displays the new actual quantity and the incremental quantity entered for the new lot.
8. Click OK to redisplay the Batch Details window. Note the actual quantity of the ingredients is backflushed.
9. Save the batch.
10. When the batch is complete, select Complete from the Actions menu on the Batch

Details window.

Incrementally Backflushing Phantom Ingredients

If you perform incremental backflushing on a parent batch that contains phantoms, then ingredients in the phantom batches that have an incremental consumption type are also backflushed.

Scaling Phantoms

If you manually edit the actual quantity of an incremental release phantom ingredient in the parent batch, then you can scale the phantom batches. This is no different from editing the quantity of a nonincremental phantom, as all items in the phantom batch are scaled.

Changing the Yield Type After Incremental Backflushing

If you change the yield type of a product or byproduct to Incremental after you perform incremental backflushing, then the product with a yield type change is updated by any future incremental backflushing. Its percent of plan, however, is not the same as the percent of plan of the other Incremental items. This happens as a result of the incremental scale factor being applied during incremental backflushing. You can change the consumption/yield type of material only in a pending batch.

For example, you perform incremental backflushing for 50 percent of the planned quantity of an item. The Incremental release items are updated so that their actual quantity is 50 percent of their planned quantity. If you change the yield type of the product from Automatic release to Incremental release, and you perform another incremental backflushing for an additional 10 percent of the item driving incremental backflushing, then 10 percent of the planned quantity is added to the actual quantity of all Incremental items in the batch. Therefore, the items that had an Incremental release before any changes were made, have an actual quantity equal to 60 percent of their planned quantity, while the product that just had its yield type changed has an actual quantity equal to only 10 percent of its planned quantity.

Adjusting Actual Quantities After Full Completion

Incremental backflushing allows you to adjust actual quantities after batch completion.

Calculating Resource Usage for an Incremental Backflush

Resource usage can be calculated for a step in work in process status and driven by ingredient consumption when the Automatic Step Quantity Calculation (ASQC) option is selected, and the Calculate Interim Resource Usage parameter is set to Yes. You can calculate resource usage for an associated step and the resource usage for prior dependent steps. Refer to Using the Calculate Interim Resource Usage Parameter, page 10-33 for more information on this parameter.

To backflush resource usage based on product yield, use the incremental backflushing functionality without ASQC selected, and the Backflush Resource Usage parameter set to Yes. Performing an incremental backflush on a product that is associated to a step records the resource usage proportionally when this parameter is set to Yes.

Step Dependency Impact

If the dependency is start-to-start, then the ratio calculated from incremental backflush is applied to the step, and to the resource. If the dependency is finish-to-start, then the step is considered complete, and the usage and quantities are calculated at 100 percent of the plan. If a preceding dependent step is completed, then it remains unchanged.

Implementation Considerations

- If the product is set to the incremental or manual yield type and the yield was not completely recorded using incremental backflushing, then when the batch is completed, these materials display in the Material Exceptions window. You can record the remaining yield. Because this is a manual process and not done through incremental backflushing, the resource usage is not backflushed.
- Only the step associated to the product that incremental backflushing is initiated from and all its dependent preceding steps have the usage backflushed.
- If the product that incremental backflushing is initiated from is not associated to a step, then a resource usage is not backflushed.
- ASQC must be set to Off. The Calculate Step Quantities indicator on the recipe header must be deselected.
- If an associated step or any dependent step is completed, then the usage is not backflushed. This extends to completed batches where it is possible to initiate incremental backflushing for materials, but does not affect the resource usages.
- To use incremental backflushing on the product, it is a requirement that the yield type of the product must be Manual or Incremental.

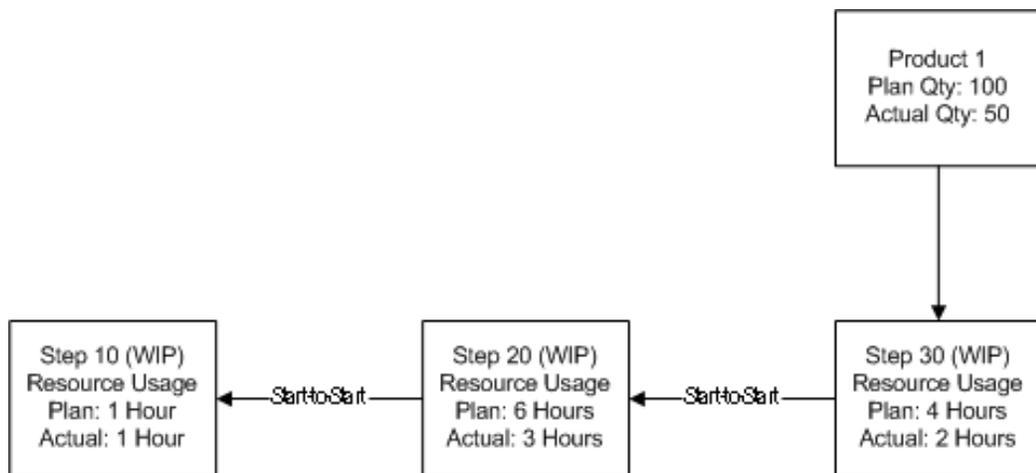
Example 1: Impact of Incremental Backflushing on Start-to-Start Step Dependency

Product 1 is associated to step 30, has a plan quantity of 100, and 50 are produced. An incremental backflush is performed on Product 1. All step resources are calculated at 50 percent.

Following is a table of the step dependencies, plan resource usage, and actual resource usage:

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 10 WIP	n/a	n/a	1 hour	0.5 hour
Step 20 WIP	Start-to-Start	10	6 hours	3 hours
Step 30 WIP	Start-to-Start	20	4 hours	2 hours

Following is an illustration of the previously tabulated WIP step dependencies, plan resource usage, and actual resource usage:



Example 2: Impact of Incremental Backflushing on Finish-to-Start Step Dependency

Product 1 is associated to step 30, has a plan quantity of 100, and 50 are produced.

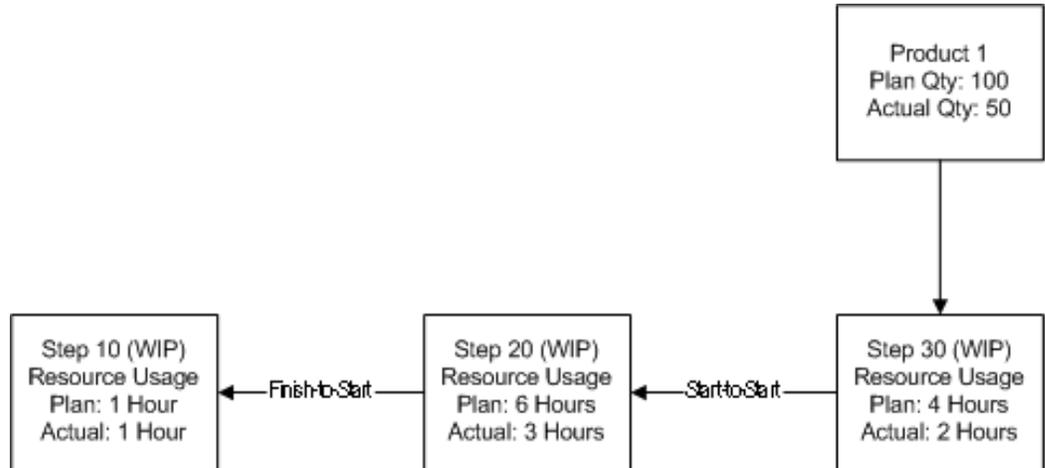
Following is a table of the step dependencies, plan resource usage, and actual resource usage:

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 10 WIP	n/a	n/a	1 hour	1 hour
Step 20 WIP	Finish-to-Start	10	6 hours	3 hours
Step 30 WIP	Start-to-Start	20	4 hours	2 hours

The usage for Step 10 is calculated at 100 percent for the first incremental backflush, and remains unchanged for subsequent incremental backflushing. This is because, based on

the finish-to-start dependency between steps 20 and step 10, it is assumed that as step 20 has started, step 10 must be finished and its resources have therefore run for their entire planned usage.

Following is an illustration of the previously tabulated WIP step dependencies, plan resource usage, and actual resource usage:



Example 3: Impact of Incremental Backflushing on a Step Prior to a Completed Step

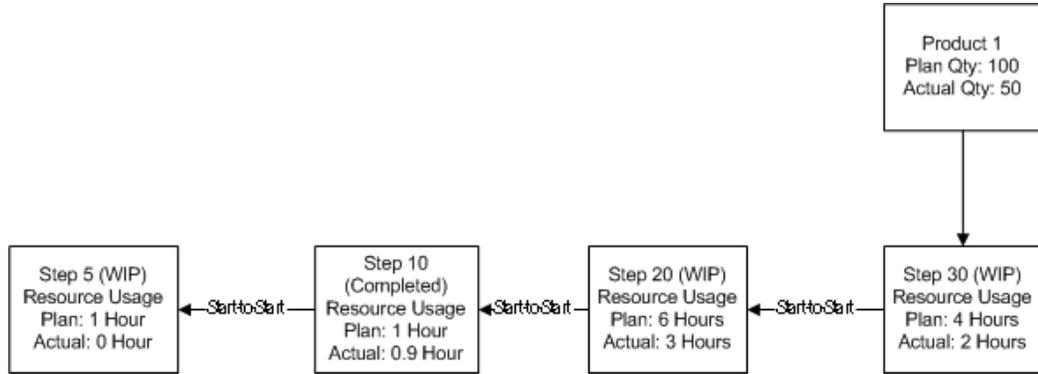
Product 1 is associated to step 30, has a plan quantity of 100, and 50 are produced.

Following is a table of the step dependencies, plan resource usage, and actual resource usage:

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 5 WIP	n/a	n/a	1 hour	0 hour
Step 10 Complete	Start-to-Start	5	1 hour	0.9 hour
Step 20 WIP	Start-to-Start	10	6 hours	3 hours
Step 30 WIP	Start-to-Start	20	4 hours	2 hours

Step 10 is complete. The usage remains unchanged for Step 10 each time incremental backflushing is initiated on Product 1. This example also shows a start-to-start dependency from Step 10 to Step 5. Step 5 shows no usage calculation because when a completed step is encountered, the usage backflushing does not continue.

Following is an illustration of the previously tabulated step dependencies, plan resource usage, and actual resource usage:



Example 4: Impact of Additional Yield on Resource Usage after Batch Completion

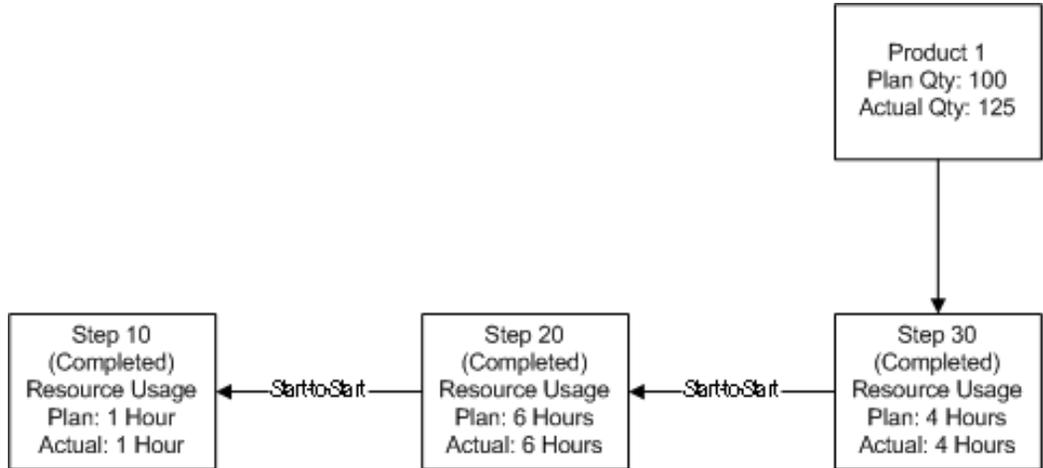
Product 1 is associated to step 30, has a plan quantity of 100, and 125 are produced.

Following is a table of the step dependencies, plan resource usage, and actual resource usage:

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 10 Completed	n/a	n/a	1 hour	1 hour
Step 20 Completed	Start-to-Start	10	6 hours	6 hours
Step 30 Completed	Start-to-Start	20	4 hours	4 hours

This example shows incremental backflushing in a completed batch. The material produced an additional yield. However, the resource usage does not reflect this. If required, then you can adjust the usage manually.

Following is an illustration of the previously tabulated step dependencies, plan resource usage, and actual resource usage:



Example 5: Impact of Incremental Backflushing on Two Incremental Type Products

Product 1 is an incremental type product associated to step 30, has a plan quantity of 100, and 50 are produced. Product 2 is associated to step 60, has a plan quantity of 100, and 50 are produced. Step 70 is not associated to a material.

Following are tables of the step dependencies, plan resource usage, and actual resource usage:

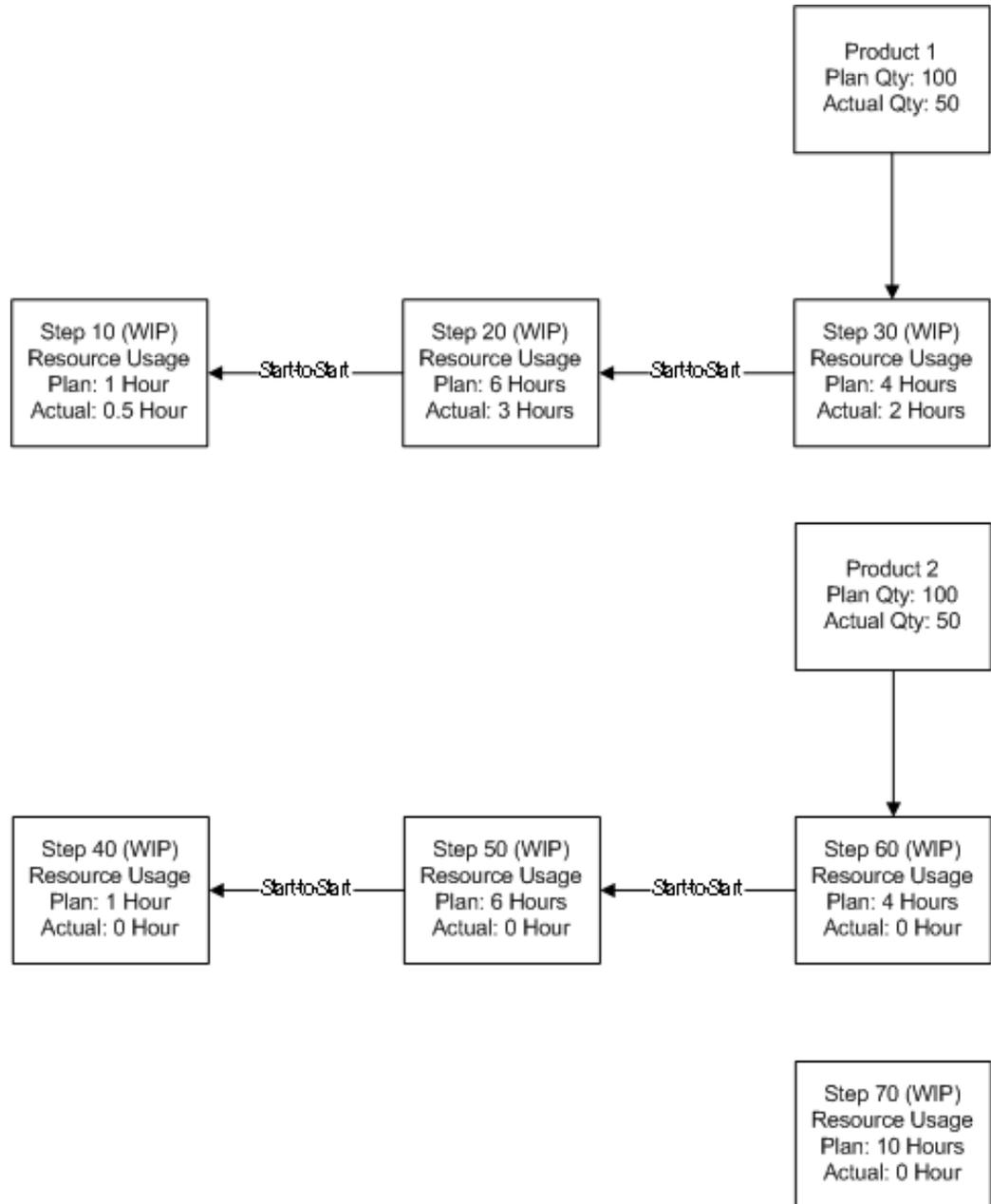
Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 10 WIP	n/a	n/a	1 hour	0.5 hour
Step 20 WIP	Start-to-Start	10	6 hours	3 hours
Step 30 WIP	Start-to-Start	20	4 hours	2 hours

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 40 WIP	n/a	n/a	1 hour	0 hour
Step 50 WIP	Start-to-Start	40	6 hours	0 hour
Step 60 WIP	Start-to-Start	50	4 hours	0 hour
Step 70 WIP	Start-to-Start	n/a	10 hours	0 hour

If you initiate an incremental backflush on Product 1 for 50 percent of plan, then material incremental backflushing calculates an actual quantity of 50 for both products. Resource usage backflushing is done for Steps 30, 20, and 10. Steps 60, 50, and 40 remain unchanged because they are associated to Product 2. Product 2 is not the product that incremental backflushing was initiated from. Step 70 remains unchanged because it is not associated to either.

In this scenario, make both products manual yield. This lets you initiate an incremental backflush on Product 1 and the usage for its associated step and dependent steps is calculated, but Product 2 and its associated and dependent steps remain unchanged. When backflushing is initiated from Product 2, Product 1 and its steps remain unchanged.

Following is an illustration of the previously tabulated step dependencies, plan resource usage, and actual resource usage:



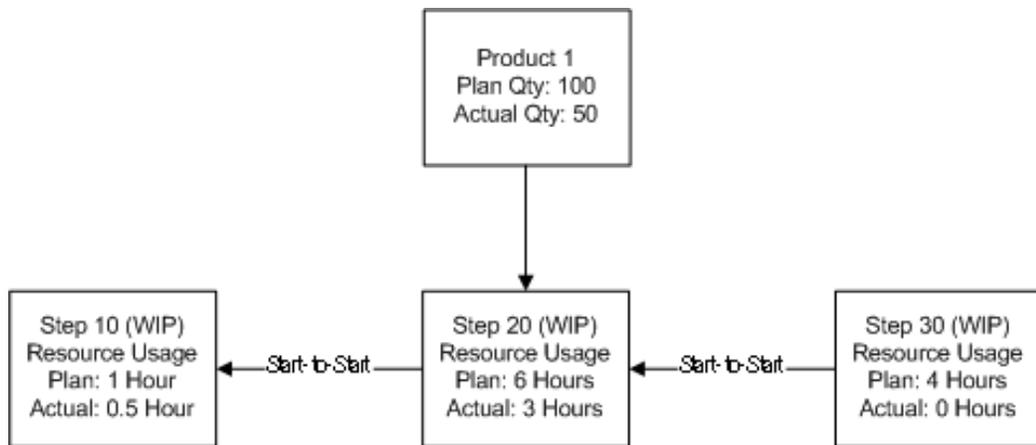
Example 6: Impact of Incremental Backflushing on a Product with Midstream Step Associations

Product 1 is associated to step 20, has a plan quantity of 100, and 50 are produced. Step 30 is dependent on step 20.

Following are steps, statuses, step dependencies, and plan and actual resources:

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 10 WIP	n/a	n/a	1 hour	0.5 hour
Step 20 WIP	Start-to-Start	10	6 hours	3 hours
Step 30 WIP	Start-to-Start	20	4 hours	0 hours

An incremental backflush is performed on Product 1. Usage is not calculated for step 30. Following is an illustration of the previously tabulated step dependencies, plan resource usage, and actual resource usage:



Example 7: Impact of Incremental Backflushing on Fixed, Proportional, and By Charge Scaling

Product 1 is associated to step 20, has a plan quantity of 100, and 25 are produced.

The batch is released.

Step 10 is released:

- Activity 1 has a Plan Activity Factor of 1 and an Actual Activity Factor of 1.
- Activity 2 has a Plan Activity Factor of 2 and an Actual Activity Factor of 2.

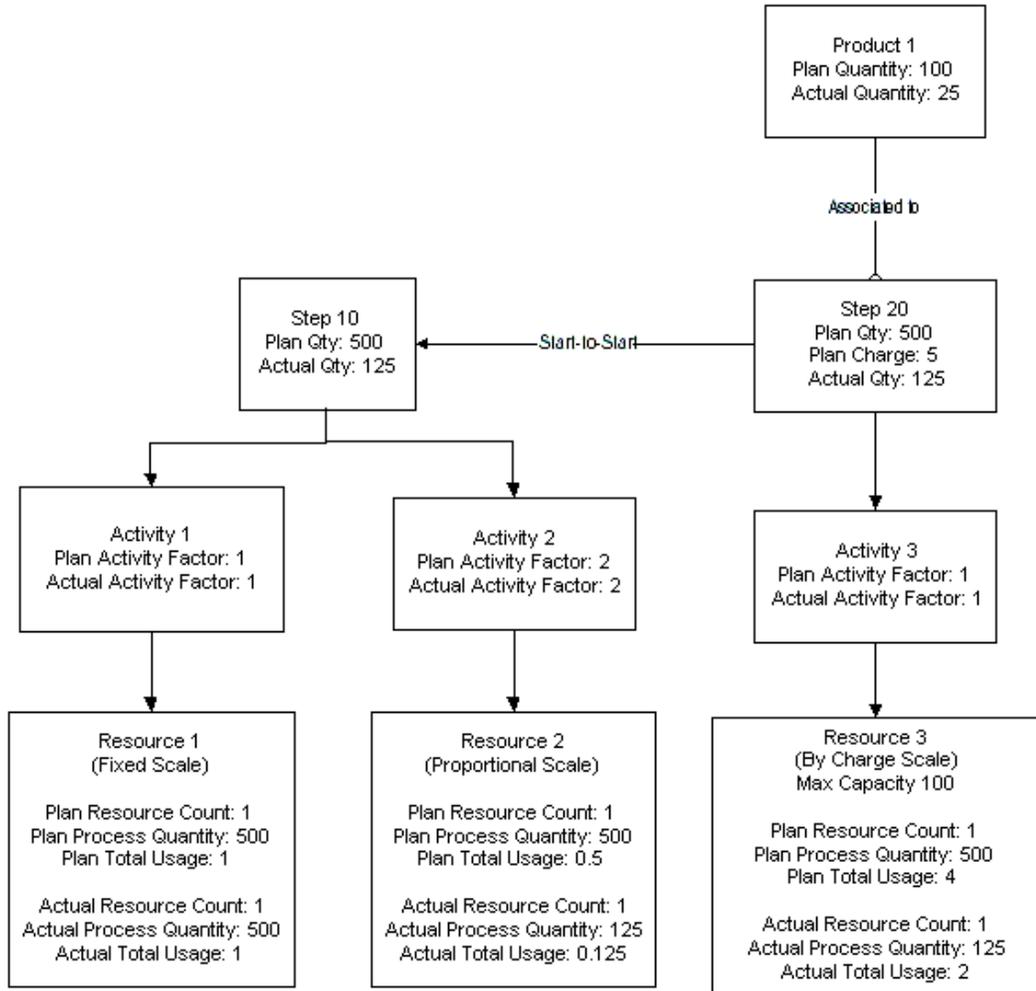
Step 20 is released:

- Activity 3 has a Plan Activity Factor of 1 and an Actual Activity Factor of 1.
- Initiate an incremental backflush on Product 1. Specify a new actual quantity of 25.

Resource	Scale Type	Plan	Actual
1	Fixed	Resource Count: 1 Process Quantity: 500 Total Usage: 1	Resource Count: 1 Process Quantity: 500 Total Usage: 1
2	Proportional	Resource Count: 1 Process Quantity: 500 Total Usage: 0.5	Resource Count: 1 Process Quantity: 125 Total Usage: 0.125
3	By Charge	Resource Count: 1 Process Quantity: 500 Total Usage: 4	Resource Count: 1 Process Quantity: 125 Total Usage: 2

The actual total usage for Resource 3 is based on 2 charges because the step quantity is greater than the quantity for 1 charge. This causes the usage to be rounded up to the next charge of 2.

Following is an illustration of the previously tabulated step dependencies, plan resource usage, and actual resource usage:



Example 8: Impact of Sequential Incremental Backflushing

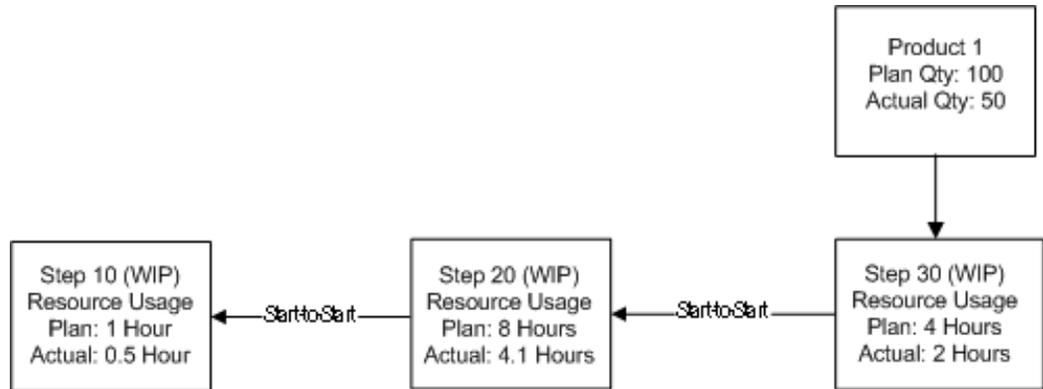
Product 1 has a plan quantity of 100, and 50 are produced. This example shows an initial incremental backflush initiated on Product 1 for 50 percent of plan with a subsequent manual addition of a 0.1 hour resource transaction for step 20.

Following is a table of the step dependencies, plan resource usage, and actual resource usage:

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 10 WIP	n/a	n/a	1 hour	0.5 hour
Step 20 WIP	Start-to-Start	10	8 hours	4.1 hours

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 30 WIP	Start-to-Start	20	4 hours	2 hours

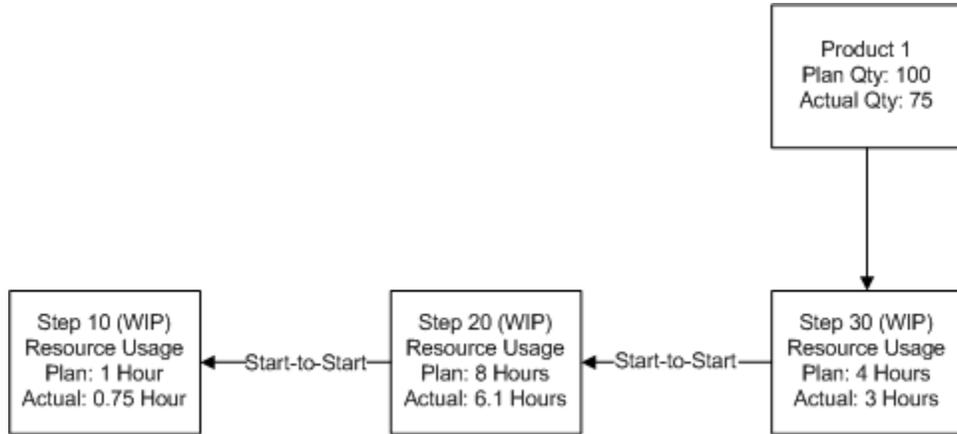
Following is an illustration of the previously tabulated step dependencies, plan resource usage, and actual resource usage:



If an additional incremental backflush of 25 is performed for Product 1, then the actual usage for Step 20 retains the 0.1 hour resource transaction, and the resource usage backflush adds a resource transaction for 25 percent of the plan usage, which is calculated as 2 hours:

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 10 WIP	n/a	n/a	1 hour	0.75 hour
Step 20 WIP	Start-to-Start	10	8 hours	6.1 hours
Step 30 WIP	Start-to-Start	20	4 hours	3 hours

Following is an illustration of the previously tabulated step dependencies, plan resource usage, and actual resource usage:



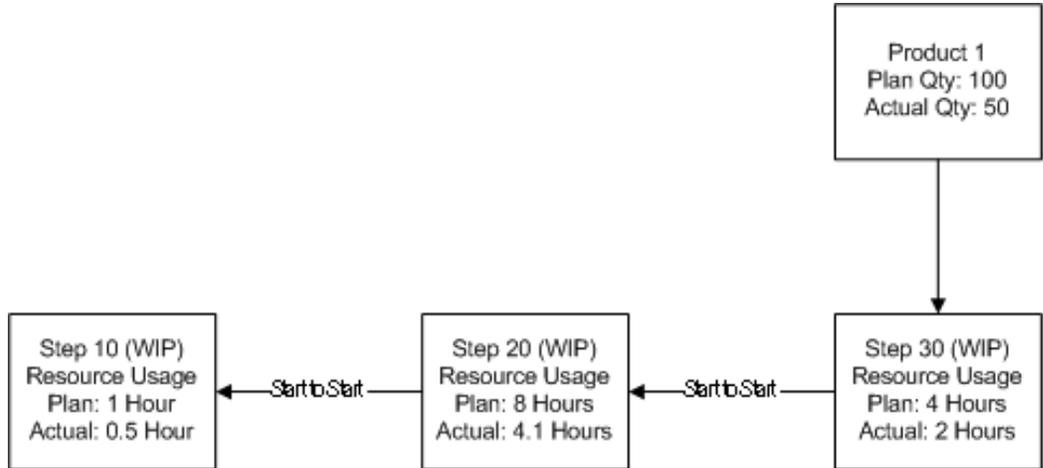
Example 9: Implementing a Negative Incremental Backflush

This example is a continuation of example 8. Product 1 has a plan quantity of 100, and 50 are produced. It shows the result of initiating an incremental backflush of -25 on Product 1. Note that the additional resource transaction on Step 20 is retained, and 25 percent of each of the plan usages is subtracted.

Following are steps, statuses, step dependencies, and plan and actual resources:

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 10	n/a	n/a	1 hour	0.5 hour
Step 20	Start-to-Start	10	8 hours	4.1 hours
Step 30	Start-to-Start	20	4 hours	2 hours

Following is an illustration of the previously tabulated step dependencies, plan resource usage, and actual resource usage:



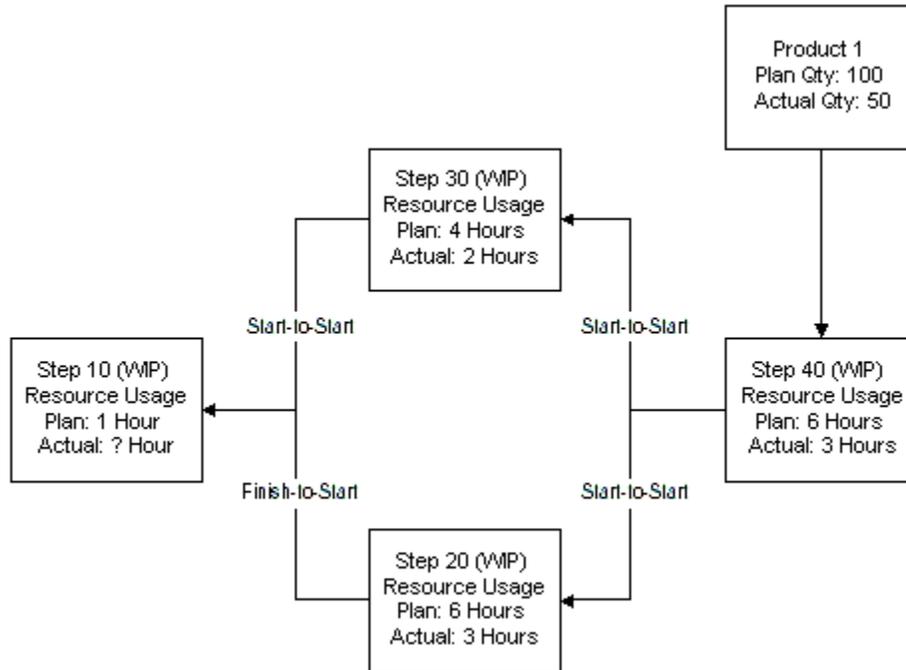
Example 10: Impact of Varying the Initiation of the Backflush Operation

Product 1 has a plan quantity of 100, and 50 are produced. This example shows an initial incremental backflush initiated on Product 1 for 50 percent of plan. Two steps are dependent on step 10. Each step has a different dependency type.

Following is a table of the step dependencies, plan resource usage, and actual resource usage:

Step and Status	Dependency	Dependent on Step	Plan	Actual
Step 10 Completed	n/a	n/a	1 hour	1 hour
Step 20 WIP	Finish-to-Start	10	6 hours	3 hours
Step 30 WIP	Start-to-Start	10	4 hours	2 hours
Step 40 WIP	Start-to-Start	30 and 20	6 hours	3 hours

Following is an illustration of the previously tabulated step dependencies, plan resource usage, and actual resource usage:



The impact on actual usage changes depending on the way you initiate the backflush.

- If the calculation is initiated from the start-to-start path (from step 30), then the actual usage is 0.5 hour.
- If the calculation is initiated from the finish-to-start path (from step 20), then the actual usage is one hour.

This example shows two steps dependent on step 10 with different dependency types. One of these steps is a finish-to-start dependency. It is recommended that Step 10 be completed, and not be work in process (WIP). In that case, the resource usage remains unchanged because it already has a usage calculated on completion. If you have both a start-to-start and a finish-to-start dependency back to the same step, then the earlier step must be completed before backflushing resource usage.

Performing Incremental Backflushing

The Incremental Backflushing window lets you drive incremental backflushing on a work in process or completed batch. Enter an incremental quantity, a new actual quantity, or a new percent of planned quantity for an item.

By default the transaction created for incremental release items are assigned the current system date. You can specify a transaction date for the incremental backflushing to ensure that all the completed transactions of incremental release items have the date you enter rather than the default system date and time.

Prerequisites

- Create a batch.
- Ensure batch status is WIP or Completed.

To incrementally backflush a batch:

1. Navigate to the Incremental Backflushing window.
2. Batch displays one of the following:
 - If you access this window from the menu, then query the batch Document number. If you query a phantom batch, then a message displays to advise that the batch cannot be found. Phantom batches cannot drive incremental backflushing, as changes made to phantoms do not directly affect the parent batch.
 - If you access this window from the Batch Details window, then the window displays all batch header information supplied.
3. The following table lists and describes various fields in the Batch Details window.

Note: The following fields are display only:

Field Name	Description
Status	Displays the status of the batch. For incremental backflushing, the batch must be WIP or Completed.
Product	Displays the product code for the first product produced by the batch.
Recipe	Displays the code for the recipe used in the batch.
Recipe Version	Displays the recipe version.
Formula	Displays the formula used to produce the batch.
Formula Version	Displays the formula version.

Field Name	Description
Routing	Displays the routing associated with the batch.
Routing Version	Displays the routing version.

4. Item displays the item code driving incremental backflushing.
 - If you access the Incremental Backflushing window from the menu, then enter the Item.
 - If you access the window from the Batch Details window, then the Item code, Description, and Line Type display automatically.

5. The following fields are display only:
 - Revision displays the item revision.
 - Item Description displays a brief description of the item.
 - Line Type displays the type of material as Product, Byproduct, or Ingredient.

6. Enter one of the following:
 - An incremental quantity in the Incremental Qty field for the UOM displays.
 - A new actual quantity in the New Actual field for the UOM displays.
 - A new percent of the planned quantity in the Percent Plan field. Enter the percent as a whole number. For example, enter five percent as 5.

Based on the field entered, the application calculates the values for the other fields. For example, if you enter a new actual quantity, then the values are calculated for the incremental quantity and percent of planned quantity.

7. To override entry of the default system date and time for the incremental backflushing operation, enter Transaction Date as the actual date the incremental backflushing is performed. Leave this field blank to enter the current system date and time.

8. The following table lists and describes various fields

Note: All the fields are display only:

Field Name	Description
Line	Displays the line number of the item in the batch.
UOM	Displays the unit of measure for the quantity fields.
Plan Qty	Displays the planned quantity for the item displayed.
Old Actual	Displays any previous actual quantities completed for the item displayed.

9. Click OK. The application performs backflushing by calculating a new actual quantity for all the items in the batch that have a consumption/yield type of Incremental:
 - If you access the window from the menu, then the batch is saved automatically.
 - If you access the window from the Batch Details window, then the application redisplay the batch where you select Incremental Backflush from the Actions menu. Edit the calculated actual quantities or enter any additional transactions.

Editing Batch Steps in Production

The Batch Steps window enables you to view planned and actual values for start dates, completion dates, step quantities, charges, and due date. The Batch steps window also enables you to release, complete, close, or cancel a batch step. In addition, view planned operations, and the status of each batch step. Refer to Editing Batch Steps, page 6-53 for more information on the Batch Steps window.

Understanding Charges

A charge is defined as one full load of material accommodated in a single pass through the processing equipment. Charge calculations consider the:

- Volume or mass of material processed

- Processing equipment capacity
- Time required for a single pass through the equipment

For example, a charge requires one hour of mixing time. The size of the mixing vessel, the method of mixing, and the material mixed all contribute to the processing rate limitations. If a batch is planned for 4500 gallons, and the routing step has a tank capacity of 1000 gallons, then five charges, or mini-batches, are required to process the full 4500 gallons. If Proportional scaling is used for this calculation, then 4.5 hours of processing time is required. However, the actual required process time is a full five hours, as in most cases, after producing 4000 gallons, the remaining 500 gallons of material still needs a full hour of processing.

Using Operation Charge Step Dependencies

Apply interoperational dependencies to the charges of an upstream operation in a single routing. In the definition of the batch step dependencies defined initially as routing step dependencies, the Apply to Charge indicator takes the defined dependency and applies it to all charges of the dependent step. The dependency type, standard time offset, and maximum time offset are not applied to the operation, but rather to each charge processed in the dependent step.

Example

For example, step 10 yields a charge in 100 pound increments. Step 20 consumes that material by-charge in the same increment. The yield at the end of the charge determines the timing for the material. Therefore, define a finish-to-start relationship, and select the Apply to Charge indicator. Step 20 starts its first charge at the end of the first charge for step 10. This functionality applies to users of the Oracle Advanced Supply Chain Planning (ASCP) application. Refer to *Oracle Process Manufacturing Process Planning User's Guide* for additional information.

Calculating Charges for Dependent Steps

The application calculates how much material to process by each batch step, taking into account the step dependencies, and the input and output of material associated with the individual step. This information is used to calculate the number of charges required to satisfy the demand based on the maximum capacity of the selected step.

When you change the planned quantity of a material, the application recalculates all dependent quantities in the recipe. An option is available at the routing level to indicate whether step quantities are manually maintained or automatically calculated by the system. The prerequisites of the step quantity calculation are the creation of step dependencies and the association of material to each appropriate step.

Operation charge details are generated each time a batch is created when an operation

contains a resource constrained by capacity. To have charges generated, the application must find a resource with a capacity constraint (or, smallest capacity), and must be scaled by-charge. That resource is associated to the charge detail. The resource is defined in the Oracle Process Manufacturing (OPM) Product Development and OPM Process Planning applications.

You cannot modify charge details. When charge details are communicated to Advanced Planning and Scheduling (APS), they are scheduled and the dates return to the OPM Process Execution application. Also returned are firm planned orders with charge details generated by APS. These generated details are recorded in OPM Process Execution.

Sometimes the charges sent to APS are modified in size. This occurs when the synchronization process is run in APS. Synchronization identifies the upstream and downstream events and ensures that the materials are timed correctly to maximize output and minimize downtime. This APS process can decrease the size of charges in a batch to ensure the consuming batch and the charge are both at the same rate.

The charge number is sequential and begins at one and increase by one for each successive charge. The charge quantity is the maximum capacity for the chargeable resource, except for the final charge that is the remainder of the batch step quantity. Refer to the *Oracle Process Manufacturing Process Planning User's Guide* for additional information.

Following are business rules in effect for recording operation charges:

- Resizing a batch quantity causes various batch step quantities to change for a resource that is chargeable. If this occurs, then the charges are recalculated to accommodate the resizing.
- Rescheduling a batch clears charge detail dates. All customary batch rescheduling rules apply.
- Deletion or replacement of a chargeable resource causes the charges to be removed. You can delete a chargeable resource or you can substitute a resource for a chargeable resource.

To display charge details:

1. Navigate to the Batch Steps window.
2. Query the desired batch number.
3. Select Charge Details from the Tools menu.
4. The following table describes various fields.

Note: All the fields are display only:

Field Name	Description
Batch No	Displays the batch document number.
Resources	Displays the individual resources for each batch charge.
Step	Displays the step associated to the resource charge.
Activity Sequence Number	Displays the sequence of the activity, to which the chargeable resource belongs.
Charge Number	Displays the number of charges required to satisfy the demand based on the maximum capacity of the selected process element.
Charge Qty	Displays the quantity of material for the charge.
Planned Start	Displays the planned start date and time for the charge.
Planned Completion	Displays the planned completion date and time for the charge.

5. Close the window.

Understanding Activity Factors

An Activity Factor defines the number of times an activity is performed. For example, if a quality test must be performed at the beginning, middle, and end of a mixing time period, then use an Activity Factor of three. Activity Factors are applied to resource usage when planning and calculating resource usage. Set to zero to exclude a particular activity.

Setting Up Preferred Sequences for Activities

In many cases, setup times depend on the setup type of a previous activity processed by

a given resource. Evaluation of these activities generates a firmed sequence to perform them to minimize the sum of changeover times for the entire cycle. After you define and create activity sequences in APS, they are returned to the source Process Manufacturing instance. When you create these sequences, firm the resource to ensure that the scheduling engine does not move the resource usage.

Example

For example, set up a firmed sequence in the activity RUNTIME for resource RES-1 in Batches 1202, 1203, and 1039. The running of that sequence does not change in the plan generated by APS. Once released by APS and returned to APS on a data collection, the values are recorded in OPM Process Execution. There is no visibility to the Firmed Sequence values in OPM Process Execution. Refer to *Oracle Process Manufacturing Process Planning User's Guide* for additional information.

Editing Resource Transactions

The Resource Transactions window lets you enter actual usage for each of the resources used in batch steps. You can only do this for a batch in which Automatic Step Quantity Calculation (ASQC) is not used.

Automatic Step Quantity Calculation

Following is an example of calculating actual resource usage:

The material from step 10 flows into step 20. The quantity of step 10 is 100 kilograms (kg), and 50 kg of material is added in step 20. The quantity in step 20 is calculated as 150 kg. Resource usage is calculated based on the step quantity and the throughput. If a resource used in step 20 can process 100 kg in one hour, and the scale type selected is Linear, then the resource usage is 1.5 hours.

Planned step quantities and resource usage are calculated when a batch is created, and while the batch and step have a status of Pending. These quantities are updated whenever the material planned quantities are updated. After the batch and step are released and have a status of WIP, the actual step quantity is updated whenever the actual material quantities are updated.

Steps can run for a considerable period of time. Update the actual resource usage based on the progress made through a lengthy step. This allows the planning and scheduling applications to identify there is less remaining resource time required than posted at the start of the step. For example, if a step that takes 1.5 hours is halfway completed, then the planning application recognizes that only 0.75 hours of resource usage remain instead of the full 1.5 hr. Without this information the planning application underestimates the capacity available for other batches. Set the Calculate Interim Resource Usage parameter to YES. With this set, the actual resource usage is updated as the actual step quantity is updated. This decreases the pending resource transactions upon which the Advanced Planning and Scheduling application bases its view of resource availability.

Using the Calculate Interim Resource Usage Parameter

The Calculate Interim Resource Usage parameter functions only with ASQC batches as follows:

- Set to No, it does not update the actual resource usage every time the actual step quantity is updated. Default.
- Set to Yes, it updates the actual resource usage every time the actual step quantity is updated.

Implementation Consideration

If using resources with a scale type of By Charge, then update the actual step quantity in integer multiples of charges to reflect the correct usage.

You can use folders with the Resource Transactions window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Create a batch with a routing.

To enter resource transactions:

1. Navigate to the Resource Transactions window.
2. The following fields are display only:

Field Name	Description
Document	Displays the batch document number.
Status	is the batch status.
Step	Displays the batch step number.
Step Status	Displays the status of the step as: <ul style="list-style-type: none">• Pending for a step that is pending.• WIP for a step that is work in process.• Completed for a step that is completed.• Closed for a step that is closed.• Canceled for a step that is canceled.

Field Name	Description
Operation	Displays the code for the operation performed in the step.
Operation Description	Displays a brief description of the operation.
Activity	Displays the activity associated to the displayed operation.
Activity Description	Displays a brief description of the activity.
Resource	Displays the resource associated with the activity.
Resource Description	Displays a brief description of the resource.
Actual Usage	Displays the actual resource usage for the batch step. This is the total resource usage of the completed transactions.
Usage UOM	Displays the unit of measure for the Actual Usage field.

Transaction Details:

3. Enter the Transaction Date. The current date and time is the default if you enter a new transaction.
4. Enter Usage for the resource transaction.
5. Enter the Start Date for the transaction.
6. Enter the End Date for the transaction. If the resource usage is not expressed in time units, then this date defaults to the start date.
7. If the step is sequentially dependent on other steps, then Sequence Dependent is selected.
8. Enter the Instance Number as the specific instance of the resource that performed the transaction.
9. If the resource transaction is completed, then Completed is selected.

10. Enter the Reason associated with the transaction. For example, LOSS can signify the transaction resulted in an inventory loss associated with the transaction.

Recording Batch Operation Work in Process

The Batch Operation WIP window lets you report material transferred from step to step. This window is a standalone window, however; data entered here is not used anywhere else in the application. It is not used in calculating step quantities. You cannot edit steps on this window.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Enter a save a batch.
- Batch status must be work in process.

To record WIP transferred from step to step:

1. Navigate to the Batch Operation WIP window.
2. Query the Batch document number and Batch Step number to edit work in process transfers.

WIP Received:

3. Enter the Quantity of material received as a transfer into the Batch Step displayed on this window. Required.
4. Enter the UOM for the material quantity transferred to the Batch Step. Required.
5. Enter the Step Number of the batch step that is the source of the material transfer. Required.
6. Operation Description is a brief description of the operation.
7. Enter the Transaction Date and time of the material transfer. This field defaults to the current system date and time.

WIP Sent:

8. Enter the Quantity of material sent as a transfer from the Batch Step displayed on this window. Required.
9. Enter the UOM for the material quantity transferred from this batch step. Required.

10. Enter the Step Number of the batch step that is the target of the material transfer. Required.
11. Enter the Transaction Date and time of the material transfer. This field defaults to the current system date and time.

To find a batch operation work in process:

1. Navigate to the Find Batch Operation WIP window.
2. Enter any of the following to narrow your search:
 - Status as Canceled, Pending, WIP, Completed or Closed.
 - Batch as the batch document number.
 - Batch Step as the batch step number.
3. Click Find.

Batch Completion

This topic provides a basic understanding of batch completion, including how to complete a batch and revert a completed batch to work in process. You are shown how to close and reopen a batch.

This chapter covers the following topics:

- Understanding Batch Completion
- Completing a Batch
- Reverting a Batch to Work in Process
- Closing a Batch
- Reopening a Closed Batch

Understanding Batch Completion

Completing a batch indicates the batch is finished and has yielded all of its products. Prior to batch completion, transactions associated with the product and byproduct lines set for automatic yield have a Pending status. These are pending product lots and not the transactions as in inventory transactions. When you complete the batch, all pending transactions are completed and inventory levels are updated.

When you complete a batch, the Material Exceptions window displays the remaining reservations and pending product lots. If you select the Display unconsumed/Unyielded Material parameter, then the unconsumed/unyielded materials also display. If there are pending move orders, then the Pending Move Orders indicator is selected. After you make the necessary changes to the batch, complete batch deletes all move orders, pending reservations, and entries for the batch in pending product lots. Refer to Viewing Material Exceptions, page 8-15 for more information.

Complete batch completes all the batch steps. The quality status of a batch step determines whether a step can be completed. When you attempt to complete a batch, any outstanding issues related to batch completion are analyzed by a set of business rules. Appropriate messages display to manage these issues prior to completing the

batch. If the release batch event is e-record and e-signature enabled, then you cannot directly complete a pending batch.

If the Warehouse Management Systems (WMS) application is implemented, then putaway rules are applied using the yield transaction. Otherwise, the default subinventory and locator are assigned to the transaction.

You can change batch status from Completed back to WIP. If a production staff member accidentally completes a batch, then you can revert the status of the batch back to work in process.

Completing a Batch

The Complete a Batch dialog box lets you complete a batch.

Prerequisites

- Verify that the batch status is pending or work in process.

To complete a batch:

1. Navigate to the Batch Details window.
2. Query the batch Document number to complete.
3. Select Complete from the Actions menu.
4. Actual Start Date displays the start date entered for the batch. You can edit this field.
5. Enter the Actual Completion Date as the date when the batch is completed and it must be greater than the Actual Start Date. If there are outstanding issues, then appropriate messages display.

Reverting a Batch to Work in Process

If a batch is completed accidentally, you can revert the status of the batch to work in process. If you want to scale the batch, then revert a batch to work in process. In Revert to WIP Batch and Step, the lot information for lot-controlled products and byproducts with the yield type of Automatic or Automatic By Step and associated to step is stored on the Pending Product Lots window. Refer to Entering Pending Product Lots, page 8-24 for more information. When you revert a batch to WIP, steps are not changed and are left as Closed or Completed.

Prerequisites

- Complete a batch.

To revert a batch to work in process:

1. Navigate to the Batch Details window.
2. Query the batch Document number to revert to work in process.
3. Select Revert to WIP from the Actions menu. If there are outstanding issues, then appropriate messages display. Batch status changes from Completed to WIP.

Closing a Batch

The Close Batch dialog box lets you close a batch. Only a completed or terminated batch can be closed. All batch steps must have a status of Completed or Closed to close a batch. A terminated batch with canceled, completed, or closed steps can be closed. Closing a batch prevents any further editing of the batch. This must be done after you are confident all the batch information is recorded correctly.

Prerequisites

- Complete a batch.

To close a batch:

1. Navigate to the Batch Details window.
2. Query the batch Document number to close.
3. Select Close from the Actions menu. The Close Batch dialog box displays.
4. Enter the Batch Close Date.

Reopening a Closed Batch

You must have the Production Supervisor responsibility to use this function. When a batch is complete and additional changes are not required, it must be closed to become eligible for actual cost calculations. If a batch is closed accidentally, then you can reopen it. Only authorized individuals have access to this function. If a batch is posted to a closed financial period, batch transactions are purged, or the actual cost has been run and the period is frozen, then it cannot be reopened.

Prerequisites

- Complete and close a batch.
- Select the batch to reopen.

To reopen a closed batch:

1. Navigate to the Batch Details window.
2. Query the batch Document number to reopen.
3. Select Reopen Batch from the Actions menu. Batch status changes from Closed to Completed.

Inquiries

This topic shows you how to run and interpret inquiries for a production schedule, work in process, material variances, batch step variances, resource variances, and resource usage.

This chapter covers the following topics:

- Running a Production Schedule Inquiry
- Interpreting a Production Schedule Inquiry
- Running a Work in Process Inquiry
- Interpreting a Work in Process Inquiry
- Interpreting Work in Process Inquiry Details
- Running a Material Variance Inquiry
- Interpreting a Material Variance Inquiry
- Interpreting a Material Variance - Ingredient Inquiry
- Interpreting a Material Variance - Step Details Inquiry
- Running a Batch Step Variance Inquiry
- Interpreting a Batch Step Variance Inquiry - Summary
- Interpreting Batch Step Variance Inquiry - Details
- Interpreting Batch Step Variance Inquiry - Activities
- Interpreting Batch Step Variance Inquiry - Activity Resources
- Running a Resource Variance Inquiry
- Interpreting Resource Variance Details
- Interpreting Resource Usage
- Interpreting Resource Usage Details
- Viewing Material Details

Running a Production Schedule Inquiry

The Production Schedule Selection Criteria dialog box lets you limit the list of production schedules displayed. When you accept the selected criteria entered, the Production Schedule window lists the scheduled batches and firm planned orders that meet those criteria.

Prerequisites

- Enter and save a production schedule.

To run a production schedule inquiry:

1. Navigate to the Production Schedule Selection Criteria dialog box.
2. Enter one or more of the following parameters to specify the Type and Status of the Production Schedule to display:

Type

- Select Firm Planned Order to display scheduled firm planned orders.
- Select Batch to display scheduled batches.

Status

- Select Pending to display pending batches.
- Select WIP to display work in process.

Required.

3. Make no entries in the From and To fields to search all data, or enter a starting From and ending To value to narrow the range in each of the following:
 - Enter Start Date of the Firm Planned Order or Batch.
 - Enter End Date of the Firm Planned Order or Batch.
 - Enter Document number.
 - Enter Recipe code.
 - Enter recipe Version.
 - Enter Product code. Required.
 - Enter Formula code.

- Enter Version number.
 - Enter Routing code.
 - Enter Routing Version.
 - Enter Routing Class.
4. Click OK.

Interpreting a Production Schedule Inquiry

The Production Schedule Inquiry window displays all firm planned orders and batches that meet the criteria entered on the Production Schedule Selection Criteria window.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Run a production schedule inquiry.

To interpret a production schedule inquiry:

1. Navigate to the Production Schedule Inquiry window.
2. The following table lists and describes various fields in the Production Schedule Inquiry window.

Note: The following fields are display only.

Field Name	Description
Type	Displays whether the line entry is for a Firm Planned Order or a Batch.
Document	Displays the batch or firm planned order number.
Product	Displays the code for the primary product in the batch or firm planned order.

Field Name	Description
Description	Displays a brief description of the product.
Revision	Displays the revision of the primary product in the batch or firm planned order.
Planned Start Date	Displays the planned start date and time for the batch or firm planned order.
Planned Completion Date	Displays the planned end date and time for the batch or firm planned order.
Status	Displays the status of the batch or firm planned order, and can be Pending or WIP.
Hold Type	Displays the hold status of the batch and can be No Hold, Pause, or Stop.
Formula	Displays the code for the formula in the batch or firm planned order.
Formula Version	Displays the formula version number in the batch or firm planned order.
Routing	Displays the routing code for the recipe in the batch or firm planned order.
Routing Version	Displays the routing version number in the batch or firm planned order.
Routing Class	Displays the routing class in the batch or firm planned order.

Field Name	Description
Recipe	Displays the code for the recipe in the batch or firm planned order.
Recipe Version	Displays the recipe version number in the batch or firm planned order.

Running a Work in Process Inquiry

The Work in Process Inquiry Selection Criteria dialog box lets you generate a Work in Process Inquiry to view detailed information about batches in process. Narrow the inquiry by using selection criteria that limit the data to display.

Note: The batches that are on hold are not displayed in the search results.

Prerequisites

- Create batches.

To run a work in process inquiry:

1. Navigate to the Work in Process Inquiry Selection Criteria dialog box.
2. Make no entries in the From and To fields to search all data, or enter a starting From and ending To value to narrow the range in each of the following:
 - Batch document number.
 - Start Date of the batches.
 - Formula code.
 - Formula Version number.
 - Routing code.
 - Routing Version number.
 - Recipe code.

- Recipe Version number

3. Click OK.

Interpreting a Work in Process Inquiry

The Work in Process Inquiry window displays batches that meet the criteria entered for WIP Inquiry Selection Criteria. The Work in Process inquiry provides important information about batches in process including their scheduled completion, number of steps completed, and total steps that remain active. The inquiry is a good indicator of percent batch completion.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Run a work in process inquiry.

To interpret a work in process inquiry:

1. Navigate to the Work in Process Inquiry window.
2. The following table lists and describes various fields in the Work in Process Inquiry window.

Note: The following fields are display only.

Field Name	Description
Batch	Displays the batch document number.
Planned Completion Date	Displays the planned date and time of completion for the batches listed.
Routing	Displays the code for the routing used for each batch.
Version	Displays the version of the routing for each batch.

Field Name	Description
Total Steps	Displays the total number of batch steps in each routing.
Completed Steps	Displays the number of batch steps completed in the batch.
Active Steps	Displays the number of batch steps in process.
Recipe	Displays the code for the recipe for each batch.
Version	Displays the version of the recipe for each batch.

3. Drill down to the Work in Process Inquiry Details window to display additional process details for a specific batch.

Interpreting Work in Process Inquiry Details

The Work In Process Inquiry Details window displays work in process details for a specific batch. Individual steps in each operation display planned start and completion dates, planned step quantities, the actual start and completion dates, and status of each step. The date and time for required completion and closing date for each step give a summary of batch step information.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Run a work in process inquiry.

To interpret work in process inquiry details:

1. Navigate to the Work In Process Inquiry Details window.

The following table lists and describes various fields in the Work In Process Inquiry Details window.

Note: The following fields display only.

Field Name	Description
Batch	Displays the batch document number.
Product	Displays the code for the primary product of the batch.
Revision	Displays the revision of the primary product of the batch.
Recipe	Displays the code for the recipe for the batch.
Recipe version	Displays the version of the recipe for the batch.
Routing	Displays the code for the routing for the batch.
Routing Version	Displays the routing version number for the batch.
Routing Quantity	Displays the planned product quantity made by the combination of the batch, routing, and version.
UOM	Displays the unit of measure for the product quantity.

Batch Steps:

The following table lists and describes various fields.

Note: The following fields are display only:

Field Name	Description
Step	is the operation step number.

Field Name	Description
Operation	is the name of the step operation.
Version	is the step operation version.
Planned Start Date	is the step planned start date and time.
Planned Completion Date	is the planned completion date and time for the step.
Actual Start Date	is the step actual start date and time.
Actual Completion Date	is the step actual completion date and time.
Required Completion Date	is the batch due date and time.
Step Closed Date	is the step close date and time.
Planned Step Quantity	is the planned step quantity.
Actual Step Quantity	is the actual step quantity.
Status	is the step status. Status can be Pending, WIP, Canceled, Completed, or Closed.
Operation Description	is the description of the operation used in the step.

To redisplay the Work in Process Inquiry window:

1. Select Work in Process from the Actions menu.

Running a Material Variance Inquiry

The Material Variance Inquiry Selection Criteria dialog box lets you generate a Material Variance Inquiry to view detailed information about variances in batch material

production and consumption. Narrow the inquiry by using selection criteria that limit the data displayed.

Prerequisites

- Create batches.
- Consume batch materials.

To run a material variance inquiry:

1. Navigate to the Material Variance Inquiry Selection Criteria dialog box.
2. Make no entries in the From and To fields to search all data, or enter a starting From and ending To value to narrow the range in each of the following:
 - Batch document number.
 - Start Date of the batches.
 - Formula code.
 - Formula Version number.
 - Routing code.
 - Routing Version number.
 - Item code.
 - Recipe code.
 - Recipe Version number.
3. Click OK.

Interpreting a Material Variance Inquiry

The Material Variance Inquiry window lets you display the variances observed between actual and planned batch quantities. The material variance is expressed as a percentage. Optimize and troubleshoot the production run by monitoring the actual amounts of material produced in batches. Variances also help monitor production costs by signaling a process outside an expected production tolerance.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Run a material variance inquiry.

To interpret a material variance inquiry:

1. Navigate to the Material Variance Inquiry window.

The following table lists and describes various fields in the Material Variance Inquiry window.

Note: The following fields are display only.

Field Name	Description
Batch	is the batch document number.
Actual Start Date	is the batch start date and time.
Product	is the code for the primary product of the batch.
Revision	is the revision of the primary product.
Total Planned	is the expected amount of material to be generated by the batch.
Total Actual	is the actual amount of material generated by the batch.
Variance [%]	<p>is material variance expressed as a percent, as calculated by:</p> $\frac{(\text{Actual Quantity} - \text{Planned Quantity})}{\text{Planned Quantity}} * 100\%$ <p>For example, a material variance of 25% occurs when the Actual Quantity is 250 and the Planned Quantity is 200, as calculated by:</p> $\frac{(250 - 200)}{200} * 100\%$
Formula	is the code of the formula used in the batch.

Field Name	Description
Formula Version	is the version of the formula used in the batch.
Routing	is the code of the routing used in the batch.
Routing Version	is the version of the routing used in the batch.

2. Drill down to the Material Variance - Ingredient Inquiry window.

To display the Material Variance - Ingredient Inquiry window:

1. Navigate to the Material Variance Inquiry window.
2. Select the Batch to examine for ingredient material variances.
3. Select Ingredients from the Actions menu.

Interpreting a Material Variance - Ingredient Inquiry

The Material Variance - Ingredient Inquiry window lets you view ingredient details for each line in a batch, including both planned and actual quantities and percent variances for each ingredient. This inquiry lists ingredient consumption detail information.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Perform a material variance inquiry.

To interpret a material variance ingredient Inquiry:

1. Navigate to the Material Variance - Ingredient Inquiry window.

The following table lists and describes various fields in the Material Variance - Ingredient Inquiry window

Note: The following fields are display only.

Field Name	Description
Batch	Displays the batch document number.
Product	Displays the code for the primary product produced by the batch.
Revision	Displays the revision of the primary product produced by the batch.
Routing	Displays the code for the routing used in the batch.
Routing Version	Displays the routing version number for the selected batch.
Planned Start	Displays the planned start date for the batch.
Formula	Displays the code for the formula used in the batch.
Formula Version	Displays the formula version number for the selected batch.
Planned Completion	Displays the planned completion date and time for the batch.
Recipe	Displays the code of the recipe used in the batch.
Recipe Version	Displays the version of the recipe used in the batch.
Actual Start	Displays the actual start date for the batch.
Total Planned Qty	Displays the planned quantity of material to be produced by the batch.
Total Actual Qty	Displays the actual amount of material produced by the batch.
Actual Completion	Displays the actual finish date for the batch.

Ingredient Details:

The following table lists and describes various fields in the Ingredient Details section

Note: The following fields are display only.

Field Name	Description
Line	is the formula line number for the ingredient.
Ingredient	is the code for the ingredient.
Revision	is the revision of the ingredient.
Planned Quantity	is the planned quantity of the ingredient in the primary unit of measure.
Actual Quantity	is the actual quantity of ingredient in the primary unit of measure.
UOM	is the unit of measure used to express the ingredient quantities.
Variance [%]	is the ingredient variance expressed as a percent, as calculated by: $\frac{(\text{Actual Quantity} - \text{Planned Quantity})}{\text{Planned Quantity}} * 100\%$ For example, an ingredient variance of 25% occurs when the Actual Quantity is 125 and the Planned Quantity is 100, as calculated by: $(125 - 100)/100 * 100\%$

To display the Material Variance - Step Details Inquiry window:

1. Navigate to the Material Variance - Ingredient Inquiry window.
2. Select the Batch to examine for variances at the step detail level.
3. Select Step Details from the Actions menu.

To redisplay the Material Variance Inquiry from the Material Variance - Ingredient Inquiry window:

1. Navigate to the Material Variance - Step Details Inquiry window.
2. Select Material Variance from the Actions menu.

To display the Material Variance - Step Details window:

1. Navigate to the Material Variance - Ingredient Inquiry window.
2. Select Step Details from the Actions menu.

Interpreting a Material Variance - Step Details Inquiry

The Material Variance - Step Details window lets you view variances on each step in the production batch.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Perform a material variance inquiry on ingredients.

To interpret a material variance steps details inquiry:

1. Navigate to the Material Variance - Step Details window.

The following table lists and describes various fields in the Material Variance - Step Details window.

Note: The following fields are display only:

Field Name	Description
Batch	Displays the batch document number.
Product	Displays the code for the primary product produced by the batch.
Product Revision	Displays the revision of the primary product produced by the batch.

Field Name	Description
Recipe	Displays the code for the recipe used in the batch.
Recipe Version	Displays the recipe version number for the batch.
Formula	Displays the code for formula used in the batch.
Formula Version	Displays the formula version number for the batch.
Routing	Displays the code for the routing used in the batch.
Routing Version	Displays the routing version number for the selected batch.
Ingredient	Displays the ingredient code used in the batch.
Ingredient Revision	Displays the revision of the ingredient used in the batch.
Total Planned Qty	Displays the routing planned quantity of ingredient consumed by the batch.
Total Actual Qty	Displays the actual quantity of ingredient consumed by the batch in the primary unit of measure.
UOM	Displays the unit of measure used to express the ingredient quantities.

Step Details:

The following table lists and describes various fields in the Step Details section

Note: The following fields are display only.

Field Name	Description
Step	Displays the batch step number.
Operation	Displays the name of the operation for the listed step.
Version	Displays the operation version used for the listed step.
Status	Displays the status of the batch step and can be Pending, WIP, Completed, or Closed.
Total Planned Quantity	Displays the planned quantity of material consumed by the step.
Total Actual Quantity	Displays the actual quantity of material consumed by the step.
UOM	Displays the unit of measured used to express ingredient quantities.
Variance [%]	<p>Displays the batch step variance expressed as a percent, as calculated by:</p> $\frac{(\text{Actual Quantity} - \text{Planned Quantity})}{\text{Planned Quantity}} * 100\%$ <p>For example, a step variance of 25% occurs when the Actual Quantity is 125 and the Planned Quantity is 100, as calculated by:</p> $(125 - 100)/100 * 100\%$

To display the Material Variance - Ingredient Inquiry window:

1. Navigate to the Material Variance - Step Details window.
2. Select Ingredients from the Actions menu.

Running a Batch Step Variance Inquiry

The Batch Step Variance Inquiry Selection Criteria dialog box lets you generate a Batch Step Variance Inquiry to view detailed information about variances in batch step material consumption. Narrow the inquiry by using selection criteria that limit the data

displayed.

Prerequisites

- Create batches.
- Consume batch materials.

To run a batch step variance inquiry:

1. Navigate to the Batch Step Variance Inquiry Selection Criteria dialog box.
2. Make no entries in the From and To fields to search all data, or enter a starting From and ending To value to narrow the range in each of the following:
 - Batch document number.
 - Start Date of the batches.
 - Formula code.
 - Version number.
 - Routing code.
 - Routing Version number.
 - Item code.
 - Operation code.
 - Operation Version number.
 - Recipe code.
 - Recipe Version number.
3. Click OK.

Interpreting a Batch Step Variance Inquiry - Summary

The Batch Step Variance Inquiry - Summary window provides detailed information about batch variances. Determine the actual and planned hours for each batch.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Run a batch step variance inquiry.

To interpret a batch step variance inquiry summary:

1. Navigate to the Batch Step Variance Inquiry - Summary window.

The following table lists and describes various fields in the Batch Step Variance Inquiry - Summary window

Note: The following fields are display only.

Field Name	Description
Batch	Displays the batch document number.
Actual Completion Date	Displays the actual finish date for the batch.
Routing	Displays the code for the routing used in the batch.
Version	Displays the routing version number for the selected batch.
Num of Routing Steps	Displays the total number of steps in the routing.
Num of Batch Steps	Displays the total number of steps in the batch.
Planned Hours	Displays the planned number of hours required to complete the batch step.
Actual Hours	Displays the actual number of hours required to complete the batch step.

Field Name	Description
Variance [%]	<p>Displays the batch step variance expressed as a percent, as calculated by:</p> $\frac{(\text{Actual Hours} - \text{Planned Hours})}{\text{Planned Hours}} * 100\%$ <p>For example, a step variance of 25% occurs when the Actual Hours are 2.50 and the Planned Hours are 2.00, as calculated by:</p> $\frac{(2.50 - 2.00)}{2.00} * 100\%$

2. Drill down to the Batch Step Variance Inquiry window.

Interpreting Batch Step Variance Inquiry - Details

The Batch Step Variance Inquiry - Details window provides detailed information about batch steps in a production run. Navigate to the Batch Step Inquiry - Operation Details window from this window.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Run a batch variance inquiry.

To display batch step variance details:

1. Navigate to the Batch Step Variance Inquiry - Details window.

The following table lists and describes various fields in the Batch Step Variance Inquiry - Details window.

Note: The following fields are display only.

Field Name	Description
Batch	Displays the batch document number.

Field Name	Description
Product	Displays the primary product produced by the batch.
Revision	Displays the revision of the primary product produced by the batch.
Recipe	Displays the code for the recipe used in the batch.
Recipe Version	Displays the recipe version number for the selected batch.
Routing	Displays the code for the routing used in the batch.
Routing Version	Displays the routing version number for the selected batch.
Planned Start	Displays the planned start date and time for the batch.
Planned Completion	Displays the planned completion date and time for the batch.
Actual Start	is the date the batch was actually started.
Actual Completion	Displays the date the batch was actually completed.

Usage:

The following table lists and describes various fields in the Usage section.

Note: The following fields are display only.

Field Name	Description
Step	Displays the step number for the displayed batch step.

Field Name	Description
Operation	Displays the operation performed in the displayed batch step.
Version	Displays the version number of the operation performed in the displayed batch step.
Planned Step Qty	Displays the quantity of the product planned to be produced in the step.
Actual Step Qty	Displays the quantity of the product produced in the step.
UOM	Displays the unit of measure to express the quantity of product produced.
Planned Hours	Displays the planned number of hours to perform the batch step.
Actual Hours	Displays the actual number of hours to perform the batch step.
Variance [%]	Displays the variance of planned versus actual hours.

- Drill down to display the Batch Variance Inquiry - Operation Activities window.

Dates:

The following table lists and describes various fields in the Dates section.

Note: The following fields are display only.

Field Name	Description
Step	Displays the step number for the displayed batch.
Operation	Displays the operation performed in the displayed batch step.

Field Name	Description
Version	Displays the version number of the operation performed in the displayed batch step.
Planned Start	Displays the planned start date and time for the batch step.
Planned Completion	Displays the planned completion date and time for the batch step.
Actual Start	Displays the actual start date and time for the batch step.
Actual Completion	Displays the actual completion date and time for the batch step.

Interpreting Batch Step Variance Inquiry - Activities

The Batch Step Variance Inquiry - Activities window displays the step activities associated with the batch. Each activity is listed with information about its planned start and completion date and time and actual start and completion date and time. Planned factors and actual factors are also provided.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Run a batch step variance inquiry.

To display batch step variance inquiry operation activities:

1. Navigate to the Batch Step Variance Inquiry - Activities window.

The following table lists and describes various fields in the Batch Step Variance Inquiry - Activities window.

Note: The following fields are display only.

Field Name	Description
Batch	Displays the batch document number.
Product	Displays the primary product produced by the batch.
Revision	Displays the revision of the primary product produced by the batch.
Total Output Qty	Displays the planned quantity of product produced by the batch.
UOM	Displays the primary unit of measure used to express quantity per batch.
Step	Displays the batch step number selected.
Operation	Displays the operation performed in the displayed batch step.
Version	Displays the operation version.
Planned Start	Displays the planned start date and time for the batch.
Planned Completion	Displays the planned completion date and time for the batch.
Actual Start	Displays the actual start date and time for the batch.
Actual Completion	Displays actual completion date and time for the batch.

Activities:

The following table lists and describes various fields in the Activities section.

Note: The following fields are display only.

Field Name	Description
Activity	is the activity in the operation.
Planned Start Date	is the planned start date and time for the activity.
Planned Completion Date	is the planned completion date and time for the activity.
Actual Start Date	is the actual start date and time for the activity.
Actual Completion Date	is the actual completion date and time for the activity.
Planned Factor	is the planned number of times the activity is performed.
Actual Factor	is the actual number of times the activity is performed.

Interpreting Batch Step Variance Inquiry - Activity Resources

The Batch Step Variance Inquiry - Activity Resources window displays the batch step activity resources associated with the batch and usage details for each resource.

You can use folders with this window.

See: *Oracle E-Business Suite User's Guide*

Prerequisites

- Run a batch step variance inquiry.

To display batch step variance activity resource usage details:

1. Navigate to the Batch Step Variance Inquiry - Activity Resources window.

The following table lists and describes various fields in the Batch Step Variance Inquiry - Activity Resources window

Note: The following fields are display only.

Field Name	Description
Batch	Displays the batch document number.
Product	Displays the primary product produced by the batch.
Revision	Displays the revision of the product produced by the batch.
Total Output Qty	Displays the planned quantity of product produced by the batch.
UOM	Displays the primary unit of measure used to express quantity per batch.
Batch Step	Displays the batch step number selected.
Operation	Displays the operation performed in the displayed batch step.
Version	Displays the operation version.
Activity	Displays the activity performed by each listed resource.
Planned Start Date	Displays the planned start date and time for the batch.
Planned Completion Date	Displays the planned completion date and time for the batch.
Actual Start Date	Displays the actual start date and time for the batch.
Actual Completion Date	Displays the actual completion date and time for the batch.

Usage Details:

The following table lists and describes various fields in the Usage Details section.

Note: The following fields are display only.

Field Name	Description
Resource	Displays each resource used in the batch step.
Planned Start Date	Displays the planned start date and time for the resource to begin the batch step.
Planned Completion Date	Displays the planned completion date and time for the resource to complete the batch step.
Actual Start Date	Displays the actual date and time the listed resource started the batch step.
Actual Completion Date	Displays the actual date and time the listed resource finished the batch step.
Planned Count	Displays the planned number of resources scheduled to perform the batch step.
Actual Count	Displays the actual number of resources required to perform the batch step.
Planned Hours	Displays the planned number of hours scheduled for each resource to perform the batch step.
Actual Hours	Displays the actual number of hours required to perform the batch step.
Variance [%]	<p>Displays the usage variance between the planned hours and the actual hours as a percentage:</p> $\frac{(\text{Actual Hours} - \text{Planned Hours})}{\text{Planned Hours}} * 100\%$ <p>For example, a usage variance of 25% occurs when the Actual Hours are 2.5 and the Planned Hours are 2.0, as calculated by:</p> $\frac{(2.5 - 2.0)}{2.0} * 100\%$

Running a Resource Variance Inquiry

The Resource Variance Inquiry Selection Criteria dialog box lets you generate a Resource Variance Inquiry to view detailed information about variances in resource consumption during production. Narrow the inquiry by using selection criteria that limit the data to display.

Prerequisites

- Create batches.
- Use resources.

To run a resource variance inquiry:

1. Navigate to the Resource Variance Inquiry Selection Criteria dialog box.
2. Make no entries in the From and To fields to search all data, or enter a starting From and ending To value to narrow the range in each of the following:
 - Resource code.
 - Batch document number.
 - Start Date of the batches.
 - Formula code.
 - Formula Version number.
 - Routing code.
 - Routing Version number.
 - Operation code.
 - Operation Version number.
 - Recipe code.
 - Recipe Version number.
3. Click OK.

Interpreting Resource Variance Details

The Resource Variance Details window lets you view information about variances in

resource consumption. Resources are the assets such as equipment and labor used to manufacture products. Resources are set up in the Oracle Process Manufacturing process planning applications. View details about the non-material resources used, the date and time specific resources are used, the planned and actual time they are used, and the variances between the planned and actual use.

Prerequisites

- Run a resource variance inquiry.

To interpret resource variance details:

1. Navigate to the Resource Variance Details window.

The following table lists and describes various fields in the Resource Variance Details window.

Note: The following fields are display only.

Field Name	Description
Resource	Displays the code or name of the resource selected in the inquiry.
Last Usage	Displays the date when the resource was used.
Total Batches	Displays the total number of batches where the resource was used.
Planned Hours	Displays the planned number of usage hours scheduled for the resource.
Actual Hours	Displays the actual number of usage hours used by the resource.

Field Name	Description
Variance	<p>Displays the variance between the planned hours and the actual hours as a percentage:</p> $\frac{(\text{Actual Hours} - \text{Planned Hours})}{\text{Planned Hours}} * 100\%$ <p>For example, a resource variance of 25% occurs when the Actual Hours are 2.5 and the Planned Hours are 2.0, as calculated by:</p> $\frac{(2.5 - 2.0)}{2.0} * 100\%$

To display detailed resource usage detailed information:

1. Run a Resource Variance inquiry.
2. The methods to display resource usage are as follows:
 - Click Resource Usage.
 - Select Resource Usage from the Actions menu.

Interpreting Resource Usage

The Resource Usage window lets you view actual usage and variances between planned and actual hours for each resource. By reviewing this information, you determine the relative efficiencies of the process and troubleshoot bottlenecks and other production utilization problems.

Prerequisites

- Run a resource variance inquiry.

To interpret resource usage:

1. Navigate to the Resource Usage window.

Usages

The following table lists and describes various field in the Usages section.

Note: The following fields are display only.

Field Name	Description
Resource	Displays the code used to identify equipment or labor used in the manufacturing process.
Routing	Displays the code for the routing used in the batch.
Version	Displays the version of the routing used in the batch.
Batch	Displays the batch document number.
Actual Start Date	Displays the actual date and time the resource was utilized.
Status	Displays the status of the batch.
Planned Hours	Displays the number of hours scheduled for the resource in the displayed routing.
Actual Hours	Displays the number of hours actually used for the resource displayed in the routing.
Variance%	<p>Displays the difference between the planned hours and actual hours expressed as a percent using the following calculation:</p> $\frac{(\text{Actual Hours} - \text{Planned Hours})}{\text{Planned Hours}} * 100\%$ <p>For example, a resource variance of 25% occurs when the Actual Hours are 2.5 and the Planned Hours are 2.0, as calculated by:</p> $\frac{(2.5 - 2.0)}{2.0} * 100\%$
Product	Displays the primary product the batch produces.
Revision	Displays the revision of the product the batch produces.

To redisplay the Resource Variance Details window:

Select Resource Variance Details from the Actions menu.

To display the Resource Usage Details window:

Select Resource Variance Details from the Actions menu.

Interpreting Resource Usage Details

The Resource Usage Details window lets you view additional details about resource usage not displayed on the Resource Usage window.

Prerequisites

- Run a resource variance inquiry.

To view resource usage details:

1. Navigate to the Resource Usage Details window.

The following table lists and describes various fields in the Resource Usage Details window.

Field Name	Description
Batch	Displays the batch document number.
Product	Displays the primary product produced by the batch.
Revision	Displays the revision of the product produced by the batch.
Recipe	Displays the code for the recipe used in the batch.
Version	Displays the recipe version used in the batch.
Formula	Displays the code for the formula used in the batch.
Version	Displays the formula version used in the batch.

Field Name	Description
Routing	Displays the code for the routing used in the batch.
Version	Displays the routing version.
Resource	Displays the code used to identify equipment or labor used in the manufacturing process.

Usage Details:

The following table lists and describes various fields in the Usage Details section.

Note: The following fields are display only.

Field Name	Description
Operation	Displays the name of the operation for the listed routing.
Version	Displays the operation version.
Activity	Displays the action where the operation is performed.
Planned Start Date	Displays the planned start date and time for the resource usage.
Planned Completion Date	Displays the planned completion date for the resource usage.
Actual Start Date	Displays the actual start date for the resource usage.
Actual Completion Date	Displays the actual completion date for the resource usage
Planned Count	Displays the planned number of resources scheduled to perform the operation.

Field Name	Description
Actual Count	Displays the actual number of resources used to perform the operation.
Planned Hours	Displays the planned number of usage hours scheduled for the resource.
Actual Hours	Displays the actual number of usage hours used by the resource.
Variance %	<p>Displays the difference between the planned usage and the actual usage of the resource during the operation step as a percent, as calculated by:</p> $(Actual Usages - Planned Usages) / Planned Usages * 100\%$ <p>For example, a usage variance of 25% occurs when the Actual Usage is 250 and the Planned Usage is 200, as calculated by:</p> $(250 - 200) / 200 * 100\%$

Viewing Material Details

The Batch Material Details window lets you display all ingredients, products, and byproducts required for a batch.

Prerequisites

- Create a batch.

To view material details:

1. Navigate to the Batch Material Details window.

The following table lists and describes various fields in the Batch Material Details window.

Note: The following fields are display only.

Field Name	Description
Plant	Displays the code name of the manufacturing or laboratory organization. This defaults to your current plant.
Document	Displays the document number for the batch.
Status	<p>Displays the status of the batch as:</p> <ul style="list-style-type: none"> • Pending if a batch is created, but not yet released. • WIP if a batch is released to work in process. • Completed if a batch is completed, but not yet closed. • Closed if a batch is closed. • Canceled if a batch is canceled. • Terminated if the batch was terminated.
Hold Type	<p>Displays current hold status of the batch as:</p> <ul style="list-style-type: none"> • No Hold if the batch is not on hold. • Pause if the batch is placed on hold in Pause mode. • Stop if the batch is placed on hold in Stop mode.
Step	Displays the step number entered for a batch query. Only those materials associated with that step are retrieved. This field is blank if you did not query a specific step, or if you navigated to this window from the Batch window.

Field Name	Description
Operation	Displays the name of the operation for the listed step.
Step Status	Displays the status of the displayed step.
Recipe	Displays the recipe used in the batch.
Recipe Version	Displays the version of the recipe used in the batch.
Formula	Displays the formula used in the batch.
Formula Version	Displays the version of the formula used in the batch.
Routing	Displays the routing used in the batch.
Routing Version	Displays the routing version number.

Ingredients:

The following table lists and describes various fields in the Ingredients section.

Note: The following fields are display only.

Field Name	Description
Line	Displays the batch line number for the ingredient.
Item	Displays the item code for the ingredient.
Description	Displays a brief description of the ingredient as it appears on the Item Master.

Field Name	Description
Original Qty	Displays the initial quantity of each ingredient when the batch was first created. This field is a baseline from the initial creation of the batch, and cannot be changed.
Planned Qty	Displays the quantity of ingredients planned.
WIP Plan Qty	Displays the work in process planned quantity of ingredients. This field displays for batches with a status of WIP, Completed, or Closed.
UOM	Displays the unit of measure for the original and planned quantities.
Actual Qty	Displays the actual quantity of ingredients used. This field displays on batches with a status of WIP or Completed. You can edit this field for plain controlled items.
Allocated	This options is selected if the material displayed on the ingredient line is fully allocated.
Consumption Type	<p data-bbox="992 1213 1321 1270">Displays the type of ingredient consumption as:</p> <ul data-bbox="992 1293 1458 1755" style="list-style-type: none"> <li data-bbox="992 1293 1406 1388">• Automatic when ingredients are consumed automatically when the batch is released. <li data-bbox="992 1430 1354 1493">• Manual when ingredients are consumed manually. <li data-bbox="992 1535 1354 1629">• Incremental when ingredients quantities are backflushed by incremental backflushing. <li data-bbox="992 1671 1458 1755">• Automatic by Step when ingredients are consumed automatically as the step is released.

Field Name	Description
Contribute to Yield	Displays as Yes if the ingredient contributes to yield.
Scale Type	Displays as: <ul style="list-style-type: none"> • Fixed if the ingredient is not scalable. • Proportional if the ingredient is scalable. • Integer if the ingredient is scalable by multiples.
Scale Multiple	Displays the scaling increment for the ingredient.
Scale Rounding Variance	Displays the percent variance allowable for rounding when the Scale Type is Integer. If the Rounding Variance field is left blank, then rounding occurs without regard to variance.
Rounding Direction	Displays as: <ul style="list-style-type: none"> • Down if the acceptable rounding direction is down to the nearest multiple. • Either if the acceptable rounding direction is up or down to the nearest multiple. • Up if the acceptable rounding direction is up to the nearest multiple.
Scrap Factor	Displays the anticipated amount of ingredient lost in the manufacturing process as a percentage. For example, if the Scrap Factor is 10 percent, then an additional 10 percent of material is added to accommodate for this loss.

Field Name	Description
Phantom Type	Displays as: <ul style="list-style-type: none"> • Not a Phantom indicates the ingredient is not a phantom item. • Automatic indicates that the ingredient is a phantom item exploded automatically. • Manual indicates that the ingredient is a phantom item that requires manual explosion from the Actions menu.
Phantom	Displays as Exploded if the phantom ingredient is exploded previously.
Contribute to Step Qty	Displays as Yes if the ingredient contributes to the step quantity.
Step	Displays the step associated to the ingredient.

Products:

The following table lists and describes various fields in the Products section.

Note: The following fields are display only.

Field Name	Description
Line	is the batch line number for the product.
Item	is the item code for the product.
Description	is a brief description of the product as it appears on the Item Master.
Original Qty	is the initial amount of each product when the batch was created. This field is a baseline for the initial creation of the batch.

Field Name	Description
Planned Qty	is the amount of products planned. The Planned Qty changes when the batch is scaled, and is editable in a batch with a status of Pending.
WIP Plan Qty	is the work in process planned quantity of products.
UOM	is the unit of measure for the original and planned quantities.
Actual Qty	is the actual quantity of products yielded.
Allocated	is selected if the material displayed on the product line is fully allocated.
Yield Type	<p>displays the type of product yield as:</p> <ul style="list-style-type: none"> • Automatic when products are yielded automatically when the batch is completed. • Manual when products are yielded manually. • Incremental when product yield is calculated by incremental backflushing. • Automatic by step when products are yielded automatically as the step is completed.
Scale Type	<p>displays as:</p> <ul style="list-style-type: none"> • Fixed if the product is not scalable. • Proportional if the product is scalable.
Scale Multiple	is the scale multiple for the product.
Scale Rounding Variance %	is the percent variance allowable for rounding when the Scale Type is Integer.

Field Name	Description
Rounding Direction	<p>displays:</p> <ul style="list-style-type: none"> • Down if the acceptable rounding direction is down to the nearest multiple. • Up if the acceptable rounding direction is down to the nearest multiple. • Either if the acceptable rounding direction is up or down to the nearest multiple.
Cost Allocation	is the percent cost allocation for the product.
Contribute to Step Qty	displays as Yes if the product contributes to the step quantity.
Step	is the step associated to the product.

By-Products:

The following table lists and describes various fields in the By-Products section.

Note: The following fields are display only.

Field Name	Description
Line	Displays the batch line number for the byproduct.
Item	Displays the item code for the byproduct.
Description	Displays a brief description of the byproduct as it appears on the Item Master.

Field Name	Description
Original Qty	Displays the initial amount of each byproduct when the batch was created. This field is a baseline for the initial creation of the batch.
Planned Qty	Displays the amount of byproducts planned. The Planned Qty changes when the batch is scaled, and is editable in a batch with a status of Pending.
WIP Plan Qty	Displays the work in process planned quantity of byproducts. This field displays for batches with a status of WIP, Completed, or Closed.
Actual Qty	Displays the actual quantity of byproducts yielded. This field displays for batches with a status of WIP or Completed.
UOM	Displays the unit of measure for the original and planned quantities.
By-Product Type	Displays as Rework, Sample, Waste, or Yield depending on the byproduct.
Allocated	This option is selected if the material displayed on the product line is fully allocated.

Field Name	Description
Yield Type	<p data-bbox="992 310 1390 336">Displays the type of product yield as:</p> <ul data-bbox="992 365 1463 793" style="list-style-type: none"> <li data-bbox="992 365 1446 457">• Automatic when products are yielded automatically when the batch is completed. <li data-bbox="992 499 1414 558">• Manual when products are yielded manually. <li data-bbox="992 600 1463 659">• Incremental when product yield is calculated by incremental backflushing. <li data-bbox="992 701 1442 793">• Automatic by step when products are yielded automatically as the step is completed.
Scale Type	<p data-bbox="992 856 1122 882">Displays as:</p> <ul data-bbox="992 911 1446 1003" style="list-style-type: none"> <li data-bbox="992 911 1409 936">• Fixed if the product is not scalable. <li data-bbox="992 978 1446 1003">• Proportional if the product is scalable.
Scale Multiple	<p data-bbox="992 1066 1393 1125">Displays the scaling increment for the ingredient.</p>
Scale Rounding Variance %	<p data-bbox="992 1178 1455 1236">Displays the percent variance allowable for rounding when the Scale Type is Integer.</p>
Rounding Direction	<p data-bbox="992 1283 1122 1308">Displays as:</p> <ul data-bbox="992 1337 1458 1661" style="list-style-type: none"> <li data-bbox="992 1337 1390 1430">• Down if the acceptable rounding direction is down to the nearest multiple. <li data-bbox="992 1472 1458 1530">• Up if the acceptable rounding direction is up to the nearest multiple. <li data-bbox="992 1572 1442 1661">• Either if the acceptable rounding direction is up or down to the nearest multiple.
Contribute to step Qty	<p data-bbox="992 1724 1438 1782">Displays Yes if the byproduct contributes to step quantity.</p>

Field Name	Description
Step	Displays the step associated to the product.

Outside Processing in Oracle Process Manufacturing

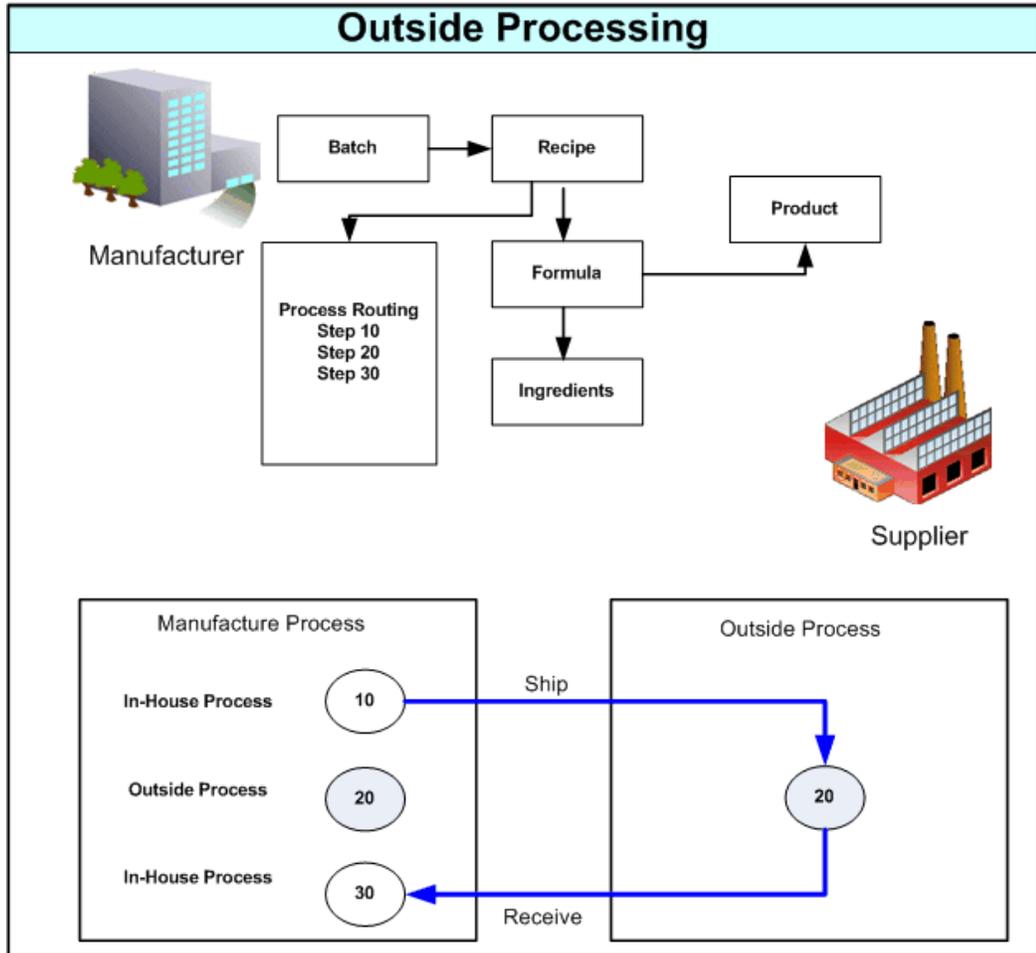
This chapter explains how to manage outside processed resources in Process Manufacturing.

This chapter covers the following topics:

- Overview of OPM Outside Processing
- OPM Outside Processing Setup and Planning
- OPM Outside Processing Execution

Overview of OPM Outside Processing

Outside Processing (OSP) is a subcontracting process where certain operations in a process routing are performed by the subcontractor. This process can be leveraged by manufacturers who do not always have the capabilities or equipment to perform all the steps in their manufacturing process to produce their products. Outside Processing enables manufacturers to indicate single or multiple steps and operations in a process that require outside manufacturing, generate shipping documents, track the material and cost when it leaves their facility, and apply the outside processing cost to the overall cost of the finished good.



Outside Processing is a practice where the manufacturer owns the product designs that it sells and manages the supply chain by determining which manufacturing processes are internal and which can be outsourced to suppliers. The supplier in the outside processing process is defined as the business that performs a contract manufacturing function for the manufacturer. Oracle Process Manufacturing enables Batch-Step level Outsourcing. The manufacturer indicates a specific operation/step of a sequence in a routing which is performed by a supplier.

OPM Outside Processing Features

Following are the main features of OPM Outside Processing:

Representing Supplier's Service as a Resource

The OPM-OSP feature involves representing the service provided by the supplier as a resource. At the Generic Resource level users identify the resource as an OSP. At the Plant Resource level users provide details of the OSP Item and other details, such as cost and whether to create shipping transactions.

Creating Requisitions/Purchase Orders at Various Batch/Step Stages

When single or multiple steps or operations in a routing are not performed in-house and needs outside processing, a requisition representing the service of the supplier can be created during Batch Creation, Batch Release, and Step Release. Requisition interface records are created at these batch/step stages for an OSP operation and users schedule the Requisition Import Concurrent Request to create purchase orders based on the requisitions.

Manual Creation of Requisitions

This option automatically charges outside processing resources at an OSP step , but does not link the creation of the requisition to either creation or processing of the batch or step.

Defining Automatic/Manual Approvals for PO/Req

Should the order be of high value and in need of approvals, an approval hierarchy can be set and handled only on need by basis.

Manual Creation of Purchase Order and Lines

Manual purchase order can be defined for outside processing items. For each purchase order line, a batch that is to be charged needs to be specified. Transactions can be tracked. Resource Cost or PO price can be used for resource costing depending on the flag checked.

Creation of Shipping Transactions and Documents

You have the option to create shipping transactions for outside processing items when the following events occur:

- WIP issue or WIP return.
- Step release.
- Step transfer transaction for an Intermediate item.

Upon batch cancel, batch unrelease, batch terminate and batch close, shipment lines that are not yet ship confirmed are cancelled.

These shipping transactions are created automatically if an approved purchase order exists for OSP ingredient and intermediate items. In addition, for OSP ingredient items, either a WIP Issue transaction or detailed reservation must exist in order for the shipping transactions to list the exact items for shipment.

If the conditions for automatically created shipping transactions are not met at the time of the batch creation, batch release, or OSP step release, then you can manually create the shipping transactions using the OSP Shipping Lines window after the conditions

exist as described above.

After ship confirmation, you can print the Ship Confirm Documents set, which includes the:

- Packing Slip Report
- Commercial Invoice
- Bill of Lading
- Vehicle Load Sheet Details

Receiving Full or Partial Quantity in OPM Enabled Organizations

The Purchase Order can be received for the full or partial quantities and the quantity delivered to the shop floor should update the OSP Actual step quantity. Note that the quantity on the Purchase Order may either be the product quantity of the Batch or the resource usage of the OSP resource. Hence, the quantity received will be proportional to the step quantity but will not be same as the step quantity.

Managing Returns and Adjustments

OPM Users can return the OSP item/service for rework and reverse over-receipts that are erroneously transacted.

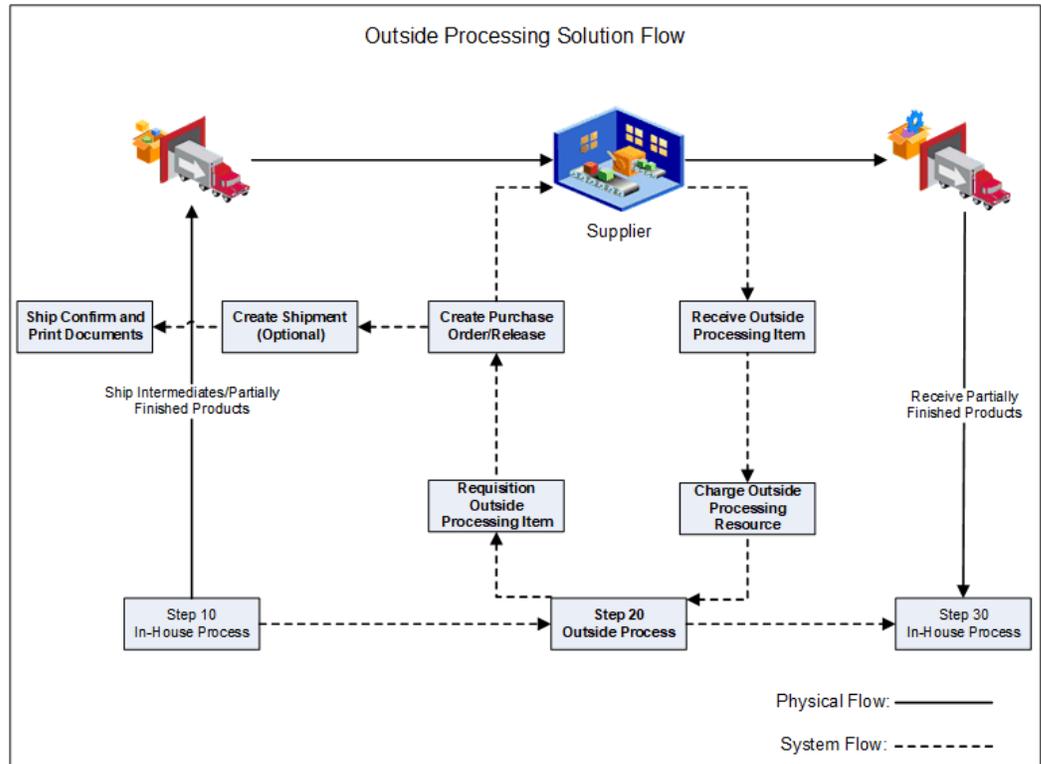
Integration with OPM Cost Management

As the Purchase Order is raised for a service, the value of this service is added to the Product cost. OPM users define a Standard Cost for the resource associated with the Outside Processing step and can choose between Resource Cost and PO Price cost as Cost source. The supported cost methods are:

- Standard Cost
- Actual Cost
- Lot Cost

OPM Outside Processing Solution Flow

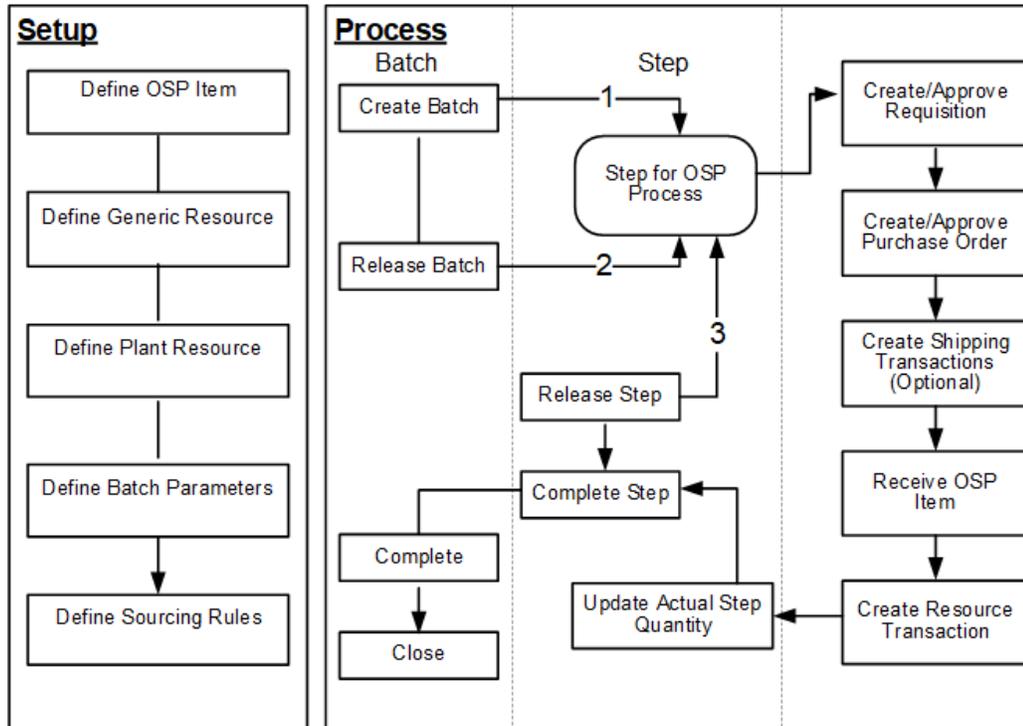
OPM Outside Processing solution enables a manufacturer to associate outside manufacturing services to a resource that is used in the batch requiring the OSP operation.



For example, a batch may have Step 10, Step 20 and Step 30. If manufacturer is unable complete Step 20 as part of the in-house process, the option is available to define Step 20 for outside processing by associating a resource to the OSP item. The ingredients and/or intermediate products required to complete the outside processed item are physically shipped against system generated requisitions/purchase orders. Choose whether or not to generate shipping transactions and documents. If you choose to generate them, you can generate them either automatically or manually. The OPM Outside Processing process also calculates OSP charges and adds it to the product cost. The outside processed item is then physically shipped back to the manufacturer to complete the next in-house Step 30.

Before executing the OPM Outside Processing solution, you must first complete the following setup steps:

- Create an OSP item.
- Define a generic resource.
- Define a plant resource to use for the OSP operation, associate the OSP item, and optionally enable the creation of shipping transactions.
- Define batch parameters.
- Define sourcing rules.



After the required setup is complete, when the manufacturer creates a batch a requisition record is created (if requisition creation is set at the batch creation level). When the batch is released, a purchase order is created based on the requisition. The Batch and Purchase Order are linked and any changes in the date of the batch leads to change in the Need By Date on the corresponding line of the PO.

If you chose to generate shipping transactions for the OSP step and the PO is approved, then the shipping transactions are automatically created when the following step transactions occur:

- WIP issue or WIP return.
- Step release.
- Step transfer transaction for an Intermediate item.

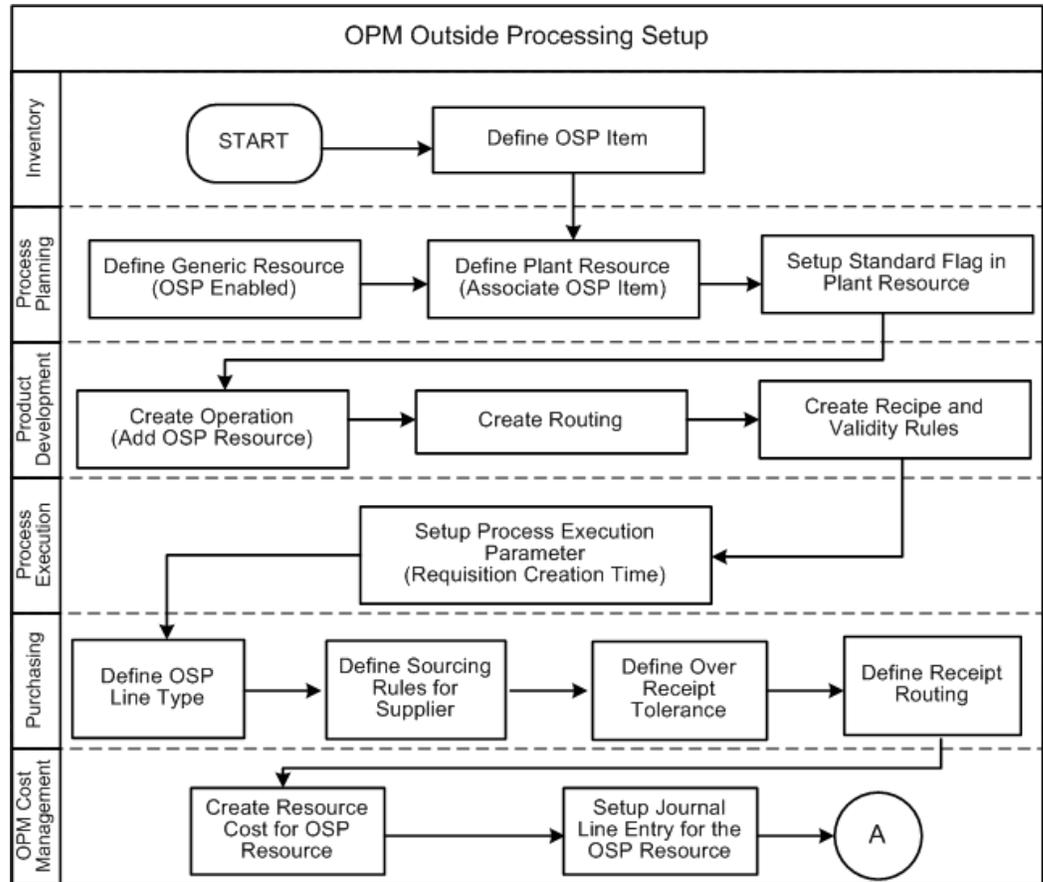
Upon batch cancel, batch unrelease, batch terminate and batch close, shipping transactions that are not yet ship confirmed are cancelled. If a PO is created and approved after the above step transactions occur, then you must manually create shipping transactions for the OSP step.

When the OSP item on the PO is received, corresponding resource transactions are triggered for the OSP batch step and the OSP Actual step quantity is updated with the receipt quantity. Once the complete step quantity is received, the production supervisor completes the step. The service charges for the OSP resource are defined as part of Resource cost and are considered in the cost calculation for the product based on the

cost source setup as Resource Cost in the OSP resource definition. If the cost source is set to the PO Price, the OSP resource charges are calculated as per the PO Price.

OPM Outside Processing Setup and Planning

The required setup steps are completed in Oracle Applications: Inventory, OPM Process Planning, Product Development, Process Execution, Purchasing, and OPM Cost Management. The following diagram lists the setup steps to be completed in each of these applications.



Setting Up Inventory

Use the Items window to define and maintain outside processing items. See: Defining Items, *Oracle Inventory User's Guide*.

- Define OSP item to represent OSP service:

Define the OSP service as a non inventory item and uncheck the Inventory Item attribute. Ensure that the item is defined as OSP enabled in the Item master form and assigned to the required manufacturing and purchasing and financial

organizations.

Define the item unit type as either Resource or Product. This determines the quantity for the requisition to be created.

See: *Oracle Inventory User's Guide*

Setting Up OPM Process Planning

Use OPM Process Planning to:

- Enable Generic Resource as OSP Enabled:
Use the Generic Resource window to define the resource as OSP enabled resource by selecting the OSP enabled flag. Note: Once defined as an OSP resource, the OSP flag cannot be updated. The flag also cannot be changed if the resource is used in any batch.
- Associate OSP item to a Plant Resource:
Use the Resource Information window to associate the OSP item to a plant resource. Select from the OSP Item list of values that contains all the OSP items defined in that specific plant/inventory organization. Use the Cost Source field to select the cost source as either Resource Cost or PO Price.
- Generate shipping transactions and documents for the OSP resource:
Use the Resource Information window to create shipping transactions and documents for ingredients and intermediate items you ship to an OSP resource by selecting the Shipping check box.

Note: Searching for an OSP resource using the Resource Information window lists all OSP and non-OSP resources because the Outside Processing field is not a database column and is derived from the Generic Resource. Use the Generic Resource window to search for an OSP resource.

See: *Oracle Oracle Process Manufacturing Process Planning User's Guide*

Setting Up OPM Process Development

Use OPM Process Development to create operations and add the OSP resource and to create a routing. Also create recipes and validity rules.

- Define OSP resources to be used in the Process Routing:
Associate the OSP resource to an Outside operation. The Process Routing Form validates that only one activity and one resource is present for each OSP step in the routing. Note that multiple OSP resources cannot be assigned for the same step.

See: *Oracle Process Manufacturing Product Development User's Guide*

Setting Up OPM Process Execution

Use the Outside Processing tab in the Process Execution Parameters window to enable OSP related options.

- Select the Requisition Creation Time parameter from the following list of options:
 - Batch Creation: Requisitions are created automatically at batch creation.
 - Batch Release: Requisitions are created automatically at batch release.
 - Batch step release: Requisitions are created automatically at batch step release.
 - Manual: Requisitions are not created automatically during batch creation, batch release, or batch step release. Users will manually create the requisition or the purchase order.
- Select Propagate Batch Changes to Purchasing from the following options:
 - Automatic: System automatically updates the corresponding Requisition/Purchase order for the batch changes.
 - Manual: User has to manually update the corresponding Requisition/Purchase order for the batch changes
- Select the Need by Date Tolerance. This controls the PO need by date change using an early and late day tolerance values. Select from the following options:
 - Days Early
 - Days Late

Setting Up Purchasing

Oracle Purchasing enables requisition creation, facilitates the approval process, and automatic purchase order creation for outside processing items and resources. There are several setup steps for outside processing that you must perform in Purchasing.

- Define Outside Processing Line Types:

Purchasing requires you to enter a line type when you enter a requisition or purchase order line. Purchasing is installed with a predefined line type called Outside Processing, and Oracle Process Manufacturing uses this line type when it creates pending requisitions. You can define additional line types for outside processing. See: *Defining Line Types, Oracle Purchasing User's Guide*.

- **Define Sourcing Rules:**
You can define rules for each outside processing item to help you determine from which supplier to source the item. When OPM requisitions an outside processing item, it checks for sourcing rules. See: Automatic Sourcing, *Oracle Purchasing User's Guide*.
- **Define Outside Processing Item Lead Times:**
When OPM requisitions an outside processing item, the start date of the operation following the outside processing operation determines the Need By Date. If the outside processing operation is the last operation, then the Need By Date is the last unit complete date of that operation. Lot based jobs use a different logic to derive the need by date because network routings have changing first and last operations.
- **Define Over-receipt Tolerance and Control:**
You can specify a quantity received tolerance percent to limit the quantity you can over receive on a purchase order shipment.

See: *Oracle Purchasing User's Guide*

Setting up OPM Cost Management

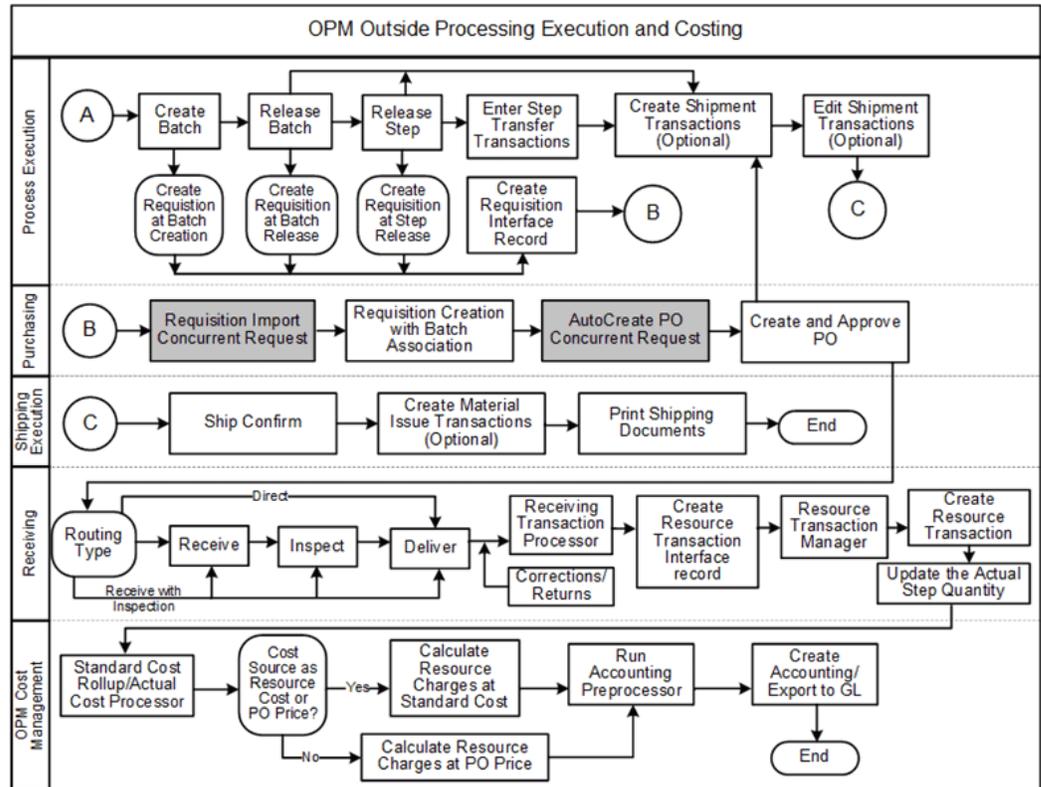
Complete the following set up in OPM Cost Management:

- Create Resource Cost for OSP Resource
- Setup Journal Line Entry for the OSP Resource

See: *Oracle Process Manufacturing Cost Management User's Guide*

OPM Outside Processing Execution

When the required setups are completed, OPM outside processing is executed in Oracle Applications: OPM Process Execution, Purchasing, Shipping Execution, Receiving and OPM Cost Management. The following diagram gives a high level description of OPM Outside Processing execution and costing:



Creating Batches

The first step in the OPM Outside Processing execution process after the required setup, is to create a batch. See: *Creating a Batch or Firm Planned Order*, page 6-17.

Use the Others tab in the Batch Steps form to view the OSP batch step. The Outside Processing flag will be checked for OSP operations.

Creating Purchase Orders/Requisitions for OSP Operations

Requisition interface records are created at the batch creation, batch release and batch step release levels to create requisitions for an OSP operation. Requisitions are created with the Quantity calculated based on the Unit Type, the OSP Item UOM and the Need By Date as the step completion date.

For example, in a batch production of 10,000 tablets, 100 pounds of medicinal material is processed in-house in Step 10. Step 20 is the packaging stage designated as an outsourced operation wherein 10,000 tablets are packaged at the rate of 1000 per hour. For the Item Unit Type: Resource, for a batch of 10,000 Tablets, the resource usage calculated would be 10 hours. A purchase order is created for 10 HR (hours) assuming the OSP Item UOM is also HR (hours).

For the Item Unit Type: Assembly, a purchase order is created on the basis of the Primary product quantity of the batch quantity which is 10,000 EA, assuming that the

OSP Item UOM is also EA.

Note: The primary product refers to the product from the validity rule based on which the batch is created. If the primary product and coproduct have same validity rule and preference then requisition is created based on product's validity rule used for batch creation

Important: Note that the purchase order is created with the OSP item UOM. If the resource usage UOM differs from the OSP Item in case of Item unit type as Resource, the quantity is not converted and the purchase order is created with the OSP item UOM. Ensure that the OSP item UOM and the resource usage UOM is the same. Similarly, ensure the primary product UOM and the OSP Item UOM is the same in case of Item unit type as Assembly.

Viewing Purchase Order

You can view purchase order details based on the PO line to which the OSP Step is associated from the Batch Details window (from Actions / tools >PO) for OSP batches.

To view the purchase order for an OSP step:

1. Navigate to the Find Batches dialog box.
2. Query the batch which contains OSP step or operation and click Find. The Batch Details window displays the results of the search.
3. Click Steps. The Batch Step window appears.
4. Select the OSP steps or operations and from the Tools menu, select View PO Summary. The purchase order for the selected steps or operations is displayed in read only mode.

Approving Purchase Order/Requisitions for OSP Operations

Launch the Requisition Import concurrent program manually or schedule this program to run periodically as required. Configure the requisition import concurrent program to launch with the authorization status parameter as Approved or Incomplete as required.

Manually Creating Requisitions/Purchase Order for OSP Operations

If Requisition Creation Time is set to Manual, create the requisition or the purchase order for an OSP Operation manually and associate batch information to the purchase order. When associating Batch information at the Purchase order distribution level, note that only the following information can be entered:

- Batches in Pending, WIP, and Completed statuses, where the batch contains the OSP resources.
- Steps in Pending, WIP, and Completed Statuses, where the step contains the OSP resource.
- Resources which are OSP resources.

Synchronizing Production Batch Changes to Requisitions/POs

Monitor batch actions at different statuses of the batch for corresponding requisition/purchase order status to check if the batch actions are allowed or not. Batch actions like Reschedule/Manual update of Step completion dates requires updates to Need By Date of all the corresponding open requisition/purchase orders for the corresponding OSP step.

Batch actions like Scale Batch/Update Primary Product Quantity/Update Resource Usage require increase in quantity, and the corresponding requisition and Purchase order have to be updated accordingly. If the PO update is not allowed, a new requisition is required for the difference in the quantity update.

The following tables describe change management in context of batches and their statuses:

Batch Actions and Quantity Changes

Batch/Step Status	Batch Action	Propagate Batch Changes: Yes	Propagate Batch Changes: No
Pending	Scale	Update Req and PO/Warning	No Action
	Update Planned Product Quantity	Update Req and PO/Warning	No Action
	Update OSP Planned Resource Usage	Update Req and PO/Warning	No Action
WIP	Update WIP Plan Product Quantity	Update Req and PO/Warning	No Action

Additional Information: Batch changes propagate differently depending on the OSP Unit Type.

- When OSP Unit Type = Assembly, the planned product quantity is propagated.
- When OSP Unit Type = Resource, the planned resource usage is propagated.

Note that Requisition/Purchase Order quantity update is allowed only if:

- No records exist in the Requisition Interface Table
- There is one Purchase order.
- PO Status is Incomplete, Approved, Requires Reapproval and the line is not cancelled.

In case the requisition or the purchase order quantity update fails, create a new requisition based on the increase in Batch Quantity.

Batch Actions and Date Changes

Batch/Step Status	Batch Action	Propagate Batch Changes: Yes	Propagate Batch Changes: No
Pending	Reschedule Batch/Step	Update the Need By Date of Req/PO	No Action
WIP	Reschedule Batch/Step	Update the Need By Date of Req/PO	No Action

Note that Requisition/Purchase Order Need By Date update is allowed only if:

- PO Status is Incomplete, Approved, Requires Reapproval and the line is not cancelled.
- The new date is less than the old date – (minus) Days Early of Need By Date tolerance.
- The new date is greater than the old date + (plus) Days Late of Need By Date tolerance.

In case the requisition or the purchase order quantity update fails, create a new requisition based on the increase in Batch Quantity.

Batch/Step Actions and PO/Req Cancellations

Batch Status	Batch Action	Propagate Batch Changes: Yes	Propagate Batch Changes: No
Pending	Reroute	Cancel Req/Recreate Req	Warning
	Cancel	Cancel Req/PO	Warning
	Delete Step/Resource	Cancel Req/PO	Warning
Step Status	Step Action	Propagate Batch Changes: Yes	Propagate Batch Changes: No
Pending	Delete Step/Resource	Cancel Req/PO	Warning
	Cancel Step through Batch Terminate	Cancel Req/PO	Warning

Note that Requisition/Purchase Order cannot be cancelled if:

- PO Status is in status other than Approved or Rejected.
- PO/Requisition is closed, or finally closed, or canceled, or put on hold.
- Requisition interface records already exist.

Batch/Step Actions Not Allowed for Existing Open PO/Req

Batch Status	Batch Action	Open PO/Req Exist	No Open PO/Req Exist
WIP	Unrelease	Error Out	Proceed
	Complete	Warning and Proceed	Proceed
	Terminate	Error Out	Proceed
Completed	Close	Error Out	Proceed

Step Status	Step Action	Open PO/Req Exist	No Open PO/Req Exist
WIP	Unrelease	Error Out	Proceed
	Complete	Warning and Proceed	Proceed
Completed	Close	Error Out	Proceed

Note that Open PO/requisition exists if:

- Purchase order/Requisition status is not Finally closed or status is not in Fully received
- Purchase order line is having quantity received less than the (quantity – quantity cancelled)
- Requisition open interface records exist.
- Total Received quantity is not delivered.

Creating Shipping Transactions for OSP Ingredients and Intermediate Items

Before an event can trigger the automatic creation of shipping transactions, the following conditions must exist:

- For both intermediate and ingredient OSP items:
 - For the organization where the batch is created, in the Organization Item window, Order Management tab, the Shippable check box is selected.
 - In the Resource Information window for the OSP resource, the Shipping check box is selected.
 - An approved purchase order exists for the OSP item.
- For ingredient OSP items only:
 - Each ingredient is associated to the OSP batch step.
 - Either a WIP Issue transaction or a detailed reservation exists for each ingredient.

If the above conditions exist, shipping transactions for batch OSP operation ingredients and intermediate items are automatically created when any of the following events occur.

Automatic Creation of Shipment Lines

Event	Item to Ship	Quantity	Source of Quantity Details (Lot, Serial, Subinventory, Locator)
WIP Issue/Return	Ingredient	Transaction Quantity	WIP Transaction Details
Step Release	Ingredient	WIP Plan Qty - WIP Issued Qty	Reservations
Step Transfer Transaction (To Step: OSP Step)	Intermediate	Step Transfer Quantity	Not Applicable
Step Transfer Transaction (To Step: OSP Step)	Ingredient	WIP Plan Qty - WIP Issued Qty	Reservations
Batch Cancel/Terminate/Close	Ingredient, Intermediate	All Pending Ship Confirm Quantities	Not Applicable

Once shipping transactions are created, you can view them in the:

- Shipping Transactions window.

See: Shipping Transactions Window, *Oracle Shipping Execution User's Guide*

- OSP Shipping Lines window.

Find the batch and navigate to the Batch Steps window. Select the OSP batch step. In the Tools menu, click OSP Shipping Lines.

If one or more of the conditions listed above was not met when the events listed above took place, then you can manually create shipment lines after meeting all of the conditions.

To manually create shipment lines:

1. Navigate to the OSP Shipping Lines window.

In the Batch Steps window, select the OSP batch step. In the Tools menu, click OSP Shipping Lines.

The OSP Shipping Lines window opens for the selected batch step.

2. Click the Intermediate Products tab to create intermediate shipping lines for the OSP step. For each intermediate item, enter the:
 - Outside Processing Item. This is the item manufactured in any previous batch step that you must ship in order to complete the OSP step.
 - Requested Quantity. The quantity to ship.
 - Purchase Order. Optional.
3. Click Save.

Verify that the Status field has a value of Interfaced. You can view interfaced shipment lines in the Shipping Transactions window, in Oracle Shipping Execution.
4. Click the Ingredients tab to create ingredient shipping lines for the OSP step. For each ingredient, enter the:
 1. Ingredient. This is the inventory item that you must ship in order to complete the OSP step.
 2. Subinventory. The subinventory location of the ingredient.
 3. Lot Number. The lot number of the ingredient to ship.
 4. Requested Qty. The quantity to ship.
 5. Purchase Order. Required.
5. Click Save.

Verify that the Status field has a value of Interfaced. You can view interfaced shipment lines in the Shipping Transactions window, in Oracle Shipping Execution.

To delete a shipment line:

1. In the OSP Shipping Lines window, deselect Ship for the line to delete.
2. Click Save.

The Status of the line changes to Cancelled.

Performing Resource Transactions for OSP Operations

Receiving and delivery of the purchase order of the OSP item in OPM enabled organizations occurs only if the corresponding OSP step in the batch is in WIP or Completed Status.

When the purchase order is received, a resource transaction for the OSP resource is created using the open interface for the resource transactions and the Actual Step

quantity of OSP step is updated.

The resource transaction is created with the resource usage calculated based on the OSP item unit type:

- If the OSP item unit type is Resource, the resource usage is the delivered quantity (Delivery transaction's primary quantity)
- If the OSP item unit type is Assembly, the resource usage is the (delivered quantity * planned resource usage of OSP resource in the batch /Batch primary product quantity)

As the OPM Outside Processing solution allows only one resource and one activity to be associated for the OSP step, the system updates the actual step quantity of the OSP step with respect to the received quantity. This actual step quantity is updated as part of the resource transaction creation.

In case of the partial receipts, the actual step quantity is added to the existing actual step quantity. The formula for calculation of the actual step quantity is:

- $\text{Actual step quantity} = \text{Actual step quantity} + (\text{The resource transaction's resource usage} * \text{planned step quantity} / \text{planned resource usage})$

When a batch is placed on hold in either Pause or Stop mode, the resource transactions manager does not update the batch records. To update the batch records, you must release the hold, correct the records using Batch Open Interface forms, and then resubmit the records. For more information regarding Batch Open Interface and creating and releasing batch hold, refer to *Managing Batches Using the Batch Open Interface*, page 6-100 and *Holding a Batch*, page 7-1

The following validations on OSP resource transactions are ensured:

- The GME resource transactions screen prevents insertion or modification or deletion of the resource transactions created from the Receipts when the resource is of OSP resource. Additionally, the resource transactions for OSP steps are prevented from being created through Public APIs.
- For the Automatic Step Quantity Calculate (ASQC) enabled Batches, updating the Material quantity will not trigger the OSP step quantity updates and the resource transaction creation.
- Incremental Backflush will not backflush the resource transactions for a OSP step and will not update OSP step quantity.

Receiving Inspection with OPM Quality for the product received from OSP supplier

To perform quality tests for the materials/products received from the outside manufacturing service provider, set OPM Quality Specifications for the OSP item. Receiving inspection is performed using these specifications and results recorded against such specifications.

Note: As this item is different from the product of the batch, the results recorded for this item will not be used for reporting results of the product.

Specifications are set and samples generated for the OSP item. Sample records are generated and stored for the OSP item in the receiving organization. Such samples follow standard OPM quality sample business flow. These samples do not create inventory transactions as the item is not expected to be carried in inventory.

Updating Resource Transactions upon Correction>Returns of the Received OSP item from Receiving

Perform corrections of the delivered material using the Receiving Corrections form or return the material using the Returns form for the OSP item belonging to the process enabled organizations as long as the corresponding OSP step in the batch is in WIP or Completed Status.

As part of the correction or return, the resource transactions for the OSP resource should get updated by using the open interface for the resource transactions so that the processing of the correction or return transaction and the resource transaction are independent.

The resource transaction is created with the resource usage calculated based on the OSP item unit type:

- If the OSP item unit type is Resource, the resource usage is Correction/Return transaction's primary quantity (for negative corrections, it would be negative and for positive corrections, the value is positive)
- If the OSP item unit type is Assembly, the resource usage is the (Receiving transaction's primary quantity * planned resource usage of OSP resource in the batch /Batch primary product quantity)

The Resource Transaction in the Resource transaction interface table is updated with the corrected quantity. While processing the resource transaction interface using the Resource transaction manager, the resource transaction created by the original receipt is updated with the new value after the correction transaction.

The actual step quantity is updated as part of the resource transaction update. The actual step quantity is added or subtracted to/from the existing actual step quantity based on whether the correction type is positive or negative or return. The formula for calculation of the actual step quantity is:

- The Actual step quantity = Actual step quantity (+/-) (The difference in the resource transaction's resource usage * planned step quantity / planned resource usage)

For example, if 10 Hrs of service is received and a resource transaction is created for 10 Hrs, in case of negative correction/return of -2 Hrs, the resource transaction is updated

to 8 Hrs.

For costing details associated with outside processing in Oracle Process Manufacturing, see *Oracle Process Manufacturing Cost Management User's Guide*.

Reports and Concurrent Programs

This topic explains several preformatted reports that assist you in the picking of production batch materials, ticketing of materials to use in production, evaluating scheduled batch and firm planned order production activities, assessing variances in actual and calculated batch yield, and evaluating unusual usage cost variances. The procedures for running the Item Substitution for Batches, Ingredient Picking, and Migration Recreate Open Batches concurrent programs are presented.

This chapter covers the following topics:

- Running the Batch Pick List Report
- Batch Pick List Report Output
- Running the Batch Ticket Report
- Batch Ticket Report Output
- Running the Planned Production Activity Report
- Planned Production Activity Report Output
- Running the Batch Yield Variance Report
- Batch Yield Variance Report Output
- Running the Material Usage and Substitution Variance Report
- Material Usage and Substitution Variance Report Output
- Running the Item Substitution for Batches Concurrent Program
- Item Substitution for Batches Concurrent Program Output
- Running the OPM Outside Processing Report
- OPM Outside Processing Report Output
- Running the Ingredient Picking Concurrent Program
- Running the Migration Recreate Open Batches Concurrent Program
- Running the Make to Order Concurrent Program

Running the Batch Pick List Report

The Batch Pick List report identifies the material that must be picked for production batches. If you allocate ingredients before releasing batches, then the Batch Pick List report identifies the lots that must be picked and the warehouse locations. Use the Batch Pick List report as a guide to picking material before actual allocation.

See: *Oracle E-Business Suite User's Guide*

To submit the Batch Pick List report:

1. Navigate to the Submit Request window.
2. Enter Batch Pick List in the Name field.
3. Enter any of the following fields to narrow the scope of the report:
 - From Batch No is the number of the first batch to include on the report.
 - To Batch No is the number of the last batch to include on the report.
 - From Subinventory is the subinventory where the ingredients are picked.
 - To Subinventory is the subinventory where the ingredients are transferred.
 - From Planned Start Date is the initial starting date in the range to report. Only batches that start on or after this date are included on the report.
 - To Planned Start Date is the final starting date in the range to report. Only batches that start on or before this date are included on the report.
4. Select one of the following to indicate how to sort the report:
 - Batch No to sort the report by batch document numbers.
 - Subinventory, Item, Locator to sort the report by warehouse, item, and location.
5. Click OK.
6. Complete the fields on the Submit Request window.
7. Click Submit.
8. View or print the report.

Batch Pick List Report Output

The following table lists and describes various fields on the Batch Pick List report:

Field Name	Description
Subinventory	Displays the code for the subinventory where the ingredient are picked.
Locator	Displays the locator in the subinventory where the ingredients are picked.
Item	Displays the code and description of the item picked.
Batch	Displays the number of the batch where the item is an ingredient.
Line	Displays the ingredient line number.
Recipe	Displays the recipe code.
Planned Qty	Displays the planned quantity in the primary unit of measure for the batch.
Planned Start Date	Displays the planned start date and time for the batch.
Planned Inventory Qty	Displays the planned quantity in the inventory.
Actual Start Date	Displays the actual start date and time for the batch.
Lot	Displays the lot picked for the batch if the item is lot-controlled.
Reserved Qty	Displays the reserved material quantity for the batch.
UOM	Displays the primary unit of the measure for the item.

Field Name	Description
Secondary Qty	Displays the reserved material quantity for the batch in the secondary unit of measure, if the item is dual unit of measure controlled.
UOM	Displays the secondary unit of measure for the item.
Total Reserved	Displays the total quantity of material reserved for the batch.

Running the Batch Ticket Report

The Batch Ticket report prints batch tickets that identify the batch document number and include information about the recipe used to produce the batch, planned start date, planned completion date, required completion date, and specific items and item quantities used in manufacturing the batch. Specify the order that batches are sorted and where to print the report.

See: *Oracle E-Business Suite User's Guide*

To submit the Batch Ticket report:

1. Navigate to the Submit Request window.
2. Enter Batch Ticket in the Name field.
3. Enter any of the following fields to narrow the scope of the report:
 - From Batch No is the number of the first batch to include on the report.
 - To Batch No is the number of the last batch to include on the report.
 - From Planned Start Date is the initial starting date in the range to report. Only batches that start on or after this date are included on the report.
 - To Planned Start Date is the final starting date in the range to report. Only batches that start on or before this date are included on the report.
4. Select one of the following to indicate how to sort the report:
 - Batch No to sort the report by batch document number.
 - Start Date and Batch No to sort the report by start date and the batch document

number.

5. Click OK.
6. Complete the fields on the Submit Request window.
7. Click Submit.
8. View or print the report.

Batch Ticket Report Output

The following table lists and describes various fields on the Batch Ticket report:

Field Name	Description
Batch	Displays the organization code where the batch is scheduled for production and the batch document number.
Recipe	Displays the recipe used to produce the batch.
Version	Displays the recipe version number.
Formula	Displays the formula used to produce the batch.
Version	Displays the batch formula version number.
Routing	Displays the routing used to produce the batch.
Version	Displays the routing version number.
Planned Start Date	Displays the planned start date and time for the batch.
Planned Completion Date	Displays the planned completion date and time for the batch.
Required Completion Date	Displays the batch due date.

Field Name	Description
Product	<p data-bbox="873 310 1243 369">Displays the following batch ticket information about the product:</p> <ul data-bbox="873 394 1365 1098" style="list-style-type: none"><li data-bbox="873 394 1276 453">• Line Number is each product line number.<li data-bbox="873 499 1321 558">• Item is the code for the product in the batch.<li data-bbox="873 604 1321 663">• Revision is the product revision in the batch.<li data-bbox="873 709 1365 768">• Yield Subinventory is the subinventory to yield the product.<li data-bbox="873 814 1284 873">• Locator is the locator in the yield subinventory to yield the product.<li data-bbox="873 919 1349 999">• Planned Qty is the planned quantity for products in the primary unit of measure for the batch.<li data-bbox="873 1045 1349 1098">• UOM is the primary unit of measure for the Planned Qty.

Field Name	Description
Ingredient	<p data-bbox="971 310 1401 401">Displays the following batch ticket information about each ingredient in the product:</p> <ul data-bbox="971 428 1458 1066" style="list-style-type: none"><li data-bbox="971 428 1385 453">• Line is the ingredient line number.<li data-bbox="971 495 1458 554">• Item is the code for each ingredient in the batch.<li data-bbox="971 596 1385 621">• Revision is the ingredient revision.<li data-bbox="971 663 1458 722">• Supply Subinventory is the subinventory where the ingredients are received.<li data-bbox="971 764 1458 823">• Locator is the locator in the subinventory where the ingredients are received.<li data-bbox="971 865 1458 955">• Planned Qty is the planned quantity for ingredients in the primary unit of measure for the batch.<li data-bbox="971 997 1458 1056">• UOM is the primary unit of measure for the Planned Qty.

Field Name	Description
Byproduct	<p data-bbox="873 306 1305 401">Displays the following batch ticket information about any byproducts in the product:</p> <ul data-bbox="873 426 1365 995" style="list-style-type: none"> <li data-bbox="873 426 1247 453">• Line is byproduct line number. <li data-bbox="873 495 1365 554">• Item is the code for each byproduct in the batch. <li data-bbox="873 596 1295 655">• Revision is the item revision for the byproduct in the batch. <li data-bbox="873 697 1365 756">• Yield Subinventory is the subinventory to which the byproduct is yielded. <li data-bbox="873 798 1344 892">• Planned Qty is the planned quantity for byproducts in the primary unit of measure for the batch. <li data-bbox="873 934 1344 993">• UOM is the primary unit of measure for the Planned Qty.
Steps	<p data-bbox="873 1056 1328 1110">Displays all batch steps associated with the listed Batch.</p> <ul data-bbox="873 1136 1349 1545" style="list-style-type: none"> <li data-bbox="873 1136 1252 1163">• Step is each batch step number. <li data-bbox="873 1205 1284 1232">• Operation is each batch operation. <li data-bbox="873 1274 1317 1333">• Version is the version number for the operation. <li data-bbox="873 1375 1349 1434">• Step Quantity is the quantity of material consumed by the operation. <li data-bbox="873 1476 1349 1535">• UOM is the primary unit of measure for the Step Quantity.

Running the Planned Production Activity Report

The Planned Production Activity report shows scheduled batch and firm planned order production activities. Unreleased batches that have a status of Pending are reported. Specify the range of batches or firm planned orders, the date range, the sort order, and

where to print the report.

See: *Oracle E-Business Suite User's Guide*

To submit the Planned Production Activity report:

1. Navigate to the Submit Request window.
2. Enter Planned Production in the Name field.
3. Enter any of the following fields to narrow the scope of the report:
 - From Document is the initial batch to include on the report.
 - To Document is the final batch to include on the report.
 - From Planned Start Date is the initial starting date in the range to report. Only batches that start on or after this date are included on the report.
 - To Planned Start Date is the final starting date in the range to report. Only batches that start on or before this date are included on the report.
4. Select one of the following to indicate how to sort the report:
 - Recipe, Version, Start Date to sort the report by batch recipe, version, and batch start date.
 - Start Date, Recipe, Version to sort the report by batch start date, recipe, and version.
5. Click OK.
6. Complete the fields on the Submit Request window.
7. Click Submit.
8. View or print the report.

Planned Production Activity Report Output

The following table lists and describes various fields on the Planned Production Activity report:

Field Name	Description
Document From	Displays the number of the first batch or firm planned order that you specified in the range to report.
To	Displays the last batch or firm planned order number specified in the range to report.
Planned Start Date From	Displays the first start date specified in the range to report.
To	Displays the last start date specified in the range to report.
Type	Displays the document type as: <ul style="list-style-type: none"> • PROD for a batch. • FPO for a firm planned order.
Document	Displays the document number of the batch or firm planned order.
Recipe	Displays the recipe used to produce the batch or firm planned order.
Version	Displays the recipe version number.
Start Date	Displays the planned start date for the batch or firm planned order.
End Date	Displays the planned end date of the batch or firm planned order.

Running the Batch Yield Variance Report

The Batch Yield Variance report displays the actual and calculated batch yield. The report helps you evaluate differences between specified recipe yield and actual batch yield. Variances are calculated based on the accounting cost for each item used in the batch. You can specify a date range, an item range, and a range of batches, the sort order, and where to print the report.

See: *Oracle E-Business Suite User's Guide*

To submit the Batch Yield Variance report:

1. Navigate to the Submit Request window.
2. Enter Batch Yield Variance in the Name field.
3. Enter any of the following fields to narrow the scope of the report:
 - From Item is the initial item to include on the report.
 - To Item is the final item to include on the report.
 - From Batch No is the initial batch to include on the report.
 - To Batch No is the final batch to include on the report.
 - From Start Date is the initial starting date in the range to report. Only batches that start on or after this date are included on the report.
 - To Start Date is the final starting date in the range to report. Only batches that start on or before this date are included on the report.
4. Select one of the following to indicate how to sort the report:
 - Batch No to sort the report by batch document number.
 - Start Date and Batch No to sort the report by start date and the batch document number.
5. Click OK.
6. Complete the fields on the Submit Request window.
7. Click Submit.
8. View or print the report.

Batch Yield Variance Report Output

The following table lists and describes various fields on the Batch Yield Variance report:

Field Name	Description
Currency	Displays the currency used in the calculations. For example, USD is United States dollars.

Field Name	Description
Batch	Displays the batch document number.
Recipe	Displays the recipe used to produce the batch.
Version	Displays the recipe version number.
Batch Size	Displays the planned quantity of the primary product.
Item	Displays the code of the item produced by the batch.
Revision	Displays the revision of the item produced by the batch.
Description	Displays a description of the item.
Accounting Value	Displays the planned or formula cost of the product produced by the batch. This is calculated by multiplying the Unit Cost by the Accounting Yield quantity.
Accounting Yield	Displays the quantity produced by the formula.
UOM	Displays the unit of measure for the item produced by the batch.
Actual Value	Displays the actual cost of the product. This is calculated by multiplying the Unit Cost by the Actual Yield.
Actual Yield	Displays the actual quantity that the batch yields.
Quantity Variance	Displays the difference between the Actual Yield and the Accounting Yield.
Value Variance	Displays the difference between the Accounting Value and the Actual Value.

Field Name	Description
Variance (%)	Displays as the (Quantity Variance/Accounting Yield) * 100%.
Batch Value Variance	Displays the sum of all value variances.

Running the Material Usage and Substitution Variance Report

The Material Usage and Substitution Variance report displays the actual and calculated batch yield. The report identifies batches with unusual usage costs and provides a cost comparison and variance of actual costs against the standard usage that must be incurred as setup for each formula. Variances are calculated based on the accounting cost for each item used in the batch. Specify a date range, an item range, and a range of batches, the sort order, and where to print the report. Variance is calculated based on the effective item that is the substitute item, as of the planned start date of the batch.

See: *Oracle E-Business Suite User's Guide*

To submit the Material Usage and Substitution Variance report:

1. Navigate to the Submit Request window.
2. Enter Material Usage and Substitution Variance In the Name field.
3. Enter any of the following fields to narrow the scope of the report:
 - From Item is the initial item to include on the report.
 - To Item is the final item to include on the report.
 - From Batch No is the initial batch to include on the report.
 - To Batch No is the final batch to include on the report.
 - From Start Date is the initial starting date in the range to report. Only batches that start on or after this date are included on the report.
 - To Start Date is the final starting date in the range to report. Only batches that start on or before this date are included on the report.
4. Select one of the following to indicate how to sort the report:
 - Batch No to sort the report by batch document number.

- Start Date and Batch No to sort the report by start date and the batch document number.
5. Click OK.
 6. Complete the fields on the Submit Request window.
 7. Click Submit.
 8. View or print the report.

Material Usage and Substitution Variance Report Output

The following table lists and describes various fields on the Material Usage and Substitution Variance report:

Field Name	Description
Currency	Displays the currency used in the calculation. For example, USD is United States dollars.
Batch	Displays the batch document number.
Recipe	Displays the recipe used to produce the batch.
Version	Displays the recipe version number.
Batch Size	Displays the planned quantity of the primary product.
Item	Displays the code for the ingredient.
Revision	Displays the revision of the item.
Description	Displays a brief description of the ingredient.
Accounting Unit Cost	Displays the unit cost of the ingredient.
Accounting Quantity	Displays the planned quantity of material in the primary unit of measure. This quantity is scaled for the batch.
UOM	Displays the primary unit of measure.

Field Name	Description
Actual Usage	Displays the actual quantity of material used in the primary unit of measure.
Quantity Variance	Displays the difference between Actual Usage and the Accounting Quantity.
Variance %	Displays as the (Quantity Variance/Accounting Quantity) * 100%.
Value Variance	Displays the difference between the value of material actually used and the value of material expected to use.
Total Variance	Displays the total of all Value Variances.
Total Usage Variance	Displays the difference between the Value Variance and Usage Variances.
Total Substitution Variance	Displays the total value of variances that result from ingredient substitution.

Running the Item Substitution for Batches Concurrent Program

Item Substitution for Batches is a concurrent program that substitutes the given items in the pending batches that match the effective date range. The concurrent program substitutes the item and displays the output that lists the updated batches and errors encountered during the substitution. You can run this program from the Process Execution Concurrent Programs window or directly from the Batch Details window Inventory menu.

Note: The batches that are placed on hold in Stop mode are not included.

Prerequisites

- Approve substitutes for items.

To run the Item Substitution for Batches concurrent program from the Process Execution Concurrent Programs window:

1. Navigate to the Parameters window.
2. Enter From Batch Number and To Batch Number to update batches within a specific range of batch numbers.
3. Enter the Ingredient to only update batches containing a specific ingredient.
4. Enter the Start Date. The start date refers to the Ingredient Substitution Date selected in the Process Execution Parameters window, which could be one of the following dates:
 - Batch planned start date
 - Ingredient requirement date
 - Batch planned completion date

Pending batches with a start date later than the date entered are updated with the substitute item.

5. Enter the End Date. Pending batches with an Ingredient Substitution Date, as defined in the Process Execution Parameters window, between the Start Date and End Date are updated after you run the concurrent program. If the End Date is not specified, then all pending batches later than the Start Date are updated.
6. Click OK.
7. Click Submit. Note the Request ID number.
8. Note the Request ID number.
9. Select View from the menu and select Requests to view the status of your request in the concurrent program manager. When your request ID is complete with a Status of Normal, display the results of the item substitution.
10. Click View Output on the Requests window to view the item substitutions performed in the batches.

To run the Item Substitution for Batches concurrent program from the Batch Details window:

1. Navigate to the Batch Details window.
2. Find the pending batch for which you want to run Item Substitution for Batches.

3. Determine whether you want to run the program for all ingredients with valid substitutions in the batch or for only one ingredient.
 - To run the program for all ingredients in the batch, click in one of the batch header fields.
 - To run the program for only one ingredient, select the ingredient line.
4. Choose Substitute Items from the Inventory menu.
This action runs the Item Substitution for Batches concurrent program.

Item Substitution for Batches Concurrent Program Output

The following table lists and describes various fields on the Item Substitution for Batches concurrent program output:

Field Name	Description
Organization ID	Displays the organization name.
Old Item	Displays the item to substitute entered on the Parameters window.
Date Range	Displays the effective date range entered on the Parameters window. All the batches in this date range with matching criteria are substituted.
From Batch Number and To Batch Number	Displays the batch number range entered on the Parameters window. All the batches in this range with matching criteria are substituted.

A message displays that the substitutions are successful. If a substitution does not occur for a batch, then an error message displays.

Running the OPM Outside Processing Report

OPM Outside Processing Report enables users to view all purchase orders linked to a batch. This report will give details of the Purchase Order related information according to the selected criteria submitted when running the report.

To submit the OPM Outside Processing report:

1. Navigate to the Submit Request window.
2. Enter OPM Outside Processing in the Name field.
3. Enter the following parameters to narrow the scope of the report:
 - From Batch No is the number of the first batch to include on the report.
 - To Batch No is the number of the last batch to include on the report.
 - To Product is the first product to include on the report.
 - From Product is the last product to include on the report.
 - Status is the batch status.
 - Open POs Only is set to Yes.
4. Click OK.
5. Complete the fields on the Submit Request window.
6. Click Submit.
7. View or print the report.

OPM Outside Processing Report Output

The following table lists and describes various fields on the OPM Outside Processing report:

Field Name	Description
Batch	Displays the batch document number.
Product	Displays product code and description.
Status	Displays the status of the batch.
Quantity Completed	Displays the quantity completed.

Scheduled Start Date	Displays the start date scheduled for the batch.
Sched Completion Date	Displays the completion date scheduled for the batch.
Step No	Displays batch step sequence number.
Res Seq	Displays the resource sequence.
Resource	Displays the resource being used.
PO Number	Displays the purchase order number
PO Release	Displays the purchase order release status.
Buyer	Displays the name of the buyer.
Vendor	Displays the name of the vendor.
PO Line	Displays purchase order line information.
Outside Processing Item	Displays the item being processed outside
UOM	Displays the primary unit of the measure for the item.
PO Shipment	Displays the purchase order shipment number.
Quantity Ordered	Displays the quantity ordered.
Quantity Delivered	Displays the quantity delivered.
Due Date	Displays the delivery due date.

Running the Ingredient Picking Concurrent Program

The Ingredient Picking concurrent program lets you pick ingredients for pending and WIP batches that have open ingredient requirements. The concurrent program picks the ingredients for the batches and displays the output that lists the picked batches and errors encountered during the picking.

Note: The batches that are placed on hold in Stop mode are not included.

To run the Ingredient Picking concurrent program:

1. Navigate to the Parameters window.
2. Enter Batches as:
 - All Batches to include unpicked and backordered batches. Default.
 - Backordered Batches Only for batches that have backordered requirements only.
3. Select Include Pending as Yes to include pending batches.
4. Select Include WIP as Yes to include work in process (WIP) batches.
5. Enter any of the following:
 - From Batch number to include batches with batch numbers starting with this number.
 - To Batch number to include batches with batch numbers between this batch number and From Batch number.
 - Operation to include batches with open ingredient requirements for an operation.
 - Version to include batches with open ingredient requirements for a version of the operation.
 - Product to include batches that produce a specific product.
 - Ingredient to include batches that use a specific ingredient.
 - Days Forward as the number of days to consider requirements for the pick release.
 - From Date and To Date to include batches that have ingredient requirements within a specific date range.
6. Enter the Pick Slip Grouping Rule to use for picking.
7. Select Print Pick Slip as Yes to print pick slips.
8. Select Plan Tasks as Yes to create tasks. This is enabled for Warehouse Management

Systems enabled organizations only. If this is selected as Yes, then picking tasks are created but not released. Refer to the *Oracle Warehouse Management User's Guide* and the *Oracle Mobile Supply Chain Application for Oracle Process Manufacturing* for more information.

Running the Migration Recreate Open Batches Concurrent Program

The Migration Recreate Open Batches is a concurrent program that allows you to recreate all the pending batches that were cancelled during the validation.

Important: This concurrent program applies to migration to Release 12.0.

To run the Migration Recreate Open Batches concurrent program:

1. Navigate to the Submit a New Request window.
2. Select Migration Recreate Open Batches.
3. Click Submit.
4. Note the Request ID Number.

Running the Make to Order Concurrent Program

The Make to Order concurrent program enables you to create batches or firm planned orders in response to sales orders and based on the applicable make to order rules. See: *Setting Up Make to Order Rules*, page 3-9.

Note: For input parameters where you can specify a range (Low and High values) the following conditions apply:

- If you specify a Low value and not a High value, then the program considers all order lines that meet or exceed the Low value for batch or FPO creation .
- If you specify a High value and not a Low value, then the program considers all order lines that are equal to or less than the High value entered for batch or FPO creation.

To run the Make to Order concurrent program:

1. Navigate to the Parameters window and enter appropriate information in the

following fields.

Field Name	Description
Operating Unit	Enter the organization where the production of the items mentioned in the sales orders is planned. The parameter can be defaulted or specified at run time. If this program is run for a specific Operating Unit then list of values for operating unit dependent parameters will be validated against the Operating Unit entered. Else those parameters will show appropriate values for all Operating Units the user has access to.
Use Reservation Time Fence	Set as Yes to include the value of the Process Execution Parameter, Use Reservation Time Fence, when creating batches or FPOs using the concurrent program.
Order Number (Low) and Order Number (High)	Enter appropriate values to consider a sales order or a range of sales orders for creating batches or firm planned orders.
Customer Name	Enter the name of customer to create batches or FPOs for sales orders from a specific customer.
Order Type	Enter appropriate order type to create batches or FPOs for sales orders of a specific order type.
Line Type	Enter appropriate line type to create batches or FPOs for sales orders for a specific line type.
Warehouse	Enter the name of warehouse to create batches or FPOs by warehouse (organization).
Item	Enter the name of specific item required for which you want to create batches or FPOs.

Field Name	Description
Line Request Date (Low) and Line Request Date (High)	Enter the dates to consider sales orders with line requests that were placed in a specific date range, for batch or FPO creation.
Schedule Ship Date (Low) and Schedule Ship Date (High)	Enter the dates to consider sales orders with schedule ship dates in a specific date range for batch or FPO creation.
Schedule Arrival Date (Low) and Schedule Arrival Date (High)	Enter the dates to consider sales order with schedule arrival dates in a specific date range for batch or FPO creation.
Ordered Date (Low) and Ordered Date (High)	Enter the dates to consider the sales orders that were ordered in a specific date range, for batch or FPO creation.
Demand Class	Enter the specific demand class to consider sales orders for batch or FPO creation. For example, internet sales, catalog sales. Refer to the <i>Oracle Advanced Supply Chain Planning and Implementation Guide</i> for more information. Enter a Demand Class previously defined in the application.
Planning Priority	Enter the planning priority to consider sales orders for batch or FPO creation. For example, you can set the concurrent program to first cum first serve basis planning priority to create batches for a sales order that was booked first. Enter a Planning Priority previously defined in the application
Booked	Set this option to Yes if the sales order is booked for production.

2. Click OK, then Submit.

The log file generated as a result of submission of the concurrent program displays the batch or FPO created for production based on the parameters entered.

Process Execution Workbench

The Process Execution Workbench is a navigator that lets you view summary information about batches and firm planned orders by organization, batch, firm planned order, product, and status. There are two tabs located on the navigator - Batches and Firm Planned Orders. Click either tab to access the summary information that you are interested in. The batch and firm planned order summary information windows provide access to batch and firm planned order maintenance windows so that you can review or edit the data. You can also create custom views that provide a convenient method to locate and access a batch or firm planned order.

This chapter covers the following topics:

- Creating a Custom View
- Viewing Batch Summary Information
- Viewing Firm Planned Order Summary Information
- Finding a Firm Planned Order from the Workbench
- Finding a Batch from the Workbench

Creating a Custom View

Use the Find function through the Process Execution Workbench to create either a standard or advanced custom view which is a convenient method to locate and access a batch or firm planned order. Once a view is generated, the criteria or output can be saved in the Personal or Public Shortcuts for future use.

See: *Oracle E-Business Suite User's Guide*

Standard Custom View

A standard custom view allows you to query the database for batches or firm planned orders based on organization, document, product, planned start date, and status. The result of the query lists the batch or firm planned order documents sorted by organization and document number. Double-click a document line in the results list to

display the Batches or Firm Planned Order windows. These windows are also accessible by selecting a document line in the results list and clicking Details. If the document is in the context organization, then this option is available. Use the Batch Details and Firm Planned Orders: Details windows to review or edit the data.

The following search criteria are available in the standard custom view. Enter any number or combination of fields:

- Organization

If an organization is entered, then a search is conducted for the organization for which the batch or firm planned order was created. If the organization field is left empty, then a search is conducted for batches or firm planned orders for all organizations you have access to.

- Document

Search for a specific batch or firm planned order by entering the document.

- Product

If a product is entered, then documents are retrieved that produce or yield this product.

- From Planned Start Date and To Planned Start Date

Search for documents scheduled within a specific range of planned start dates

- Status

If a status is selected, then batches or firm planned orders with the indicated status are located.

- Terminated

Select Terminated as Yes to search for terminated batches.

Once a view is generated, the criteria or output can be saved for future use in the Personal or Public Shortcuts.

Advanced Custom View

The advanced custom view lets you perform a complex query to search for batches or firm planned orders based on the criteria entered.

An advanced search on the following items is available:

- Organization
- Document
- Recipe

- Recipe Version
- Formula
- Formula Version
- Routing
- Routing Version
- Planned Start Date
- Planned Completion Date
- Actual Start Date
- Actual Completion Date
- Product
- Ingredient

The following operators are supported:

- Equal
- Like
- Less Than
- Less or Equal
- Greater Than
- Greater or Equal
- Less or Equal to Today +
- Less or Equal to Today -
- Greater or Equal to Today +
- Greater or Equal to Today -
- Today

To create an Advanced Custom View:

1. Select an item.
2. Select an operator from the Condition field.
3. Enter a specific value.
4. Once a view is generated, the criteria or output can be saved for future use in the Personal or Public Shortcuts.

Viewing Batch Summary Information

Use the Process Execution Workbench which is a navigator to view summary information about batches by batch, organization, product, and status. There are two tabs located on the navigator - Batches and Firm Planned Orders. Click the Batches tab to access summary information about batches. Use the View By option in the Process Execution Workbench to change the way you view the summary information.

The View By Batch options provides a list of batches ordered by planned start date, plant, or batch number. Only batches associated to the organizations that you have access to are listed in the navigator.

The View By Product options provides a list of batches organized by products. The product list is sorted by product code or product planning class. Only products and coproducts for which batches exist are listed in the navigator.

The View By Status option provides a list of batches organized by status code.

The View By Organization option provides a list of batches for an organization. Only organizations for which batches exist are listed in the navigator. Also, only batches associated to the organizations that you have access to are listed.

Batch Summary Window Features

The following features are available on a summary window:

Some of the summary windows provide a Number of Documents field. This is the number of documents on the summary window.

The Find option allows you to quickly locate a particular batch. Enter the Document to search for and click Find.

The Details button provides access to the Batch Details window for the current batch and is enabled only for documents in the context organization. Use the Batch Details window to review or edit the data.

The Batch Steps button provides access to the Batch Steps window for the current batch. Through the Batch Steps window, you can review or edit the data.

Batch Summary Windows Details

Each batch summary is described in this topic. A description of the summary and its associated fields are provided.

Summary of Documents by Organization

The Summary of Documents by Organization window displays all batches grouped by organization. To view this summary, the View By option must indicate Organization and an organization in the navigator must be selected.

The following fields are available in this summary window:

Number of Documents, Document, Status, Terminated Indicator, Product, Revision, Planned Quantity, UOM, Planned Start Date

Details lets you display the Batch Details window for the batch. Use **Find** to search for a specific batch.

Summary of Documents by Status

The Summary by Status window displays all batches grouped by status. Batches can be viewed by Pending, WIP, Completed, Closed, and Canceled. To view this summary, the View By option must indicate Status and a status in the navigator must be selected.

The following fields are available in this summary window:

Number of Documents, Document, Product, Revision, Planned Quantity, UOM, Planned Start Date

Details lets you display the Batch Details window.

Summary of Documents by Product

The Summary by Product window displays all batches grouped by product. To view this summary, the View By option must indicate Product and a product in the navigator must be selected.

The following fields are available in this summary window:

Number of Documents, Document, Status, Terminated indicator, Product, Revision, Planned Quantity, UOM, Planned Start Date

Details lets you display the Batch Details window.

Summary of Document

The Summary of Document window displays all batches grouped by an organization. To view this summary, a batch in the navigator must be selected.

The following fields are available in this summary window:

Document, Status, Terminated indicator, Laboratory Batch indicator , Product, Planned

Quantity, Actual Quantity, UOM, Planned Start Date, Planned Completion Date, Actual Start Date, Actual Completion Date

Details lets you display the Batch Details window. **Batch Steps** lets you display the Batch Steps window.

Summary of Batch Steps

The Summary of Batch Steps window displays all the steps for the selected batch. To view this summary, the Steps node for the batch in the navigator must be selected.

The following fields are available in this summary window:

Batch, Recipe, Version, Description, Step, Operation, Version, Description, Step Status, and Terminated indicator

Details lets you display the Batch Details window and **Batch Steps** lets you display the Batch Steps window for the batch.

Summary of Step

The Summary of Step window displays information about each batch step. To view this summary, select Steps in the navigator.

The following fields are available in this summary window:

Step, Step Status, Operation, Version, Operation Description, Planned Step Quantity, Planned Step Quantity UOM, Terminated indicator, Actual Step Quantity, Actual Step Quantity UOM, Planned Start Date, Actual Start Date, Planned Completion Date, Actual Completion Date

Details lets you display the Batch Details window and **Batch Steps** lets you display the Batch Steps window.

Summary of Products

The Summary of Products window displays all the products for the selected batch. To view this summary, the Products node for the batch in the navigator must be selected.

The following fields are available in this summary window:

Document, Recipe, Version, Description, Line, Item, Revision, Planned Quantity, Actual Quantity, UOM

Details lets you display the Batch Details window.

Summary of Byproducts

The Summary of Byproducts window displays all the byproducts for the selected batch. To view this summary, select the batch Byproducts node in the navigator.

The following fields are available in this summary window:

Document, Recipe, Version, Description, Line, Item, Planned Quantity, Actual Quantity,

UOM.

Details lets you display the Batch Details window.

Summary of Ingredients

The Summary of Ingredients window displays all the ingredients for the selected batch. To view this summary, select the batch Ingredients node in the navigator.

The following fields are available in this summary window:

Document, Recipe, Version, Description, Line, Item, Revision, Planned Quantity, Actual Quantity, UOM

Details lets you display the Batch Details window.

Summary of Ingredient

The Summary of Ingredient window displays information for the selected ingredient. To view this summary, select an ingredient for a batch in the navigator.

The following fields are available in this summary window:

Line, Item, Item Description, Planned Quantity, Actual Quantity, UOM, Consumption Type, Scale Type, Scrap Factor, Phantom Type

Summary of Step Details

The Summary of Step Details window displays the batch step detail. To view this summary, select the step activities node in the navigator. The following fields are available in this summary window:

Step, Operation, Version, Description, Activity, Activity Description, Planned Activity Factor, Actual Activity Factor

Details lets you display the Step Activities window.

Summary of Products By Step

The Summary of Products By Step window displays the products associated to a particular step. To view this summary, open a batch step in the navigator and select a Product.

The following fields are available in this summary window:

Document, Recipe, Version, Step, Line, Item, Revision, Planned Quantity, Actual Quantity, UOM

Details lets you display the Batch Details window.

Summary of Byproducts By Step

The Summary of Byproducts By Step window displays the byproducts associated to a particular step. To view this summary, open a batch step in the navigator and select a

Byproduct.

The following fields are available in this summary window:

Document, Recipe, Version, Step, Line, Item, Revision, Planned Quantity, Actual Quantity, UOM

Details lets you display the Batch Details window.

Summary of Ingredients by Step

The Summary of Ingredients by Step window displays the ingredients associated to a particular step. To view this summary, open a batch step in the navigator and select an Ingredient.

The following fields are available in this summary window:

Document, Recipe, Version, Step, Line, Item, Revision, Planned Quantity, Actual Quantity, UOM

Details lets you display the Batch Details window.

Summary of Product

The Summary of Product window displays information for the selected product. To view this summary, select a batch product in the navigator.

The following fields are available in this summary window:

Line, Item, Item Description, Planned Quantity, Actual Quantity, UOM, Yield Type, Scale Type, Cost Allocation

Summary of Byproduct

The Summary of Byproduct window displays information for the selected byproduct. To view this summary, select a batch byproduct in the navigator.

The following fields are available in this summary window:

Line, Item, Item Description, Planned Quantity, Actual Quantity, UOM, Yield Type, Scale Type

Summary of Step Activity

The Summary of Step Activity window displays information for each step activity. To view this summary, select a step activity in the navigator. The following fields are available in this summary window:

Step, Activity, Activity Description, Planned Start Date, Planned Complete Date, Actual Start Date, Actual Complete Date, Offset Interval, Planned Activity Factor, Actual Activity Factor

Details lets you display the Step Activities window.

Summary of Step Activity Resource

The Summary of Step Activity Resource window displays information for the selected resource. To view this summary, select a batch step resource in the navigator.

The following fields are available in this summary window:

Resource, Resource Description, Plan Resource Count, Plan Resource Quantity, Planned Resource Usage, Calculate Charges indicator, Actual Resource Count, Actual Resource Quantity, Actual Resource Usage, Planned Start Date, Planned Complete Date, Actual Start Date, Actual Complete Date, Resource Type, Offset Interval, Scale Type

Details lets you display the Step Resources window. **Process Parameters** lets you display the Process Parameters window

Note: The Details, Batch Steps, and Process Parameters buttons are enabled only for the documents in the context organization.

Viewing Firm Planned Order Summary Information

Through the Process Execution Workbench which is a navigator lets you view summary information about firm planned orders by organization, product, firm planned order and status. There are two tabs located on the navigator - Batches and Firm Planned Orders. Click the Firm Planned Orders tab to access summary information about firm planned orders. Use the View By option in the Process Execution Workbench to change the way you view the summary information.

The View By Firm Planned Order options provides a list of firm planned orders ordered by planned start date, organization, or firm planned order number. Only firm planned orders associated to the organizations that you have access to are listed in the navigator.

The View By Product options provides a list of firm planned orders organized by products. The product list is sorted by product code or product planning class. Only products and coproducts for which firm planned orders exist are listed in the navigator.

The View By Status option provides a list of firm planned orders organized by status code.

The View By Organization option provides a list of firm planned orders organized by organization. Only organizations for which firm planned orders exist are listed in the navigator. Also, only firm planned orders associated to the plant that you have access to are listed.

Firm Planned Order Summary Window Features

The following features are available on a summary window:

Some of the summary windows provide a **Number of Documents** field. This is the number of documents on the summary window.

The **Find** option allows you to quickly locate a particular firm planned order. Enter the Document to search for and click Find.

The **Details** button provides access to the Firm Planned Order: Details window for the current firm planned order. Through the Firm Planned Order: Details window, review or edit the data.

Firm Planned Order Summary Windows Details

Each firm planned order summary is described in this topic. A description of the summary and its associated fields are provided.

Summary of Documents by Organization

The Summary of Documents by Organization window displays all firm planned orders grouped by organization. To view this summary, the View By option must indicate organization and an organization in the navigator must be selected.

The following fields display in this summary window:

Number of Documents, Document, Status, Product, Revision, Planned Quantity, UOM, Planned Start Date

Details lets you display the Firm Planned Order: Details window.

Summary of Documents by Status

The Summary of Documents by Status window displays all firm planned orders grouped by status. Firm planned orders can be viewed by Pending, Converted Firm Planned Order, and Canceled. To view this summary, the View By option must indicate Status and a status in the navigator must be selected.

The following fields are available in this summary window:

Number of Documents, Document, Product, Revision, Planned Quantity, UOM, Planned Start Date

Details lets you display the Firm Planned Order: Details window.

Summary of Documents by Product

The Summary of Documents by Product window displays all firm planned orders grouped by product. To view this summary, the View By option must indicate Product and a product in the navigator must be selected.

The following fields are available in this summary window:

Number of Documents, Document, Status, Product, Revision, Planned Quantity, UOM, Planned Start Date

Details lets you display the Firm Planned Order: Details window.

Summary of Document

The Summary of Document window displays all firm planned orders by an organization. To view this summary, select a firm planned order in the navigator.

The following fields are available in this summary window:

Document, Status, Product, Planned Quantity, Actual Quantity, UOM, Planned Start Date, Planned Completion Date, Actual Start Date, Actual Completion Date

Details lets you display the Firm Planned Order: Details window.

Summary of Products

The Summary of Products window displays all the products for the selected firm planned order. To view this summary, select the Products node for the firm planned order in the navigator.

The following fields are available in this summary window:

Document, Recipe, Version, Description, Line, Item, Revision, Planned Quantity, Actual Quantity, UOM

Details lets you display the Firm Planned Order: Details window.

Summary of Byproducts

The Summary of Byproducts window displays all the byproducts for the selected firm planned order. To view this summary, select the Byproducts node for the firm planned order in the navigator.

The following fields are available in this summary window:

Organization, Document, Recipe, Version, Description, Line, Item, Revision, Planned Quantity, Actual Quantity, UOM

Details lets you display the Firm Planned Order: Details window.

Summary of Ingredients

The Summary of Ingredients window displays all the ingredients for the selected firm planned order. To view this summary, select the Ingredients node for the firm planned order in the navigator.

The following fields are available in this summary window:

Organization, Document, Recipe, Version, Description, Line, Item, Revision, Planned Quantity, Actual Quantity, UOM

Details lets you display the Firm Planned Order: Details window.

Summary of Ingredient

The Summary of Ingredient window displays information for the selected ingredient.

To view this summary, select an ingredient for a firm planned order in the navigator.

The following fields are available in this summary window:

Line, Item, Item Description, Planned Quantity, Actual Quantity, UOM, Consumption Type, Scale Type, Scrap Factor, Phantom Type

Summary of Product

The Summary of Product window displays information for the selected product. To view this summary, select a product in a firm planned order in the navigator.

The following fields are available in this summary window:

Line, Item, Item Description, Planned Quantity, Actual Quantity, UOM, Yield Type, Scale Type, Cost Allocation

Summary of Byproduct

The Summary of Byproduct window displays information for the selected byproduct. To view this summary, select a byproduct within a firm planned order in the navigator.

The following fields are available in this summary window:

Line, Item, Item Description, Planned Quantity, Actual Quantity, UOM, Yield Type, Scale Type

Note: The Details button is enabled only for the documents in the context organization.

Finding a Firm Planned Order from the Workbench

The Find Firm Planned Orders dialog box lets you search for and list all firm planned orders that fit the parameters you specify on the Standard and Advanced regions of the window.

Prerequisites

- Enter and save firm planned orders.

To find a firm planned order from the workbench:

1. Navigate to the Find Firm Planned Orders dialog box.
2. Enter as many parameters as needed to complete the search:
 - Enter search parameters in the Standard region for: Organization, Document Product, From Planned Start Date, To Planned Start Date, or Status.
 - Enter search parameters in the Advanced region for a specific: Item, Condition,

or Value.

3. Click Find.
4. Review the results of the search.

To save search criteria to Personal Shortcuts:

1. Click Save As ...
2. Select Search Criteria.
3. Enter a New Folder Name for the search criteria.
4. Click Save.

To save selected results of the search to Personal Shortcuts:

1. Click Save As ...
2. Select Only Selected Results.
3. Enter a New Folder Name for the selected results.
4. Click Save.

Finding a Batch from the Workbench

The Find Batch dialog box lets you search for and list all batches that fit the parameters you specify on the Standard and Advanced regions of the window.

Prerequisites

- Enter and save batches.

To find a batch from the workbench:

1. Navigate to the Find Batches dialog box.
2. Enter as many parameters as needed to complete the search:
 - Enter search parameters in the Standard region for:
 - Organization
 - Document

- Product
- From Planned Start Date
- To Planned Start Date
- Status
- Terminated
- Enter search parameters in the Advanced region for a specific:
 - Item
 - Condition
 - Value

3. Click Find.
4. Review the results of the search.

To display a selected Document Number:

1. Select the Document Number from the search Results list.
2. Click Details.

To save search criteria to Personal Shortcuts:

1. Click Save As ...
2. Select Search Criteria.
3. Enter a New Folder Name for the search criteria.
4. Click Save.

To save selected results of the search to Personal Shortcuts:

1. Click Save As ...
2. Select Only Selected Results.
3. Enter a New Folder Name for the selected results.
4. Click Save.

To set date conditions for a search:

1. Select one of the following for Item:
 - Planned Start Date
 - Planned Completion Date
 - Actual Start Date
 - Actual Completion Date

2. Select one of the following for the date Condition:
 - Equal to generate results that meet the parameters entered for dates equal to the value entered.
 - Greater Than to generate results that meet the parameters entered for dates greater than the value entered.
 - Less Than to generate results that meet the parameters entered for dates less than the value entered.
 - Greater or Equal to generate results that meet the parameters entered for dates greater than or equal to the value entered.
 - Less or Equal to generate results that meet the parameters entered for dates less than or equal to the value entered.
 - Like to find results similar to the information specified using the wildcard%. For example, select the condition Like, and enter JAN%, you find each target that contains entries with the letters JAN.
 - Greater or Equal to Today + to generate results that meet the parameters entered for dates greater than or equal to the current date plus the value entered.
 - Greater or Equal to today - to generate results that meet the parameters entered for dates greater than or equal to the current date minus the value entered.
 - Less or Equal to Today + to generate results that meet the parameters entered for dates less than or equal to the current date plus the value entered.
 - Less or Equal to Today - to generate results that meet the parameters entered for dates less than or equal to the current date minus the value entered.
 - Today to generate results that meet the parameters entered for the current date.

The Value field does not apply to this condition.

If you save this search to your Personal Shortcuts, then the application uses the current system date when you rerun the saved search.

3. Enter the Value for the selected condition.
4. Click Find.

Using the Oracle Forms-Based Production Scheduler Workbench

This topic provides a basic understanding of the Production Scheduler Workbench including the bucketed load for a selected set of plant resources, continuous resource load, and a chart of activities to assist in the rescheduling of batches and firm planned orders. The Gantt chart lets you change plant assignments, adjust bucket sizes, and filter batches and firm planned orders based on selected criteria.

This chapter covers the following topics:

- Understanding the Production Scheduler Workbench
- Using the Production Scheduler Workbench
- Configuring Scheduler Startup Parameters
- Using the Filter
- Displaying the Document Properties
- Displaying the Operation Properties
- Displaying the Activity Properties
- Displaying the Resource Properties
- Rescheduling a Batch or Firm Planned Order
- Rescheduling Batch Steps
- Displaying Composite Resources
- Rescheduling a List of Batches
- Changing or Finding an Organization

Understanding the Production Scheduler Workbench

Note: There are two types of Production Scheduler Workbenches available for your use:

- Oracle Forms-based Production Scheduler Workbench, which is documented in this topic.
- HTML-based Production Scheduler Workbench. See Understanding the Production Scheduler Workbench, page 17-1. Eventually, as more functional requirements are added to the HTML-based Production Scheduler Workbench, it will replace the Oracle Forms-based Production Scheduler Workbench.

The Production Scheduler Workbench provides a graphical display of scheduled production activities. Batches and firm planned orders are depicted as horizontal bars. View resource load information such as requirements versus capacity in the following formats:

- Continuous horizon
- Table
- Vertical bar

Use the Production Scheduler Workbench as a reactive scheduling tool to address unanticipated events such as material shortages or unavailable resources. The Production Supervisor responsibility can reschedule batches, firm planned orders, and operations with a drag-and-drop operation.

The Production Scheduler Workbench offers the following capabilities:

- Display scheduled production activities for a specified plant graphically in a Gantt chart framework.
- Reschedule batches, firm planned orders, and operations using a drag-and-drop operation.
- Gain access to appropriate batch and firm planned order panes for creation and maintenance tasks.

Continuous Resource Load

The Production Supervisor can display the horizon as a continuous resource load graph for a selected set of plant resources.

Bucketed Resource Load

The Production Supervisor can display the bucketed load for a selected set of plant resources, and view resource load information in either a tabular format or a vertical bar format.

Understanding the Gantt chart in the Production Scheduler

The Gantt chart is a tool that depicts project tasks with their associated resources in a timeline. Gantt charts let you track the progress of the project from start to finish.

Project

A project is a set of activities that ends with specific accomplishment, and has nonroutine tasks, distinct start and finish dates, and resource constraints such as time, money, people, and equipment.

Tasks

Tasks are activities that must be completed to achieve the project goal. It is customary to break the project into tasks and subtasks. Tasks have a start date and time, and an end date and time. The Production Scheduler Workbench uses routings as the high-level tasks. The routing subtasks are composed of operations organized into stepwise activities that use human and material resources.

Milestones

Milestones are important checkpoints or interim goals for a project. The production routing start dates and end dates are milestones.

Gantt chart

The Gantt chart displays shop activities in a timeline. It provides a means to reschedule batches and firm planned orders graphically using the drag-and-drop operation.

The Gantt chart provides the following capabilities:

- Display batches, firm planned orders, and their related operations, activities, and resources for a specified plant.
- Change the current plant to another production facility.
- Reschedule batches, firm planned orders, and operations with a drag-and-drop operation.
- Integrate completely with other Process Execution functions.
- Adjust bucket sizes that affects the Gantt chart and associated resource load versus capacity view.
- Filter out batches and firm planned orders shown on the Gantt chart and store the user-defined selection criteria in the database.
- Reschedule, create, and maintain batch or firm planned order functions controlled through the Security Function.

- Use of the workday calendar to schedule batches and firm planned orders.

Resource Load versus Capacity

The Resource Load functionality provides the following capabilities:

- Select from a list of resources to display load.
- Display either continuous or bucketed resource load.
- Access the Batch List pane to display firm planned orders and batches that consume the selected resource. Reschedule batches and firm planned orders from this pane.

Production Scheduler Workbench Layout

The Production Scheduler Workbench enables you to view all scheduled batches and firm planned orders for a particular plant. Reschedule batches and firm planned orders interactively. Reschedule operations using drag-and-drop operations.

The workbench has four panes:

- Top left pane, the navigator, set as default.
- Top right pane, the Gantt chart, set as default.
- Bottom left pane, the Selected Resources.
- Bottom right pane, the Resource Load Versus Capacity graph.

The Production Scheduler Workbench view defaults to the hierarchical navigator and the Gantt chart panes. The Selected Resources and Resource Load Versus Capacity panes appear when you select Show or Hide Resource Load on the tool palette.

Navigator Pane

There are four levels of information or branches in the navigator:

- Document, as a batch or firm planned order with product information
- Operation with version
- Activity
- Resource

The top-level batch or firm planned order is created dynamically as you display the Production Scheduler Workbench. It is based on the filter criteria defined for the default plant. When a node is expanded in the navigator, horizontal bar charts representing each child node also display.

Gantt chart Pane

The Gantt chart pane consists of a timeline that appears at the top of the pane, and a

horizontal bar chart. The timeline represents a time axis or bucket for the horizontal bar chart. The Gantt chart mirrors the information presented in the navigator. The color of the horizontal bar chart represents the status of the batch or FPO.

- Batches that are finite scheduled (scheduled by WPS engine of Manufacturing Scheduling) and in pending state display in yellow.
- Batches that are not finite scheduled and in pending state display in blue.
- Batches in WIP state display in green.
- Batches in completed state display in dark green.

The same color representation of status applies to batch steps. The horizontal bar charts show scheduled production activities over time for each:

- Batch
- Firm Planned Order
- Operation
- Activity
- Resource

The left vertical edge of a horizontal bar represents the start date. The right vertical edge of a horizontal bar represents the end date. A vertical line displays below the current date.

The Gantt chart pane lets you:

- Reschedule batches, firm planned orders, and operations manually using a drag-and-drop operation or through direct access to the Reschedule dialog box. You can only reschedule pending production documents with drag-and-drop. Use the Reschedule dialog box to reschedule work as described in Rescheduling a Batch or Firm Planned Order, page 16-17.
- View the properties of each object shown in the Gantt chart such as batch, firm planned order, operation, activity, and resource. Properties displays the information about dates, quantities, and descriptions.

All horizontal bar charts may not be visible, since the start date of the related objects may fall outside of the time interval determined by the window boundaries. To make a particular object visible in the Gantt chart:

- Move the horizontal scroll bar until the desired object displays.

- Enter a new start date in the date field on the tool palette. The Gantt chart scrolls to the first batch or firm planned order for which the start date is found to be the closest to the entered date.
- Double-click on the desired object in the navigator to make the timeline scroll to the start date of the selected object in the navigator.
- Use the Adjust Unit Width slider to adjust the minor scale on the workbench.

Selected Resources Pane

The Selected Resources pane displays details regarding resources selected through the Select Resources dialog box. When you click Select Resources, the Select Resources dialog box displays. This lets you select the available resources to display in the Resource Load Versus Capacity pane. Only resources belonging to the current plant are shown.

Resource Load Versus Capacity Pane

This pane displays the Required resource load versus the Available resource capacity for the selected resources that display in the Select Resources pane. This pane shares the same timeline as the Gantt chart pane.

The Required resource load, Available resource capacity, and Overload resource capacity key indicators display to the right of the graphic menu. The key indicators are:

- **Required**, the number of units required by the resource for all batches in that time bucket.
- **Available**, the number of resource capacity units in that time bucket. These may be already assigned.
- **Overload**, the number of resource units that are required but already committed.

The graphic menu provides the following choices:

- **Table** displays a tabular format. The top number in the table represents the Required resource load. The bottom number represents the Available resource capacity.
- **Continuous** displays a continuous graph. Non-bucketed lines representing Required, Available, and Overload resources accurate to the minute.
- **Bar** displays a bar graph. The number on the left represents the Required resource load. The number on the right represents the Available resource capacity.

When you select:

- **Table** or **Bar** - the Required and Available key indicators display.
- **Continuous** - the Required, Available, and Overload key indicators display.

Identifying Buttons on the Scheduler Workbench

The following discussion and graphic identify and explain each of the tools that display on the Scheduler Workbench tool palette:

1 is the Refresh button. Click it to refresh panes with data retrieved from the database.

2 is the Enable/Disable Scheduling button. Click it to enable scheduling in the Scheduler Workbench. Click it again to disable scheduling in the Scheduler Workbench.

3 is the Show/Hide Resource Load button. Click it to show the resource load. Click it again to hide the resource load.

4 is the Refresh Resource Load button. Click it to refresh the load for a selected resource.

5 is the Help button. Click it to display online help for the current window or dialog box.

The following is a graphic of the previously described toolbar buttons:



Adjusting Timescale Unit Width on the Workbench

Move the Adjust Unit Width slider to the left to decrease the interval step size of the timescale, or move the slider to the right to increase the interval step size of the timescale.

Adjusting the Minor Scale Interval on the Workbench

The timescale consists of a major scale interval and a minor scale interval in units ranging from 15 minutes to one month:

1. Right-click the minor scale interval on the workbench.
2. Select one of the following to resize the minor time scale interval:
 - **15 minutes**
 - **30 minutes**
 - **Hours**
 - **Days**
 - **Weeks**
 - **Months**

The unit interval adjusts to the scale unit selected.

Rescheduling During Nonworking Time

Planners can schedule the shop floor to accommodate nonworking time. The Gantt chart pane highlights nonworking time by use of a color that contrasts with the background color used to represent work time during the workday.

Rescheduling Without a Defined Shop Day

If a workday calendar exists, but there is no work day defined for the dates that a batch is scheduled, then the application issues a warning:

No work day has been defined on the workday calendar for a day during this batch.
Reschedule batch anyway (Y/N)?

If you click Y (Yes), then the application continues the rescheduling process. If you click N (No), then you return to the Reschedule window. This does not occur if you reschedule a firm planned order.

Using the Real Calendar to Display the Timeline

If the dates you schedule fall outside the workday calendar date range, or a workday calendar is not assigned to the current organization, then the real calendar displays on the timeline. Weekends then appear as workdays.

The workday calendar does not extend infinitely in either direction of the dates displayed. Therefore, the real calendar displays on either side of its limits.

Yielding a Finite Scheduled Plan

The Advanced Planning and Scheduling (APS) application replaces the Work In Process Planning Scheduler (WPS) finite scheduling process and yields a finite scheduled plan. If the details of a batch or planned order are returned from APS, then it is the same as scheduling a batch in WPS. The Finite Scheduled indicator is selected when the WPS engine reschedules the batch details. Batch details are related to the routing that is returned or scheduled by APS. APS allows either order header planning or order detail planning.

Using the Production Scheduler Workbench

The Production Scheduler Workbench enables you to manage shop floor schedules. Refer to Understanding the Production Scheduler Workbench, page 16-2 for an explanation of the tool palette and layout of the window panes.

Prerequisites

- Set up the Display Nonworking Days parameter.
- Create batches and firm planned orders.

To display the Production Scheduler Workbench:

Select Production Scheduler from the Production Supervisor responsibility menu.

Refer to Configuring Scheduler Startup Parameters, page 16-10 for more information.

To display the resource load in table, continuous, or bar formats:

1. Click Show/Hide Resource Load to display the resource load.
2. Click Select Resource(s) to display the Select Resource(s) dialog box.
3. Select one or more resources.
4. Click OK.
5. Select one of the following display formats:
 - Table to display the resource load with the Required hours in the top cell and the Available hours in the bottom cell.
 - Continuous to display the resource load with a three-dimensional overlay of Required hours, Available hours, and Overload hours. This format identifies resource contentions. Each horizontal line represents the scaled number of hours that display in the left pane.
 - Bar to display a bar graph of the Required hours on the left and the Available hours on the right.

Extend the vertical lines that separate each format up to the dates listed in the Gantt chart pane to determine the date.
6. Click Show/Hide Resource Load again to hide the resource load.

To go to the current date:

Following are the methods to go to the current date:

- Click **Go To Today**.
- Enter the current date and time.

The graph adjusts to the current date and time, indicated by a vertical line from the top to the bottom of the Gantt chart pane.

To display the product information tooltip:

1. Position the cursor over a batch or firm planned order on the Gantt chart. The tooltip displays the batch or firm planned order with its status, main product code, planned or actual quantity, and UOM.
2. Move the cursor to hide the tooltip.

To display the operation tooltip:

1. Position the cursor over an operation bar on the Gantt chart. The tooltip displays the operation and its version. The operation version displays to the right of the slash mark (/).
2. Move the cursor to hide the tooltip.

Configuring Scheduler Startup Parameters

The Scheduler Workbench Startup Parameters dialog box lets you configure the Scheduler Workbench view.

Prerequisites

- Create batches and firm planned orders.

To configure startup parameters:

1. Navigate to the Scheduler Workbench Startup Parameters dialog box and enter appropriate information in the following field.

Field Name	Description
From Date	Enter the starting date and time to begin viewing the production schedule for the organization. Use the LOV to display the Calendar date-time editor. Required.
To Date	Enter the ending date and time to end viewing the production schedule for the organization.
From Document	Enter the starting document number to include in the scheduler window.
To Document	Enter the last document number to include in the scheduler window.

2. Select one or both of the following:
 - Batch to display the specified batch document or all batches found for the specified parameters.
 - FPO to display the specified firm planned order document number or all firm

planned orders found for the specified parameters.

Batch Status:

Select one or more of the following:

- Pending to display pending batches.
 - WIP to display work in process batches.
 - Completed to display completed batches.
3. Enter the Product, Ingredient, or Resource. Keep the % in each of these fields to display all components found for the specified parameters.

Resource Type:

4. Enter the Resource Type as:
- Auxiliary to display all auxiliary resources found for the specified parameters.
 - Primary to display all primary resources found for the specified parameters.
 - Secondary to display all secondary resources found for the specified parameters.
5. Click Gantt chart to display the Scheduler Workbench window.

Using the Filter

The Filter dialog box lets you narrow the Scheduler Workbench display of documents, statuses of batches or firm planned orders, product codes, ingredients used, and resource types.

Prerequisites

- Create batches and firm planned orders.

To use the filter:

1. Click Filter...
2. Enter one or more of the following fields to narrow the information displayed:
 - Starting date and time in the From window.
 - Ending date and time in the To window.
 - From Document and To Document to find batches within a specific range of

batch numbers.

- Product code of the primary product produced in the batch.
 - Ingredient Used in the product.
 - Resource used in the routing.
3. Select Batches or Firm Planned Orders to filter by document type.
 4. Select Batch Status as any combination of Pending, WIP, or Completed.
 5. Select Resource Type as any combination of Auxiliary, Primary, or Secondary.
 6. Click Apply to view the results of the filtering.
 7. Click OK to close the dialog box.

Displaying the Document Properties

The Document Properties dialog box lets you display scheduling and status information about batches and firm planned orders.

Prerequisites

- Create batches and firm planned orders.

To display document properties:

1. In the navigator, right-click the batch or firm planned order node and select **Properties**. The Document Properties dialog box displays.

Batch or FPO:

The following table lists and displays various fields in the Batch or FPO section:

Note: The following fields are display only:

Field Name	Description
Batch or FPO	Displays the document name.
Product	Displays the main product with its description.

Field Name	Description
Planned Start Date	Displays the planned start date and time of the batch or FPO.
Planned End Date	Displays the planned completion date and time of the batch or FPO.
Actual Start Date	Displays the actual start date and time of the batch or FPO.
Status	Displays the current status of the batch or FPO.
Planned Quantity	Displays the quantity of material to be produced and its UOM.
Actual Quantity	Displays the actual quantity of material produced for the first product in the batch or FPO. Note: This displays only for batches in WIP and completed status.
Finite Scheduled	Displays if the batch is scheduled by the Manufacturing Scheduling WPS engine.

2. Click **Recipe** to display information about the recipe derived from the recipe validity rule used to create the batch or FPO.

Recipe:

The following table lists and describes various fields in the Recipe section

Note: The following fields are display only.

Field Name	Description
Recipe	Indicates the recipe code.
Version	Indicates the recipe version.

Field Name	Description
Description	Indicates the recipe description.
Formula	Indicates the formula used in the document type.
Version	Indicates the formula version.
Description	Indicates the formula description.
Routing	Indicates the routing used in the document type.
Version	Indicates the routing version.
Description	Indicates the routing description.

3. Click OK to close the dialog box.

To display batch details:

In the navigator, right-click the batch or firm planned order node and select Details.

Refer to Editing a Batch, page 6-25 for more information about this page.

Displaying the Operation Properties

The Operation Properties dialog box lets you display information about operations in each of the routing steps in a batch or firm planned order.

Prerequisites

- Create batches and firm planned orders.

To display the operation properties:

1. In the navigator, right-click the operation node and select Properties. The Operation Properties dialog box displays.

The following table lists and describes various fields.

Note: The following fields are display only.

Field Name	Description
Operation	Displays the operation code. Its version displays to the right of the slash mark (/), and its description displays on the next row.
Step	Displays the step number.
Planned Start Date	Displays the planned start date and time of the step.
Planned End Date	Displays the planned completion date and time of the step.
Status	Displays the status of the step.
Planned Quantity	Displays the planned step quantity.

Displaying the Activity Properties

The Activity Properties dialog box lets you display information about activities in each of the operations in a batch or firm planned order.

Prerequisites

- Create batches and firm planned orders.

To display the activity properties:

1. In the navigator, right-click the activity node and select Properties. The Activity Properties dialog box displays.

The following table lists and describes various fields.

Note: The following fields are display only.

Field Name	Description
Activity	Displays the activity code and description.

Field Name	Description
Start Date	Displays the start date and time of the activity.
End Date	Displays the completion date and time of the activity.
Cost Analysis Code	Displays the cost analysis code and description.

Displaying the Resource Properties

The Resource Properties dialog box lets you display information about each of the resources assigned to activities in a batch or firm planned order.

Prerequisites

- Create batches and firm planned orders.

To display the resource properties:

1. In the navigator, right-click the resource node and select **Properties**. The Resource Properties dialog box displays.

The following table lists and describes various fields.

Note: The following fields are display only.

Field Name	Description
Resource	Displays the resource code and description.
Plan Count	Displays how many resources are needed for the activity.
Plan Quantity	Displays how much material is planned for the activity and the UOM for this material.
Plan Usage	Displays how long the resource runs and the usage UOM, which is usually in hours.

Field Name	Description
Offset Interval	Displays the time offset from the start of the activity to when the resource is actually used.
Planned Start Date	Displays the planned start date and time for the resource.
Planned End Date	Displays the planned completion date and time for the resource.
Resource Type	Displays if the resource is Primary, Secondary, or Auxiliary.
Charge	Displays the charge number.
Scale Type	Displays the scale type used to scale the resource. Options are Fixed, Scalable, and By Charge.

Rescheduling a Batch or Firm Planned Order

The Reschedule dialog box lets you reschedule a batch or firm planned order. You can use drag-and-drop or the resize option to reschedule pending documents.

Prerequisites

- Create batches and firm planned orders.

To reschedule a batch or firm planned order using the navigator:

1. In the navigator, right-click the batch or firm planned order node and select Reschedule.
2. Batch or Firm Planned Order displays the document number.
3. Enter a new Start Date and time.
4. Enter a new End Date and time.
5. Select Use Workday Calendar to use the workday calendar to reschedule the batch or firm planned order.

6. Click Reschedule.
7. If the batch is finite scheduled, then the following message displays:
This batch was previously scheduled by Manufacturing Scheduler, continue (Y/N)?
Click Yes to reschedule. This action resets the Finite Scheduled indicator on the Batch Details window.

To reschedule a batch or firm planned order using the resize option:

1. In the Gantt chart pane, click the graph line next to the batch or firm planned order to reschedule. A small hand appears to indicate that you can reschedule it. Two handles appear on the line. The left handle adjusts the Start Date. The right handle adjusts the End Date.
2. Reschedule the batch or firm planned order using one of these methods:
 - Drag the left handle to the left to decrease the Start Date.
 - Drag the right handle to the right to increase the End Date.The Reschedule dialog box appears with the selected Start Date and End Date and the option to use the workday calendar. You can edit these entries.

3. Click Reschedule.
4. If the batch is finite scheduled, then the following message displays:
This batch was previously scheduled by Manufacturing Scheduler, continue (Y/N)?
Click Yes to reschedule. This action resets the Finite Scheduled indicator on the Batch Details window.

To reschedule a batch or firm planned order using the drag-and-drop option:

1. In the Gantt chart pane, click the batch or firm planned order you want to reschedule.
2. Drag the batch or firm planned order to its new location on the schedule and drop it. The Reschedule dialog box appears with the selected Start Date and End Date.
3. You can edit the Start Date and the End Date.
4. Select Use Workday Calendar to reschedule the batch or firm planned order using the workday calendar.
5. Click Reschedule.

6. If the batch is finite scheduled, then the following message displays:
This batch was previously scheduled by Manufacturing Scheduler, continue (Y/N)?
Click Yes to reschedule. This action resets the Finite Scheduled indicator on the Batch Details window.

To display batch or firm planned order details:

In the navigator, right-click the batch or firm planned order node and select Details.

Rescheduling Batch Steps

The Reschedule dialog box lets you reschedule batch steps.

Prerequisites

- Create batches and firm planned orders.

To reschedule batch steps using the navigator:

1. In the navigator, right-click the batch step node and select Reschedule.
2. Step displays the step number and code.
3. Enter a new Start Date and time.
4. Enter a new End Date and time.
5. Select Reschedule Preceding Steps to reschedule the steps preceding Step.
6. Select Reschedule Succeeding Steps to reschedule the steps succeeding Step.
7. Select Use Workday Calendar to use the workday calendar to reschedule the batch steps.
8. Click Reschedule.
9. If the batch is finite scheduled, then the following message displays:
This batch step was previously scheduled by Manufacturing Scheduler, continue (Y/N)?
Click Yes to reschedule. This action resets the Finite Scheduled indicator on the Batch Details window.

To reschedule batch steps using the resize option:

1. In the Gantt chart pane, click the graph line next to the batch step you want to

reschedule. A small hand appears to indicate that you can reschedule the step. Two handles appear on the line. The left handle adjusts the Start Date. The right handle adjusts the End Date.

2. Reschedule the step using one of these methods:
 - Drag the left handle to the left to decrease the Start Date.
 - Drag the right handle to the right to increase the End Date.
3. The Reschedule dialog box appears with the selected Start Date and End Date and the option to use the workday calendar. You can edit these entries.
4. Click Reschedule.
5. If the batch is finite scheduled, then the following message displays:

This batch step was previously scheduled by Manufacturing Scheduler, continue (Y/N)?

Click Yes to reschedule. This action resets the Finite Scheduled indicator on the Batch Details window.

To reschedule batch steps using the drag-and-drop option:

1. In the Gantt chart pane, click the batch step you want to reschedule.
2. Drag the step to its new location on the schedule and drop it. The Reschedule dialog box appears with the selected Start Date and End Date and the option to use the workday calendar. You can edit the Start Date and the End Date.
3. Click Reschedule.
4. If the batch is finite scheduled, then the following message displays:

This batch step was previously scheduled by Manufacturing Scheduler, continue (Y/N)?

Click Yes to reschedule. This action resets the Finite Scheduled indicator on the Batch Details window.

Displaying Composite Resources

The resource composite view lets the production planner display the load versus capacity graph of a selected set of resources. From this graph, you can request all batches and firm planned orders that consume a selected resource within a selected time bucket.

Prerequisites

- Create batches and firm planned orders.

To select resources for a composite resource view:

1. Use one of these methods to display the resource load pane:
 - Click Show/Hide Resource Load.
 - From the Actions menu, select Show/Hide Resource Load.
2. Click Select Resource(s)... to display the Select Resource(s) dialog box.
3. Select one of these methods to move resources:
 - Click the desired resource in Available Resources, then click the single right-arrow button to move it to the Selected Resources.
 - Click the double right-arrow button to move all items in Available Resources to the Selected Resources.

To remove resources from the composite resource view:

1. Click Select Resource(s)... to display the Select Resource(s) dialog box.
2. Select one of these methods to move resources:
 - Click the desired resource in Selected Resources, then click the single left-arrow button to move it to the Available Resources.
 - Click the double right-arrow button to move all items in the Selected Resources to the Available Resources.

Rescheduling a List of Batches

The Reschedule dialog box lets you reschedule one or several batches that are consuming a particular resource for a given period of time. You cannot change the start date for a WIP batch. If you want to reschedule a particular WIP batch, then override the plan completion date. The application reschedules batches that have changed the planned start or completion dates. If the Gantt chart is in view mode, then you cannot reschedule a batch. Click on the Enable/Disable Scheduling icon on the toolbar to switch from view mode to the scheduling mode.

Prerequisites

- Create batches and firm planned orders.

To reschedule a list of batches or firm planned orders:

1. Use one of these methods to display the resource load pane:
 - Click Show/Hide Resource Load.
 - From the Actions menu, select Show/Hide Resource Load.
2. Type the scheduled date and time in the Go To field and press Enter. The Gantt chart displays the scheduled start date entered.
3. Click Select Resource(s) to display the Select Resource(s) dialog box.
4. Use one of these methods to move resources:
 - Click the desired resource in Available Resources, then click the single right-arrow button to move it to the Selected Resources.
 - Click the double right-arrow button to move all items in Available Resources to the Selected Resources.
5. Click OK.
6. Double-click the desired time bucket in the Resource Load graph. The Reschedule dialog box displays. All documents consuming the selected resource within the selected time bucket are displayed in the Reschedule dialog box.

The following table lists and describes various fields in the Reschedule dialog box.

Field Name	Description
Use Workday Calendar	Determine if you want to use the workday calendar in the rescheduling. Select this option to use the workday calendar.
Document	Displays the document number.
Start Date	Displays the batch start date and time. You can edit this field if the batch is not released.
End Date	Displays the batch completion date and time. You can edit this field to redistribute the scheduled workload.

Field Name	Description
Duration	Displays the time until the scheduled End Date in hours and minutes.
Document Type	Displays the Batch or Firm Planned Order document type.
Status	Displays the current status of the listed document type.

7. Click Reschedule to reschedule the batches, or click Cancel to cancel the action. All edited batches are rescheduled.

Changing or Finding an Organization

The Change Organization dialog box lets you change or find an organization.

Prerequisites

- Create batches and firm planned orders.

To change an organization:

1. From the Actions menu, select Change Organization. The Change Organization dialog box displays.
2. Select the Organization.

To find an organization:

1. From the Actions menu, select Change Organization. The Change Organization dialog box displays.
2. Enter the desired organization in the Find field.

Using the HTML-Based Production Scheduler Workbench

This chapter covers the following topics:

- Understanding the Production Scheduler Workbench
- Searching for Batches
- Viewing the Batch Schedule and Details
- Rescheduling Batches

Understanding the Production Scheduler Workbench

You can use the HTML-based version of the Production Scheduler Workbench to perform many of the same tasks as the Oracle Forms-based Production Scheduler Workbench, but not all. Until you can use the HTML-based Production Scheduler Workbench to accomplish more of the same tasks, you can access both Production Scheduler Workbench versions. Use the HTML-based Production Scheduler Workbench to perform the following tasks:

- Search for batches by batch name, planned start date, resource, ingredient, product, or status.
- Zoom in and out of the production schedule to view batch information by hour, day, week, month, quarter, or year.
- Drill down into and view all of the following batch information on one page:
 - A batch, it's status, planned start date, and planned end date.
 - All steps within a batch.
 - Each activity within a step.

- Each resource within an activity.
- A timeline of all production batches, steps, activities and resources.
- Navigate to the **Batch Details** window for additional batch information.
- Reschedule a batch or operation.

Searching for Batches

Use the Production Scheduler Workbench to search for batches, view batch details, and then reschedule batches or operations as needed.

To search for a batch:

1. From the **Home** page, select the **Production Supervisor** responsibility and then **Scheduler Workbench**.

The Production Supervisor **Batch Search** page opens.

2. In the **Organization** field, select an organization, then click **Go**.
3. Enter batch search criteria in one or more of the following fields:
 - **Date From:** the **Planned Start Date** of a batch begins on this date or later.
 - **Date To:** the **Planned Start Date** of a batch begins on this date or earlier.
 - **Batch From:** this batch number and greater.
 - **Batch To:** this batch number and less.
 - **Batch Status:** select which of the following batch statuses to include in your search results.
 - **Pending**
 - **WIP**
 - **Complete**

4. Click **Go**, or click **Show More Search Options**.

If you clicked **Go**, the search results appear. Otherwise, enter additional search criteria.

5. Enter additional batch search criteria in one or more of the following fields:

- **Product:** search for and select a batch product.
- **Resource:** search for and select a resource used in a batch.
- **Ingredient:** search for and select an ingredient consumed in a batch.

6. Click **Go**.

The batches that meet the search criteria appear in the **Scheduler Workbench** region, which is divided into two parts: a table that lists each batch and a Gantt chart that displays each batch along an interactive timeline.

7. To begin a new search, click **Clear**.

Viewing the Batch Schedule and Details

Once the batches that meet your search criteria appear (see Searching for Batches, page 17-2), you can use the **Scheduler Workbench** region to view the following details about each batch:

- **Status** - Pending, WIP, or Complete
- **Start Date** - If the batch status is Pending, this represents the planned start date. If the batch status is WIP or Complete, this represents the actual start date.
- **End Date** - If the batch status is Pending or WIP, this represents the planned end date. If the batch status is Complete, this represents the actual end date.

This information appears in table format as well as in a Gantt chart format.

To view the batch schedule details:

1. Hover over a bar for a batch in the Gantt chart region.

The following batch information appears over the bar:

- **Batch** - the batch number
- **Status** - Pending, WIP, or Complete
- **Product**
- **Planned Quantity**
- **UOM** - the unit of measure of the planned quantity.
- **Planned Start Date**

- **Planned End Date**
- **Actual Start Date**
- **Actual End Date**
- **Start Date** - If the batch status is Pending, this represents the planned start date. If the batch status is WIP or Complete, this represents the actual start date.
- **End Date** - If the batch status is Pending or WIP, this represents the planned end date. If the batch status is Complete, this represents the actual end date.

2. In the table region, expand a batch.

The batch's steps appear in the table and in the Gantt chart. Hover over the Gantt chart bar for a step to view the following step information:

- **Operation** - lists the step number, the name of the operation performed, and the planned quantity.
- **Status** - the status of the operation: Pending, WIP, or Complete.
- **Actual Start Date**
- **Actual End Date**
- **Start Date** - If the step's status is Pending, this represents the planned start date. If the step's status is WIP or Complete, this represents the actual start date.
- **End Date** - If the step's status is Pending or WIP, this represents the planned end date. If the step's status is Complete, this represents the actual end date.

3. Expand a batch step to see the activity performed and resources used within the step.

The activity and resources appear in both the table and in the Gantt chart. Hover over the Gantt chart bars for the activity and for the resources to view the following information:

- **Activity** - the activity name. This appears only when hovering over the activity Gantt chart bar.
- **Resource** - the resource name. This appears only when hovering over the resource Gantt chart bar.
- **Actual Start Date**
- **Actual End Date**

- **Start Date** - the planned start date for the activity or resource.
- **End Date** - the planned end date for the activity or resource.

Tip: When you hover over the Gantt chart date range header, zoom icons appear. Use them to zoom in and out of a date range. Zoom in and out between hours, days, weeks, months, quarters, and years.

To view additional batch details:

4. In the **Scheduler Workbench** region, **Batch** column, click a batch link.

The **Batch Details** window opens in view-only mode. Use this window to view additional details about the batch.

Rescheduling Batches

You can reschedule a batch or an operation from the Scheduler Workbench Gantt chart.

To reschedule a batch or operation from the Scheduler Workbench:

1. For a particular batch or operation, right-click a Gantt chart bar, then select **Reschedule** from the menu.

Depending upon whether you select a batch or operation, the **Batch Reschedule** or **Operation Reschedule** dialog box opens.

2. Click the date editor for each of the following fields and select a revised date. Manually adjust the time as needed.

- **Scheduled Start Date**

Additional Information: You can only change the scheduled start date of a batch in Pending status.

- **Scheduled Completion Date**

3. Select the **Use WorkDay Calendar** option to limit batch or operation scheduling to the days when the plant is operational.
4. (Conditional) When rescheduling an operation, select the **Rescheduling Preceding Steps** option to automatically reschedule any preceding steps to meet the new scheduled dates for the operation.

5. (Conditional) When rescheduling an operation, select the **Rescheduling Succeeding Steps** option to automatically reschedule any succeeding steps to meet the new scheduled dates for the operation.

Conditional Action: When rescheduling an operation, the scheduled start and completion dates automatically adjust for the operation's associated batch, even if the **Rescheduling Preceding Steps** and **Rescheduling Succeeding Steps** options are not selected.

6. Click **Apply**.

A **Confirmation** message appears, verifying that you successfully rescheduled the batch or operation.

Process Execution Navigator Paths

Process Execution Navigator Paths

Although your System Administrator may have customized your Navigator, typical navigation paths are described in the following tables. In some cases, there is more than one way to navigate to a window. These tables provide the most typical default path.

Window	Path
Activity Properties	Production Supervisor: Production Scheduler: Scheduler Workbench Startup Parameters: Gantt chart: Scheduler Workbench: expand batch or firm planned order node: right-click activity node: select Properties
Batch Details	Production Supervisor: Batch Details: Find Batches: Batch Details Production Supervisor: Scheduler Workbench: search for a batch: click a batch link
Batch Group Association	Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: Group Association
Batch List	Production Supervisor: Ingredient Picking: Find Batches: enter search criteria: click Find: click Requirements: Ingredient Picking: select Batch
Batch Operation WIP	Production Supervisor: Batch Operation WIP

Window	Path
Batch Open Interfaces	Production Supervisor: Batch Open Interfaces
Find Batch Header Interfaces Rows	Production Supervisor: Batch Open Interfaces: Batch Header Interfaces
Find Batch Details Interfaces Rows	Production Supervisor: Batch Open Interfaces: Batch Details Interfaces
Find Batch Actions	Production Supervisor: Batch Open Interfaces: Batch Actions Interfaces
Find Resource Transactions	Production Supervisor: Batch Open Interfaces: Resource Transaction Interfaces
Batch Pick List Report	Production Supervisor: Reports: Run
Batch Summary	Production Supervisor: Ingredient Picking: Find Batches: enter search criteria: click Find: click Requirements: Ingredient Picking: select Batch: select a batch from the batch node
Batch Step Variance Inquiry - Activities	Production Supervisor: Production Supervisor: Inquiries: Batch Step Variance: Batch Step Variance Inquiry Selection Criteria: Batch Step Variance Inquiry - Summary: Batch Step Variance Inquiry - Details: drill down on a batch step: Actions: Activity Details
Batch Step Variance Inquiry - Activity Resources	Production Supervisor: Inquiries: Batch Step Variance: Batch Step Variance Inquiry Selection Criteria: Batch Step Variance Inquiry - Summary: Batch Step Variance Inquiry - Details: Batch Step Variance Inquiry - Activities: drill down on a batch step: Actions: Activities: Actions: Resource Details
Batch Step Variance Inquiry - Details	Production Supervisor: Production Supervisor: Inquiries: Batch Step Variance: Batch Step Variance Inquiry Selection Criteria: Batch Step Variance Inquiry - Summary: drill down on a batch step

Window	Path
Batch Step Variance Inquiry - Summary	Production Supervisor: Inquiries: Batch Step Variance: Batch Step Variance Inquiry Selection Criteria: drill down on a batch
Batch Step Variance Inquiry Selection Criteria	Production Supervisor: Inquiries: Batch Step Variance
Batch Steps	Production Supervisor: Batch Steps
Batch Ticket Report	Production Supervisor: Reports: Run
Batch Yield Variance Report	Production Supervisor: Reports: Run
Calculate Theoretical Yield	Production Supervisor: Batch Details: Find Batches: Batch Details: Tools: Theoretical Yield
Change Organization	Production Supervisor: Setup: Change Organization
Charge Details	Production Supervisor: Batch Steps: Find Batch Steps: Batch Steps: Charges
Complete Batch	Production Supervisor: Batch Details: Find Batches: Batch Details: Actions: Complete
Composite Resources	Production Supervisor: Production Scheduler: Scheduler Workbench Startup Parameters: Scheduler Workbench: Actions: Show/Hide Resource Load: Select Resources: Selected Resources: select the resource: click Ok
Convert Firm Planned Order to Batch	Production Supervisor: Firm Planned Order Details: Find Firm Planned Orders: Firm Planned Order Details: Actions: Convert to Batch
Correct Material Transactions	Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: Correct Material Transactions
Create Batch/Firm Planned Order	Production Supervisor: Create Document

Window	Path
Document Properties	Production Supervisor: Production Scheduler: Scheduler Workbench Startup Parameters: Gantt chart: Scheduler Workbench: right-click batch or firm planned order node: select Properties
Filter	Production Supervisor: Production Scheduler: Scheduler Workbench Startup Parameters: Gantt chart: Scheduler Workbench: click Filter
Find Batch Operation WIP	Production Supervisor: Batch Operation WIP: View: Find...
Find Batchstep	Production Supervisor: Batch Steps: View: Find...
Find Batches	Production Supervisor: Batch Details: Find Batches...
Find Batches (Batch Group Management)	Production Supervisor: Batch Group Management: Find Batches
Find Batches (from the Workbench)	Production Supervisor: Workbench: click Batch tab: View: Find...
Find Firm Planned Orders	Production Supervisor: Firm Planned Order Details: Find Firm Planned Orders
Find Firm Planned Orders (from the Workbench)	Production Supervisor: Workbench: click Firm Planned Order tab: View: Find...
Find Move Orders	Production Supervisor: Batch Details: Inventory: View Move Order: Move Order: View: Find Move Orders
Find Reservations	Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: Maintain Reservations: Find Reservations
Firm Planned Order	Production Supervisor: Firm Planned Order Details

Window	Path
Incremental Backflushing	Production Supervisor: Incremental Backflush
Ingredient Picking Workbench	Production Supervisor: Ingredient Picking: Find Batches: enter criteria: click Find: select a batch: click Requirements
Ingredient Picking Concurrent Program	Production Supervisor: Concurrent Programs: Run
Inventory Shortages	Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: View Org Level Shortages: Inventory Shortages Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: View Subinventory Level Shortages: Inventory Shortages
Items Over Allocated - Scale Batch	Production Supervisor: Batches: Batch Material Details: Scale Batch: enter negative Percent or Item Quantity below Planned Qty: OK
Item Reservations	Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: Maintain Reservations: Find Reservations: Item Reservations
Item Substitution Concurrent Program	Production Supervisor: Concurrent Programs: Run
Make to Order Concurrent Program	Production Supervisor: Concurrent Programs: Run
Make to Order Rules	Production Supervisor: Setup: Make to Order Rules
Map Lots/Serials	Production Supervisor: Batch Lot Serial Genealogy Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: View Material Transactions: Actions: Map Lots/Serials

Window	Path
Mass Batch Actions	Production Supervisor: Batch Group Management: Find Batches: Find: Mass Batch Actions
Material Exceptions	Production Supervisor: Batch Details: Find Batches: Batch Details: Actions: Complete
Material Transactions	Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: Transact Material
Material Usage and Substitution Variance Report	Production Supervisor: Reports: Run
Material Variance - Ingredient Inquiry	Production Supervisor: Inquiries: Material Variance: Material Variance Inquiry Selection Criteria: enter criteria: click OK: Material Variance Inquiry: drill down on the desired batch
Material Variance - Step Details	Production Supervisor: Inquiries: Material Variance: Material Variance Inquiry Selection Criteria: enter criteria: click OK: drill down on the desired batch: Material Variance - Ingredient Inquiry: drill down on the desired Line
Material Variance Inquiry	Production Supervisor: Inquiries: Material Variance: Material Variance Inquiry Selection Criteria: enter criteria: click OK
Material Variance Inquiry Selection Criteria	Production Supervisor: Inquiries: Material Variance
Material Workbench	Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: Material Summary
Migration Recreate Open Batches	Production Supervisor: Concurrent Programs: Run

Window	Path
Move Order	Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: View Move Order
Navigator	Production Supervisor: Workbench
OSP Shipping Lines	Production Supervisor: Batch Details: Find Batches: Batch Details: Tools menu: OSP Shipment Lines
Operation Properties	Production Supervisor: Production Scheduler: Scheduler Workbench Startup Parameters: Scheduler Workbench: expand batch or firm planned order: click operations node: right-click an operation: select Properties
Parameters	Production Supervisor: Setup: Parameters
Parameters	Production Supervisor: Concurrent Programs: Run: Item Substitution: Parameters
Parameters	Production Supervisor: Concurrent Programs: Run: Ingredient Picking: Parameters
Process Instructions	Production Supervisor: Batch Details: Find Batches: Batch Details: Tools: Process Instructions (also available from these windows: Firm Planned Order: Details and Batch Steps)
Production Activity Report	Production Supervisor: Reports: Run
Production Schedule Inquiry	Production Supervisor: Inquiries: Production Schedule: Production Schedule Selection Criteria: enter selection criteria: click OK
Production Schedule Selection Criteria	Production Supervisor: Inquiries: Production Schedule
Recipe: Validity Rule Details	Production Supervisor: Batch Details: Find Batches: Batch Details: Tools: View Validity Rule

Window	Path
Recipe Validity Rules	<p>Production Supervisor: Batch Details: Find Batches: Batch Details: Actions: Reroute</p> <p>Production Supervisor: Firm Planned Order Details: Find Firm Planned Orders: Firm Planned Order Details: Actions: Reroute</p>
Reschedule	<p>Production Supervisor: Batch Details: Find Batches: Batch Details: Actions: Reschedule</p> <p>Production Supervisor: Firm Planned Order: Find Firm Planned Orders: Firm Planned Order Details: Actions: Reschedule</p> <p>Production Supervisor: Scheduler Workbench: search for a batch: right-click on a Gantt chart bar: Reschedule</p>
Resource Process Parameters	<p>Production Supervisor: Batch Steps: Find Batch Steps: Batch Steps: select a step: Activities: select an activity: Resources: Step Resources: select a resource: Process Parameters</p>
Resource Properties	<p>Production Supervisor: Production Scheduler: Scheduler Workbench Startup Parameters: Scheduler Workbench: expand batch or firm planned order node: right-click resource node: select Properties</p>
Resource Transactions	<p>Production Supervisor: Batch Steps: Find Batch Steps: Batch Steps: select a step: Step Activities: select an activity: Step Resources: Actions: Transactions: Resource Transactions</p>
Resource Usage	<p>Production Supervisor: Inquiries: Resource Variance: Resource Variance Inquiry Selection Criteria: Resource Usage</p>
Resource Usage Details	<p>Production Supervisor: Inquiries: Resource Inquiries: Resource Variance: Resource Variance Inquiry Selection Criteria: Resource Usage: Resource Usage Details</p>

Window	Path
Resource Variance Details	Production Supervisor: Inquiries: Resource Inquiries: Resource Variance: Resource Variance Inquiry Selection Criteria
Resource Variance Inquiry Selection Criteria	Production Supervisor: Inquiries: Resource Variance
Scale Batch	Production Supervisor: Batch Details: Find Batches: Batch Details: select a product line: Tools: Scale Batch Production Supervisor: Firm Planned Order: Find Firm Planned Orders: Firm Planned Order Details: Tools: Scale Firm Planned Order
Scheduler Workbench	Production Supervisor: Production Scheduler: Scheduler Workbench Startup Parameters: click Gantt chart Production Supervisor: Scheduler Workbench: search for a batch
Scheduler Workbench Startup Parameters	Production Supervisor: Production Scheduler
Select Available Inventory	Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: Maintain Reservations: Item Reservations: Tools: Select Available Inventory
Select Resources	Production Supervisor: Production Scheduler: Scheduler Workbench Startup Parameters: enter startup parameters: click Gantt chart: select batch or firm planned order: click Select Resources
Simulator	Production Supervisor: Simulator
Step Activities	Production Supervisor: Batch Steps: Find Batch Steps: Batch Steps: Actions: Activity Details

Window	Path
Step Dependencies	Production Supervisor: Batch Steps: Find Batches: Batch Steps: Actions: Batch Step Dependencies
Step Resources	Production Supervisor: Batch Steps: Find Batch Steps: Batch Steps: Actions: Resource Details
Step Material Association	Production Supervisor: Batches: Find Batches: Batch Details: click Steps: Batch Steps: Actions: Item-Step Association
Submit a New Request	Production Supervisor: Reports: Run: click OK
Submit a New Request	Production Supervisor: Concurrent Programs: Run
Summary of Document by Organization	Production Supervisor: Workbench: Batch: View By Organization: select an organization in the navigator
Summary of Document by Product	Production Supervisor: Workbench: Batch: View By Product: select a product in the navigator Production Supervisor: Workbench: Firm Planned Orders: View By Product: select a product in the navigator
Summary of Document by Status	Production Supervisor: Workbench: Batch: View By Status: select a status in the navigator Production Supervisor: Workbench: Firm Planned Orders: View By Status: select a status in the navigator
Summary of Batch Steps	Production Supervisor: Workbench: Batch: select the Steps node for the batch in the navigator

Window	Path
Summary of Byproduct	<p>Production Supervisor: Workbench: Batch: select a byproduct within a batch in the navigator</p> <p>Production Supervisor: Workbench: Firm Planned Orders: select a byproduct in the navigator</p>
Summary of Byproducts	<p>Production Supervisor: Workbench: Firm Planned Orders: select the Byproducts node in the navigator</p> <p>Production Supervisor: Workbench: Batch: select the Byproducts node for the batch in the navigator</p>
Summary of Byproducts By Step	<p>Production Supervisor: Workbench: Batch: for a batch in the navigator open a batch step and select a Byproduct</p>
Summary of Document	<p>Production Supervisor: Workbench: Batch: select a batch in the navigator</p> <p>Production Supervisor: Workbench: Firm Planned Orders: select a firm planned order in the navigator</p>
Summary of Ingredient	<p>Production Supervisor: Workbench: Batch: select an ingredient within a step within a batch in the navigator</p> <p>Production Supervisor: Workbench: Firm Planned Orders: select an ingredient in the navigator</p>
Summary of Ingredients	<p>Production Supervisor: Workbench: Batch: select the Ingredients node for the batch in the navigator</p> <p>Production Supervisor: Workbench: Firm Planned Orders: select the Ingredients node in the navigator</p>
Summary of Ingredients by Step	<p>Production Supervisor: Workbench: Batch: for a batch step in the navigator open a batch step and select an Ingredient</p>

Window	Path
Summary of Product	<p>Production Supervisor: Workbench: Batch: select a product within a batch in the navigator</p> <p>Production Supervisor: Workbench: Firm Planned Orders: select a product in the navigator</p>
Summary of Products	<p>Production Supervisor: Workbench: Batch: select the Products node for the batch in the navigator</p> <p>Production Supervisor: Workbench: Firm Planned Orders: select the Products node in the navigator</p>
Summary of Products By Step	Production Supervisor: Workbench: Batch: for a batch in the navigator open a batch step and select a Product
Summary of Step	Production Supervisor: Workbench: Batch: select a batch step in the navigator
Summary of Step Activity Resource	Production Supervisor: Workbench: Batch: select a batch resource in the navigator
Summary of Step Details	<p>Production Supervisor: Workbench: Batch: select a step detail for a batch in the navigator</p> <p>Production Supervisor: Workbench: Batch: select a step within a step detail for a step within a batch</p>
View Material Transactions	Production Supervisor: Batch Details: Find Batches: Batch Details: Inventory: View Material Transactions
Work in Process Inquiry	Production Supervisor: Inquiries: Work In Process Inquiry Selection Criteria: enter selection criteria: click OK
Work in Process Inquiry Details	Production Supervisor: Inquiries: Work In Process Inquiry Selection Criteria: enter selection criteria: click OK: Work In Process Inquiry: drill down on the desired Batch

Window	Path
Work in Process Inquiry Selection Criteria	Production Supervisor: Inquiries: Work In Process

Setting Up Process Execution Responsibilities and Menu Access

Setting Up Process Execution Responsibilities and Menu Access

Set up responsibilities and assign one or more of them to each user. Following are menu and submenu selections and limitations in the Process Execution responsibilities:

Production Supervisor

- Workbench
- Create Document
- Batch Details
- Mass Batch Actions
- Firm Planned Orders
- Batch Steps
- Incremental Backflush
- Production Scheduler
- Simulator
- Ingredient Picking
- Batch Operation WIP
- Inquiries

- Production Schedule
- Batch Step Variance
- Material Variance
- Resource Variance
- Work In Process
- View Material Details

- Reports
 - Batch Pick List
 - Batch Ticket
 - Batch Yield Variance
 - Material Usage and Substitution Variance
 - Planned Production

- Concurrent Programs
 - Item Substitution for Batches
 - Ingredient Picking
 - Migration Recreate Open Batches
 - Process Manufacturing Make to Order

Production Operator

- Workbench, with limited access to window functionality as listed below.
- Batch Details, limited to Edit Phantom, Edit Parent, Edit Text, Material Summary, Incremental Backflush, Inventory Shortage, Specifications, Samples
- Firm Planned Order: Details, limited to Edit Text, Edit Phantom, Inventory Summary, Specifications, Samples
- Batch Steps, limited to Edit Text, Release, Complete
- Incremental Backflush

- Batch Operation WIP
- Inquiries
 - Production Schedule
 - Batch Step Variance
 - Material Variance
 - Resource Variance
 - Work In Process
 - View Material Details
- Reports
 - Batch Pick List
 - Batch Ticket
 - Batch Yield Variance
 - Material Usage and Substitution Variance
 - Planned Production
- Concurrent Programs
 - Item Substitution for Batches
 - Ingredient Picking
 - Migration Recreate Open Batches
 - Process Manufacturing Make to Order

Oracle E-Records Events in Process Execution

Oracle E-Records Events in Process Execution

Oracle Process Manufacturing (OPM) Process Execution supports the acquisition of electronic signatures on electronic records. Electronic documentation replaces paper with a seamless interface of business activities that improves manufacturing throughput and enhances the overall quality of operations in the enterprise. Seed data for each event such as event keys, subscriptions, transaction types, and generic query attributes is provided for e-records enabled in the OPM Process Execution application. Refer to the *Oracle E-Records Implementation Guide* for details on mandatory attributes and setting up the events and approvals. The following batch events are online events and Oracle e-record and e-signature (ERES) enabled:

- Batch Release
- Batch Complete
- Batch Close
- Batch Reopen
- Batch Revert to WIP
- Batch Unrelease
- Batch Terminate
- Batch Step Release
- Batch Step Complete
- Batch Step Close

- Batch Step Reopen
- Batch Step Return to WIP
- Batch Step Unrelease
- Batch Step Cancel
- Cancel batch
- Update Batch
- Reschedule Batch
- Reroute Batch
- Scale Batch
- Batch Hold
- Batch Hold Release
- Add Step
- Delete Step
- Update Step
- Add Material
- Delete Material
- Update Material
- Add Activity
- Delete Activity
- Update Activity
- Add Resource
- Delete Resource
- Update Resource
- Add Process Parameter

- Add Resource Transaction
- Batch E-Records
- Batch Transact
- Edit Text

Events

The following tables provide the batch events and detail the seed data for the ERES-enabled batch events in Oracle Process Manufacturing Process Execution:

Batch Events

Events

Name	Display Name	Description	Status	Owner Name	Owner Tag
oracle.apps.gme.batch.release	GME ERES Batch Release	Batch Release event	Enabled	Process Execution	GME
oracle.apps.gme.batch.complete	GME ERES Batch Complete	This event is raised when a process batch is completed.	Enabled	Process Execution	GME
oracle.apps.gme.batch.close	GME ERES Batch Close	Batch Close event	Enabled	Process Execution	GME
oracle.apps.gme.batch.reopen	GME ERES Batch Reopen	Batch Reopen event	Enabled	Process Execution	GME
oracle.apps.gme.batch.uncertify	GME ERES Batch Revert to WIP	Revert to WIP event	Enabled	Process Execution	GME
oracle.apps.gme.batch.unrelease	GME ERES Batch Unrelease	Batch Unrelease event	Enabled	Process Execution	GME

Name	Display Name	Description	Status	Owner Name	Owner Tag
oracle.apps.gme.batch.terminate	GME ERES Batch Terminate	This event is raised when a process batch is terminated.	Enabled	Process Execution	GME
oracle.apps.gme.batchstep.release	GME ERES Batch Step Release	Batch Step Release Event.	Enabled	Process Execution	GME
oracle.apps.gme.batchstep.complete	GME ERES Batch Step Complete	This event is raised when a process batch step is completed.	Enabled	Process Execution	GME
oracle.apps.gme.batchstep.close	GME ERES Batch Step Close	Batch Step Close Event	Enabled	Process Execution	GME
oracle.apps.gme.batchstep.reopen	GME ERES Batch Step Reopen	Reopen Process Batchstep	Enabled	Process Execution	GME
oracle.apps.gme.batchstep.uncertify	GME ERES Batchstep Revert to WIP	Process Batchstep Revert to WIP	Enabled	Process Execution	GME
oracle.apps.gme.batchstep.unrelease	GME ERES Batchstep Unrelease	OPM Process Execution Batchstep Unrelease	Enabled	Process Execution	GME
oracle.apps.gme.batchstep.cancel	GME ERES Batch Step Canceled	OPM Process Execution Batchstep Canceled	Disabled	Process Execution	GME
oracle.apps.gme.batch.cancel	GME ERES Batch Cancel	Batch Canceled	Enabled	OPM Process Execution	GME
oracle.apps.gme.batch.update	GME ERES Batch Updated	Batch Updated	Enabled	OPM Process Execution	GME

Name	Display Name	Description	Status	Owner Name	Owner Tag
oracle.apps. gme.batch. reschedule	GME ERES Batch Reschedule	Batch Rescheduled	Enabled	OPM Process Executio n	GME
oracle.apps. gme.batch. reroute	GME ERES Batch Reroute	Batch Rerouted	Enabled	OPM Process Executio n	GME
oracle.apps. gme.batch. scale	GME ERES Batch Scale	Batch Scaled	Enabled	OPM Process Executio n	GME
oracle.apps. gme.batchstep. add	GME ERES Batch Step Add	Batch Step Added	Enabled	OPM Process Executio n	GME
oracle.apps. gme.batchstep. remove	GME ERES Batch Step Remove	Batch Step Removed	Enabled	OPM Process Executio n	GME
oracle.apps. gme.batchstep. update	GME ERES Batch Step Update	Batch Step Updated	Enabled	OPM Process Executio n	GME
oracle.apps. gme.batchmtl. add	GME ERES Batch Material Add	Batch Material Added	Enabled	OPM Process Executio n	GME
oracle.apps. gme.batchmtl. remove	GME ERES Batch Material Remove	Batch Material Removed	Enabled	OPM Process Executio n	GME

Name	Display Name	Description	Status	Owner Name	Owner Tag
oracle.apps.gme.batchmatl.update	GME ERES Batch Material Update	Batch Material Updated	Enabled	OPM Process Execution	GME
oracle.apps.gme.activity.add	GME ERES Batch Step Activity Add	Batch Step Activity Added	Enabled	OPM Process Execution	GME
oracle.apps.gme.activity.remove	GME ERES Batch Step Activity Remove	Batch Step Activity Removed	Enabled	OPM Process Execution	GME
oracle.apps.gme.activity.update	GME ERES Batch Step Activity Update	Batch Step Activity Updated	Enabled	OPM Process Execution	GME
oracle.apps.gme.resource.add	GME ERES Batch Step Activity Resource Add	Batch Step Activity Resource Added	Enabled	OPM Process Execution	GME
oracle.apps.gme.resource.remove	GME Batch Step Activity Resource Remove	Batch Step Activity Resource Removed	Enabled	OPM Process Execution	GME
oracle.apps.gme.resource.update	GME ERES Batch Step Activity Resource Update	Batch Step Activity Resource Updated	Enabled	OPM Process Execution	GME
oracle.apps.gme.batch.pparam	GME ERES Batch Step Activity Resource Process Parameters	Batch Step Activity Resource Process Parameters.	Enabled	OPM Process Execution	GME

Name	Display Name	Description	Status	Owner Name	Owner Tag
oracle.apps.gme.batch.rsrc.trx	GME ERES Resource Transactions	GME ERES Resource Transactions	Enabled	OPM Process Execution	GME
oracle.apps.gme.batch.erecords	GME ERES Batch Created	GME ERES Batch E-Records.	Enabled	OPM Process Execution	GME
oracle.apps.gme.batch.transact	GME ERES Batch Transact	This event is raised from transactions form for the process batch.	Enabled	OPM Process Execution	GME

Event Keys

Event Name	Event Key	User Event key
oracle.apps.gme.batch.release	GME_BATCH_HEADER. BATCH_ID	GME_BATCH_HEADER_VW .ORGANIZATION_CODE ' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch.complete	GME_BATCH_HEADER. BATCH_ID	GME_BATCH_HEADER_VW .ORGANIZATION_CODE ' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch.close	GME_BATCH_HEADER. BATCH_ID	GME_BATCH_HEADER_VW .ORGANIZATION_CODE ' BATCH_HEADER. BATCH_NO

Event Name	Event Key	User Event key
oracle.apps.gme.batch.reopen	GME_BATCH_HEADER. BATCH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch. uncertify	GME_BATCH_HEADER. BATCH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch. unrelease	GME_BATCH_HEADER. BATCH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch. terminate	GME_BATCH_HEADER. BATCH_I	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batchstep. release	GME_BATCH_STEPS. BATCHSTEP_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_N O ' ' GME_BATCHSTEPS. B ATCHSTEP_NO ' ' GMD_ OPERATIONS.OPRN_NO
oracle.apps.gme.batchstep. complete	GME_BATCH_STEPS. BATCHSTEP_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_N O ' ' GME_BATCHSTEPS. B ATCHSTEP_NO ' ' GMD_ OPERATIONS.OPRN_NO

Event Name	Event Key	User Event key
oracle.apps.gme.batchstep.close	GME_BATCH_STEPS. BATCHSTEP_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_N O ' ' GME_BATCHSTEPS. B ATCHSTEP_NO ' ' GMD_ OPERATIONS.OPRN_NO
oracle.apps.gme.batchstep.reopen	GME_BATCH_STEPS. BATCHSTEP_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_N O ' ' GME_BATCHSTEPS. B ATCHSTEP_NO ' ' GMD_ OPERATIONS.OPRN_NO
oracle.apps.gme.batchstep.uncertify	GME_BATCH_STEPS. BATCHSTEP_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_N O ' ' GME_BATCHSTEPS. B ATCHSTEP_NO ' ' GMD_ OPERATIONS.OPRN_NO
oracle.apps.gme.batchstep.unrelease	GME_BATCH_STEPS. BATCHSTEP_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_N O ' ' GME_BATCHSTEPS. BATCHSTEP_NO ' ' GMD_ _OPERATIONS.OPRN_NO

Event Name	Event Key	User Event key
oracle.apps.gme.batchstep. cancel	GME_BATCH_STEPS. BATCHSTEP_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_N O ' 'GME_BATCHSTEPS. BATCHSTEP_NO ' 'GMD _OPERATIONS.OPRN_NO
oracle.apps.gme.batch.cancel	GME_BATCH_HEADER.BAT CH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch.update	GME_BATCH_HEADER.BAT CH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch. reschedule	GME_BATCH_HEADER.BAT CH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch.reroute	GME_BATCH_HEADER.BAT CH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch.scale	GME_BATCH_HEADER.BAT CH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' ' BATCH_HEADER. BATCH_NO

Event Name	Event Key	User Event key
oracle.apps.gme.batchstep. added	P_BATCH_STEP_REC.BATC H_ID '-' P_BATCH_STEP_ R EC.BATCHSTEP_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE '-' BATCH_HEADER. BATCH_N O '-' GME_BATCHSTEPS. B ATCHSTEP_NO '-' GMD_ OPERATIONS.OPRN_NO
oracle.apps.gme.batchstep. removed	P_BATCH_STEP_REC.BATC H_ID '-' P_BATCH_STEP_ R EC.BATCHSTEP_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE '-' BATCH_HEADER. BATCH_N O '-' GME_BATCHSTEPS. B ATCHSTEP_NO '-' GMD_ OPERATIONS.OPRN_NO
oracle.apps.gme.batchstep. update	P_BATCH_STEP_REC.BATC H_ID '-' P_BATCH_STEP_ R EC.BATCHSTEP_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE '-' BATCH_HEADER. BATCH_N O '-' GME_BATCHSTEPS. B ATCHSTEP_NO '-' GMD_ OPERATIONS.OPRN_NO
oracle.apps.gme.batchmtl. added	BATCH_ID-MATERIA L_DETAIL_ID-INS	GME_BATCH_HEADER_VW . ORGANIZATION_CODE '-' BATCH_HEADER. BATCH_N O '-' GME_MATERIAL_D ETAILS. LINE_NO '-' MTL_SYS TEM_ITEMS_VL. CONCATEN ATED_SEGMENTS

Event Name	Event Key	User Event key
oracle.apps.gme.batchmtl. removed	X_MATERIAL_DETAIL_REC _BATCH_ID ' X_MATER IAL_DETAIL_REC. MATERIAL_DETAIL_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' BATCH_HEADER. BATCH_N O ' GME_MATERIAL_D ET AILS. LINE_NO ' MTL_SYS TEM_ITEMS_VL. CONCATEN ATED_SEGMENTS
oracle.apps.gme.batchmtl.upd ated	BATCH_ID-MATERIA L_DETAIL_ID-UPD	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' BATCH_HEADER. BATCH_N O ' GME_MATERIAL_D ET AILS. LINE_NO ' MTL_SYS TEM_ITEMS_VL. CONCATEN ATED_SEGMENTS
oracle.apps.gme.activity. added	GME_ACTIVITIES. BATCH_ID ' GME_ACTIVITIES. BATC HSTEP_ID ' GME_ACTV ITI ES. BATCHSTEP_ACTIVITY_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' BATCH_HEADER. BATCH_N O ' GME_BATCHSTEPS. B ATCHSTEP_NO ' GME_ BATCH_ACTIVITIES. ACTIVITY
oracle.apps.gme.activity. removed	GME_ACTIVITIES. BATCH_ID ' GME_ACTIVITIES. BATC HSTEP_ID ' GME_ACTV ITI ES. BATCHSTEP_ACTIVITY_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' BATCH_HEADER. BATCH_N O ' GME_BATCHSTEPS. B ATCHSTEP_NO ' GME_ BATCH_ACTIVITIES. ACTIVITY

Event Name	Event Key	User Event key
oracle.apps.gme.activity. update	GME_ACTIVITIES. BATCH_ID ' GME_ACTIVITIES. BATC HSTEP_ID ' GME_ACTV ITI ES. BATCHSTEP_ACTIVITY_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' BATCH_HEADER. BATCH_N O ' GME_BATCHSTEPS. B ATCHSTEP_NO ' GME_ BATCH_ACTIVITIES. ACTIVITY
oracle.apps.gme.resource. added	GME_STEP_RESOURCES.B ATCH_ID ' GME_STEP_ RE SOURCES. BATCHSTEP_ID GME_STEP_RESOURCES.B ATCHSTEP_ACTIVITY_ID '- ' GME_STEP_RESOURCES. B ATCHSTEP_RESOURCE_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' BATCH_HEADER. BATCH_N O ' GME_BATCHSTEPS. B ATCHSTEP_NO ' GME_ BATCH_ACTIVITIES. ACTIVITY ' GME_BATC H_STEP_RESOURCES. RESOURCES
oracle.apps.gme.resource. removed	GME_STEP_RESOURCES.B ATCH_ID ' GME_STEP_ RE SOURCES. BATCHSTEP_ID GME_STEP_RESOURCES.B ATCHSTEP_ACTIVITY_ID '- ' GME_STEP_RESOURCES. B ATCHSTEP_RESOURCE_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE ' BATCH_HEADER. BATCH_N O ' GME_BATCHSTEPS. B ATCHSTEP_NO ' GME_ BATCH_ACTIVITIES. ACTIVITY ' GME_BATC H_STEP_RESOURCES. RESOURCES

Event Name	Event Key	User Event key
oracle.apps.gme.resource. update	GME_STEP_RESOURCES. BATCH_ID '-' GME_STEP_Resources. BATCHSTEP_ID GME_STEP_RESOURCES. BATCHSTEP_ACTIVITY_ID '-' GME_STEP_RESOURCES. B BATCHSTEP_RESOURCE_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE '-' BATCH_HEADER. BATCH_N O '-' GME_BATCHSTEPS. B BATCHSTEP_NO '-' GME_ BATCH_ACTIVITIES. ACTIVITY '-' GME_BATC H_STEP_RESOURCES. RESOURCES
oracle.apps.gme.batch. pparam	GME_PROCESS_PARAMETERS. BATCH_ID '-' GME_PR OCESS_PARAMETERS.BAT CHSTEP_RESOURCE_ID '-' GME_PROCESS_PARAME TERS.PROCESS_PARAM_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE '-' BATCH_HEADER. BATCH_N O '-' GME_BATCHSTEPS. B BATCHSTEP_NO '-' GME_ BATCH_ACTIVITIES. ACTIVITY '-' GME_BATC H_STEP_RESOURCES. RESOURCES
oracle.apps.gme.batch.rsrc.trx	GME_BATCH_HEADER. BATCH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE '-' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch. erecords	GME_BATCH_HEADER.BAT CH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE '-' BATCH_HEADER. BATCH_NO
oracle.apps.gme.batch. transact	GME_BATCH_HEADER.BAT CH_ID	GME_BATCH_HEADER_VW . ORGANIZATION_CODE '-' BATCH_HEADER. BATCH_NO

Subscriptions

Syst em	Sour ce Type	Event Filter	Phase	Status	Rule Data	Rule Function	Parameters	Priorit y
LM00 1	Local	oracle. apps. gme. batch. release	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. btch.rel	Normal
LM00 1	Local	oracle. apps. gme. batch. complete	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme.batch oracle.apps.inv. lotCreate=IGNO RE_SIGNATURE	Normal
LM00 1	Local	oracle. apps. gme. batch. close	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. btch.crp	Normal
LM00 1	Local	oracle. apps. gme. batch. reopen	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. btch.crp	Normal
LM00 1	Local	oracle. apps. gme. batch. uncertify	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. btch.actn	Normal
LM00 1	Local	oracle. apps. gme. batch. unrelease	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme.batch	Normal

Syst em	Sour ce Type	Event Filter	Phase	Status	Rule Data	Rule Function	Parameters	Priorit y
LM00 1	Local	oracle. apps. gme. batch. terminate	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. btch.term	Normal
LM00 1	Local	oracle. apps. gme. batchstep .release	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme. batchstep oracle. apps.inv. lotCreate=IGNO RE_SIGNATURE	Normal
LM00 1	Local	oracle. apps. gme. batchstep .complete	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme. batchstep oracle. apps.inv. lotCreate=IGNO RE_SIGNATURE	Normal
LM00 1	Local	oracle. apps. gme. batchstep .close	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. bstep.crp	Normal
LM00 1	Local	oracle. apps. gme. batchstep .reopen	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. bstep.crp	Normal
LM00 1	Local	oracle. apps. gme. batchstep .uncertify	0	Disabl ed	Key	GMO_CBR_ GRP. PROCESS_E VENT	EDR_XML_MAP _CODE=oracle. apps.gme. batchstep	Normal

Syst em	Sour ce Type	Event Filter	Phas e	Statu s	Rul e Dat a	Rule Function	Parameters	Priorit y
LM00 1	Local	oracle. apps. gme. batchstep .unrelease	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme. batchstep	Normal
LM00 1	Local	oracle. apps. gme. batchstep .cancel	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme. batchstep	Normal
LM00 1	Local	oracle. apps. gme. batch. cancel	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. btch.actn	Normal
LM00 1	Local	oracle. apps. gme. batch. update	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_AME_TRA NSACTION_TY PE=oracle.apps. gme.batch. update EDR_XML_MAP _CODE=oracle. apps.gme.cbr. batch.upd	Normal
LM00 1	Local	oracle. apps. gme. batch. reschedul e	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme.cbr. btch.actn	Normal

Syst em	Sour ce Type	Event Filter	Phase	Status	Rule Data	Rule Function	Parameters	Priorit y
LM00 1	Local	oracle. apps. gme. batch. reroute	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. btch.actn	Normal
LM00 1	Local	oracle. apps. gme. batch. scale	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme.cbr. btch.actn	Normal
LM00 1	Local	oracle. apps. gme. batchstep .added	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. bstep	Normal
LM00 1	Local	oracle. apps. gme. batchstep .removed	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.cbr. bstep	Normal
LM00 1	Local	oracle. apps. gme. batchstep .update	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme.cbr. bstep	Normal
LM00 1	Local	oracle. apps. gme. batchmtl. added	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_AME_TRA NSACTION_TY PE=oracle.apps. gme.batchmtl. added EDR_XML_MAP _CODE=oracle. apps.gme.cbr. bhmtl	Normal

Syst em	Sour ce Type	Event Filter	Phase	Status	Rule Data	Rule Function	Parameters	Priorit y
LM00 1	Local	oracle. apps. gme. batchmtl. removed	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme.cbr. bhtml EDR_AME_TRA NSACTION_TY PE=oracle.apps. gme.batchmtl. removed	Normal
LM00 1	Local	oracle. apps. gme. batchmtl. updated	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_AME_TRA NSACTION_TY PE=oracle.apps. gme.batchmtl. update EDR_XML_MAP _CODE=oracle. apps.gme.cbr. bhtml	Normal
LM00 1	Local	oracle. apps. gme. activity. added	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_AME_TRA NSACTION_TY PE=oracle.apps. gme.activity. added EDR_XML_MAP _CODE=oracle. apps.gme.cbr. bact FORCE_ERECO RD=Y	Normal

Syst em	Sour ce Type	Event Filter	Phase	Status	Rule Data	Rule Function	Parameters	Priority
LM001	Local	oracle. apps. gme. activity. removed	0	Disabled	Key	EDR_PSIG_RULE. PSIG_RULE	EDR_XML_MAP_CODE=oracle. apps.gme.cbr. bact EDR_AME_TRANSACTION_TY PE=oracle.apps. gme.activity. removed FORCE_ERECORD=Y	Normal
LM001	Local	oracle. apps. gme. activity. update	0	Disabled	Key	EDR_PSIG_RULE. PSIG_RULE	FORCE_ERECORD=Y EDR_AME_TRANSACTION_TY PE=oracle.apps. gme.activity. updated EDR_XML_MAP_CODE=oracle. apps.gme.cbr. bact.upd	Normal
LM001	Local	oracle. apps. gme. resource. added	0	Disabled	Key	EDR_PSIG_RULE. PSIG_RULE	EDR_AME_TRANSACTION_TY PE=oracle.apps. gme.resource. added EDR_XML_MAP_CODE=oracle. apps.gme.cbr. brsrc FORCE_ERECORD=Y	Normal

Syst em	Sour ce Type	Event Filter	Phase	Status	Rule Data	Rule Function	Parameters	Priorit y
LM00 1	Local	oracle. apps. gme. resource. removed	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_AME_TRA NSACTION_TY PE=oracle.apps. gme.resource. removed EDR_XML_MAP _CODE=oracle. apps.gme.cbr. brsrc	Normal
LM00 1	Local	oracle. apps. gme. resource. update	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_AME_TRA NSACTION_TY PE=oracle.apps. gme.resource. update EDR_XML_MAP _CODE=oracle. apps.gme.cbr. brsrc.upd FORCE_ERECO RD=Y	Normal
LM00 1	Local	oracle. apps. gme. batch. pparam	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme.cbr. bpparam EDR_AME_TRA NSACTION_TY PE=oracle.apps. gme.batch. pparam FORCE_ERECO RD=Y	Normal
LM00 1	Local	oracle. apps. gme. batch. rsrc.trx	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	FORCE_ERECO RD=Y EDR_XML_MAP _CODE=oracle. apps.gme.batch. rsrc.trx	Normal

Syst em	Sour ce Type	Event Filter	Phase	Status	Rule Data	Rule Function	Parameters	Priorit y
LM001	Local	oracle. apps. gme. batch. erecords	0	Disabl ed	Key	EDR_PSIG_RULE. PSIG_RULE	EDR_XML_MAP_CODE=oracle. apps.gme.batch EDR_AME_TRANSACTION_TYPE=oracle.apps.gme.batch. erecords oracle. apps.gme.batch. reopen=EVALUATE_NORMAL oracle.apps.gme.batch. uncertify=EVALUATE_NORMAL oracle.apps.gme.batch. unrelease=EVALUATE_NORMAL oracle.apps.gme.batchstep. reopen=EVALUATE_NORMAL oracle.apps.gme.batchstep. uncertify=EVALUATE_NORMAL oracle.apps.gme.batchstep. unrelease=EVALUATE_NORMAL oracle.apps.gme.batchstep. complete=EVALUATE_NORMAL oracle.apps.gme.batch. terminate=EVALUATE_NORMAL oracle.apps.gme.batchstep. release=EVALUATE_NORMAL oracle.apps.gme.	Normal

Syst em	Sour ce Type	Event Filter	Phas e	Statu s	Rul e Dat a	Rule Function	Parameters	Priorit y
							batch. close=EVALUAT E_NORMAL oracle.apps.gme. batchstep. close=EVALUAT E_NORMAL oracle.apps.gme. batch. release=EVALU ATE_NORMAL oracle.apps.gme. batch. transact=EVALU ATE_NORMAL oracle.apps.gme. batch. complete=EVAL UATE_NORMA L	
LM00 1	Local	oracle. apps. gme. batch. transact	0	Disabl ed	Key	EDR_PSIG_ RULE. PSIG_RULE	EDR_XML_MAP _CODE=oracle. apps.gme.batch. transact oracle. apps.inv. lotCreate=IGNO RE_SIGNATURE	Normal

Transaction Types

Oracle Application	Transaction Type ID	Transaction Type Description
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch.release	GME ERES Batch Release

Oracle Application	Transaction Type ID	Transaction Type Description
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch. complete	GME ERES Batch Complete
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch.close	GME ERES Batch Close
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch.reopen	GME ERES Batch Reopen
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch. uncertify	GME ERES Batch Revert to WIP
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch. unrelease	GME ERES Batch Unrelease
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch. terminate	GME ERES Batch Terminate
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchstep. release	GME ERES Batch Step Release
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchstep. complete	GME ERES Batch Step Complete
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchstep. close	GME ERES Batch Step Close
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchstep. reopen	GME ERES Batch Step reopen

Oracle Application	Transaction Type ID	Transaction Type Description
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchstep. uncertify	GME ERES Batch Step Revert to WIP
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchstep. unrelease	GME ERES Batch Step Unrelease
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchstep. cancel	GME ERES Batch Step Canceled
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch.cancel	GME ERES Batch Cancel
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch.update	GME ERES Batch Update
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch. reschedule	GME ERES Batch Reschedule
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch.reroute	GME ERES Batch Reroute
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch.scale	GME ERES Batch Scaled
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchstep. added	GME ERES Batch Step Added
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchstep. removed	GME ERES Batch Step Removed

Oracle Application	Transaction Type ID	Transaction Type Description
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchstep.update	GME ERES Batch Step Updated
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchmtl.added	GME ERES Batch Material Added
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchmtl.removed	GME ERES Batch Material Removed
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batchmatl.update	GME ERES Batch Material Updated
Oracle Process Manufacturing Process Execution	oracle.apps.gme.activity.added	GME ERES Batch Step Activity Added
Oracle Process Manufacturing Process Execution	oracle.apps.gme.activity.removed	GME ERES Batch Step Activity Removed
Oracle Process Manufacturing Process Execution	oracle.apps.gme.activity.updated	GME ERES Batch Step Activity Updated
Oracle Process Manufacturing Process Execution	oracle.apps.gme.resource.added	GME ERES Batch Step Activity Resource Added
Oracle Process Manufacturing Process Execution	oracle.apps.gme.resource.removed	GME Batch Step Activity Resource Removed
Oracle Process Manufacturing Process Execution	oracle.apps.gme.resource.update	GME ERES Batch Step Activity Resource Updated

Oracle Application	Transaction Type ID	Transaction Type Description
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch. pparam	GME ERES Batch Step Activity Resource Process Parameters
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch.rsrc.trx	GME ERES Resource Transactions
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch. erecords	GME ERES Batch E-Records
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch. transact	GME ERES Batch Transact
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch.hold	GME ERES Batch Hold
Oracle Process Manufacturing Process Execution	oracle.apps.gme.batch. holdrelease	GME ERES Batch Hold Release

Generic Query Attributes

XML Element Tag	Display Name	Query Element Type
ORGANIZATION_CODE	Organization Code	Generic
BATCH_NO	Batch	Generic
BATCHSTEP_NO	Batch Step	Generic
LINE_NO	Line	Generic
ITEM_NO	Item	Generic
ACTIVITY	Activity	Generic

XML Element Tag	Display Name	Query Element Type
OPERATION_NO	Operation	Generic
PROCESS PARAMETER_NAME	Process Parameter	Generic

Enabling Batch Events

Enable the batch events using the following steps:

1. Enable the batch events and subscriptions. Refer to the *Oracle E-Records Implementation Guide* for more information.
2. Upload the RTF templates. Refer to the *Oracle E-Records Implementation Guide* for more information.
3. Set up the configuration variables for each event.
4. Update the transaction variables for each event. The following are provided as seed data variables:
 - EREC_REQUIRED
 - EREC_STYLE_SHEET
 - EREC_STYLE_SHEET_VER
 - ESIG_REQUIRED

Add other variables depending on your organizational requirements. Refer to the *Oracle E-Records Implementation Guide* for more information on setting up configuration variables and adding and updating transaction variables.

5. Update the Default Value of the EREC_STYLE_SHEET.
6. Enter a unique version number for the EREC_STYLE_SHEET_VER.

Finding Additional Oracle E-Records Information

Find additional information in the *Oracle E-Records Implementation Guide*. From the XML Gateway, using the existing Event and Event Key, you can derive the XML Map, Subscription Data, and Metadata.

Function Security

Function Security

Use function security to control user access to Oracle Process Manufacturing Process Execution functions. By default, access to Oracle Process Manufacturing Process Execution functionality is NOT restricted; ask your system administrator to customize your responsibilities to restrict access. Your system administrator customizes each responsibility at your site by including or excluding registered functions and menus of functions for a responsibility in the Responsibilities window.

The following examples are common results that enforcing function security can produce:

- Form or menu does not appear in the Navigator window

Note: Some forms and menus, when excluded from a responsibility, may affect more than one window or function.

- Button is hidden

Note: Some buttons access more than one window or function.

- Field is not updatable

Use function security to control any of the Oracle Process Manufacturing Process Execution functions included in the table below:

Function Name	User Function Name	Comments
GMEMATED_BYPROD_VIE W_F	Material Details Byproducts View Function	View Byproduct
GMEMATED_INGRED_VIE W_F	Material Details Ingredients View Function	View Ingredient
GMEMATED_PROD_VIEW_ F	Material Details Products View Function	View Product
GMEBDTED_BYPROD_UPD ATE_F	Batch Details: Byproducts Update	Update Byproduct
GMEBDTED_BYPROD_VIE W_F	Batch Details: Byproducts View	View Byproduct
GMEBDTED_INGRED_UPD ATE_F	Batch Details: Ingredients Update	Update Ingredient
GMEBDTED_INGRED_VIEW _F	Batch Details: Ingredients View	View Ingredient
GMEBDTED_PROD_UPDAT E_F	Batch Details: Products Update	Update Product
GMEBDTED_PROD_VIEW_F	Batch Details: Products View	View Product
GMESTPED_CLOSE_F	Batch Steps: Close	Close Step
GMESTPED_COMPLETE_F	Batch Steps: Complete	Complete Step
GMESTPED_RELEASE_F	Batch Steps: Release	Release Step
GME_BATCH_ERECORDS_S UB_F	Batch E-Records	View Batch E-records
GMO_LABEL_PRINT_HISTO RY_F	GMO Label Print History	Print Label History
GMEBDTED_AUTO_DETAIL _BATCH_F	Batch Details: Auto Reserve Batch	Autoreserve Batch

Function Name	User Function Name	Comments
GMEBDTED_AUTO_DETAIL_LINE_F	Batch Details: Auto Reserve Line	Autoreserve Line
GMEBDTED_BYPROD_DELETE_F	Batch Details: Byproducts Delete	Delete Byproduct
GMEBDTED_BYPROD_INSERT_F	Batch Details: Byproducts Insert	Insert Byproduct
GMEBDTED_BYPROD_UPDATE_F	Batch Details: Byproducts Update	Update Byproduct
GMEBDTED_BYPROD_VIEW_F	Batch Details: Byproducts View	View Byproduct
GMEBDTED_CANCEL_F	Batch Details: Cancel	Cancel Batch
GMEBDTED_CLOSE_F	Batch Details: Close	Close Batch
GMEBDTED_COMPLETE_F	Batch Details: Complete	Complete Batch
GMEBDTED_CORRECTIONS_F	Batch Details: Corrections	Material Transaction Corrections
GMEBDTED_CREATE_PHANTOM_F	Batch Details: Create Phantom	Create Phantom
GMEBDTED_FPO_TO_BATCH_F	Batch Details: Convert FPO to Batch	Convert FPO to Batch
GMEBDTED_INGREDIENT_DELETE_F	Batch Details: Ingredients Delete	Delete Ingredient
GMEBDTED_INGREDIENT_INSERT_F	Batch Details: Ingredients Insert	Insert Ingredient
GMEBDTED_INGREDIENT_UPDATE_F	Batch Details: Ingredients Update	Update Ingredient
GMEBDTED_INGREDIENT_VIEW_F	Batch Details: Ingredients View	View Ingredient

Function Name	User Function Name	Comments
GMEBDTED_PROD_DELETE_F	Batch Details: Products Delete	Delete Product
GMEBDTED_PROD_INSERT_F	Batch Details: Products Insert	Insert Product
GMEBDTED_PROD_UPDATE_F	Batch Details: Products Update	Update Product
GMEBDTED_PROD_VIEW_F	Batch Details: Products View	View Product
GMEBDTED_RELEASE_F	Batch Details: Release	Release Batch
GMEBDTED_REOPEN_F	Batch Details: Reopen	Reopen Batch
GMEBDTED_REROUTE_F	Batch Details: Reroute	Reroute Batch
GMEBDTED_RESCHEDULE_F	Batch Details: Reschedule	Reschedule Batch
GMEBDTED_RESERVE_BATCH_F	Batch Details: Reserve Batch	Reserve Batch
GMEBDTED_RESERVE_LINE_F	Batch Details: Reserve Line	Reserve Line
GMEBDTED_REVERT_TO_WIP_F	Batch Details: Revert To WIP	Revert to WIP
GMEBDTED_SCALE_F	Batch Details: Scale	Scale Batch
GMEBDTED_TERMINATE_F	Batch Details: Terminate	Terminate Batch
GMEBDTED_THEORETICAL_F	Batch Details: Theoretical Yield	Perform Theoretical Yield
GMEBDTED_UNRELEASE_F	Batch Details: Unrelease	Unrelease Batch
GMEBDTED_UPDATE_F	Batch Details: Header Update	Update Batch Header

Function Name	User Function Name	Comments
GMEPRMED_DOC_NUMBERING_F	Parameters: Document Numbering	Create Document Number
GMEPRMED_UPDATE_F	Parameters: Update	Update Parameters
GMEPWBSO_RESCHEDULE_F	Production Scheduler: Reschedule	Production Scheduler Reschedule
GMESTEP_ASSOCIATION_F	Batch Steps: Item Step Association	Item Step Association
GMESTEP_CLOSE_F	Batch Steps: Close	Close Step
GMESTEP_COMPLETE_F	Batch Steps: Complete	Complete Step
GMESTEP_COMPLETE_WITHOUT_QC_F	Batch Steps: Complete without QC	Complete without Quality Results
GMESTEP_DELETE_F	Batch Steps: Delete	Delete Step
GMESTEP_DEPENDENCIES_F	Batch Steps: Step Dependencies	Step Dependencies
GMESTEP_INSERT_F	Batch Steps: Insert	Insert Step
GMESTEP_RELEASE_F	Batch Steps: Release	Release Step
GMESTEP_REOPEN_F	Batch Steps: Reopen	Reopen Step
GMESTEP_RESCHEDULE_F	Batch Steps: Reschedule	Reschedule Step
GMESTEP_REVERT_TO_WIP_F	Batch Steps: Revert To WIP	Revert to WIP
GMESTEP_UNRELEASE_F	Batch Steps: Unrelease	Unrelease Step
GMESTEP_UPDATE_F	Batch Steps: Update	Update Step
GME_PRINT_LABEL_F	Batch Details: Print Label	Print Label

Function Name	User Function Name	Comments
GME_BATCH_PROGRESSIO N_F	Batch Details: Batch Progression	View Batch Progression
GMEBDTED_VIEW_TRANS ACTIONS_F	Batch Details: View Transactions	View Transactions
GMEBDTED_EDIT_PARENT _F	Batch Details: Edit Parent	Edit Parent
GMEBDTED_EDIT_PHANT OM_F	Batch Details: Edit Phantom	Edit Phantom
GMESTPED_ACTIVITIES_F	Batch Steps: Activity Details	View Activity Details
GMESTPED_RESOURCES_F	Batch Steps: Resource Details	View Resource Details
GMESTPED_TRANSACTION S_F	Batch Steps: Transactions	View Transactions

Understanding Batch Open Interface

Understanding Batch Open Interface

Batch Open Interface programs allows you to bulk import OPM Batches and facilitate lifecycle transitions of the batches in bulk via a staging interface tables approach. These interface tables are:

1. GME_BATCH_HEADER_INTERFACE
2. GME_BATCH_DTLS_INTERFACE
3. GME_BATCH_ACTIONS_INTERFACE
4. GME_RESOURCE_TXNS_INTERFACE
5. GME_INTF_ERRORS

GME_BATCH_HEADER_INTERFACE

The following table summarizes the GME_BATCH_HEADER_INTERFACE table

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
INTERFACE_HEADER_ID		NUMBER		Yes		No	Yes	Unique identifier of the row as provided by the user. User may use the sequence GME_BATCH_HEADER_INTEGERFACE_S to retrieve and populate a unique value.
ORGANIZATION_CODE		VARCHAR2	3	No		Yes	No	Organization Code of batch to be imported. Organization Code will be ignored if the organization Id is provided.
ORGANIZATION_ID		NUMBER	10	No		Yes	No	Organization Id of the batch to be imported.
BATCH_NO		VARCHAR2	32	Yes		Yes	No	Whenever batch number is manual, batch number must be populated when importing a new batch.

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
BATCH_ID	BATCH_NO + ORGANIZATION_CODE	NUMBER	10	No		Yes	No	Batch identifier of an existing batch in Oracle Process Manufacturing to be updated using the import interface. Populate this column when updating, rerouting, or rescheduling an existing batch. User can optionally provide a combination of BATCH_NO and ORGANIZATION_CODE to identify the batch.
INTERNAL_BATCH_ID		NUMBER	10	No	Yes			Internal data processing column. User must not populate or modify this column value.

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
RECIP E_VAL IDITY_ RULE_ ID	RECIP E_NO + RECIP E_VERS	NUMBER	10	No		Yes	No	Recipe Validity Rule Identifier helps in deriving the recipe based upon which the batch is to be created. Alternately, user can either provide the RECIPE_ID or a combination of RECIPE_NO and RECIPE_VERS to identify the recipe.
RECIP E_ID	RECIP E_NO + RECIP E_VERS	NUMBER	10	No		Yes	No	Recipe identifier of the recipe using which the batch is to be created. Alternately user can provide a combination of RECIPE_NO and RECIPE_VERS column values to identify the recipe.
INT_R ECIPE _ID		NUMBER	10	No	Yes			Internal data processing column. User must not populate or modify this column value.
RECIP E_NO		VARCHAR2	32	No		Yes	No	Recipe Number using which the batch should be created.

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
RECIPE_VERSIONS		NUMBER	5	No		Yes	No	Recipe Version of the Recipe Number using which the batch is to be created.
PLAN_START_DATE		DATE		No		No	No	Planned release date and time for the batch.
ACTUAL_START_DATE		DATE		No		No	No	Actual start date and time for the batch. This column can be used for updating actual start date correction when batch is already released (LOAD_TYPE = 30).
DUE_DATE		DATE		No		No	No	Batch completion date and time.
PLAN_COMPLETION_DATE		DATE		No		No	No	Planned batch completion date and time.

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
ACTUAL_C MPLT_ DATE		DATE		No		No	No	Actual completion date and time. This column can be used for correcting actual completion date when batch is already completed (LOAD_TYPE = 30).
BATCH_SIZE		NUMBER		No		No	No	Batch size value corresponds to the value in CREATION_MODE column. As an example, if the batch is created based on Product Quantity then this value refers to product quantity.
BATCH_SIZE_UOM		VARCHAR2	4	No		No	No	Unit Of Measure of the batch size
CREATION_MODE		NUMBER	5	No		Yes	No	Mode of creation 10 Recipe Based, 20 Product Based, 30 Output Based, 40 Input Based

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
INVENTORY_ITEM_ID	ITEM+ ORGANIZATION_CODE	NUMBER		No		Yes	No	Item Identifier of the primary product being produced using this batch. User can alternately provide a combination of ITEM and ORGANIZATION_CODE field values to identify the primary product.
INT_INVENTORY_ITEM_ID		NUMBER		No	Yes			Internal data processing column. User must not populate or modify this column value.
ITEM		VARCHAR2	300	No		Yes	No	Item number for the primary product.
ITEM_REVISION		VARCHAR2	3	No		Yes	No	Revision number for the primary product.

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
UPDATE_INVENTORY_IND		VARCHAR2	1	No		No	No	This indicates if a Lab batch updates inventory with inventory consumed. This indicator can only be set to Y if the organization is a Lab organization. Enter 'Y' if inventory should be updated with consumed ingredients, and 'N' otherwise
FIRMED_IND		NUMBER	5	No		No	No	If a batch should be firmed, not scheduled by Oracle scheduling engine, populate this column value as 1, otherwise enter 0.

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
LABORATORY_IND		NUMBER	1	No		No	No	Indicates if a Batch is a laboratory batch or a production batch. Possible values are 0 Production Batch 1 Laboratory Batch
INTERNAL_ORGANIZATION_ID		NUMBER		No	Yes			Internal data processing column. User should not populate or modify this column value.
USE_WORKDAY_CALENDAR		VARCHAR2	1	No		No	No	Whether to use workday calendar or not. Possible values are T or F
ignore_qty_below_capacity		VARCHAR2	1	No		No	No	Ignore quantity below capacity. Possible values are T or F
contiguity_override		VARCHAR2	1	No		No	No	Batch must be contained in a contiguous calendar period. Possible values are T or F

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
use_least_cost_vr		VARC HAR2	1	No		No	No	Possible values are T or F
APPLY_FIXED_PROCESS_LOSS		VARC HAR2	1	No		No	No	Apply Fixed process Loss as per recipe. Possible values are Y or N
ATTRIBUTE1 - ATTRIBUTE40		VARC HAR2	240	No			No	Descriptive Flex field Attributes 1 to 40 for Header Interface
ATTRIBUTE_CATEGORY		VARC HAR2	30	No			No	Descriptive Flex field category
LAST_UPDATE_DATE		DATE		No			No	Standard row WHO column
LAST_UPDATED_BY		NUMBER	15	No			No	Standard row WHO column
CREATION_DATE		DATE		No			No	Standard row WHO column
CREATED_BY		NUMBER	15	No			No	Standard row WHO column

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
LAST_UPDATE_LOGIN		NUMBER	15	No			No	Standard row WHO column
GROUP_ID		NUMBER	15	Yes			Yes	Group identifier provided by user to group rows for processing. Multiple rows in the interface table can have the same value to group rows of batches to be processed together by a single concurrent request.
REQUEST_ID		NUMBER	15	No	Yes		No	Interface code processing column. User must not update this column value. Import process populates the identifier of the concurrent request that processes this row.

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
PROCESSE_HASE		VARCHAR2	32	No	Yes		No	Interface Code processing column. User must not update this column value. Used to populate the status of processing of this row by the concurrent process.
PROCESSE_STATUS		VARCHAR2	32	No			No	User needs to populate a value of '1' at the time of data load. If the corresponding row is not processed successfully for some reason, correct the problem in this row and update the value back to '1' after correcting the error column values. Re processing will happen only for rows where the process status column has a value of '1'.

Column Name	Surrogate columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
LOAD_TYPE		NUMBER	3	Yes			No	Identify the type of action that needs to be performed on a specific row during the import process. Acceptable values are 10 Create Batch From Recipe 15 Create Batch and Release 30 Update Batch 40 Reschedule Batch 50 Reroute Batch

GME_BATCH_DTLS_INTERFACE

The following table summarizes the GME_BATCH_DTLS_INTERFACE table

Column Name	Surrogate Column	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
INTERFACER_HEADERS_ID		NUMBER		No			No	Foreign key column to GME_BATCH_HEADERS_INTERFACE table. This column should be populated only when a new batch is to be created and updated in the same run of the import process, and the batch numbering scheme is set to batch auto numbering in Oracle Process Manufacturing. If this record is being populated to simply update an already existing batch in Oracle, user can leave this value as NULL.	If this column is NULL, it means that there is no corresponding parent row in the Batch Header Import Interface table. This column is checked only when the batch is created in batch header interface within the same batch and the organization parameter set as auto-numbering.
INTERFACER_HEADERS_ID		NUMBER		Yes			Yes	Unique identifier of the row as provided by the user. User may use the sequence GME_BATCH_HEADERS_INTERFACE_S to retrieve and populate a unique value.	A unique value for each row must be provided for this column.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
ORGANIZATION_CODE	VA RC HA R2	VA	3	No		Yes	No	Organization code of the batch owning organization.	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters
BATCH_NUMBER	VA RC HA R2	VA	32	No		Yes	No	Batch Number of the batch being updated. This value can be NULL if BATCH_ID column is being populated, or a new batch is being created and details being updated at the same time.	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters
BATCH_STEP_NUMBER	NUMERIC	NUMERIC	10	No		Yes	No	Batch Step Number of the batch. Relevant for OBJECT_TYPE 300, 400, 500, 600, and 700.	300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
ACTIVITY		VARCHAR2	16	No		Yes	No	Batch Activity for the batch step. Relevant for OBJECT_TYPE 400 ,500 and 700.	400 - Activities 500 - Resource Requirements 700 - Process Parameters
RESOURCE		VARCHAR2	16	No		Yes	No	Resource name used for the activity in the batch step. Relevant for OBJECT_TYPE 500 and 700.	500 - Resource Requirements 700 - Process Parameters
ITEM		VARCHAR2	300	No		Yes	No	Concatenated segment value for an Item, the material to be added to the batch. Relevant for OBJECT_TYPE 200.	200 – Material
LINE_NO		NUMBER	5	No		Yes	No	Sequential line number for each line type in a batch. Relevant for OBJECT_TYPE 200 and 600.	200 – Material 600 - Step Items

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
LIN E_T YPE		NUMBER	5	No		Yes	No	Indicator for material type. -1 = Ingredient 1 = Product & Co-Products 2 = Byproduct Relevant for OBJECT_TYPE 200	200 - Material
INT _O RG AN IZA TIO N_I D		NUMBER		No	Yes			Internal data processing column. User must not populate or modify this column value.	
BATCH_IDENTIFIER	BATCH_IDENTIFIER	NUMBER	10	No		Yes	No	Batch identifier of a valid batch in Oracle Process Manufacturing. User can alternately provide values of BATCH_NO and ORGANIZATION_CODE. When creating a new batch, this field value will be NULL.	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
INT _BA TC H_I D		NUMERIC	10	No	Yes			Internal data processing column. User must not populate or modify this column value.	
BA TC HS TEP _ID	BA TC HS TEP _N O+ BA TC H_ NO + OR GA NIZ ATI ON _C OD E	NUMERIC	15	No		Yes	No	Batch Step Identifier of the batch. User can alternately provide column values of BATCH_NO, BATCHSTEP_NO, and ORGANIZATION_CODE. Relevant for OBJECT_TYPE 300, 400, 500, 600, and 700.	300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters
INT _BA TC HS TEP _ID		NUMERIC	15	No	Yes			Internal data processing column. User must not populate or modify this column value.	

Column Name	Surrogate Column	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
BATCH_ACTIVITY_ID	BATCH_ACTIVITY_ID	NUMBER	15	No		Yes	No	Identifier for the activity in a batch step. Alternately, user can provide values of BATCH_NO, ORGANIZATION_CODE, BATCH_STEP_NO, and ACTIVITY to identify the batch step activity. If BATCHSTEP_ACTIVITY_ID is not provided by the user for an existing resource (update/delete resource, add process parameter to a resource), all the actions are performed on the lowest level of details provided for the batch. Relevant for OBJECT_TYPE 400, 500, and 700.	400 - Activities 500 - Resource Requirements 700 - Process Parameters
BATCH_ACTIVITY_INTERNAL		NUMBER	15	No	Yes			Internal data processing column. User must not populate or modify this column value.	

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
INT _BA TC HS TEP _RE SO UR CE_ ID		NUMERIC	15	No	Yes			Internal data processing column. User should not populate or modify this column value.	
MA TER IAL _DE TAI L_I D _C OD E + LIN E_ NO + LIN E_ T YPE	BA TC H_ NO + OR GA NIZ ATI ON	NUMERIC	10	No		Yes	No	Identifier for the material line. Alternately, user can provide column values of BATCH_NO, ORGANIZATION_CODE, LINE_NO, and LINE_TYPE. Relevant for OBJECT_TYPE 200 and 600.	200 - Material 600 - Step Items
INT _M AT ERI AL_ DE TAI L_I D		NUMERIC	10	No	Yes			Internal data processing column. User should not populate or modify this column value.	

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
ACTUAL_ACTIVITY_FACTOR		NUMBER		No		No	No	Actual activity factor. Value is required to add an activity for a Completed Batch Step. Update of ACTUAL_ACTIVITY_FACTOR will impact resource transactions. Relevant for OBJECT_TYPE 400.	400 - Activities
ACTUAL_COMPLETION_DATE		DATE		No		No	No	Actual completion date. Column value is required to add an Activity or a Resource to a step in Complete status. Relevant for OBJECT_TYPE 300, 400, and 500.	300 - Steps 400 - Activities 500 - Resource Requirements
ACTUAL_MATERIAL_ALLOWED		NUMBER		No		No	No	Direct population of material is allowed for non-stockable and non-transactable items only. Relevant for OBJECT_TYPE 200.	200 - Material

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
ACTUAL_RESOURCE_COMPLETED_UNITS		NUMBER		No		No	No	Actual resource count must be a positive value. Column value is required to add a Resource in Completed Status. Relevant for OBJECT_TYPE 500.	500 - Resource Requirements
ACTUAL_RESOURCE_COMPLETED_QUANTITY		NUMBER		No		No	No	Actual quantity processed by the resource. Column is required to add a Resource in Completed Status. Relevant for OBJECT_TYPE 500.	500 - Resource Requirements
ACTUAL_RESOURCE_USAGE_COMPLETED		NUMBER		No		No	No	Used to add a resource usage in Completed Status only. For all usage updates for a batch, user should use Resource Transaction Interface. Relevant for OBJECT_TYPE 500.	500 - Resource Requirements

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
ACTUAL_START_DATE		DATE		No		No	No	Actual start date. Column is required to add an activity, or a resource to a step in Complete or WIP Status. Relevant for OBJECT_TYPE 300, 400, and 500.	300 - Steps 400 - Activities 500 - Resource Requirements
ACTUAL_MATERIAL_QUANTITY		NUMBER		No		No	No	Actual material quantity processed at the step. Column is required to add an activity, or a resource to a step in Complete or WIP Status. Relevant for OBJECT_TYPE 300.	300 - Steps
ACTUAL_VALUE		VARCHAR2	16	No		No	No	Actual value for this process parameter. Relevant for OBJECT_TYPE 700.	700 - Process Parameters
BY_PRODUCT_TYPE		VARCHAR2	1	No		No	No	This column is used to show whether the by-product is a sample type or other types. Relevant for OBJECT_TYPE 200.	200 - Material

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
CONT_RIB_UT_E_S_TEP_QT_Y_I_ND		VARCHAR2	1	No		No	No	Indicator to specify if the item contributes to step quantity. Possible value are N for No. and Y for Yes. Relevant for OBJECT_TYPE 200.	200 - Material
CONT_RIB_UT_E_Y_IEL_D_I_ND		VARCHAR2	1	No		No	No	Indicator to specify if the item (product or ingredient) contributes to yield. Value is N for No, and Y for Yes. Relevant for OBJECT_TYPE 200.	200 - Material
COST_ALLOC		NUMBER		No		No	No	For products, fraction of cost allocated to this product. Relevant for OBJECT_TYPE 200.	200 - Material
COST_ANALYSIS_CODE		VARCHAR2	32	No		No	No	Cost analysis code. Relevant for OBJECT_TYPE 500.	500 - Resource

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
CO ST_ CM PN TC LS_ CO DE		VA RC HA R2	32	No		No	No	Cost component class code. Relevant for OBJECT_TYPE 500.	500 - Resource
INT _ CO ST_ CM PN TC LS_ ID		NU MB ER		No		No	No	Internal data processing column. User should not populate or modify this column value.	500 - Resource
DT L_ U M		VA RC HA R2	3	No		No	No	Detail Unit of Measure for the quantity. Relevant for OBJECT_TYPE 200.	200 - Material
DU E_ D AT E		DA TE		No		No	No	Required step completion date and time. Relevant for OBJECT_TYPE 300.	300 - Steps
INV EN TO RY_ ITE M_ I D	ITE M	NU MB ER		No		Yes	No	Identifier of the Item (Material). User can alternately provide the value of ITEM to identify the item. Relevant for OBJECT_TYPE 200.	200 - Material

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
INTERNAL_DATA_PROCESSING_YIELD		NUMBER		No	Yes			Internal data processing column. User should not populate or modify this column value.	
LOCATOR		VARCHAR2	300	No		No	No	Concatenated segments value for yield or supply inventory locator. Relevant for OBJECT_TYPE 200.	200 - Material
LOCATOR_ID	LOCATOR	NUMBER		No		No	No	Identifier for yield or supply locator. Alternately, user can provide the value of LOCATOR field to identify the locator. Relevant for OBJECT_TYPE 200.	200 - Material
INTERNAL_DATA_PROCESSING_YIELD		NUMBER		No	Yes			Internal data processing column. User should not populate or modify this column value.	

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
MATERIAL_REQUIREMENT_DATE		DATE		No		No	No	Requirement or Yield Date of the material. Relevant for OBJECT_TYPE 200.	200 - Material
OFFSET_INTERVAL_VAL		NUMBER		No		No	No	Time offset in hours from step start to this activity. Must be a positive value. Relevant for OBJECT_TYPE 400 and 500.	400 - Activities 500 - Resource Requirements
OPERATION_ID	OPERATION + OPERATION + VER	NUMBER	10	No		Yes	No	Valid operation identifier obtained from GMD_OPERATIONS. Alternately, user can provide value of OPRN_NO and OPRN_VERS column values to identify the operation. Relevant for OBJECT_TYPE 300.	300 - Steps

Column Name	Surrogate Column	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
INT_OP RN_ID		NUMBER	10	No	Yes			Internal data processing column. User should not populate or modify this column value.	
OPRN_NO		VARCHAR2	32	No		Yes	No	Operation Number to identify the Operation this step is based on. Relevant for OBJECT_TYPE 300.	300 - Steps
OPRN_VERSION		NUMBER	5	No		Yes	No	Operation Version to identify the Operation this step is based on. User should always provide this value along with OPRN_NO column value. Relevant for OBJECT_TYPE 300.	300 - Steps
ORIGINAL_QUANTITY		NUMBER		No		No	No	Primary unit of measure for the ORIGINAL_QTY column value. Relevant for OBJECT_TYPE 200.	200 - Material

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
ORIGINALETY		NUMBER		No		No	No	The recipe quantity scaled for the batch. Planned quantity prior to any changes, value cannot be updated thereafter. Relevant for OBJECT_TYPE 200.	200 - Material
ORIGINALETY		NUMBER		No		No	No	Original (populated during batch creation) Resource quantity. Relevant for OBJECT_TYPE 500.	500 - Resource Requirements
ORIGINALETY		NUMBER		No		No	No	Original (populated during batch creation) Resource usage. Relevant for OBJECT_TYPE 500.	500 - Resource Requirements
PARAMETER_ID	PARAMETER	NUMBER		No		Yes	No	Valid unique identifier of a GMP Process parameter. Relevant for OBJECT_TYPE 700.	700 - Process Parameters

Column Name	Surrogate Column	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
INTERNAL_PROCESSING_ID		NUMBER		No	Yes			Internal data processing column. User should not populate or modify this column value.	
PHANTOM_TYPE		NUMBER	5	No		No	No	Phantom indicator. 0 = not a phantom 1 = automatic phantom replacement 2 = manual phantom Relevant for OBJECT_TYPE 200.	200 - Material
PLANNING_ACTIVITY_FACTOR		NUMBER		No		No	No	Number of times the activity is repeated. Relevant for OBJECT_TYPE 400.	400 - Activities
PLANNING_COMPLETION_DATE		DATE		No		No	No	Planned completion date. Relevant for OBJECT_TYPE 300, 400, and 500.	300 - Steps 400 - Activities 500 - Resource Requirements

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
PLAN_QTY		NUMBER		No		No	No	The quantity that this line was planned to produce or consume, in the same unit of measure as that of the batch. Relevant for OBJECT_TYPE 200.	200 - Material
PLAN_RESOURCE_COUNT		NUMBER		No		No	No	Planned resource count. Relevant for OBJECT_TYPE 500.	500 - Resource Requirements
PLAN_RESOURCE_QUANTITY		NUMBER		No		No	No	Planned quantity processed by the resource. From GMD_OPERATIONS_RESOURCES and scaled to batch size. Relevant for OBJECT_TYPE 500.	500 - Resource Requirements
PLAN_RESOURCE_USAGE		NUMBER		No		No	No	Planned resource usage. Relevant for OBJECT_TYPE 500.	500 - Resource Requirements

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
PLAN_START_DATE		DATE		No		No	No	Planned start date. Relevant for OBJECT_TYPE 300, 400, and 500.	300 - Steps 400 - Activities 500 - Resource Requirements
PLAN_STEP_QUANTITY		NUMBER		No		No	No	Material quantity to be processed at the step. Relevant for OBJECT_TYPE 300.	300 - Steps
PRIMARY_RESOURCE_INDICATOR		NUMBER	5	No		Yes	No	Primary resource indicator. 0 = Not a primary resource 1 = Primary resource 2 = Auxiliary resource Relevant for OBJECT_TYPE 500.	500 - Resource Requirements

Column Name	Surrogate Column	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
PROCESS_PARAMETER_IDENTIFIER	BATCH_NO, ORGANIZATION_CODE, STEP_NO, ACTIVITY, RESOURCE, and PROCESS_PARAMETER	NUMBER	15	No		Yes	No	Resource Process Parameter Identifier is needed when updating process parameter values. User can alternately provide values of the columns BATCH_NO, ORGANIZATION_CODE, STEP_NO, ACTIVITY, RESOURCE, and PROCESS_PARAMETER to identify the process parameter. If the value of an existing process parameter is not provided by the user when updating or deleting a parameter, the action is performed at the lowest level of batch info available.	700 - Process Parameters
								Relevant for OBJECT_TYPE 700.	

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
INT_PR OC ESS _PA RA M_I D		NUMBER	15	No	Yes			Internal data processing column. User should not populate or modify this column value.	
PR OC ESS _PA RA M E T E R		VARCHAR2	40	No		Yes	No	Process parameter. Relevant for OBJECT_TYPE 700.	700 - Process Parameters
REL EA SE_ TYP E		NUMBER	5	No		No	No	Consumption (or yield) type. 0 = Automatic (completion) 1 = Manual (completion) 2 = Incremental 3 = Automatic by Step Relevant for OBJECT_TYPE 200.	200 - Material
RES OU RC E_Q TY_ UM		VARCHAR2	3	No		No	No	Unit of Measure for RESOURCE_QTY column value. Relevant for OBJECT_TYPE 500	500 - Resource Requirements

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
REVISION		VARCHAR2	3	No		Yes	No	Item Revision. Relevant for OBJECT_TYPE 500.	200 - Material
ROUNDING_DIRECTION		NUMBER	5	No		No	No	Whether to round up or round down to the nearest SCALE_MULTIPLE 0 = UP 1 = DOWN 3 = EITHER Relevant for OBJECT_TYPE 200.	200 - Material
SCALE_MULTIPLE		NUMBER		No		No	No	The multiples of the batch unit of measure (in Scale UOM) for scaling. Relevant for OBJECT_TYPE 200.	200 - Material
SCALE_VARIANCE_ALLOWED_PERCENTAGE		NUMBER		No		No	No	Percentage, positive or negative, variance of scaled quantity allowed when scaling. Default value is zero. Relevant for OBJECT_TYPE 200.	200 - Material

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
SCAL_E_TYPE		NUMBER	5	No		No	No	<p>Following values are relevant for Object Type 200</p> <p>0 = Non-scalable</p> <p>1 = Scalable</p> <p>2 = Scale by increment</p> <p>Following values are relevant for Object Type 500</p> <p>0 = Non-scalable</p> <p>1 = Linear scaling</p> <p>2 = Scale by Charge</p>	<p>200 - Material</p> <p>500 - Resource Requirements</p>
SCRAP_FACTOR		NUMBER		No		No	No	<p>Scrap factor is given in percentage.</p> <p>Relevant for OBJECT_TYPE 200.</p>	200 - Material

Column Name	Surrogate Column	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
SEQUENCE_DEPENDENT		NUMBER	5	No		No	No	Allow user to select sequence dependent activities. A value of 1 means that the activity is sequence dependent. Any other value means activity is not sequence dependent. Relevant for OBJECT_TYPE 400.	400 - Activities
STEP_CLOSE_TIMESTAMP		DATE		No		No	No	Updated at the time when the step is closed. Defaults to system date and time and can be overridden. Relevant for OBJECT_TYPE 300.	300 - Steps
STEP_RELEASE_TYPE		NUMBER	5	No		No	No	Step Release Type. 1 = Manual 2 = Automatic Relevant for OBJECT_TYPE 300.	300 - Steps

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
SUBINVENTORY		VARCHAR2	10	No		No	No	Yield or Supply Sub-inventory. Relevant for OBJECT_TYPE 200.	200 - Material
TARGETVALUE		VARCHAR2	16	No		No	No	Ideal value for this process parameter. Not required if Min & Max value are provided. May be text or a number. Relevant for OBJECT_TYPE 700.	700 - Process Parameters
WIPPLANQUANTITY		NUMBER		No		No	No	This quantity is used in place of PLAN_QTY, if the batch status is WIP or above. Relevant for OBJECT_TYPE 200.	200 - Material
RESCHEDULE_PRECEDING_STEPS		VARCHAR2	1	No		No	No	Reschedule Preceding Steps. Populate T for True, or F for False. Relevant for OBJECT_TYPE 300.	300 - Steps

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
RESCHEDULING_STEPS		VARCHAR2	1	No		No	No	Reschedule succeeding steps. Populate T for True, or F for False. Relevant for OBJECT_TYPE 300.	300 - Steps
USE_WORKDAY		VARCHAR2	1	No		No	No	Use work day calendar. Populate Y for Yes, or N for No. Relevant for OBJECT_TYPE 300.	300 - Steps
CONTIGUITY_OVERRIDE		VARCHAR2	1	No		No	No	Contiguity Override. Populate T for True, or F for False. Relevant for OBJECT_TYPE 300 , reschedule step.	300 – Steps
ATTRIBUTE_CATEGORY		VARCHAR2	30	No		No	No	Descriptive Flex field Category	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
AT TRI BU TE1 - AT TRI BU TE3 0		VA RC HA R2	240	No		No	No	Descriptive Flex Fields Attribute1 to Attribute30 are supported.	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters
CR EA TE D_B Y		NUMBER	15	No			No	Standard row WHO column	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters
CR EA TIO N_ DA TE		DATE		No			No	Standard row WHO column	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
LA ST_ UP DA TE_ DA TE		DATE		No			No	Standard row WHO column	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters
LA ST_ UP DA TE_ LO GI N		NUMBER	15	No			No	Standard row WHO column	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters
LA ST_ UP DA TE D_ B Y		NUMBER	15	No			No	Standard row WHO column	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
GROUP_ID		NUMBER	15	Yes			No	Group identifier provided by user to group rows for processing. It is recommended that all rows for batch detail processing of a single batch have the same group id.	Control Columns
REQUEST_ID		NUMBER	15	No	Yes		No	Interface code processing column. User should not update this column value. Import process populates the identifier of the concurrent request that processes this row.	Control Columns
PROCESSING_STATUS		VARCHAR2	32	No	Yes		No	Interface Code processing column. User should not update this column value. Used to populate the status of processing of this row by the concurrent process.	Control Columns

Column Name	Surrogate Column	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
PR OC ESS _ST AT US	VA RC HA R2	32	No				No	User needs to populate a value of '1' at the time of data load. If the corresponding row is not processed successfully for some reason, correct the problem in this row and update the value back to '1' after correcting the error column values. Re processing will happen only for rows where the process status column has a value of '1'.	Control Columns
OBJ EC T_T YPE	NU MB ER	3	Yes				No	Interface Code processing column. User needs to provide this value to identify what kind of detail needs to be added to a batch.	200 - Material 300 - Steps 400 - Activities 500 - Resource Requirements 600 - Step Items 700 - Process Parameters

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description	Interface column relevant for Object Type
LO AD _TY PE		NUMBER	3	Yes			No	Interface Code processing column. User needs to provide the kind of action to be performed for the object specified in OBJECT_TYPE column.	10 – Add 20 – Update 30 – Delete 40 – Reschedule Step

GME_BATCH_ACTIONS_INTERFACE

The following table summarizes the GME_BATCH_ACTIONS_INTERFACE table

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
INTE RFAC E_ID		NUMBER		Yes			Yes	Unique identifier of the row as provided by the user. User may use the sequence GME_BATCH_ACTIONS_INTERFACE_S to retrieve and populate a unique value.
ORG ANIZ ATIO N_C ODE		VARCHAR2	3	No		Yes	No	Organization Code to which the batch belongs to

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
BATCH_NO		VARCHAR2	32	No		Yes	No	Batch Number of an existing batch in Oracle Process Manufacturing. Value provided by user is validated against an existing batch number in GME_BATCH_HEADER table
BATCH_STEP_NO		NUMBER	10	No		Yes	No	Batch Step Number of an already existing batch in Oracle Process Manufacturing.
INTERNAL_ORGANIZATION_ID		NUMBER		No	Yes			Internal data processing column. User must not populate or modify this column value.
BATCH_IDENTIFIER	BATCH_NO+ ORGANIZATION_CODE	NUMBER	10	No		Yes	No	Batch Identifier of an existing batch in Oracle Process Manufacturing for which action is to be performed. User can alternatively provide the BATCH_NO and ORGANIZATION_CODE to identify the batch.
INTERNAL_BATCH_IDENTIFIER		NUMBER	10	No	Yes			Internal data processing column. User must not populate or modify this column value.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
BATCHSTEP_ID	BATCHNO+ ORGANIZATION_CODE+ BATCHSTEP_NO	NUMBER	15	No		Yes	No	Batch step identifier of the batch step for which action needs to be performed. Alternately, user can provide a combination of BATCH_NO, ORGANIZATION_CODE, and BATCHSTEP_NO to identify the batch step.
INT_BATCHSTEP_ID		NUMBER	15	No	Yes			Internal data processing column. User must not populate or modify this column value.
ACTUAL_START_DATE		DATE		No		No	No	Actual start date and time for batch or batch step
ACTUAL_COMPLETION_DATE		DATE		No		No	No	Actual completion date and time for batch or batch step
CLOSE_DATE		DATE		No		No	No	Batch or Step Close Date and time.
IGNORE_MATERIAL_EXCEPTIONS		VARCHAR2	1	No		No	No	Ignore Material Exceptions during batch action. Valid values are Y or N

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
TERMINATE_REASON_CODE	TERMINATE_REASON_CODE	NUMBER	10	No		No	No	Batch termination reason identifier. User can provide the TERMINATE_REASON_CODE value instead.
INTERNAL_TERMINATE_REASON_CODE		NUMBER	10	No	Yes			Internal data processing column. User should not populate or modify this column value.
TERMINATE_REASON_CODE2		VARCHAR2	30	No		No	No	Batch terminate reason name
create_resv_pending_lots		NUMBER	2	No		No	No	When a Step or a Batch Reverted to pending this flag need to be passed. If the value is not passed then it will be treated as "No". Create reservation for pending lots Valid values are 0 = No 1 = Yes
continue_transaction		VARCHAR2	1	No		No	No	Y or N

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
REOPEN_S TEPS		VARCHAR2	1	No		No	No	Y or N
CREATED_BY		NUMBER	15	No			No	Standard row WHO column
CREATION_DATE		DATE		No			No	Standard row WHO column
LAST_UPDATE_DATE		DATE		No			No	Standard row WHO column
LAST_UPDATE_LOGIN		NUMBER	15	No			No	Standard row WHO column
LAST_UPDATE_BY		NUMBER	15	No			No	Standard row WHO column
GROUP_ID		NUMBER	15	Yes	Yes		No	Interface code processing column. Please do not update. Used for internal grouping of rows for efficient concurrent processing of many batch actions.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
REQUEST_ID		NUMBER	15	No	Yes		No	Interface Code processing column. Please do not update. Processing logic populates the identifier of the concurrent request that processed this row.
PROCESS_PHASE		VARCHAR2	32	No	Yes		No	Interface Code processing column. Please do not update. Used to populate the status of processing of this row by the concurrent process.
PROCESS_STATUS		VARCHAR2	32	No			No	User needs to populate a value of '1' at the time of data load. If the corresponding row is not processed successfully for some reason, correct the problem in this row and update the value back to '1' after correcting the error column values. Re processing will happen only for rows where the process status column has a value of '1'.
OBJECT_TYPE		NUMBER	3	Yes			No	The object, Batch or Step, for which action is to be performed. 100 - Batch 300 - Steps

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
ACTION		NUMBER	3	Yes			No	The type of batch or batch step action to be performed 10 – Release 20 – Complete 30 – Close 40 – Re Open 50 – Revert to WIP 60 – Un Release 70 – Terminate Batch 80 – Cancel Batch

GME_RESOURCE_TXNS_INTERFACE

The following table summarizes the GME_RESOURCE_TXNS_INTERFACE table

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
INTERFACE_ID		NUMBER		Yes			Yes	Unique identifier of the row as provided by the user. User may use the sequence GME_RESOURCE_TXNS_INTERFACE_S to retrieve and populate a unique value.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
ORGANIZATION_CODE		VARCHAR2	3	No		Yes	No	Organization Code to which the batch belongs to
BATCH_NO		VARCHAR2	32	No		Yes	No	Batch Number of an existing batch in Oracle Process Manufacturing. Value provided by user is validated against an existing batch number in GME_BATCH_HEADER table.
BATCH_STEP_NO		NUMBER	10	No		Yes	No	Batch Step Number of an already existing batch in Oracle Process Manufacturing. Value provided by user is validated against an existing batch step number in table GME_BATCH_STEPS.
ACTIVITY		VARCHAR2	16	No		Yes	No	Batch Activity to which the Resource is associated.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
RESOURCES		VARCHAR2	16	No		Yes	No	Resource used for this transaction.
RESOURCE_INSTANCE_NUMBER		NUMBER	10	NO		Yes	No	Resource Instance Number used for this transaction.
BATCH_ID	BATCH_NO + ORGANIZATION_CODE	NUMBER	10	No		Yes	No	Batch Identifier of an existing batch in Oracle Process Manufacturing for which transaction is to be performed. User can alternatively provide the BATCH_NO and ORGANIZATION_CODE to identify the batch.
INTERNAL_BATCH_ID		NUMBER	10	No	Yes			Internal data processing column. User must not populate or modify this column value.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
BATCHSTEP_RESOURCE_ID	BATCH_NO + ORGANIZATION_CODE + BATCH_STEP_NO + ACTIVITY + RESOURCE	NUMBER	10	No		Yes	No	This column value can be obtained from GME_BATCHSTEP_RESOURCES table to identify a unique combination of the batch, batch step, activity and resource being transacted. The user can either provide this value or provide a combination of BATCH_NO, ORGANIZATION_CODE, BATCH_STEP_NO, ACTIVITY, and RESOURCE
INT_BATCHSTEP_RESOURCE_ID		NUMBER	10	No	Yes			Internal data processing column. User must not populate or modify this column value.
RESOURCE_USAGE		NUMBER		No		No	No	Quantity of the resource used.
TRANS_DATE		DATE		No		No	No	Date of the resource transaction.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
REASON_NAME		VARCHAR2	30	No		No	No	Reason code associated with the resource transaction.
START_DATE		DATE		No		No	No	Date and time the resource transaction started. Beginning of the resource transaction date must fall within the start and end date of the resources as defined in GME_BATCH_RESOURCES
END_DATE		DATE		No		No	No	Date and time the resource transaction ended. End of the resource transaction must fall within the begin and end date of the resource as defined in, GME_BATCH_RESOURCES
INSTANCE_IDENTIFIER	RESOURCE_INSTANCE_IDENTIFIER	NUMBER	15	No		No	No	Resource Instance Identifier used for this resource transaction.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
INT_RESOURCE_INSTANCE_ID		NUMBER	15	No	Yes			Internal data processing column. User must not populate or modify this column value.
INT_ORGANIZATION_ID		NUMBER		No	Yes			Internal data processing column. User must not populate or modify this column value.
FROM_INSTANCE_NO		NUMBER						The old INSTANCE_NO.
FROM_INSTANCE_ID		NUMBER						The old INSTANCE_ID.
INT_FROM_INSTANCE_ID		NUMBER			Yes			Internal data processing column. User must not populate or modify this column value.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
ACTI ON		NUMB ER	3					The type of resource transaction action to perform. 10 - Start Resource, 20 - End Resource, 30 - Assign Resource, NULL - Import completed resource transaction.
COST_ SOUR CE		NUMB ER						Indicate the source of the OSP resource charges. 1=Resource Cost, 2=PO Price.
PO_HE ADER_ ID		NUMB ER						Purchase order header unique identifier, derived from the RCV_TRANSACTIONS table.
PO_LI NE_ID		NUMB ER						Purchase order line unique identifier, derived from the RCV_TRANSACTIONS table.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
ACTUAL_RESOURCE_RATE		NUMBER						Actual rate of the resource.
CURRENCY_CODE		VARCHAR2	15					Source document foreign currency, derived from the RCV_TRANSACTIONS table.
CURRENCY_CONVERSION_DATE		DATE						Currency conversion date, derived from the RCV_TRANSACTIONS table.
CURRENCY_CONVERSION_TYPE		VARCHAR2	30					Foreign currency conversion type, derived from the RCV_TRANSACTIONS table.
RCV_TRANSACTION_ID		NUMBER						Receiving transaction unique identifier, which corresponds to the receiving transaction that generates resource transactions.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
CURRENCY_CONVERSION_RATE		NUMBER						Currency conversion rate, derived from the RCV_TRANSACTIONS table.
TRANS_QTY_UNIT		VARCHAR2	3	No		No	No	Unit of Measure of the resource to be transacted.
REASON_ID		NUMBER		No		No	No	Reason unique identifier
CREATION_DATE		DATE		No			No	Standard row WHO column
LAST_UPDATE_DATE		DATE		No			No	Standard row WHO column
CREATED_BY		NUMBER	15	No			No	Standard row WHO column
LAST_UPDATED_BY		NUMBER	15	No			No	Standard row WHO column
LAST_UPDATE_LOGIN		NUMBER	15	No			No	Standard row WHO column

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
ATTRIBUTE1 - ATTRIBUTE30		VARCHAR2	240	No			No	Descriptive Flex Fields Attribute1 to Attribute30 are supported.
ATTRIBUTE_CATEGORY		VARCHAR2	30	No			No	Descriptive Flex Category
PROCESS_PHASE		VARCHAR2	32	No	Yes		No	Interface Code processing column. Please do not update. Used to populate the status of processing of this row by the concurrent process.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
PROCESSTATUS		VARCHAR2	32	No			No	User needs to populate a value of '1' at the time of data load. If the corresponding row is not processed successfully for some reason, correct the problem in this row and update the value back to '1' after correcting the error column values. Re processing will happen only for rows where the process status column has a value of '1'.
REQUEST_ID		NUMBER	15	No	Yes		No	Interface Code processing column. Please do not update. Processing logic populates the identifier of the concurrent request that processed this row.

Column Name	Surrogate Columns	Data Type	Size	Not Null	Internal Only	Key Col	PK	Column Description
GROUP_ID		NUMBER	15	Yes	Yes		No	Interface code processing column. Please do not update. Used for internal grouping of rows for efficient concurrent processing of many batch actions.

GME_INTF_ERRORS

The following table summarizes the GME_INTF_ERRORS table.

Column Name	Data Type	Size	Not Null	PK	Column Description
GROUP_ID	NUMBER	10	No	No	User input for "grouping" the rows together for processing
OBJECT_TYPE	VARCHAR2	30	Yes	No	Indicates whether it's a Batch or Step or Material or Resource Transaction
INTERFACE_ID	NUMBER	240	Yes	No	Interface ID for which error is being logged
COLUMN_NAME	VARCHAR2	30	No	No	Actual Column name of Interface Table

Column Name	Data Type	Size	Not Null	PK	Column Description
MESSAGE_NAME	VARCHAR2	60	No	No	Message Token or Internal Name of Message from FND_NEW_MESSAGES
MESSAGE_TYPE	VARCHAR2	30	No	No	Severity (Warning , Critical or Fatal Error)
MESSAGE_TEXT	VARCHAR2	1000	No	No	Complete Message Text in User's language
SOURCE_TABLE_NAME	VARCHAR2	30	Yes	No	Coming from Which Interface Table
REQUEST_ID	NUMBER		No	No	Concurrent Request ID which processed this data
PARAM1	VARCHAR2	30	No	No	For Storing the Message Parameter , used for substitution and generation of messages in other Languages
PARAM2	VARCHAR2	30	No	No	For Storing the Message Parameter, used for substitution and generation of messages in other Languages
PARAM3	VARCHAR2	30	No	No	For Storing the Message Parameter, used for substitution and generation of messages in other Languages

Column Name	Data Type	Size	Not Null	PK	Column Description
PARAM4	VARCHAR 2	30	No	No	For Storing the Message Parameter, used for substitution and generation of messages in other Languages
PARAM5	VARCHAR 2	30	No	No	For Storing the Message Parameter, used for substitution and generation of messages in other Languages
PARAM6	VARCHAR 2	30	No	No	For Storing the Message Parameter, used for substitution and generation of messages in other Languages
TOKEN1	VARCHAR 2	60	No	No	For Storing the values of Tokens.
TOKEN2	VARCHAR 2	60	No	No	For Storing the values of Tokens.
TOKEN3	VARCHAR 2	60	No	No	For Storing the values of Tokens.
TOKEN4	VARCHAR 2	60	No	No	For Storing the values of Tokens.
TOKEN5	VARCHAR 2	60	No	No	For Storing the values of Tokens.
TOKEN6	VARCHAR 2	60	No	No	For Storing the values of Tokens.
LAST_UPD ATED_BY	NUMBER		No	No	Standard WHO Columns

Column Name	Data Type	Size	Not Null	PK	Column Description
CREATION_DATE	DATE		No	No	Standard WHO Columns
CREATED_BY	NUMBER	15	No	No	Standard WHO Columns
LAST_UPD ATE_LOGI N	NUMBER	15	No	No	Standard WHO Columns
LAST_UPD ATE_DATE	DATE		No	No	Standard WHO Columns

Troubleshooting / FAQ's

Troubleshooting / FAQ's

The following answers some frequently asked questions regarding Process Execution.

Firm Planned Orders

The following answers some questions regarding firm planned orders in Process Execution.

Can the firm planned order be used as a material planning tool?

Yes. Although the firm planned order does not commit onhand inventory, it is a useful planning tool, since it serves as both a reminder of future production events and can be used to create batches. The pending supply and demand from a firm planned order is visible to and used by Oracle Process Manufacturing Process Planning applications.

Using the Firm Planned Order as a Planning Tool

A firm planned order is similar to a production batch in that it creates a time phased supply and demand of material . However, the firm planned order itself does not commit current onhand inventory. This distinction separates medium and long range demand from close range production batch demand. Inventory cannot be reserved against a firm planned order. However, the firm planned order can be converted into multiple, simultaneous, or consecutive batches. Therefore, it is possible for firm planned orders to be used for aggregate production planning or as a multi-batch entry tool.

Can you reschedule a firm planned order?

Yes. Firm planned orders can be rescheduled and subsequently modified using the Reschedule window available from the Firm Planned Order: Details window.

Reschedule or Modify Firm Planned Orders Quickly

The Reschedule window is used to change the Planned Start date or Planned Completion date fields. The application recalculates the field that was not changed. You can also scale firm planned orders that are not yet converted to batches.

Can you reroute a firm planned order?

Yes. A firm planned order can be rerouted using the Reroute option from the Actions menu of the Firm Planned Order: Details window.

When you select Reroute, the Recipe Validity Rules Summary dialog box displays and is used to select a validity rule with a different routing.

Can you scale a firm planned order?

Yes. A firm planned order can be scaled using the Scale Batch window.

The Scale Batch window enables you to scale a batch or firm planned order by a percentage or a specific amount.

Batch Creation

The following answers some questions regarding Batch Creation in Process Execution.

Is it possible to get a list of all completed batches for a plant by financial period?

Yes. Use the Workbench Find Batches dialog box to list all completed batches in the defined financial period.

Display Batches Completed in a Financial Period

The Find Batches option on the Workbench can be used to find all completed batches in a defined financial period. Using the Advanced region on the Find Batches dialog box, enter the Actual Start Date with a Condition greater than or equal to the beginning of the financial period. Tab to the next row, and enter the Actual Start Date with a Condition less than or equal to the end date of the financial period. Click Find to list all batches in the defined period.

Does the application allow using up material that is near expiration?

Yes. By creating a batch with a defined input quantity, it is possible to scale a batch to use up ingredients before they expire.

Create Batches by Recipe, Product Output, Total Output or Total Input

The Create Batch/Firm Planned Order window provides the following methods to enter a batch or firm planned order:

- Enter a recipe when a default output quantity is required.
- Enter product output when a specific quantity of a single product is required.
- Enter total output when a total quantity of all products and byproducts yielded by the batch is required.
- Enter total input when the total quantity of all ingredients that need to be consumed is required.

Does the application support consuming ingredients in multiples rather than

fractional units?

Yes. It is common for raw materials to be consumed in fractional quantities, but the Process Execution application also allows scaling and consuming ingredients in whole units.

Scale Batches by Increments

Ingredients are often consumed in full units of a specified size. For example, granulated sugar is available in 30-pound bags. When large production runs make relatively small variances in an ingredient virtually imperceptible, the application supports scaling to the closest integer quantity. Rather than specifying 87.2 pounds, integer scaling plans for 90 pounds, or three 30-pound bags.

Can a process be modeled on a process flow rather than material consumption basis?

Yes. By assigning an individual status to each batch step and interrelating steps with step dependencies, the application automatically maintains the in process status of each step based on the status of the steps dependent on it.

Batch Materials

The following answers some questions regarding Batch Materials in Process Execution.

Does the application support automatic ingredient reservation?

Yes. The application can reserve ingredients automatically or manually.

Reserve Ingredients Automatically or Manually

Use automatic reservation to select lots without your intervention. Make manual reservations using the Item Reservations window and Select Available Inventory window. The Picking Rules engine provides the appropriate input parameters like Batch, Product, Ingredient, and Material Requirement Date for reservation suggestions that indicate the lots from which the material can be picked.

Can inventory shortages be managed from the shop floor?

Yes. The Inventory Shortages window displays a line by line summary of materials that have a planned quantity greater than available inventory.

Manage Inventory Shortages from the Shop Floor

Inventory shortages display in the Inventory Shortages window. Production Operators can determine the shortage and act on it immediately from the shop floor.

Ingredient Picking Workbench

The following answers some questions regarding Ingredient Picking Workbench in Process Execution.

Can you automate the process of material staging to production?

Yes. Ingredient picking lets you automate, manage, and control the gathering of

required materials for proper staging at their points of use. For some businesses, this process may not be required or may be unmanageable. The application lets you use the Ingredient Picking feature optionally.

Is the ingredient picking process available for non-Warehouse Management Systems organizations?

Yes. The Ingredient Picking process is available for both Warehouse Management Systems (WMS) and non-WMS organizations. Inventory picking rules are used for non-WMS enabled organizations. When WMS is not used, some advanced features such as cross docking, rule based allocation, and warehouse picking task management are not available.

Does the Ingredient Picking process consider reservations?

Yes. The Ingredient Picking process considers the detailed level reservations. The system can be configured so that, if a detailed (subinventory/locator and lot/sublot are specified) reservation is found for an ingredient, then it is used to create the transaction and the picking rules are not used.

Batch Production

The following answers some questions regarding Batch Production in Process Execution.

Does the application keep inventory current for ingredients that are consumed incrementally in the production cycle?

Yes. Incremental backflushing provides a convenient method to keep inventory current for batches that consume ingredients incrementally throughout the time production occurs. Incremental backflushing is used to model continuous flow type production.

Keep Inventory Current with Incremental Backflushing

Incremental backflushing provides a simple method to record ingredient consumption and production yield as it occurs prior to batch completion. Incremental backflushing enables the timely entry of material transactions of ingredients for batches with a status of WIP, and eliminates the need to enter ingredient consumption quantities.

Does the application show batch production progress at a glance?

Yes. The Process Execution Workbench window provides a consolidated view of batch products, byproducts, ingredients, and steps. You can also view the batch progression from the Batch Details window by choosing Batch Progression from the Tools menu. If you install the Oracle Manufacturing Execution System for Process Manufacturing application, then this option is available.

Totally Integrate Batch Process Management

The Oracle Process Manufacturing Process Execution application manages the total batch production process from the material and nonmaterial resources. The Process Execution Workbench window displays batches in a single consolidated view. This allows viewing products, byproducts, and ingredients at both a summary level and at

the individual step level.

Batch Completion

The following answers some questions regarding Batch Completion in Process Execution.

Can a batch be reopened if someone accidentally closes it?

Yes. The Reopen Batch command is available from the Actions menu to reopen a batch that is closed accidentally. If the financial period for a batch is closed, then it cannot be reopened.

Reopen Closed Batches

When a production batch does not require additional processing, it is complete and must be closed to calculate actual production costs. If batches are closed accidentally, then they can be reopened by authorized users.

Inquiries

The following answers some questions regarding Inquiries in Process Execution.

Can a production schedule differentiate between pending and WIP batches?

Yes. The Production Schedule Selection Criteria window lets you select batches by pending or WIP status.

Production Schedule Inquiry Differentiates Pending and WIP Batches

The Production Schedule Selection Criteria dialog box enables the selection of the type and status of a production schedule. Production Supervisors can display firm planned orders and batches scheduled for production. The inquiry allows differentiation by status.

Is it possible to display all current work in process for the plant?

Yes. The Work in Process Inquiry searches for batches with a status of work in process.

Work in Process Inquiry Displays Specified Batches in Production

The Work in Process Inquiry Selection Criteria dialog box enables the search of batches by plant, document number, start date, and formula or routing used. The Work In Process Inquiry Details window displays relevant information about planned and actual dates for each batch step as well as required completion dates, so that the Production Supervisor can gain an overview of all work in process.

Is there an application tool to monitor variances in material production and consumption?

Yes. The Material Variance Inquiry enables the Production Supervisor to monitor processes outside expected production tolerances.

Material Variance Inquiry Shows Discrepancies Between Actual and Planned Batch

Quantities

Production Supervisors use the Material Variance Inquiry to monitor material consumption. When a process is outside expected production tolerances, the inquiry assists in the troubleshooting of specific problems in batch production.

Can variances be viewed at the step level?

Yes. The Batch Step Variance Inquiry enables the display of variances at the step level.

Batch Step Variance Inquiry Displays Step Variances

Step Variances are a valuable diagnostic tool used to troubleshoot process flow issues. Failure to close batch steps or the inability to complete them in an allowable time helps Production Supervisors optimize work processes at the batch step level.

Is it possible to view bottlenecks in the production process?

Yes. The Resource Variance Inquiry enables the Production Supervisor to display variances in actual versus planned hours for each resource utilized in the batch.

Resource Variance Inquiry Identifies Resource Consumption Problems

The Production Supervisor runs the Resource Variance Inquiry to identify variations in resource consumption during batch production. By investigating planned versus actual hours used for each resource, it is possible to troubleshoot production bottlenecks and remove contentions for resources in a production run. The Resource Usage window enables management to examine relative efficiencies for a process.

Reports and Concurrent Programs

The following answers some questions regarding Reports and Concurrent Programs in Process Execution.

Can materials be picked prior to release of a production batch?

Yes. Ingredients can be picked prior to batch release and is facilitated by the Batch Pick List report. The report identifies lots that must be picked and their individual warehouse locations.

Batch Pick List Report Identifies Lots Picked for Production

The Batch Pick List report helps the Production Operator identify picked materials prior to releasing a batch and serves as a guide to picking materials reserved for use.

Can you pick ingredients for a group of batches at once?

Yes. The Ingredient Picking concurrent program lets you pick ingredients for a group of pending and WIP batches that have open ingredient requirements.

Can you substitute ingredients in a batch with substitute ingredients?

Yes. The Item Substitution for Batches concurrent program lets you substitute ingredients in a batch with substitute ingredients that are effective in a given date range.

Does the application print a batch ticket?

Yes. The Batch Ticket report enables the Production Operator to sort batches by document number or by start date and batch number.

Batch Ticket Report Identifies a Sequenced Item Material List for All Batch Components

The Batch Ticket report lets the Production Operator list batches by document number or by start date and batch number. Each batch component is listed in sequence by item, planned quantity, and UOM. All steps associated with the batch are provided with batch operation and version, step quantity, and UOM.

Can you view production activities by recipe and start date for a specific time period?

Yes. The Planned Production Activity report shows all scheduled batch and firm planned orders activities for a defined interval.

Planned Production Activity Report Displays Batch and Firm Planned Order Activities Scheduled for a Specified Interval

The Planned Production Activity report lets the Production Supervisor review plant utilization by listing all batch and firm planned order activity for a specified time period including document numbers, start dates, end dates, and recipe usage are identified.

Can yield variances be monitored by batch document number?

Yes. The Batch Yield Variance report provides an analysis of accounting value and accounting yield for batches selected by batch document number or start date.

Batch Yield Variance Report Enables Evaluation of Total Value Variance

The Batch Yield Variance report calculates the sum of all value variances in a batch. Value variances are individual differences between the accounting value and actual value of planned or formula costs of product produced by a batch.

Can unusual usage variances be identified for production batches that have undergone material substitution?

Yes. The Material Usage and Substitution Variance report provides a comparison of all batches over a defined interval.

Material Usage and Substitution Variance Report Enables Evaluation of Material Substitution

By comparing total usage variance to total subvariances that result from ingredient substitution you can identify the impact of material substitutions on batch costs. The accounting unit cost must be current for this report to help Production Supervisors evaluate substitutions based on batch size and actual usage of material.

Troubleshooting

Problem

When transacting product completion using mobile, the pending product quantity does

not updates according to the quantity entered.

Solution

For pending product quantity to get updated while using mobile, you must set the TXN_MODE parameter in the Application Developer responsibility to transact existing ingredient reservations.

To set the TXN_MODE parameter:

1. Navigate to the Form Functions window.
2. Query the function GME_MOBILE_CMPLT_PROD.
3. Click the Form tab, and in the Parameters field, check for the TXN_MODE parameter.
4. If the parameter TXN_MODE exists, set the value for this parameter as shown below:
 - TXN_MODE=PEND_LOT_ONLY to transact only existing pending lots
 - TXN_MODE=BOTH to create new transactions and transact the existing pending product lots.
5. If the parameter TXN_MODE does not exists, add the parameter, separating it from other parameters with a space.

Glossary

Activity

Action performed during the manufacturing process, such as mixing or heating.

Activity Factor

The number of times an activity is performed. For example, a quality test must be performed at the beginning, middle, and end of a mixing time period. Rather than defining the activity and associated resources three times, use an activity factor or multiplier to indicate three iterations of the same activity.

Allocation

For ingredients, the process of specifying lots of material in or scheduled for a specific batch. For products, the process of specifying lots yielded by a batch and locations of product yielded. As a result, only lot or location-controlled materials can be allocated.

ASQC

Automatic Step Quantity Calculation. A feature that enables a Process Engineer to calculate step quantities based on the routing step definitions and ingredient usage per step.

Autoallocation

See Automatic Allocation.

Automatic Allocation

A type of allocation where ingredients are allocated when a batch is saved for the first time, based on a specified set of business rules.

Autoreservation

A type of reservation where ingredients are reserved when a batch is saved for the first time, based on a specified set of parameters.

Backflushing

Calculation of ingredient consumption from the entry of product yield, or to calculate

product yield from the entry of ingredient consumption.

Batch

A standard run or lot size determined by vessel size, convention, line rates, or standard run length.

Batch Record

A document used to plan and record a manufacturing event. The document shows the consumption of ingredients and the yielding of products, coproducts, and byproducts.

Byproduct

An item produced by a formula in addition to the product. Byproducts differ from products in that you do not plan your production to make byproducts. Byproducts can have monetary value, but generally have less monetary value than products, and cannot have costs assigned. In some instances, there can be a cost associated with disposing of a byproduct. See Coproduct.

CFR Part 11

A regulation in the Code of Federal Regulations that provides a uniform, enforceable, baseline standard for accepting electronic signatures and records and provides a level of confidence that records maintained in accordance with the rule of high integrity.

Charge

A charge is defined as one full load that can be accommodated in a single pass through the equipment. In a process manufacturing plant, the capacity of a step can be predetermined by the capacity of the equipment used in that step. For example, a mixing tank that has a maximum capacity of 1000 gallons overflows if more is added. The maximum capacity determines the total number of charges required to process the ingredients required for a batch. A batch size of 5000 gallons requires five charges at 1000 gallons each when the maximum capacity of the mixing tank is 1000 gallons.

Child Lot

Child lot is a subplot with the relationship to its parent lot. Child lot is just another lot for all the transactions purposes.

Closing a Batch

The action taken to change the status of a batch from Completed to Closed.

Closing a Batch Step

The action taken to change the status of a batch step from Completed to Closed.

Completing a Batch

The process of indicating that all product quantities are yielded, and the batch is

complete. When you complete a batch, the pending transactions associated with automatic completion product lines are deleted and replaced with completed transactions.

Completing a Batch Step

The process of indicating that all step quantities are yielded, and the batch step is complete.

Consumption Type

For batch ingredients, denotes the type of ingredient consumption as: Automatic when ingredients are consumed automatically, Manual when ingredients are consumed manually, Incremental when ingredients are consumed in increments to keep inventory current, and Automatic by Step when ingredients are consumed automatically as the step is completed.

Coproduct

One of several products produced by a formula or batch. The term is used when a formula or batch produces more than one product. The application does not distinguish between products and coproducts. See Byproduct.

Context Organization

The inventory organization that serves as the framework for the data entered or displayed.

Cross Docking

A process where material is received in a facility and shipped at the earliest opportunity without going into long-term storage.

Delay

The number of hours from the end of the preceding batch step to the start of the current batch step. Delay calculations are needed to calculate operation start times.

Detailed Level Reservations

Reservation of inventory at a more detailed level of inventory control specifying the revision, lot, subinventory, or locator level.

Cost Analysis Code

A code that specifies whether an activity is value added or nonvalue added. For example, VAL for Value Added, or NVAL for Nonvalue Added.

FEFO

First Expired, First Out. Refers to use of materials closest to expiration first. Also, one method of automatic allocation based on the earliest expiring available lot. See also,

FIFO. Physically, a material control technique of rotating inventory stock used primarily where expiration date is a concern so that materials closest to expiration are consumed first.

FIFO

First In, First Out. Refers to use of the oldest materials first. Also, one method of automatic allocation based on the earliest created available lot. See also FEFO. Physically, a material control technique of rotating inventory stock used primarily where shelf life is a concern so that the oldest ingredients are consumed first.

Firm Planned Order

Also FPO. A document that represents a plan to manufacture a product. This differs from a batch in that you cannot execute against an FPO. The FPO does not commit inventory and you cannot allocate lots to it.

Fixed Scale

Termed Fixed Quantity in previous OPM applications. Scaling that requires ingredients to be scaled by an amount necessary to produce the new product quantity, and not by the percent entered as scale factor. If all items are set to fixed quantity or the formula is marked as not scalable at the header level, then quantities in the formula are not changed. Fixed scale ingredients may or may not contribute to yield.

Flexfield

A field made up of subfields or segments. There are two types of flexfields: key flexfields and descriptive flexfields. A key flexfield appears on a window as a normal text field with an appropriate prompt. A descriptive flexfield appears on a window as a two-character wide text field with square brackets [].

Formula

A statement of ingredient requirements and planned product yield. A formula can also include processing instructions and ingredient sequencing directions. The formula specifies quantities of each item.

FPO

See Firm Planned Order.

High Level Reservation

Reservation of inventory against an item and inventory organization.

Incremental Backflushing

Completing less than the full quantity of a product. This is often done with batches that run a long time and yield product in increments, and involves the calculation of ingredient consumption from the entry of product yield, and product yield from the

entry of ingredient consumption.

Ingredient

An item consumed by a batch to yield a product. Specifically, a required material for the manufacture of a product.

Integer Scaling

A scaling approach that allows materials to be scaled in integer quantities. Support is provided for rounding up or down to a full material increment within a user-defined tolerance percentage.

Item Revision

A particular version of an item.

Inventory Organization

A plant where batches are produced. Also, the organization that holds the inventory at specified locations.

Intermediate

A semiprocessed state of materials usually not available for sale to customers. Comparable to a subassembly in discrete manufacturing.

Linear Scaling

See Proportional Scaling.

Locator

A specific physical area within a subinventory such as a row, aisle, bin, or shelf where the item is stored.

Lot

A quantity of material produced together that shares the same resultant specifications and production costs.

LPN

License Plate Number.

Manual Completion

Completing a product separately from completing the batch.

Manual Release

Releasing an ingredient separately from releasing the batch that consumes it.

Move Order

A request for the movement of material within an organization.

Multiple Scaling

See Integer Scaling.

Offset Interval

The time delay from the start of the activity to the point where the resource is actually required.

Offset Type

A multiple batch scheduling method that is specified as start-to-start or end-to-start.

Operation

A combination of activities and the resources used to perform those activities. For example, the combination of mixing activity and the mixer (resource) defines the mixing operation.

Parent Lot

A quantity of an item that shares the same specifications or contains receipts from the same vendor. Genealogically, each parent lot can be divided into child lots, previously sublots, which reflect the characteristics selected for the items within the parent lot.

Pending Batch

A batch that is scheduled, but not yet released to production.

Pending Transaction

A record representing an anticipated or future change to inventory.

Phantoms

Intermediate items that are produced only in the process of making finished goods they go into. Phantoms are only tracked in inventory by the ingredients they consume.

Picking

The process of moving materials from one or more source locations and issuing them to staging subinventory.

Picking Rules

Rules that direct operators to pick material from specific locations.

Process

The manufacturing procedure.

Process Parameter

Processing parameters are used to provide operators with information needed for managing equipment used during the preparation of a product or to drive a production decision, such as the type of filter to use, or the quantity of product required to fill a container. There is no direct link between a process parameter and the equipment it describes.

Process Steps

The operations or stages in the manufacturing cycle required to transform ingredients into intermediates or finished goods.

Product

An item produced by a batch. Compare with byproduct.

Production Enabled

An indication that an item can be used in a production batch as product, byproduct, or an ingredient.

Proportional Scaling

Proportional scaling is the simplest type of batch scaling since both specified and calculated factors are applied to the scalable items proportionally. For example, proportional scaling of 100 grams of an ingredient by 200 percent means that you multiply the ingredient by a factor of two.

Putaway Rules

Rules that direct operators to put newly received material into the most appropriate location.

Raw Material

See Ingredient.

Recipe

The minimum set of information that uniquely defines the manufacturing requirements for a specific product. Recipes provide a way to describe products and include the sequencing of ingredients and processing instructions.

Release a Batch

Indicates that a batch is started. Indicates that ingredient quantities can be consumed. When you release a batch, the pending transactions associated with automatic release

ingredient lines are deleted and replaced with completed transactions.

Reopening a Batch

The action taken to change the status of a batch from Closed to Completed. The batch close date is removed from the batch header.

Reopening a Batch Step

The action taken to change the status of a batch step from Closed to Completed. The batch step close date is removed.

Reservation

A reservation is an association between a demand source and a supply source. A reservation creates a permanent data link between supply and demand and represents a guaranteed allotment of material to a specified demand or supply source.

Resource

Equipment or labor used in production.

Resource Usage

Calculated as the Count multiplied by Usage multiplied by Charges.

Revert to WIP

The action taken to change the status of a batch or a batch step from Completed to Work in Process.

Routing

A sequenced set of operations to perform to complete a production batch. See Process Steps.

Routing Process Loss

Accounting for material lost during the production process at the routing level. This loss can vary depending on the routing and quantity processed by the routing. A loss factor is defined at the routing level based on a range of quantities.

Scaling

The proportional or disproportional increase or decrease of product, byproduct, or ingredient quantities in a formula or batch. Scaling types are fixed, proportional, and integer. Integer scaling is sometimes called multiple scaling.

Scrap Factor

Material that is lost before making it into product. This material is an anticipated loss and does not contribute to yield.

Single-step Function

A function that only impacts a single step in a batch, and the batch lines associated with that step. Examples of single step functions are releasing, completing, and rescheduling steps.

Subinventory

A subdivision of an inventory organization that represents either a physical area or a logical grouping of items, such as a storeroom or damaged inventory.

Supply Locator

A specific physical area within a subinventory such as a row, aisle, bin, or shelf, where items for production are stored.

Supply Subinventory

A subinventory where items required for batch production are stored.

Theoretical Process Loss

Accounting for the material lost during the production process at the routing level. This loss can vary depending on the routing or the individual quantity processed by the routing. This loss is defined at the routing class level and is based on a minimum and maximum range of quantities.

Theoretical Yield Calculation

The predicted output of product quantities from a formula or batch based on ingredient quantities and a specified yield percentage.

Total Input

The total quantity of materials used to produce a batch.

Total Output

The total quantity of product, coproduct, and byproduct produced by a batch.

Unrelease a Batch

The action taken to change the status of a whole batch from WIP to Pending.

Unrelease a Batch Step

The action taken to change the status of a batch step from WIP to Pending. Only batch steps with a status of WIP can be unreleased.

User-Initiated Automatic Allocation

A type of allocation in which ingredients are automatically allocated when the user requests allocation, based on specified rules. This contrasts with automatic allocation in

that user-initiated automatic allocation is performed only when the user requests it, not automatically upon saving a batch.

Validity Rule

Formerly effectivity. The rules that specify under which circumstances a recipe can be used. The combination of a range of material quantities and a range of effective dates used by production, planning, costing, or MSDS in one or more specified organizations.

Variance

The difference between planned and actual quantities expressed as a percent. For example, if a planned value is 100 and the actual value is 125, the variance is 25 percent above plan.

Version

A number identifying a variant of a formula, operation, routing, or recipe.

Warehouse

A physical location for the storage of materials. A logical grouping of locations of specific materials can be within a production facility. Warehouses can supply one production facility.

Whole Batch Function

A function that impacts the entire batch. Whole batch functions include releasing, completing, rescheduling, incrementally backflushing, and closing batches. Similarly, whole batch functions also include unreleasing, reverting to WIP, and reopening batches.

WIP

Work in Process.

Work in Process

Batches released to production are work in process.

WMS

Warehouse Management Systems.

WMS Picking Rules

Picking rules defined by Warehouse Management Systems.

Yield

As related to quantity, the planned or actual output of a process. Yield includes either a loss, an increase, or no change in the planned or actual output quantity.

Yield Subinventory

A subinventory where the produced items are stored.

Yield Locator

A specific physical area within the yield subinventory where the produced item is stored.

Yield Type

For batch products, denotes the type of product yield as: Automatic, when products are yielded automatically, Manual when products are yielded manually, Incremental, when products are yielded in increments to keep inventory current, and Automatic by Step when products are yielded automatically as a step is completed.

Index

Symbols

Material Transactions window, 1-6

A

Accounting cost, 14-10, 14-13

Accounting value, 14-11

Actions menu, 1-6

Activities, 1-3

 production, 14-8

Activity factor, 10-32

 calculating resource costs, 10-32

 resource usage application, 10-32

Activity sequence, creation of in APS, 10-32

Actual ingredient usage, 1-6

Actual production quantitiesProduct

Development, Oracle applicationsetupprocess

flowswork breakdown structure, 1-6

Actual resource usage, 10-12, 10-33

Actual resource usage, calculating, 10-33

Actual throughput, 6-70

Actual value, of batch, 14-11

Advanced Planning and Scheduling

 application, 1-6

 Planner Workbench, 5-1

Allocation

 ingredients in batches, 14-2

Allow Different Lot Status, 10-5

Allow Negative Balances, 10-5

APS, 6-2

ASQC, 10-12

Automate, F-1

Automatic allocation, F-1

Automatic consumption, 1-6

Automatic step quantity, calculation of, 6-50

Automatic Step Quantity Calculation, 10-12

Automatic yield, 1-6

B

Backflushing, incremental, 1-6

Backflushing ingredients, 10-6

Batch

 completion, 1-6

 creation, 1-6, 6-2, 6-17

 security, 6-2

 termination, 6-2

Batch creation

 overview, 6-1

Batch Details window, 10-6

Batch document number, 14-4

Batches, F-1

 backflushing, incrementally, 6-25

 canceling, 6-25

 closing, 6-25

 completing, 6-25

 creating in response to sales orders, 6-22

 editing, 6-25

 additional information, 6-25

 ingredients, 6-25

 products, 6-25

 scrap quantity, 6-25

 finding for mass transactions, 6-40

 phantoms, 1-6

 progression, 6-25

 releasing, 6-25

- reopening, 6-25
- rerouting, 6-25
- rescheduling, 6-25, 6-92
- reservations, maintaining, 6-25
- reverting to WIP, 1-6
- scaling, 6-81, 6-90
- scaling using a percent, 6-90
- selecting validity rules, 6-24
- substituting items during creation, 6-23
- terminating, 6-25
- understanding mass transactions, 6-40
- unreleasing, 6-25
- Batches,
 - completing, 11-1, F-1
- Batches, and Production Scheduler, 16-2, 17-1
- Batches, creating, 3-1
- Batches, parent
 - editing, 6-25
- Batches, phantom, 6-25
- Batches, production
 - incremental backflushing, 10-xvii
 - overview, 10-xvii
 - releasing, 10-xvii
 - unreleasing, 10-xvii
- Batch history record, 6-2
- Batch hold
 - Overview, 7-1
- Batch hold types, 7-1
- Batch information, recording, 1-6
- Batch Open Interface, 6-100, E-1
- Batch Operation WIP window, 10-36
- Batch output, calculation, 6-2
- Batch Pick List Report, 14-2
- Batch prefix, 3-11
- Batch Reservations, 8-3
- Batch scaling, 6-81, F-1
- Batch scaling, understanding, 6-81
- Batch status, 1-6, 6-14, 6-52
 - overview, 6-14
- Batch Status dashboard, 2-3
- Batch step
 - unreleasing, 1-6
 - variance inquiry, 12-17
- Batch Step/Batch Item Association window, 6-2, 6-79
- Batch Step Resources window, 6-70
- Batch steps
 - costing information, 6-70
 - editing, 6-53
 - editing activities, 6-67
 - editing dependencies, 6-65
 - entering resources, 6-70
- Batch step status, 6-14
- Batch Steps window, 10-29
- Batch step variance
 - activity resource usage details, 12-25
- Batch step variance details, interpreting, 12-20
- Batch Step Variance Inquiry, F-1
- Batch Step Variance Inquiry - Activities window, 12-23
- Batch Step Variance Inquiry - Activity Resources window, 12-25
- Batch Step Variance Inquiry - Details window, 12-20
- Batch step variance inquiry operation activities, interpreting, 12-23
- Batch Step Variance Inquiry Selection Criteria dialog box, 12-17
- Batch step variance inquiry summary, interpreting, 12-18
- Batch Step Variance Inquiry - Summary window, 12-18
- Batch Ticket Report, 14-4
- Batch Value Variances, 14-11
- Batch yield
 - actual, 14-10
 - calculated, 14-10
- Batch Yield Variance Report, 14-10
- byproducts, Glossary-2

C

- Calculate Custom Lot Expiration, 6-2
- Calculate the batch step, 6-2
- Calculating automatic step quantity, 6-50
- Calculating dates
 - planned completion, 6-17
 - planned start, 6-17
 - required completion, 6-17
- Canceling batches, 1-6
- Capacity, related to charge, 10-30
- Capacity constraint, related to charges, 10-30
- Charge, 10-29
 - Apply to Charge indicator, 10-30

- batch step dependencies, 10-30
- calculation of, 10-29
- changeover time, related to, 10-32
- chargeable resource, 10-30
- details generated by APS, 10-30
- details sent to APS, 10-30
- firmed sequence, 10-32
- for dependent steps, 10-30
- interoperation dependencies, 10-30
- number sequence, 10-30
- operation setup, 10-30
- OPM Capacity Planning application, 10-30
- quantity, 10-30
- related to Process Manufacturing instance, 10-32
- resources constrained by capacity, 10-30
- upstream operation, 10-30
- Charge details, 10-30
- Check Shortages, 8-26
- Close Batch dialog box, 11-3
- Closing batches, 1-6
- Complete a Batch dialog box, 11-2
- Complete Batch Step dialog box, 6-53
- Completing batches
 - direct completion, 1-6
 - full completion, 1-6
 - incremental backflushing, 1-6
- Components, navigation, 1-12
- configuration
 - Process Manufacturing Command Center, 4-1
- Continuous horizon format, in Production Scheduler, 16-2
- Continuous manufacturing, 6-2
- Contribute to yield type, 6-81
- Conversion
 - material requirements planning order, 6-2
- Convert firm planned order to batch, 5-12
- Convert Firm Planned Order to Batch window, 5-12
- Cost accounting, 14-10
- Cost analysis, 1-3
- Cost control, 1-3
- Cost of inventory, 1-3
- Costs, operational, 1-3
- Cost variances, 1-3
- Create Batch/Firm Planned Order window, 5-1, 6-17

- Creating
 - batch, 6-2
- Creating batch hold, 7-2
- Crossdocking, 9-1
- Cross docking, 6-50
- Custom Lot Expiration, 6-2
- Cycle counting, 1-3

D

- Deleting requirements, 1-6
- Demand, F-1
- Dependencies, between activities, limitations, 6-2
- Dependencies, step, 6-65
- dependent steps, and incremental backflushing, 10-18
- Detailed-Level Reservations, 8-4
- Dialog box
 - Batch Step Variance Inquiry Selection Criteria, 12-17
 - Close Batch, 11-3
 - Complete a Batch, 11-2
 - Complete Batch Step, 6-53
 - Find Batch Steps, 6-52
 - Find Firm Planned Order, 15-12
 - Find Firm Planned Orders, 5-2
 - Material Variance Inquiry Selection Criteria, 12-9
 - Production Schedule Selection Criteria, 12-2
 - Release Batch Step, 6-53, 10-3
 - Reschedule, 6-92
 - Resource Variance Inquiry Selection Criteria, 12-28
 - Scale Batch, 6-90
 - Scale Firm Planned Order, 6-
 - Work in Process Inquiry Selection Criteria, 12-5
- Dialog boxScale Firm Planned OrderScale Batch dialog box, 6-90
- Display, hierarchical, 1-12
- Downtime, in scheduling with workday calendar, 6-2

E

- e-Business, 1-3
- Editing material transactions, consequences, 10-5
- Enforce Step Dependency, limitation, 6-2

Enforce Step Dependency indicator, 6-2
Entering reservations, 8-6
Events, C-3

F

Find Batch dialog box, F-1
Find Batch option, F-1
Find Batch Steps dialog box, 6-52
Find Firm Planned Order dialog box, 15-12
Find Firm Planned Orders dialog box, 5-2
Finished goods

- firm planned orders, 1-6

Firmed sequence, related to charges, 10-32
Firm planned order, 1-6, 6-2, F-1

- conversion, 6-2
- conversion to batches, 5-1

Firm planned orders

- converting to a batch, 5-12
- creating in response to sales orders, 6-22
- editing, 5-4
- overview, 5-xvi
- requirements, F-1
- rerouting, 5-11
- rescheduling, 5-11
- scaling, 5-16, 6-90
- understanding, 5-1
- updating, 5-4

Firm planned orders, and Production Scheduler, 16-2
Firm Planned Order window, F-1
Fixed scale, 6-81

- without yield contribution, 6-81
- with yield contribution, 6-81

Flexfield, in process parameters, 6-76
FPO Prefix, 3-11
Function Security, D-1

G

Gantt chart, 16-2
GMD

- Yield Type, 6-81

GME

- Backflush Resource Usage parameter, 10-12
- Calculate Interim Resource Usage, 10-12

Gross requirements, 5-1
Guide to picking material, 14-2

H

Hardlink, 6-2
Heat number, 6-22
Hierarchical display, 1-12
High-level reservations, 8-3
Hold history, 7-7
Hold reason, 7-6
Human resources, 1-4

I

Implementation considerations, workday calendar, 6-2
incremental backflush, 10-18
Incremental backflush, 10-12
Incremental backflushing, 1-3, 1-6, 10-xvii

- additional yield, impact on resource usage, 10-12
- finish-to-start step dependency, 10-12
- impact on by-charge scaling, 10-12
- impact on fixed scaling, 10-12
- impact on proportional scaling, 10-12
- impact on step prior to completed step, 10-12

Incremental Backflushing window, 10-26
midstream step associations, 10-12
negative, 10-12
performance of, 10-26
sequential, 10-12
start-to-start dependency, 10-12
varying initiation of, 10-12
yield type changes, 10-6
Incremental type product, impact on incremental backflushing, 10-12
Ingredient picking, 9-1
Ingredient Picking, F-1
Ingredients

- allocation, 1-6
- included in a batch, 14-2
- scaling, in batches, 6-81
- timing of allocations, 1-6
- usage, 1-6

Inquiries, 1-1

- Batch Step Variance, 12-17
- Material Variance, 12-9
- Production Schedule, 12-2
- Resource Variance, 12-28

- Work in Process, 12-5
- Work In Process Inquiry Details, 12-7
- Integer scaling, 6-81, F-1
- Inventory, negative, 10-5
- Inventory application, 1-6
- Inventory carrying costs, 1-3
- Inventory Control application, 6-17
- Inventory Reservations, 8-28
- Item-step associations, 6-50
- Item Substitution, 6-23, 14-17

J

- Job roles, in production, 1-4

K

- Key tasks, in production, 1-4

L

- Leadtime, 5-12
- Leadtime, enforcing, 5-12
- Location, 10-5
- Lookup, 7-6
- Lot and location, 1-6
- Lot and Location
 - linking lots, 8-12
- LPN, 9-1

M

- Make to order, 3-1
- Make to Order
 - concurrent program, 14-21
- manual yield, 10-18
- Mass batch actions, 6-44
- Mass batch transactions, understanding, 6-40
- Master production schedule, 1-6
- Material Corrections, 8-19
- Material planning, F-1
- Material requirement date, 6-2
- Material requirement planning, 1-6
- Material resources, 1-3, 1-4
- Material staging to production, 9-1
- Material Status, 10-4
- Material Usage and Substitution Variance Report, 14-13
- Material variance ingredient inquiry,

- interpreting, 12-12
- Material Variance - Ingredient Inquiry window, 12-12
- Material variance inquiry, 12-9
- Material Variance Inquiry, F-1
- Material variance inquiry, interpreting, 12-10
- Material Variance Inquiry Selection Criteria dialog box, 12-9
- Material Variance Inquiry window, 12-10
- Material Variance - Step Details window, 12-15
- Material variance steps details inquiry, interpreting, 12-15
- Minimum delay, in scheduling, 6-2
- Minimum transfer quantities, 6-2
- Mixed scaling types, 6-81
- Mobile Supply Chain Applications, 8-28
- Move orders, 9-1
- Move Orders, 8-2
- MRP, 5-1
- MRP planned order, 1-6
- MTQ, 6-2
- MTQ yield point, 6-2

N

- Navigation components, 1-12
- Negative inventory, 10-5
- Non-value added activities, 1-3
- Nonworking time, in batch scheduling, 6-2

O

- Onhand inventory, F-1
- On-time delivery, 1-3
- Operational costs, 1-3
- Optimizer, use, 6-2
- Oracle Bills of Material, setting up, 3-1
- Oracle Inventory, setting up, 3-1
- Oracle Process Manufacturing Product Development, setting up, 3-1
- Oracle Warehouse Management System, setting up, 3-1
- Order, production, 1-6
- Outside Processing dashboard, 2-17
- overview
 - Process Manufacturing Command Center, 2-1

P

- Parameters
 - creating batches, 3-1
 - setup prerequisites, 3-1
- Parameters, setting up, 3-1
- Parent batch, 1-6
- Phantoms, 1-6
 - as ingredients, 1-6
 - as intermediates, 1-6
 - explosion rules, 1-6
- Physical inventory, reduction in, 1-3
- Picking Material, 9-9
- Picking rules, 1-6, 6-49
- Pick list, 1-6
- Pick releasing, 6-48
- Planned completion date, 10-29
- Planned Completion date, 6-17
- Planned completion date, calculation of, 6-17
- Planned orders, 1-6
- Planned production orders, 1-6
- Planned start date, 10-29
- Planned start date, calculation of, 6-17
- Planned throughput, 6-70
- Planners, role, 5-1
- Planning, 1-3
- Planning applications, 1-6
- Plan quantity, 10-12
- Plan resource usage, 10-12
- Plan tasks, 9-1
- Preferred sequences for activities, 10-32
- Prerequisites
 - setting up parameters, 3-1
- Prerequisites, setting up other applications, 3-1
- prerequisites, setup, 1-6
- Procedures, 1-1
- Process Execution Responsibilities, B-1
- Process Execution Workbench, 1-1
- process flows, 1-
- Process Inquiry Selection Criteria dialog box, F-1
- Process loss, 6-2
- Process Manufacturing Command Center
 - Batch Status dashboard, 2-3
 - configuration, 4-1
 - descriptive flexfields, 4-2
 - loading data, 4-3

- Outside Processing dashboard, 2-17
- overview, 2-1
- Production Quality dashboard, 2-24
- profile options, 4-2
- Process parameters
 - adding, 6-76
 - modifying, 6-76
- Process planning applications, 1-6
- Product Development, Oracle application, 1-
- Production activities, scheduled, 14-8
- Production Activity Report, 14-8
- Production batches, 1-6
- Production loss, 6-2
- Production Operator, 1-1
- Production orders, 1-6
- Production planning, and firm planned orders, 5-1
- Production Quality dashboard, 2-24
- Production rule, 6-2
- Production schedule, 1-6
- Production schedule, interpreting, 12-3
- Production schedule inquiry, 12-2
- Production Schedule Inquiry window, 12-3
- Production Scheduler Workbench, 1-1, 16-2, 17-1
 - rescheduling a batch or operation, 17-5
 - searching for batches, 17-2
 - viewing the batch schedule, 17-3
- Production Schedule Selection Criteria dialog box, 12-2, F-1
- Production Schedule Selection Criteria window, 12-3, F-1
- Production Schedule window, 12-2
- Production status
 - approved for general use, 6-2
- Production Supervisor, 1-1, 1-4, F-1
- profile options
 - Process Manufacturing Command Center, 4-2
- Profile options, setting up, 3-11
- Proportional scaling, 6-81

R

- Recalculating dates, batch steps, 6-2
- Recipes, 6-2
- Recipe Validity Rules Summary page, 6-24
- Reference information, 1-1
- Release Batch dialog box, 10-1

- Release Batch Step dialog box, 6-53, 10-3
- Releasing batches, 1-6
- Releasing batch hold, 7-6
- Reopening batches, 1-6
- Reopening batch steps, 1-6
- Reports, 1-1
 - Batch Pick List Report, 14-2
 - Batch Ticket Report, 14-4
 - Batch Yield Variance Report, 14-10
 - Material Usage and Substitution Variance Report, 14-13
 - Production Activity Report, 14-8
- Requirement, resizing, 1-6
- Reschedule dialog box, 6-92, 17-5
- Rescheduling process, 1-6, 17-5
- Reservation
 - Procedures, 1-3
- Reservations, 8-2
- Resource Transactions window, 10-33
- Resource usage, 1-6, 6-2, 10-12, 10-32
 - interpreting actual usage, 12-30
 - interpreting details, 12-32
 - Resource Usage Details window, 12-32
 - Resource Usage window, 12-30
- Resource Usage window, F-1
- Resource variance inquiry, 12-28
 - Resource Variance Details window, 12-28
 - Resource Variance Inquiry Selection Criteria dialog box, 12-28
- Resource Variance Inquiry, F-1
- Responsibilities, 1-1
- Reverting batch steps to work in process, 1-6
- Rounding direction, 6-81
- Rounding Variance, 6-81
- Routing definition, 6-2
- Rules, scaling, 6-81

S

- Sales orders
 - creating batches or firm planned orders in response to, 6-22
- Scale Batch dialog box, 6-90
- Scaled by-charge, 10-30
- Scale Firm Planned Order dialog box, 6-90
- Scale type, 6-2
- Scale type rules, 6-81

- Scaling
 - integer, 6-81
 - integer, examples, 6-81
- Scaling, batches, 6-81, F-1
- Scaling, mixed types of, 6-81
- Scaling, proportional, 6-81
- Scaling factor, 6-81
- Security, batch, 6-2
- Select Available Inventory , 8-28
- Setting up, 3-xvi
 - make to order rules, 3-1
 - Oracle Inventory, 3-1
 - Oracle Warehouse Management System, 3-1
 - parameters, 3-1
 - prerequisites
 - See* other applications
 - Oracle Bills of Material, 3-1
 - Oracle Inventory, 3-1
 - Oracle Process Manufacturing Product Development, 3-1
 - Oracle Warehouse Management System, 3-1
 - profile options, 3-11
- setting up
 - Process Manufacturing Command Center, 4-1
- setup, 1-
- Setup, 1-1
- Simulator, 8-6
- Simulator, use, 6-2
- Staggered activities, impact on workday calendar use, 6-2
- Standard quantity, 6-2
- Status, 1-6
- Status, batch step, 10-29
- Status, of items, 10-5
- Step dependencies, 6-65, 10-12
- Step dependencies, in charge calculation, 10-30
- Step dependency impact, in incremental backflushing, 10-12
- Step transfer quantities, 6-93
- Supervisors, production, 1-3
- Supply, F-1
- System security profile, 1-1

T

- Table format, in Production Scheduler, 16-2

Task creation, understanding, 6-49
Terminate Batch option, 6-2
Terminating a batch, 6-2
Terminating batches, 1-6
Terminating batch steps, 6-2
Theoretical Yield Calculation
 prerequisites, 6-81
 using, 6-81
Total output, batch, 6-2
Transactions, 8-2

U

Understanding phantom batches, 1-6
Unit cost, 14-11
Unit of measure types, 1-6
Unreleasing batches, 1-6
Unreleasing batch steps, 1-6
Update Inventory, 8-26
Uptime, in batch scheduling with workday calendar, 6-2
Usage, 1-6
usage backflushing, 10-18
Usage calculation, 10-12
Usage costs, 14-14
 unusual, 14-13
Use Workday Calendar, 6-2

V

Validate Plan Dates parameter, 6-24
Validity rule, 6-2
Validity rules, 5-1
Validity rules, selecting, 6-24
Value
 accounting, 14-11
 actual batch, 14-11
Variances, 14-13
 yield, 14-10
Vertical bar format, in Production Scheduler, 16-2
View hold history, 7-7
View move order, 8-23

W

Warehouse locations, 14-2
Warehouse Management Systems, 9-1

Warning
 driving inventory negative, 10-5
 no work day defined, 16-2
 rescheduling batches, 6-2
 scheduling during nonworking hours, 6-2
 spanning nonworking hours for a contiguous step batch, 6-2
 yielding batch material into existing lot, 10-5
Window
 Batch Operation WIP, 10-36
 Batch Step/Batch Item Association, 6-79
 Batch Step Resources, 6-70
 Batch Step Variance Inquiry - Activities, 12-23
 Batch Step Variance Inquiry - Activity Resources, 12-25
 Batch Step Variance Inquiry - Details, 12-20
 Batch Step Variance Inquiry - Summary, 12-18
 Convert Firm Planned Order to Batch, 5-12
 Create Batch/Firm Planned Order, 6-2, 6-17
 Incremental Backflushing, 10-26
 Material Variance - Ingredient Inquiry, 12-12
 Material Variance Inquiry, 12-10
 Material Variance - Step Details, 12-15
 Production Schedule Inquiry, 12-3
 Resource Transactions, 10-33
 Resource Usage, 12-30
 Resource Usage Details, 12-32
 Resource Variance Details, 12-28
 Work in Process Inquiry, 12-6
 Work In Process Inquiry Details, 12-7
WIP step dependencies, in incremental backflushing, 10-12
WMS , F-1
work breakdown structure, 1-
Work breakdown structure, 1-4
Workday calendar, 6-2, 6-17, 6-92
Workday Calendar, 1-1
Workday calendar, implementation considerations, 6-2
Work in Process Inquiry, 12-5, F-1
Work in process inquiry, interpreting, 12-6
Work in process inquiry details, 12-7
Work In Process Inquiry Details, F-1
Work in process inquiry details, interpreting, 12-7
Work In Process Inquiry Details window, 12-7
Work in Process Inquiry Selection Criteria dialog

box, 12-5

Work in Process Inquiry window, 12-6

Y

Yield

 actual, 14-11

 batch, 14-10

Yield Measurement

 Yield calculation, 6-93

