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Oracle E-Business Suite R12 Supply Chain Management

Drive your supply chain processes with Oracle E-Business Suite R12 Supply Chain Management to achieve measurable business gains

Muneeb A. Siddiqui

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Muneeb A. Siddiqui was born in Islamabad, Pakistan on 14th January, 1984. He graduated from Sir Syed University of Engineering & Technology in 2006 with a degree in Computer Science. He completed his Masters in Supply Chain Management and is a certified Oracle Professional. For several years Muneeb worked in Sui Southern Gas Company Limited (SSGC) and Client-Centric Consulting (Pvt) Ltd. He is currently working as a senior consultant at IBM, Pakistan. Muneeb has worked in the field of Supply Chain and Financials and is passionate about it. Muneeb has more than four years of experience in the field of Oracle Applications, Supply Chain, and Financial modules with the end-to-end cycle in Oracle Release 12 at leading telecom, oil and gas, and manufacturing organizations in Pakistan.

I sincerely thank my family who initially put forth the idea of writing this book. This book is a result of initiative and constant motivation. I received great inspiration and constant encouragement from my family.

This book is dedicated to my Mother to whom I owe so much

About the Reviewers

Ciro Fiorillo is an IT professional and consultant with experience of more than a decade in different roles (developer, analyst, DBA, project manager, data and software architect) with different software industries. He has worked on various technologies and architectures, such as Oracle, SQL Server, Delphi, C#, .NET Framework, C/C++, Java, PHP, COBOL, Fortran, and TIBCO.

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Thanks to my wife, Monica. You support and encourage me in all my adventures, and drive our children Miriam and Mario in my place. They have the best mom, you have my unconditional love.

Yemi Onigbode has over a decade of experience in ERP systems development and maintenance. He has progressed from the early days of mainframe-based systems to the present day of web-based distributed systems.

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Yemi is a Fellow of the Association of Chartered Certified Accountants. He has a Bachelor of Science (Honors) degree in Pure and Applied Mathematics. Yemi is also a technical writer on Accountancy and IT issues, presents at Accounting and IT seminars, and motivates and mentors young adults on career management and planning. In his spare time Yemi loves to write and is learning to play musical instruments.

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Preface

Supply chain operations are turning increasingly global and complex as companies aspire to support a variety of strategies, such as entering new markets and lowering costs. Oracle E-Business Supply Chain Management R12 provides comprehensive solutions to predict market requirements and align operations across global networks. However, to implement these solutions, you need to gain a solid understanding of the various Oracle EBS modules used in supply chain processes.

Oracle E-Business Suite R12 Supply Chain Management will guide you to successfully configure and implement the various Oracle EBS modules for supply chain management. With this book in hand, you will be able to learn from scratch what Oracle EBS is and how it works in the supply chain management's domain. Backed by ample screenshots and clear explanation, the book will demonstrate the business flow of the entire application.

This book is an excellent learning resource for Oracle application supply chain modules. It begins by explaining the fundamentals of supply chain management and why it is necessary to use Oracle applications for supply chain management. If you have just begun using Oracle applications, this book will give you a clear picture of the working and interface of Oracle E-Business Suite. It then progressively moves forward to demonstrate the step-by-step configuration of various Oracle EBS SCM modules. This book also covers all the transaction flows in detail, and shows how we carry out transactions in different modules. The chapters also explain the business and process flow of the modules that are configured.

What this book covers

In *Chapter 1*, *Getting Started with Oracle Supply Chain Management,* you will see the supply chain management process, the importance of supply chain management in today's business, and how Oracle E-Business Suite is designed to handle our business issues related to supply chain management. We also cover how different modules of Oracle E-Business Suite are integrated with each other to give the optimal supply chain management solution. You will learn about Procure to Pay and Order to Cash processes and be introduced to the modules that come under the umbrella of Oracle E-Business Suite supply chain management.

In *Chapter 2*, *Getting Started with Oracle E-Business Suite,* you will see how to navigate in Oracle E-Business Suite and get used to the look and feel of Oracle E-Business Suite. We also look at the concept of responsibility, menus, and functions in Oracle E-Business Suite. You will learn the shortcut keys that make the E-Business Suite operation easier along with the concept of lists of values, forms, and checkboxes. We will also see what different kinds of controls are available for us in the Oracle E-Business Suite.

In *Chapter 3*, *Oracle Advanced Supply Chain Planning,* you will understand the purpose of Oracle Advanced Supply Chain Planning (ASCP). You will also see how demand and supply are managed using Oracle ASCP and how to balance purchase, production, and sales using Oracle ASCP Suite. You will also see what is the logic behind the Oracle ASCP Planning Engine, how different types of Plans for production and distribution can be made in Oracle ASCP, and how they are managed using the Planner Workbench. You will also see the design and architecture of Oracle Advanced Supply Chain Planning. In this chapter you will see the end-to-end process of Oracle ASCP as well as take a look at the step-by-step setup of Oracle Advanced Supply Chain Planning.

In *Chapter 4*, *Overview of Oracle Order Management,* you will see how we can manage our sales using Oracle Order Management suite. You will also see how sales orders are managed and organized as well as how goods are picked from stores and dispatched. In this chapter, you will also see the end-to-end process flow of Oracle Order Management as well as integration of Oracle Order Management with other E-Business Suite modules. You will also look at the setup of Oracle Order Management suite.

Chapter 5, *Overview of Oracle Purchasing,* covers the concept of procurement in Oracle E-Business Suite and how purchasing documents are made and managed. In this chapter, you will also see the end-to-end process of Oracle Procurement as well as how to set up Oracle Purchasing suite. We will also discuss the integration of Oracle Procurement with different E-Business Suites.

Chapter 6, *Overview of Oracle Landed Cost Management,* looks at how Landed Cost is captured and managed in Oracle E-Business Suite as well as how charges like freight, transportation cost, port charges, and demurrage are managed in Oracle E-Business Suite. In this chapter, you will also see the integration of Oracle Landed Cost Management suite with other Oracle E-Business modules. Using an end-to-end process you will see how extra charges are calculated and managed in Oracle Landed Cost Management.

In *Chapter 7*, *Overview of Oracle Inventory Management,* you will see how to configure Oracle Inventory management and what role inventory management plays in the Procure to Pay and Order to Cash cycles. We will also look at how goods are received and issued using Oracle Inventory management, and how inventory controls like lots, locators, and sub-inventories are managed. In this chapter, you will also see how taking stock takes place in Oracle Inventory management. You will also see how to set up the Inventory Management suite and the end-to-end process flow of Inventory Management.

In *Chapter 8*, *Overview of Oracle Cost Management,* you will look at how different types of costing methods can be effectively utilized to value inventory. Oracle Cost Management is used to manage the perpetual and periodic costing for Inventory, WIP, Purchasing, and Order Management. You will also see how accounting entries are created and managed in Cost Management, and how they are eventually transferred to General Ledger.

In *Chapter 9*, *Overview of Oracle Advanced Pricing,* you will see how the Pricing Engine works for Oracle E-Business Suite, how we can cater for different scenarios of discounts and surcharges using Oracle Advanced Pricing, and how a price list for an item is created and how it affects the modules that are integrated and associated with Oracle Advanced Pricing. In this chapter, you will also see how qualifiers and modifiers are efficiently used to capture business scenarios as well as how to set up Oracle Advanced Pricing.

Chapter 10, *Oracle E-Business Implementation at Sarmixa Telecom,* covers how we can efficiently move Sarmixa Telecom's business processes over to Oracle E-Business Suite and how AIM is used in different phases of implementation. Sarmixa Telecom is a fictitious company and has been set up to become the leading service provider based on quality, reliability, and affordability in the communication and media sector.

What you need for this book

To verify the steps and procedures mentioned in the book, you will need an instance of Oracle Application Release 12 installed on your system.

Who this book is for

This book is aimed at Oracle E-Business Suite Administrators and Consultants. End users who want to explore Oracle supply chain management will also find the book extremely useful. No prior knowledge of Oracle EBS SCM is required to get going with this book.

Conventions

In this book, you will find a number of styles of text that distinguish between different kinds of information. Here are some examples of these styles, and an explanation of their meaning.

New terms and **important words** are shown in bold. Words that you see on the screen, in menus or dialog boxes for example, appear in the text like this: "Now we will move to the **Aggregation** tab, which holds the information related to plan date and bucket".

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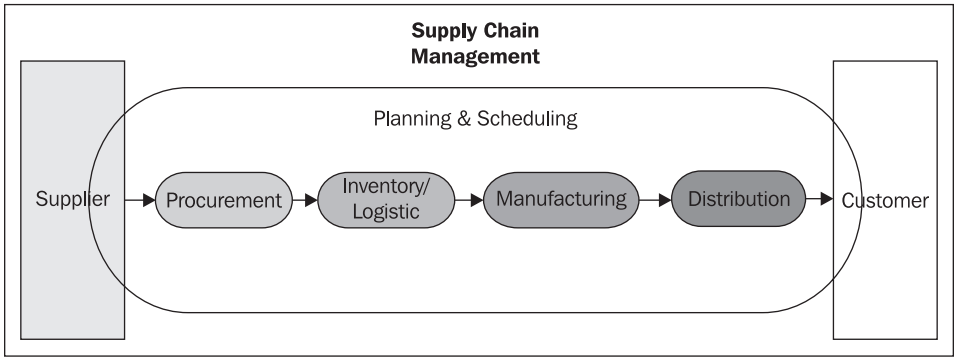
1
Getting Started with Oracle Supply Chain Management

Supply Chain Management (**SCM**) is a set of various activities in which raw materials are purchased and transformed into semi-finished or intermediate goods, which eventually become the finished goods. These finished goods are then distributed to the customer using the distribution channel. This complete cycle from supplier to customer is called the **Supply Chain Management process**.



As we can see in the Supply Chain Management process, all the activities are interconnected with each other. Therefore, for a smoother process flow, these activities should be clearly defined and all of them should have a proper Standard Operating Procedure, which ensures their smoother running.

Supply Chain Management is a set of activities through which we can arrange and integrate the stakeholders of the Supply Chain process, as follows:

- Suppliers
- Customers

- Distributer
- Transporter
- Warehouse
- Production

Supply Chain activities are very important in any organization. However, at the same time, they are very hectic and time consuming as we have to keep a track of thousands of suppliers and customers. In the same manner our internal process of procurement, inventory, manufacturing, planning, scheduling, and distribution can also get very complex. It would be very difficult for us to manage these activities manually by using spreadsheets.

Oracle E-Business Suite gives us a complete solution to map our business process and performs different types of planning related to our business process and the management of our master data in the system, giving us a great ease of control over the process.

Supply Chain Management and Oracle E-Business Suite

Oracle E-Business Suite provides us with a number of application parts, also called **modules** that can be used to manage business processes and cater to complex scenarios that are encountered in the organization.

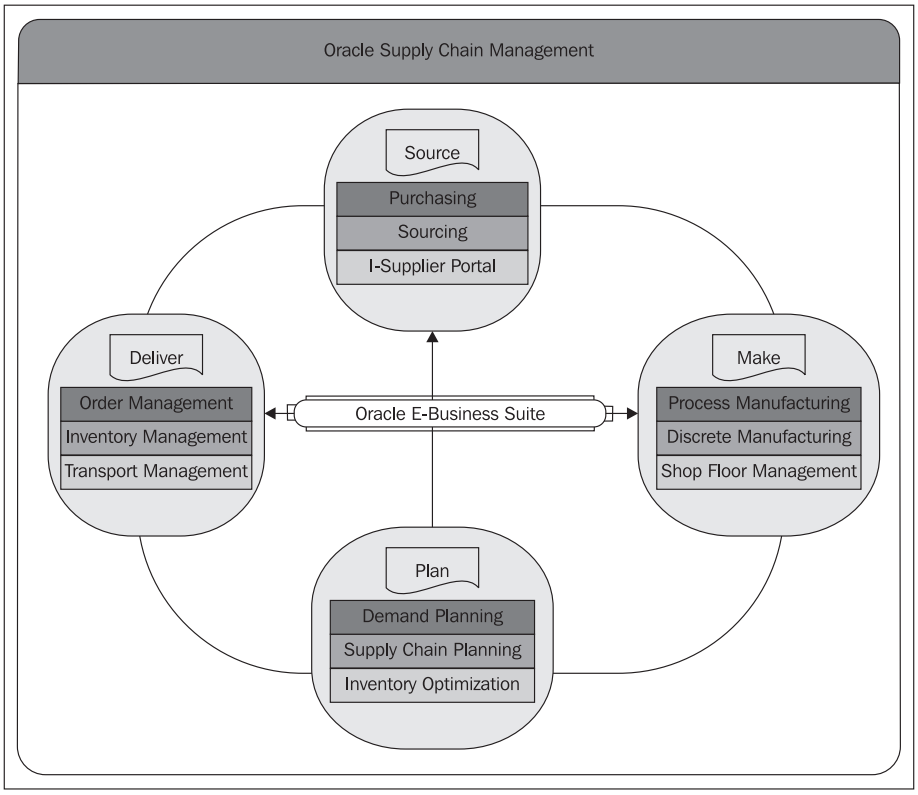
Oracle E-Business Suite offers the following modules for the Supply Chain process:

- Oracle Procurement
- Oracle Logistics
- Oracle Manufacturing
- Oracle Order Management
- Oracle Marketing and Sales

Oracle E-Business Suite Supply Chain process flow

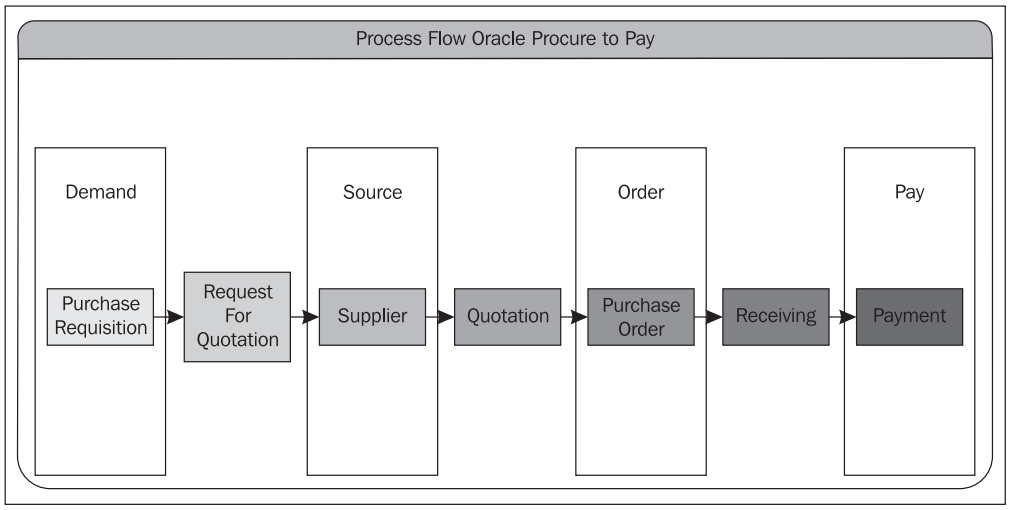
The core processes that are listed under the Oracle E-Business Suite SCM domain are plan, source, deliver, and make. A number of Oracle Application modules reside under these broad-level processes. Some common modules are shown in the following figure. Oracle's SCM domain contains the following business suites:

- Advanced Procurement
- Value Chain Execution (Logistics)
- Product Lifecycle Management
- Asset Lifecycle Management
- Manufacturing, Value Chain Planning
- Order Fulfillment



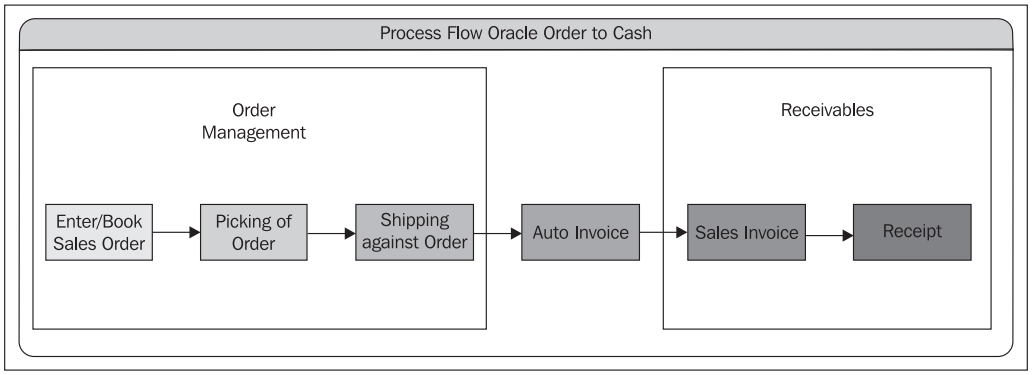
Oracle Procure to Pay process

The Oracle Procure to Pay process initiates from demand. A requirement of goods or services is identified and communicated. On the basis of the received requirement the source is finalized and a purchase order is raised for the required quantity. We receive goods on the basis of the ordered quantity and pay the supplier for their goods or services.



Oracle Order to Cash process

The Oracle Order to Cash process initiates when we enter a new sales order in the system. Once the order is booked in the system, picking and shipping of goods take place on the booked orders. On the basis of goods dispatched against the orders, we invoice the customer and upon receiving payment we enter the receipt into system.



Oracle Purchasing

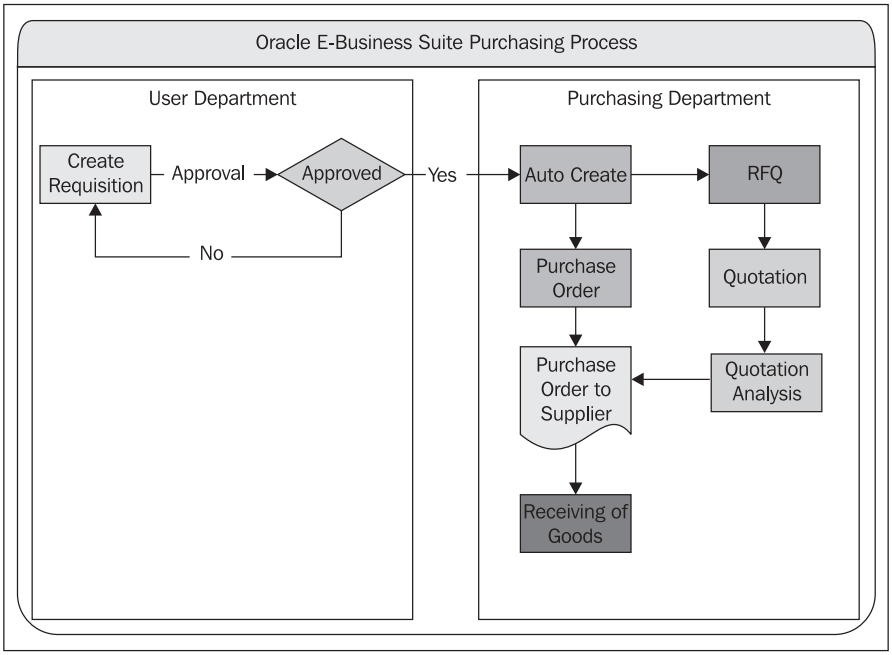
Oracle Purchasing gives us the concept of centralized procurement for operating units and all the procurement of an organization can take place under one roof.

The process of procurement starts from requisitions. These requisitions are the approved requests that are received from requesting departments.

A requisition can be for goods or services. The requisition contains all the information within it, such as:

- Requester name
- Item
- Quantity
- List price
- Need by date
- Justification
- Note to buyer

The flow of the Oracle Purchasing process initiates from the create requisition step and ends at the receiving of goods from the supplier.



Suppliers

In Oracle Purchasing, Supplier Management is an essential part. It's a shared portion between Oracle Payables and Oracle Purchasing. Using the suppliers form we manage the master data of suppliers including their complete details, for example:

- Liability and advance accounts
- Supplier site
- Contact person
- Tax information
- Payment terms

Purchase requisition

Purchase requisition is the point of initiation of the procurement process. A purchase requisition can be created in response to the requirement from different modules, as follows:

- Inventory Management
- Order Management
- Advance Supply Chain Planning
- **Work in Process** (**WIP**)
- Legacy system

The processing of procurement only starts on the basis of an approved purchase requisition. These approved requisitions are seen in the Pool while querying from the Auto Create utility.

Purchase order

The requisitions that are approved can be converted into purchase orders. The purchase order document contains the requested quantity from approved requisition as well as the negotiated amount, which was agreed within the **RFQ** (**Request for Quotation**) and Quotation process with the potential supplier.

We can create different types of purchase order documents, as follows:

- Standard purchase order
- Planned purchase order
- Blanket purchase agreement

- Contract purchase agreement
- Blanket and planned releases

Receiving goods and services

The process of receiving goods and services starts when the supplier ships the goods on the receipt of the purchase order. In the receiving process these goods are received as per requested quantity, location, and shipment of purchase orders.

Receiving of goods is carried out in various stages in which we can evaluate the quality and verify the requested quantity. The following are the stages involved:

- Receiving
- Inspecting
- Delivering

After receiving the goods, they are inspected for quantity and quality in the inspection process. After the acceptance or approval for quantity and quality, these goods finally become the part of inventory at the Deliver stage.

Oracle Inventory

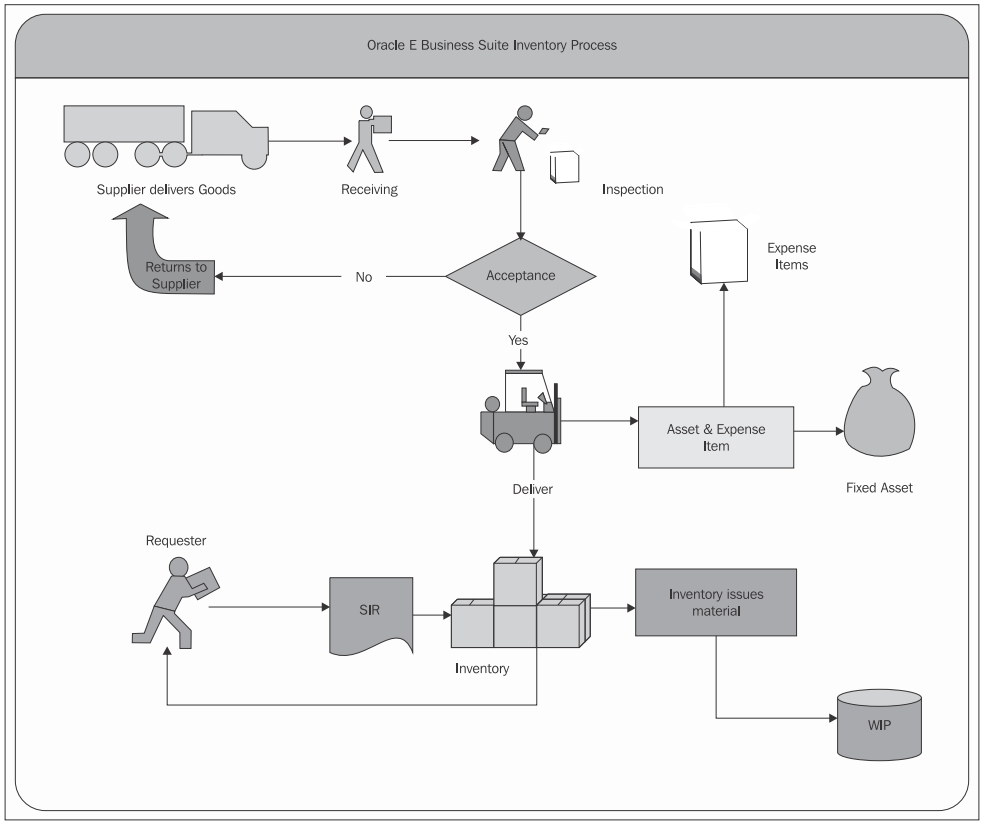
Oracle Inventory contains the items that we purchase from a supplier or the items that we create using the process of discrete manufacturing. It can also logically contain a service that we give to our customers.

In the Inventory Management module, the goods are inventoried these goods are charged to relevant cost centers when they are issued from inventory. These goods can be raw material that is required in the the manufacturing process of an organization; they can be finished goods that arrive as a result of manufacturing process, that would be further sold to the customers. These goods could also be the tools and spares which are needed in the maintenance process of machinery, equipments, and so on.

The flow of Oracle Inventory normally starts when the goods are received from any external supplier, from the production department, goods are returned from customers or transferred from another inventory organization, and so on.

Oracle Inventory process

The flow of Oracle Inventory Management process is initiated when the goods are delivered from a purchase order or returned from customers through Order Management or finished goods arrive from the production department, as shown next:



Item

In Oracle Inventory Management an item can be something that we purchase, such as, raw materials and packaging materials, or create such as finish goods, or an engineering item that is used for repair and maintenance. Using Oracle Inventory Management we can create and maintain items. We can have different types of items that are normally differentiated due to their accounting treatment such as:

- Asset item
- Inventory item
- Expense item

Transferring inventory

In Oracle Inventory Management, we can make various types of transfer. We can transfer the goods among warehouses as per their requirements. We can also transfer the material from store to scrap of similar warehouse. Transfer in Oracle Inventory Management can also be generated from Order Management, from stores to staging inventory from where it can be dispatched to customer location.

Issuance of inventory

In Oracle Inventory Management, when we issue goods to some user department that has requested the goods, issuance takes place in the system against internal orders. In the same manner, issuance takes place when we create a sales order in Order Management on the dispatch of goods to customer.

Similarly in Inventory Management the raw materials are issued for manufacturing to the production department.

On hand using material Workbench

The material Workbench gives us a clear picture of our items whether they exist in inventory, still pending, or in transit.

Using the material Workbench we can plan and make decisions. We can view the exact status of inventory and also make the time line and plan for consumption accordingly.

There are different views available in the material Workbench to view the inventory, as follows:

- Location
- Item
- Lot
- Serial

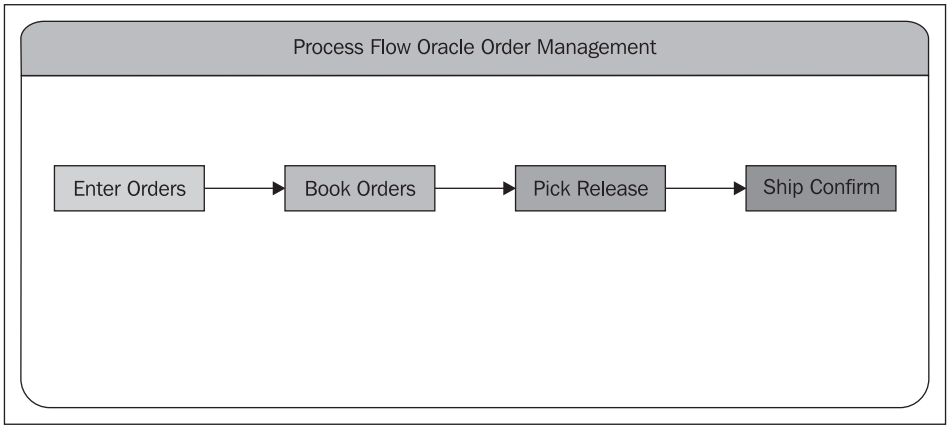
We can use search criteria to filter the item organization and sub-inventory, and can also write a query to view frequently required item views.

Oracle Order Management

In Oracle Order Management we can create sales and internal orders in the system. These orders contain all the information regarding the customer such as where the goods should be shipped, which is the bill-to location for the orders, what are the agreed payment terms, and what should be the price of the ordered goods. In Oracle Order Management, we can create sales agreements as well as take returns against orders. Also, we can keep track of our orders as to what is the current status of order, using which we can perform our Order Management process efficiently and effectively.

Oracle Order Management process

The flow of the Oracle Order Management process is initiated when goods arrive against purchase orders or returns



Customers

In Oracle Order Management and Receivable, we create and maintain master data of customers using the customers form, for example:

- Customer site
- Customer accounts
- Contact
- Tax code
- Registry ID

Sales order

We can create different types of sales orders according to our requirement, for example, local and imported orders. Sales orders contain all the information that is necessary for booking orders such as customers, ship-to and bill-to locations, details of items, and unit price of goods in the sales order form. We can create or book sales orders.

Pick release

After booking a sales order in Oracle Order Management, we run the pick release process. This process creates the move order in the Oracle Inventory for the sales order's booked quantity. The picking process is supported by the picking rules, which detail the delivery lines. The rules also describe how the inventory should be allocated and what are the inventory allocation criteria for move orders. Inventory is then moved from stores to a staging location from where it is dispatched to customers.

Ship confirm

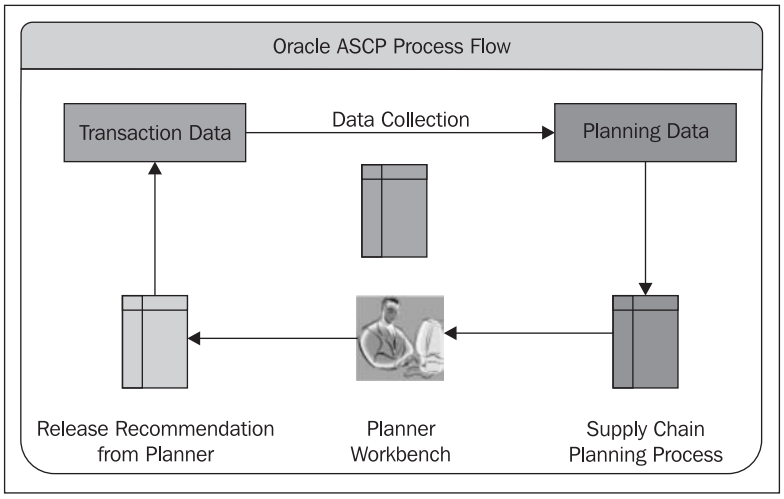
After the pick selection of goods, the goods are moved to the staging area from stores. The goods are then shipped and dispatched. The ship confirmation process is used for dispatching the goods. This process will dispatch the booked order's quantity from staging the location to the customer.

Oracle Advanced Supply Chain Planning

Oracle **Advanced Supply Chain Planning** (**ASCP**) is a part of Oracle E-Business Suite. It is a web-based application that performs planning, managing our business issues, and balancing the supply and demand. Oracle ASCP gives a clear picture and ease of decision-making. It elaborates when and where supplies are required and what is the most efficient way to manage our inventory, purchase orders, and work orders. Using Oracle ASCP, we can identify what is required on an immediate basis and what should be kept.

Oracle Advanced Supply Chain Planning process

The flow of Oracle Advance Supply Chain starts when we collect the transactional data from Oracle E-Business Suite, and completes on changes we make according to the planning recommendations.



Collections

The process of transferring data from the transaction instance to the planning instance is called the **collection** process in Oracle Advance Supply Chain Planning. The source of the transaction can be an Oracle E-Business Suite or some legacy system.

Some target and collection methods are as follows:

- Complete refresh
- Target refresh
- Net-change refresh

Plans

In Oracle Advance Supply Chain Planning (ASCP), we can create different types of plans, for example, unconstrained plan, constrained plan (enforce capacity constraints, enforce demand due dates, decision rule, and so on), and optimized plan.

Different options of planning in ASCP are as follows:

- **Material Requirement Planning** (**MRP**)
- **Master Production Scheduling** (**MPS**)
- **Master Production Planning** (**MPP**)

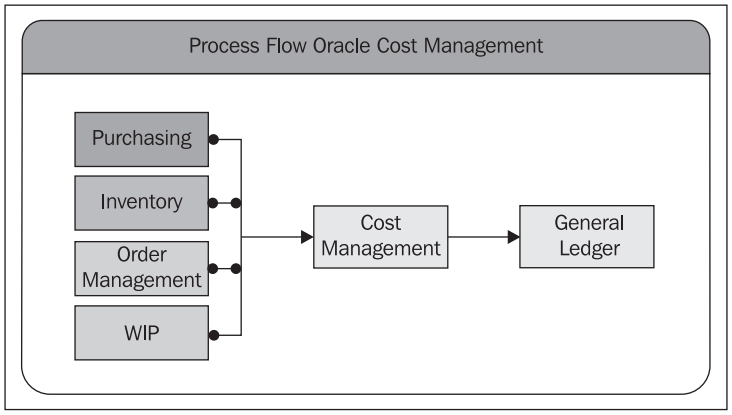
Oracle Cost Management

Oracle Cost Management is a module that is mostly used for accounting and costing for modules such as inventory, product costing, and WIP costing. Oracle Cost Management is used to transfer the cost and accounting entries to general ledger from Inventory Management and WIP. Using the Oracle Cost Management Suite, we can manage and maintain the following costing methods:

- FIFO costing
- LIFO costing
- Average costing
- Standard costing

Oracle Cost Management Process

The flow of Oracle Cost Management initiates when it receives the transactional data from **Inventory** and **WIP** and transfers the accounting entries to general ledger, as shown next:



Oracle Cost Types

In Oracle Cost Management we can make different Cost Types. These Cost Types hold the cost and are identified by their unique name. In the Cost Management module there are some Cost Types that are created by default such as frozen (standard cost) and average, whereas we can create unlimited custom Cost Types according to our business requirements.

Closing Oracle Inventory Period

In Oracle Cost Management, the period closing activity of Oracle inventory is performed using Cost Management. We transfer all the accounting entries, which are created in inventory organization, to Oracle general ledger.

These transactions contain the transactions that are generated by the following:

- Receipts against purchase order
- Sales dispatches against sales order
- WIP process transactions, material transactions

After transferring these transactions to general ledger, we close the period and as we know, once an inventory period is closed we cannot reopen it and enter transactions in it.

Oracle Landed Cost Management

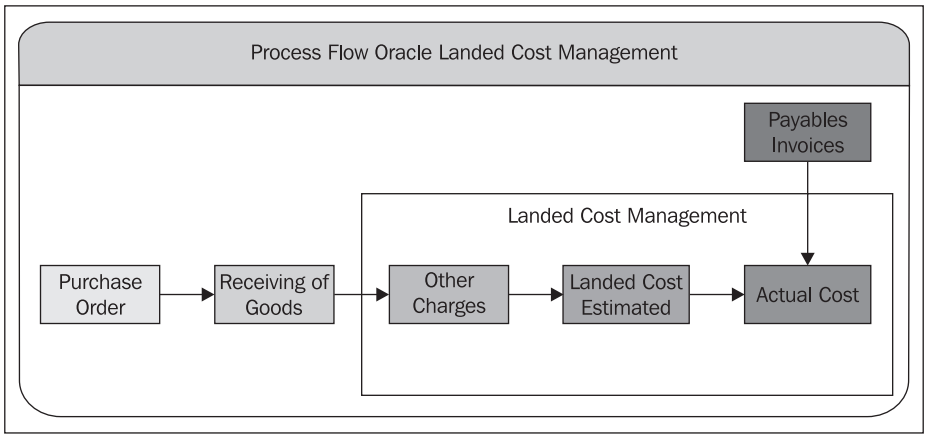
Oracle Landed Cost Management is a new module, which is introduced in Oracle E-Business Suite Release 12.1. Oracle Landed Cost Management's basic functionality is to capture other costs that are incurred at the time of purchasing goods from a supplier; these costs may contain the following:

- Port charges
- Transportation cost
- Shipping agent fee
- Storage cost
- Demurrage

Using Oracle Landed Cost Management, we can identify the factors mentioned earlier so that it becomes easier for us to calculate the cost estimation and make plans. Oracle Landed Cost Management gives a clear visibility of cost incurred on various factors, which makes planning for procurement easier.

Oracle Landed Cost Management process

The flow of Oracle Landed Cost Management starts when a purchase order is raised and completes after all the invoices in the system related to the order total cost are calculated. Using Landed Cost Management, we calculate the estimated cost and actual cost for items. These costs are variable, and includes transportation charges, freight charges, port charges, demurrage charges, container deposit, and insurance.



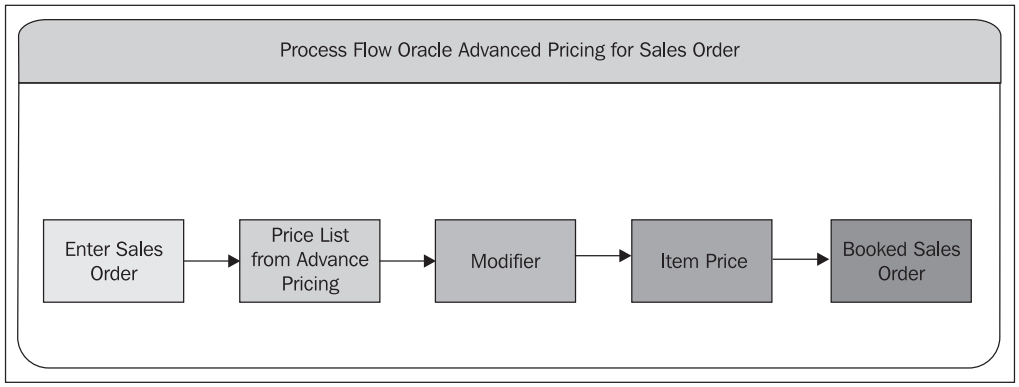
Oracle Advance Pricing

Oracle Advance Pricing is a very essential part of Oracle E-Business Suite. Using Oracle Advance Pricing, we can create different types of price list for items, which are effectively and efficiently used to cater for different business pricing scenarios.

In Oracle Advance Pricing there are different methods used for capturing our business requirements, for example, the usage of discounts and surcharges to any item. Also, we can use formulas for the computation of price for items.

Oracle Advance Pricing process for sales orders

The flow of Oracle Advance Pricing starts when a sales order line is entered in Oracle Order Management and on the order form it brings up the price that is associated with the item.



Price list

The price list contains the prices for different items. When we select an item that has a price list associated with it, the pricing engine assigns a price to the item after the modifier calculates the unit-selling price for the Item.

The price list contains prices, which can be as follows:

- Driven from other prices
- Calculated by formulas
- Static non-formula values

Modifiers

In Oracle Advance Pricing we use modifiers to implement functionalities such as surcharges, discounts, implement business offers, promotional pricing discount, and seasonal variations. Using the modifiers we can apply amount-based and quantity-based discounts and surcharges.

Qualifier

Qualifier, as indicated by its name, is used for setting some condition; and if some condition qualifies, then the value will be picked from the price list on the basis of the qualified option.

Using qualifiers we can make conditions, as follows:

- Customer name
- Customer type
- Ship-to, bill-to location
- Terms
- Orders
- Sales territories

Summary

In this chapter, we went through the process of Supply Chain Management, how Oracle E-Business allows us to capture the Supply Chain process, an overview of the Procure to Pay and Order to Cash cycles, and process overviews of the following:

- Oracle Purchasing
- Oracle Inventory
- Oracle Order Management
- Oracle ASCP
- Oracle Cost Management
- Oracle Landed Cost Management
- Oracle Advance Pricing

In the next chapter, we will see how to start using Oracle E-Business Suite. We will try to get familiar with the form and functionality. We will also see how menus, functions, and responsibilities are associated, how to submit and view reports, and so on.

2
Getting Started with Oracle E-Business Suite

In this chapter, we will see how to navigate in Oracle E-Business Suite. We will look closely at the look and feel of the application in terms of how we can move forward using Oracle E-Business Suite. We will take a look at the basics of Oracle E-Business Suite, as follows:

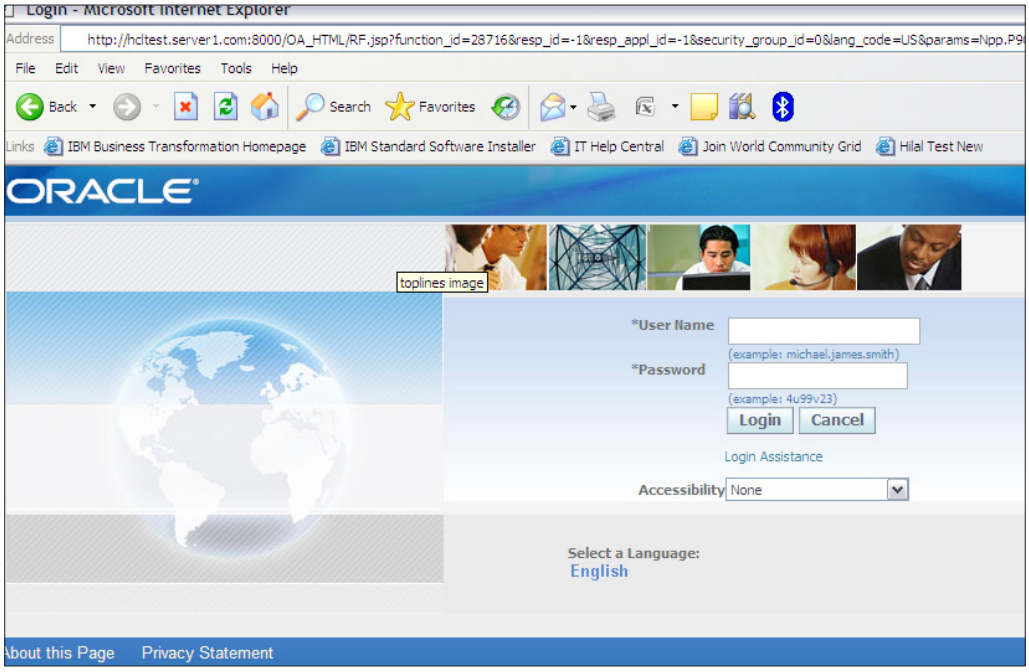
- Logging in to the Oracle application
- Responsibilities
- Menus and toolbars
- Forms
- Entering data in forms
- Reports

Logging in to Oracle E-Business Suite

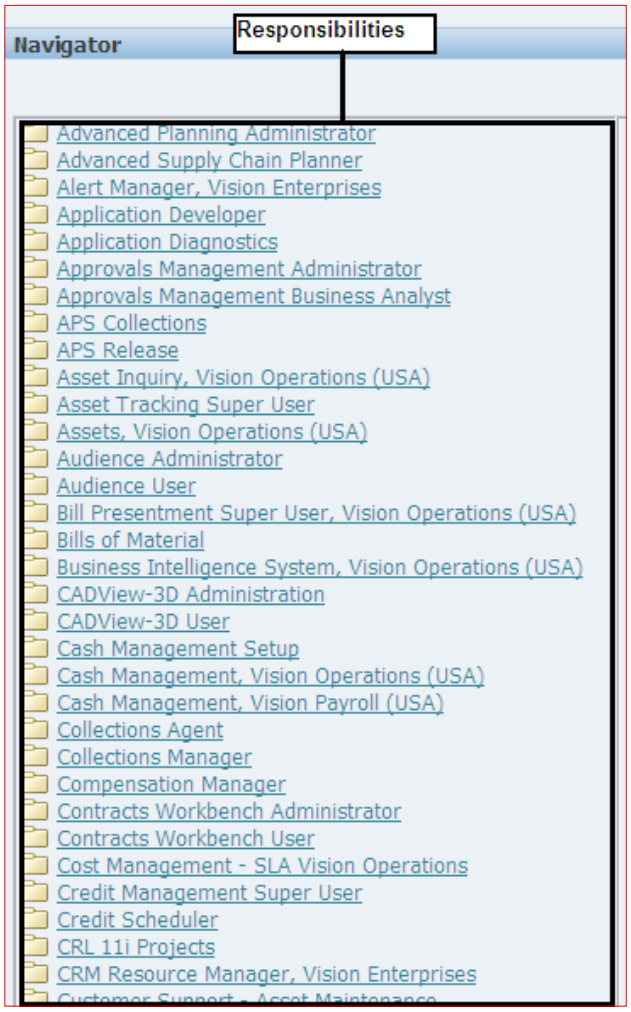
Oracle E-Business Suite is a web-based application, which is easily accessible using internet and intranet connections. To log on to Oracle E-Business Suite, we will open the browser and enter the address of the Oracle application in the address bar of the browser. This address will take us to the login page of Oracle E-Business Suite.

```
http://hcltest.Server1.com:8000
```

This address will be just like the URL of any website we browse in our daily life; the URL can be a combination of *Machine Name.Domain Name*: *Port*.



In the **Login** page, enter the correct **User Name** and **Password** supplied by the System Administrator, and click on the **Login** button. If the login is successful, the application will redirect you to the home page, which contains the responsibilities that are assigned to the user.



Responsibilities

Responsibilities are the set of functions and menus that are available for any user. These responsibilities are assigned to the users as per their working requirement in an organization. Every user should be assigned at least one responsibility in order to work in the Oracle E-Business Suite. A single responsibility can be assigned to many users at the same time. Responsibilities contain various functions through which we can perform tasks in Oracle E-Business Suite. Responsibilities can be used seeded (provided by Oracle) or configured as per our requirements.

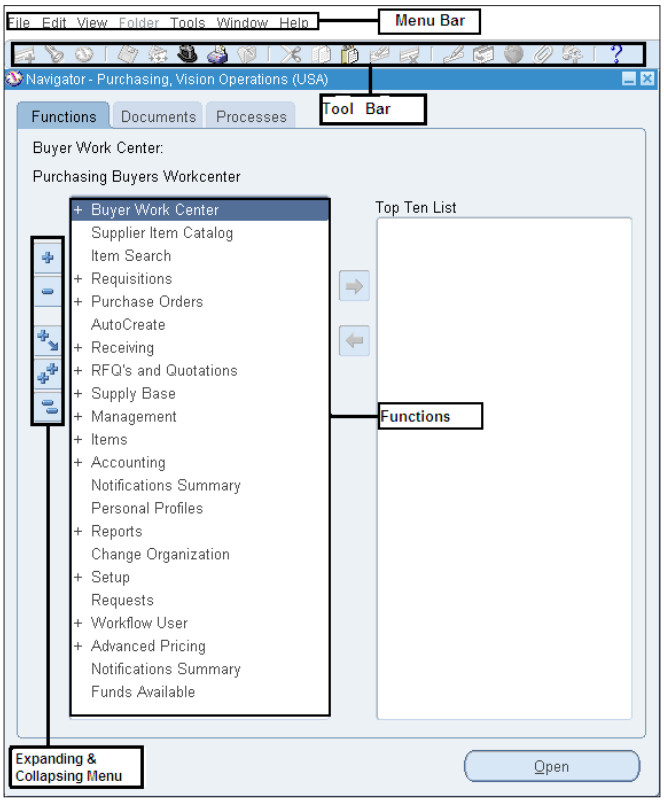
Functions

Functions are the set of activities that a user can perform in Oracle E-Business Suite. Functions are granted to users as per their working criteria and requirement. These functions are attached to responsibilities and the responsibilities are eventually attached to users.

Let's take an example of Purchasing Super User responsibility; there are many functions attached to this responsibility, such as:

- Purchase requisition
- RFQ and quotation
- Purchase order
- Receiving

Now if we have two users, A and B, we can assign the rights of RFQ and quotation to user A and we can allow user B to make a purchase order. Therefore, these two users perform their daily routine without interrupting their tasks and with a proper utilization of functions and responsibilities.



Menu and toolbar

Oracle E-Business Suite has a multi-document form view. All the forms open in a main form and all the menus are in the main form. The menus are as follows:

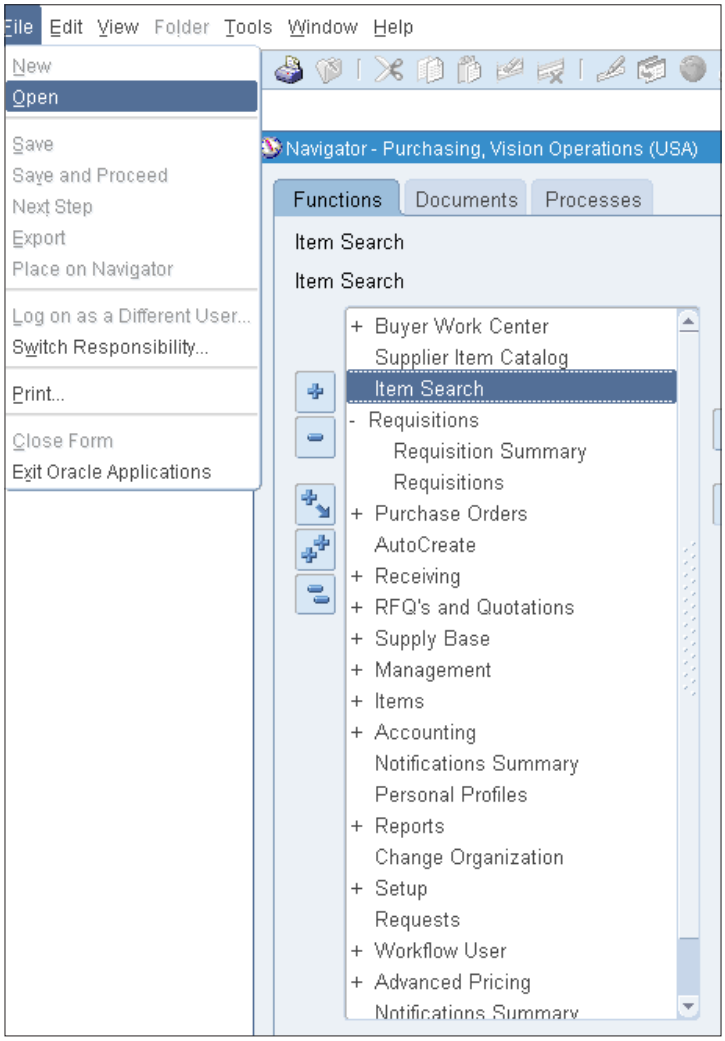
- File menu
- Edit menu
- View menu
- Folder menu
- Tools menu
- Window menu
- Help menu

File menu

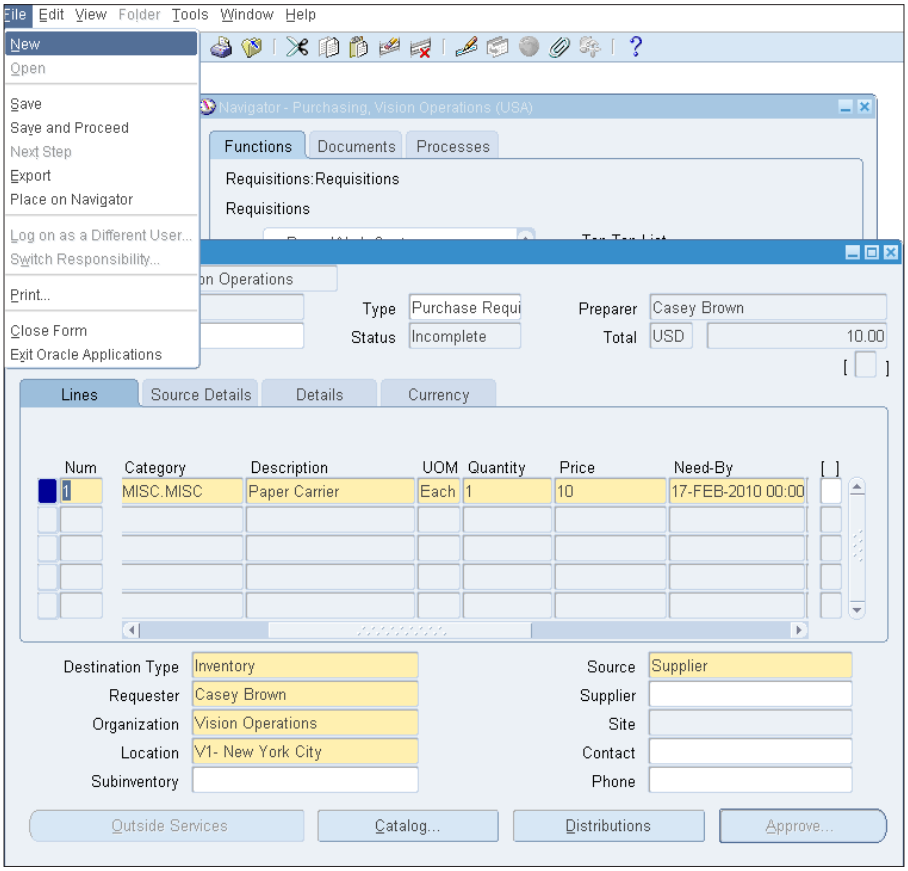
Using the **File** menu, we can open and close a form. This menu is used for basic-level operations, which are majorly related to the main menu and these tasks are usually common for each form.

Using the File menu we can also perform tasks such as:

- **Open**: We just need to place the cursor on the function that we want to open, and then using the **Open** option we can open the particular form.

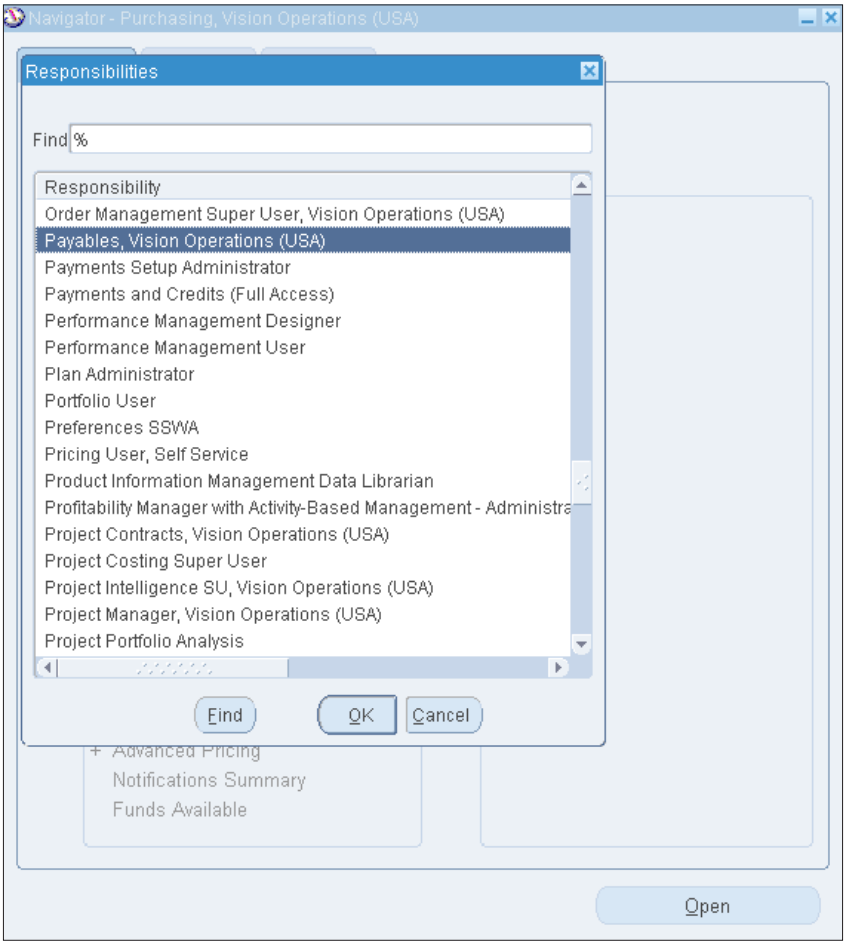


- **New**: Using the **New** option, we can add a new record in the form. This menu is only available for forms that allow us to create new records in them and not in the form that is normally used for queries.



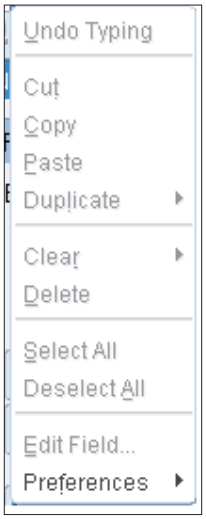
- **Save**: Upon saving the form, the record that we have newly created is permanently saved in Oracle E-Business Suite by using **Save** option, and when it is needed it can be retrieved for further processing.

- **Switch Responsibility**: This is a very interesting and important option available in the File menu. Using the **Switch Responsibility** option, we can switch from one responsibility to another without logging out of the Oracle application. This option is only applicable if we have more than one responsibility attached to our user.



Edit menu

We usually use **Edit** menu when we need to make some amendments or changes to the record in the form. The following screenshot shows the Edit menu:

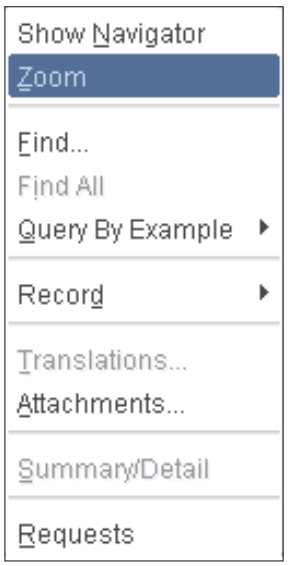


Using the Edit menu we can perform various operations, such as:

- **Undo Typing**: We use **Undo Typing** when we make a typographical error or we have selected inappropriate data in the field. Therefore, in order to correct that, we undo the typing.
- **Cut**: This option is used to cut and paste some record or data from one place to another.
- **Copy**: This option is used to copy the selected and copied data from one field to another.

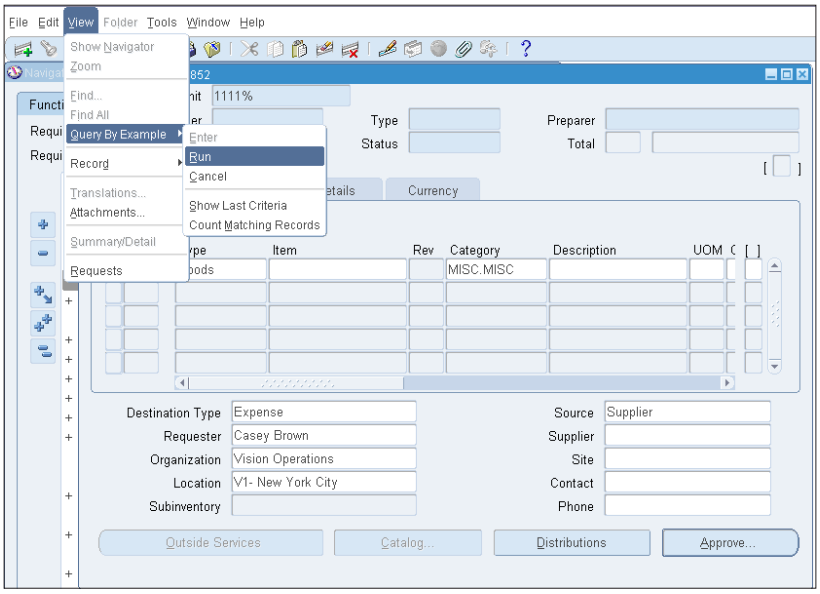
View menu

We use the **View** menu when we need to perform some navigational tasks; for example, going to the last record or running concurrent requests for the responsibility.

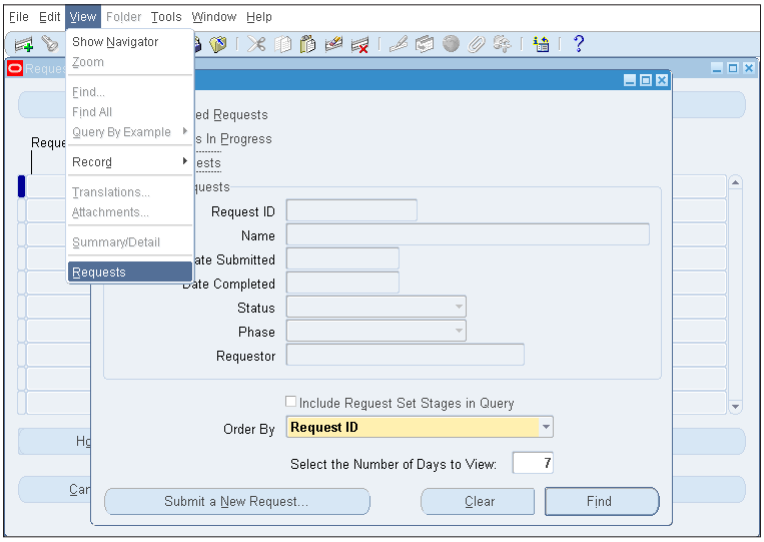


Using the View menu, we can also perform various operations, such as:

- **Show Navigator**: Using this option, we can navigate back to the main menu from any form we are working on.
- **Query By Example**: This is another important functionality, which is used when we need to query records. It enables us to find a particular record with some search criteria, and if we do not provide the query with any filter criteria, it will retrieve all the records for the query.

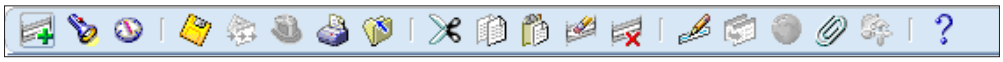


- **Attachments**: The paper clip icon on the toolbar is used for adding attachments to the particular form. Using the add attachment option, we can add reference documents and scanned documents.
- **Run**: Using the run concurrent request option we can find and run different reports and concurrent programs. These requests include some informative reports, such as purchase order and activity register report. Also, these reports can be concurrent programs such as create internal order, and so on.



Tools menu

The **Toolbar** is a combination of various icons, which perform various tasks. These icons are easy to understand due to their self-explanatory shape, which is commonly used in our work environment; for example, the disk sign is normally used for saving or committing the new record and in the same manner, the scissors sign is used to cut the text.



These icons perform the following tasks:

	This plus sign is used to add a new record in the form.
	This torch sign is used to find records or query the records.
	This icon navigates back to the navigator window.
	This icon is used to save the changes in the form.
	This icon is used to switch from one responsibility to another.
	This icon prints the current screen as well as the reports.
	This icon is used to clear the record from the field.
	This icon deletes the entire row or records.
	This icon opens the editor so that we can view and edit text.
	This icon is used to attach different documents to the form.

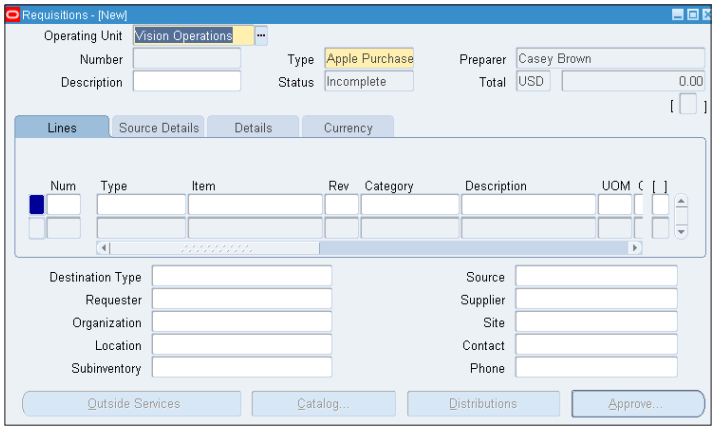
Shortcut keys

Oracle also allows us to use shortcut keys. These shortcut keys make our task easier than a full navigation using the mouse. We can use these shortcut keys to save time and make efficient use of the keyboard. Some of the shortcuts are as follows:

Function	Shortcut (Function Keys)
Copy field from above	*Shift <F5>*
Exit active window	*<F4>*
Clear record	*<F6>*
Clear block	*<F7>*
Insert new record	*<F6>*
Delete record	*<Ctrl>+<UP>*
Save date	*<Ctrl>+<S>*
Query enter	*<F11>*
Query run	*<Ctrl>+<F11>*
Clear form	*<F8>*
Print screen	*<Ctrl>+<P>*
List of values (quick pick)	*<Ctrl>+<L>*
Next record	↓
Previous record	↑ *or <Ctrl>+<P>*
Next field	*<Tab>*
Previous field	*<Shift>+<Tab>*
Clear field	*<F5>*

Forms

Oracle forms are the combination of different mapped controls, which can perform different operations. These mapped controls can be open fields where we can enter data according to our business requirement. Also, they can be lists of pre-existing values, using which we select the appropriate value as per our business requirement.

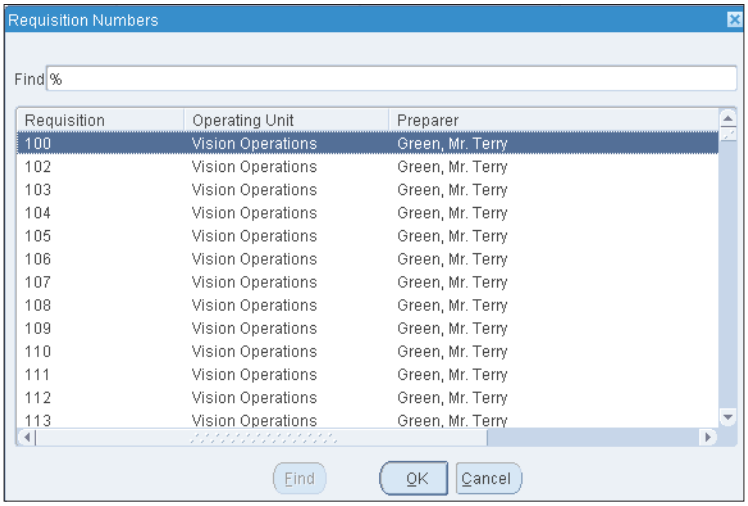


A form can have different controls with different functionalities, as follows:

- LOV (List of Value)
- Checkbox
- Tab
- Open field

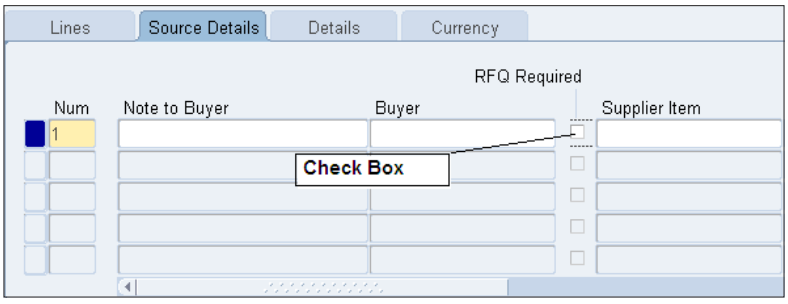
LOV (List of Value)

A **List of Value** is a type of control that contains a list of predefined items that are already added into the system. Using this, we do not have to enter the data ourselves in the field, but we select the desired value from the pre-specified list.



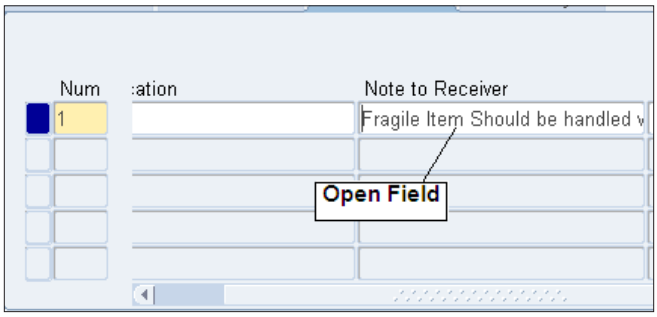
Checkbox

Checkbox is considered to be a limited control. This control allows us to select an option by checking it or deselect the option by unchecking it.



Open fields

Open fields allow us to enter the data that we want rather than selecting it from a control, such as list of value and checkbox. Open fields are normally fields where we enter long description, notes, justification, and that extra information that supports the business documents. These fields are helpful capturing the extra information required in business scenarios.



Summary

In this chapter, we have seen the following:

- How to navigate within the Oracle application
- How responsibilities are assigned to a user, which will enable the user to perform different tasks
- How functions, menus, and their combinations are efficiently utilized to perform a task
- Types of controls available in the Oracle E-Business Suite

We have also seen the functionalities of lists of values, open fields, and checkboxes. In this chapter, we also learned about the shortcuts that are available in Oracle applications and how we can efficiently utilize these to perform our routine tasks in a simpler way.

3

Oracle Advanced Supply Chain Planning

Oracle Advanced Supply Chain Planning (**ASCP**) is a part of Oracle E-business Suite. It is a web-based application that performs planning, managing your business issues, and balancing your supply and demand. Oracle Advanced Supply Chain Planning gives a clear picture and ease of decision-making about when and where supplies are required, and what is the most efficient way to manage our inventory, purchase orders, and work orders. It tells us that what is required on an immediate basis and what should be on hold for future dates.

The key functionalities of Oracle Advanced Supply Chain Planning

Oracle Advance Supply Chain Planning is a Planning Engine, which empowers you in decision-making. It plans your end-to-end supply chain management process using a single plan. The process initiates when we sense the demand and then we shape it while comparing the planned demand to the actual demand, and eventually respond to that demand. For planning using ASCP, we can include all the manufacturing and distribution organizations so it is easier to plan all necessary organization. The key functionalities that are offered by Oracle Advance Supply Chain Planning are as follows:

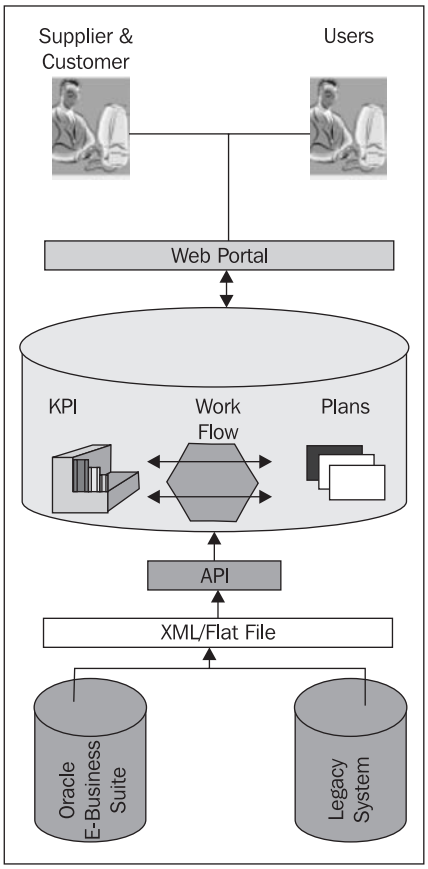
- Using Oracle Advance Supply Chain Planning, we can achieve demand-driven planning as well as reduce the risks and threats that arise in the planning process.
- Using ASCP we will sense the demand that is generated from our customers and we will respond to that demand by comparing the planned demand to the actual demand.

- Due to integration with Oracle E-Business Suite and legacy systems, it provides the optimal level of planning, which eventually gives excellence in supply chain management process.
- Oracle Advance Supply Chain Planning works on analytical processing. So it provides a real-time sense of demand and we can respond to the demand in no time due to the holistic supply planning available.
- With Oracle Advance Supply Chain Planning, we can create different types of plans like Unconstrained plans, Constrained plans (enforce capacity constraints, demand due dates, decision rules, and so on), and optimized plans.
- We can receive workflow-generated exception messages and alerts in a notification summary.
- The Oracle Advance Supply Chain Planning module stores its data in a centralized location making it easier to access the data using a web browser. Due to its centralized and web-based architecture, multiple planners can access their plans from multiple locations at the same time.
- Oracle Advance Supply Chain Planning has an extensive workbench, which gives planners an easy way to create, analyze, change, launch, and edit their plans at the same time.

Design and architecture of Oracle Advanced Supply Chain Planning

Oracle Advance Supply Chain Planning is designed and structured to meet complex demands in real time and it gives a high performance deployment due to the following effective features:

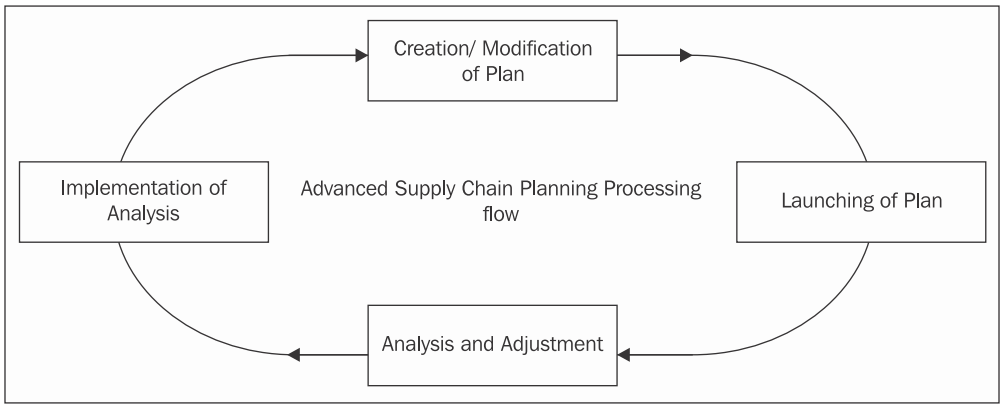
- Process-based memory allocation
- Materialized view
- Multi-thread snapshot
- Hot backup and recovery available
- Ease of integration with Oracle E-Business Suite
- Integration with legacy systems
- Centralized database for faster and easier access from anywhere



As we can see in the previous figure, Oracle Advanced Supply Chain Planning efficiently integrates with Oracle E-Business Suite as well as any other legacy instance. Data is transferred using XML to Oracle ASCP. In Oracle ASCP, there are workflows and Key Performance Indicators, and plans are set up, using which proper planning can take place. Users, customers, and suppliers can interact using their respective logins.

Processing flow of Oracle Advanced Supply Chain Planning

The process through which the information flows in Oracle Advance Supply Chain Planning is as follows:



The process starts with the creation of a new plan and ends at implantation on the source instance that is recommended by the Planning Engine. Initially, a new plan is created in Oracle ASCP that contains the information that matches the business. This newly created plan will then be launched, which makes it available for the planner to perform planning. In the next phase, the adjustments that were recommended by the Planning Engine are analyzed and applied on the source instance.

Creation of a plan

In this phase, we create a plan. As per our business need and requirement, we will select a plan that resembles our work environment. The plan may consist of maximum number of inventory, safety stock in the inventory, delivery which is scheduled on time, and its need-by date.

Launching the newly created plan

In this phase, we will launch the newly created plan so that the plan can be available for us in the planner's workbench and we can perform analysis and adjustment on the basis of the plan. Upon launching of the plan, the existing demand and supply is available to us from the source instance and modification or adjustments can be done using the result obtained from the plan.

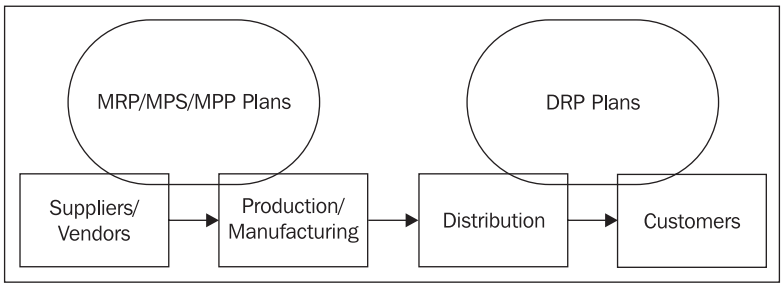
Analysis and adjustments

We will get the recommendation from the plan in the forms of exceptions and we can analyze the plan on the basis of the Key Performance Indicators that are set.
In this phase, on the basis of the recommendation from the plan, we will make the adjustments. The supply and demand process changes accordingly. To achieve the maximum out of the recommendation, we will run the plan in the simulation mode.

Implementation of the analysis

In this phase we will make the actual changes in the transactional data to define an accurate and optimal process. For example, modification of the sourcing rules, changes in the orders and cancellation on the orders, changes in the inventory according to the suggestions, and simulation.

Planning with Oracle ASCP in different business environments



Using Oracle Advance Supply Chain Planning, different types of planning can be done for different types of business, whether you are a manufacturing company that produces finished goods using its manufacturing process or a distribution company that distributes goods, which can be made within the organization or finished goods purchased from other companies for distribution. In Oracle ASCP we can create plans for both types of organizations separately.

If you are both a manufacturing and distribution company at the same time you can perform planning for your organization using Oracle ASCP.

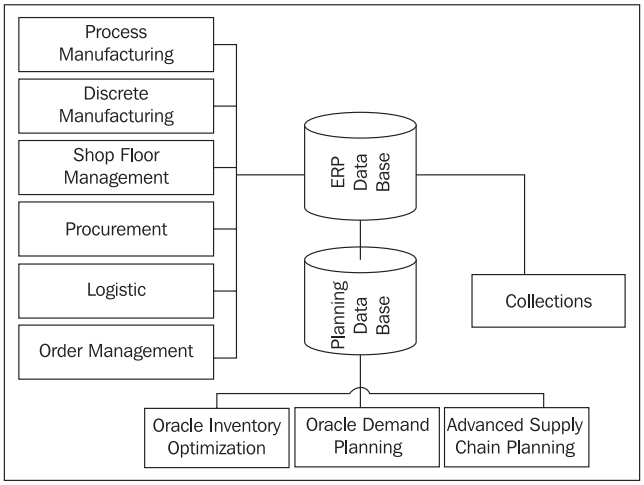
There are various kinds of plans that can be used.

Material Requirements Planning (**MRP**) and **Master Production Scheduling** (**MPS**) are mainly used for manufacturing, where we can streamline and schedule our production.

Distribution Plans (DRP) are used for distribution. These plans are driven by the master production scheduling plans and material requirement plan.

Integration of Oracle Advanced Supply Chain Planning

Oracle Advance Supply Chain Planning is fully integrated with other Oracle EBS modules. Using Oracle Advance Supply Chain Planning we can perform manufacturing and distribution planning. Advance Supply Chain Planning can be fully integrated with a hybrid environment, where we can plan the manufacturing and the distribution at the same time.



As we can see, Oracle Advanced Supply Chain Planning is integrated with different Oracle E-Business Suite modules. As we know the Planning Engine requires information related to the supply and demand of the organization, in order to produce an optimized plan. Oracle ASCP receives information like Items, Bills of Material, Resources, Purchase orders, Work orders, and Sales orders from Oracle Purchasing, Inventory, Order management, and Manufacturing suites. In the same way, in the case of production scheduling, it returns planned orders and forecasts.

Integration with Oracle Process Manufacturing

ASCP integrates with Oracle Process Manufacturing and enforces time offsets between two processes. Operation time constraint can be set between two operations while multiple operations can be executed at the same time.

Using ASCP, we can plan our raw materials and finished goods in an efficient manner. When pegging for demand, ASCP takes care of our lot expiration and shelf life, which are set for the simulation ending.

Integration with Oracle Project manufacturing

Integrating Oracle Advance Supply Chain Planning with Oracle Project manufacturing, we can plan our supply and demand by project. This can be achieved by segmenting the supply and demand by project. We can execute our plans by projects and planning group-wise, we can generate our plan orders associated with project and task numbers. We can also track our inventories by project, so we can get a clear visibility of supply and demand.

Integration with Oracle Demand Management

Oracle Demand Management (Demantra) generates forecast and demand priority for Oracle ASCP. For producing the forecast and priorities Oracle Demand management and ASCP should be on the same database instance.

Oracle Advance Supply Chain Planning can also be fully integrated with the following modules:

- Oracle Bill of Material
- Oracle Shop Floor Management
- Oracle Inventory Optimization
- Oracle Purchasing

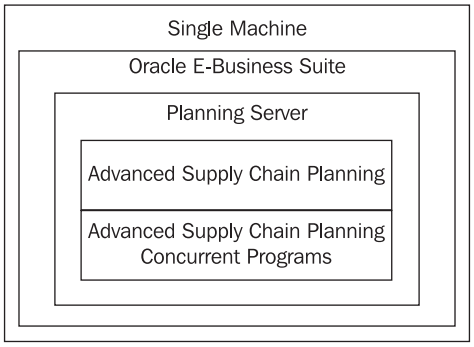
- Oracle Order Management
- Oracle Inventory Management
- Production Scheduling
- Strategic Network Optimization
- Flow Manufacturing

Hardware configuration for Oracle ASCP

Oracle Advance Supply Chain Planning has a component-based architecture by which we can use the data of demand and supply on separate instances and processing on another instance. For example, all of our sales orders, purchase orders, work orders, and receipts reside on the source instance and the processing for plans and calculation can be performed on the destination instance before we go for the core setup. It is necessary that we decide the architecture, which will either be a single machine implementation or a multi-machine implementation.

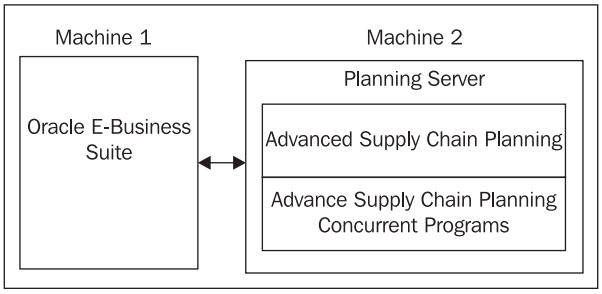
Single machine implementation

Single machine is considered to be a small implementation where source and destination are on the same machine instance. All the transactional data and plan processing is done on the same machine. No separate hardware is required in this kind of architecture. This implementation scenario is usually used for a small implementation where there is not much requirement of a separate instance for planning.



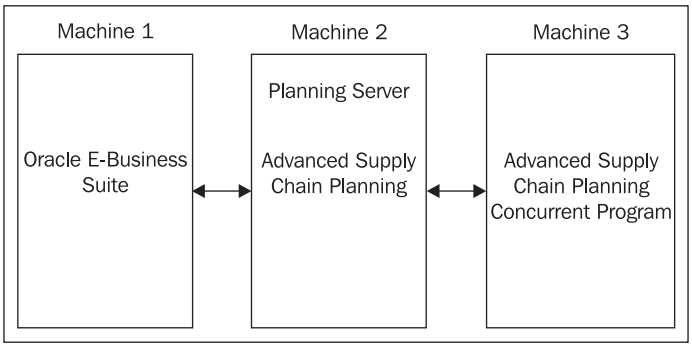
Two machine implementation

For a comparatively larger implementation where the transaction data is huge, we can use the two machine implementation structure. In this type of architecture, the transactional data that would be considered as the source will be set up on a separate instance and the destination, where planning and plan processing is done, is installed on a separate instance. This kind of implementation structure is ideal for large-size implementation; there would be less burden on the transaction machine as well as on the planning instance.



Multi-machine implementation

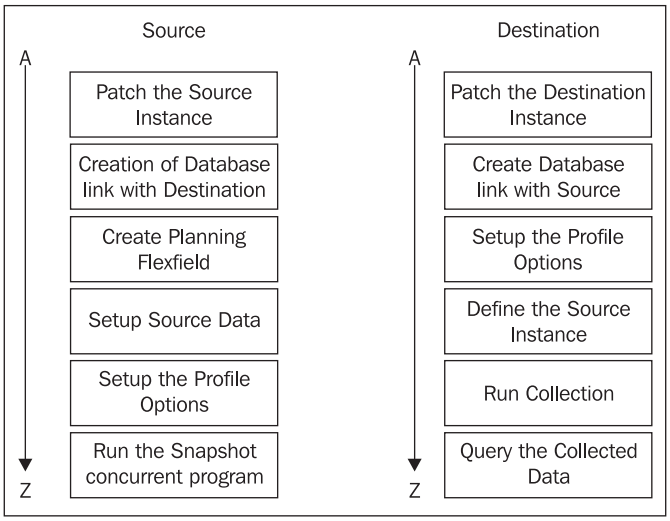
For extremely large amounts of data we can use separate machines for source and destination, and on the destination server we should also separate the planning server and Advance Supply Chain Planning Concurrent programs for high-level efficiency and performance.



Setup steps for configuring Advanced Supply Chain Planning

The steps necessary for setting up Oracle Advance Supply Chain Planning are as follows.

In Oracle Advance Supply Chain Planning, planning is done on one instance whereas the transactions are processed in another instance; so source and destination are considered to be separate instances. While we follow this scenario that the source is on one instance and the destination is on another instance, we have to keep in mind that the source and destination must be on the same database release, else if they are on different database releases, they cannot communicate with each other.



Setting up the Source Instance for Oracle Advance Supply Chain Planning (ASCP)

Now we will start the setup by configuring the source Instance. As seen in the previous figure, we first need to patch the source instance. For that we need to make a responsibility with SCP_TOP_4.0 menu attached to it.

Creation of Oracle Advanced Supply Chain Planning responsibility

The responsibility that should be created must contain the following information and specification. The responsibility name should be exactly matched when we are running the process for collections on the destination instance, else the collection program will not fetch the data properly.

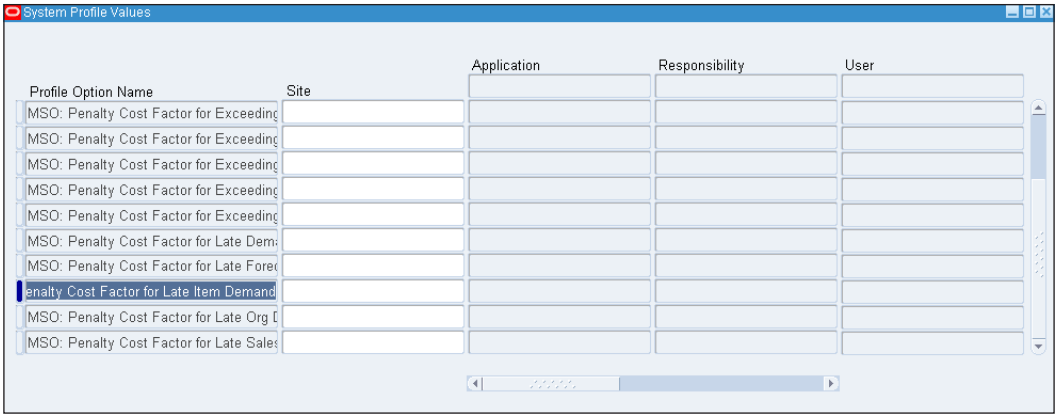
The following information should be given at the time of creation of the responsibility in the source instance:

- **Name of Responsibility**: Advanced Supply Chain Planner
- **Application Name**: Oracle Manufacturing
- **Description**: Advance Supply Chain Planner
- **Menu**: SCP_TOP_4.0
- **Data Group Name**: Standard
- **Application**: Oracle Manufacturing
- **Request Group**: All SCP Reports
- **Application**: Oracle Master Scheduling/MRP

Profile options for Oracle ASCP

In the next step, the following profiles need to be set according to their required parameters and business process requirements of our business:

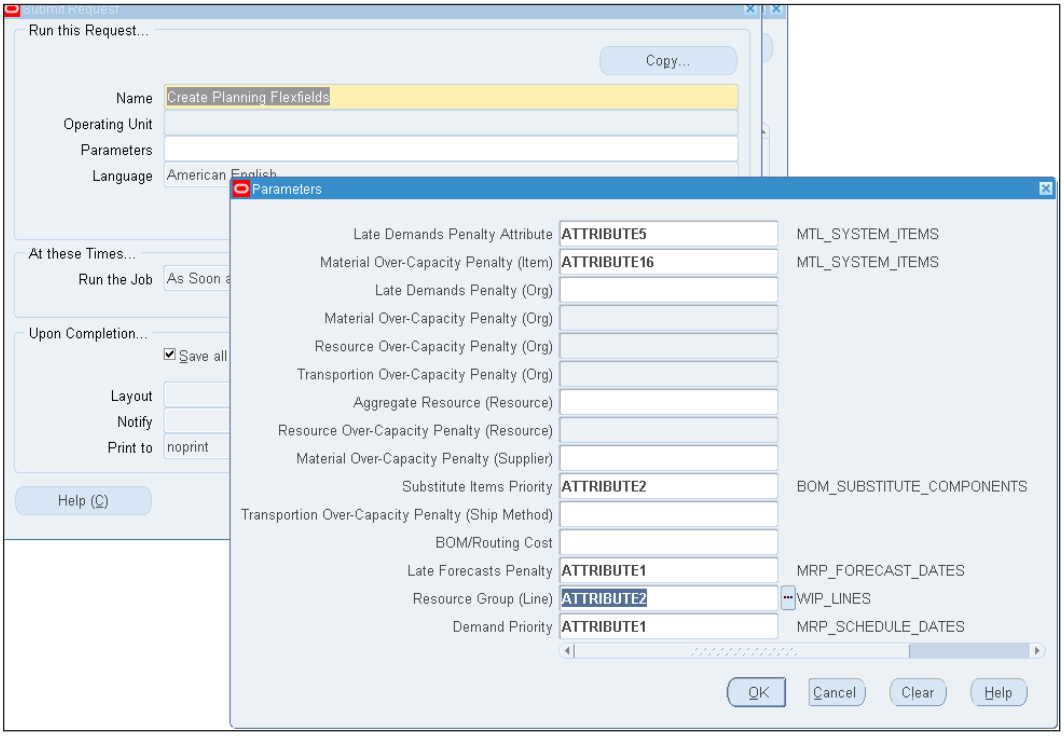
- MRP: Penalty cost factor for late demands
- MRP: Penalty cost factor for exceeding material capacity
- MSO: Penalty cost factor for exceeding material capacity
- MSO: Priority for substitute items
- MSO: Cost of using a BOM/Routing
- MSO: Penalty cost factor for late forecasts
- MSO: Penalty cost factor for late sales orders



Create a planning flexfield request

Now after applying the profile options navigate to the responsibility of **Advance Supply Chain Planner**.

Enter the parameter to run the report for Create Planning Flexfield. This request will run other requests as well the ones that are descriptive Flexfield view creations.

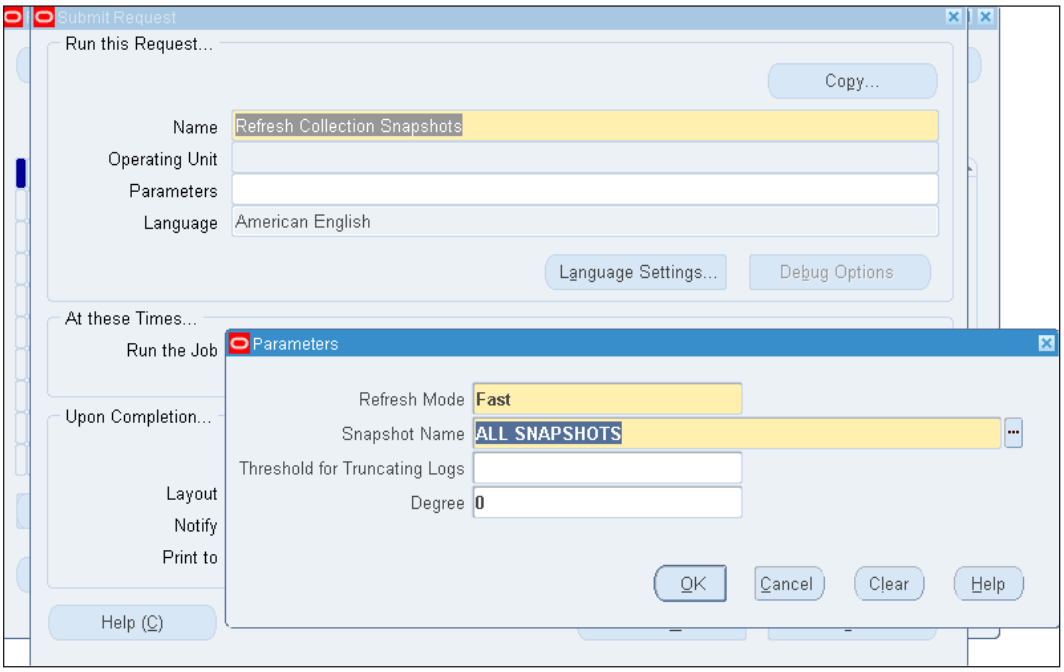


Setting up the source data

In the next step, we will be setting up the source data, which contains purchase orders, work orders, BOMs, resources, routings, supplier data, purchasing information, item masters, and any other data required by your plans.

Run the refresh snapshot concurrent program

After setting up the source, run the refresh snapshot program with your desired criteria. You can run the program for all snapshots as well as use the responsibility created with the name of **Advance Supply Chain Planner**. This concurrent program will refresh the snapshot of all the programs or a specific program selected in the **Snapshot Name** parameter.



Setting up the destination instance for Oracle ASCP

As the source is now configured, we have to go forward with the second part of setting up Oracle ASCP; that is, configuring the destination instance where the actual planning process takes place.

While configuring the destination instance, we again have to follow the same diagram through which we have initiated the setup for the source instance.

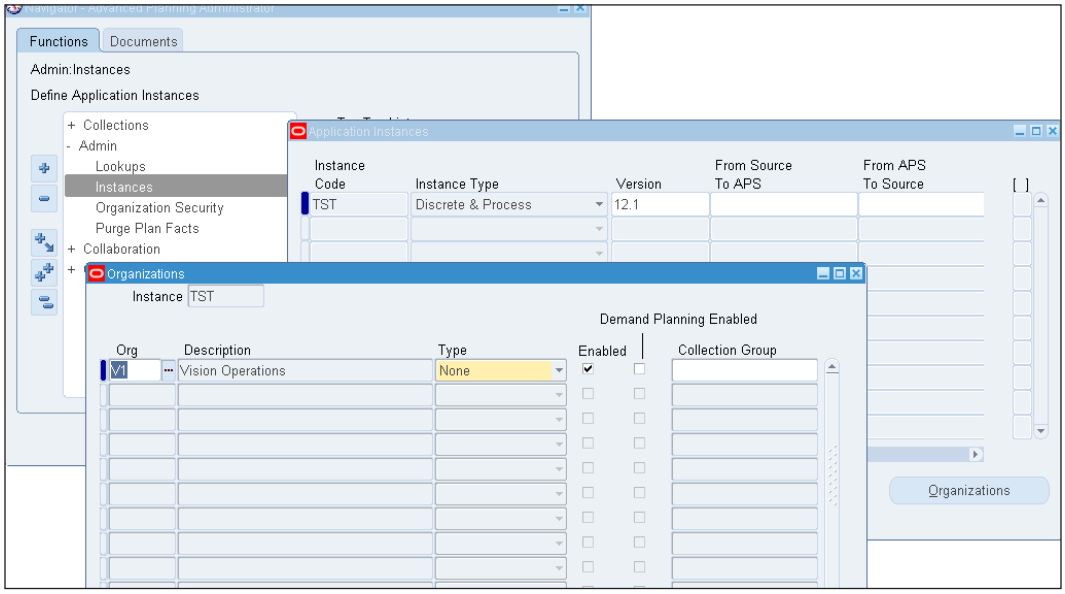
Patch the destination instance

Oracle applications support module patches for installation of the destination instance. The following modules need to be patched:

- MSC: Oracle Supply Chain Planning
- MSC: Oracle Global Order Processing
- MSC: Oracle Inventory Optimization
- MSD: Oracle Demand Planning (Demantra)
- MSD: Oracle Constraint-based Planning

Creation of a database link with the source instance

After the successful application of the patch to the destination instance, navigate to **Instances** from the **Advanced Planning Administrator** responsibility. Select the instance and organization that needs to be planned and give the name for the collection group.



Enter instance information

The following fields are a part of instance information:

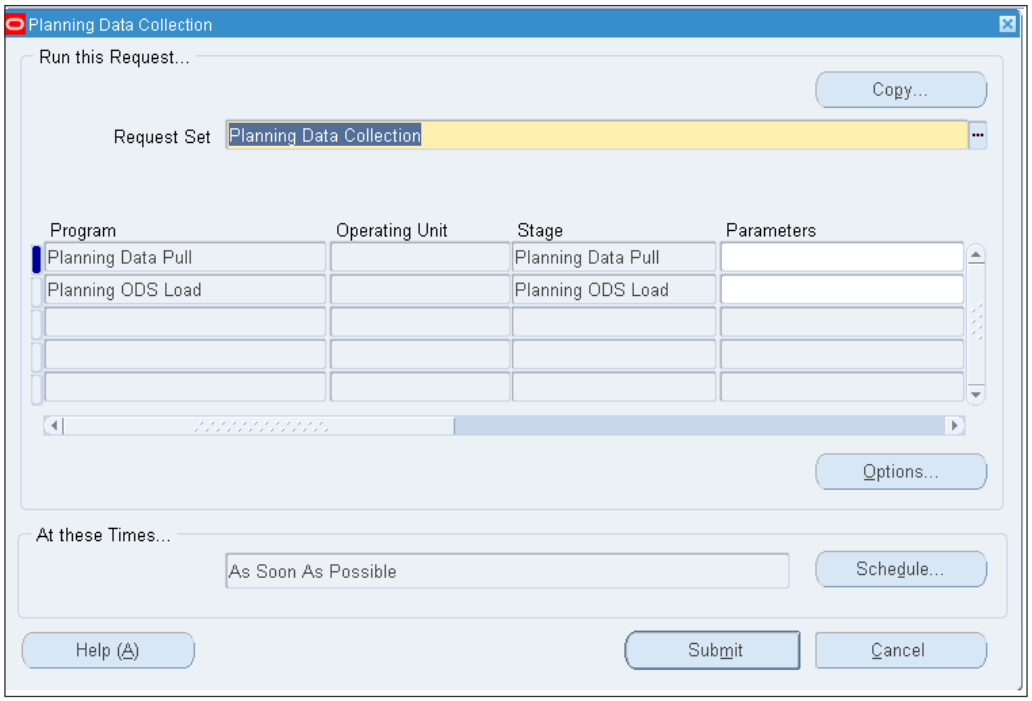
- **Instance Code**: This is just a three-character code, which should be unique.
- **Instance Type**: This defines the type of data. This can be discrete manufacturing data. Process manufacturing data and both at the same time can also be selected.
- **Version**: This is the Oracle application's version of the instance.
- **Organization**: Select the Item master organization in the organization form.

Run the collection

After setting up the Instance information, we will run the collection. The collection contains the following processes:

- Data Pull
- **Operational Data Store** (**ODS**) Load

The collection process lets you collect data from the Oracle application as well as from legacy instances.



Collections in Advance Supply Chain Planning

The process of transferring data from the transaction instance to the planning instance is called the collection process in Oracle Advance Supply Chain Planning. The source of the transaction can be from Oracle E-Business Suite or a Legacy system.

The collection procedure works on the Operation Data Store and Data Pull programs.

The architecture of Collection is simple and it works on the following logic.

Application Data Store

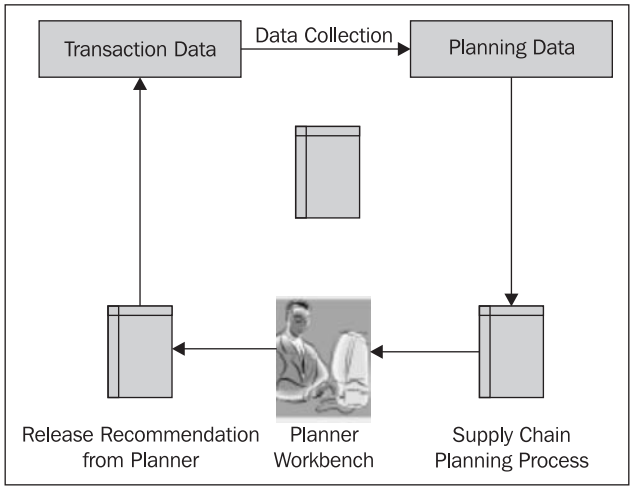
The **Application Data Store** (**ADS**) is basically the data tables that contain the data for the planning.

Operation Data Store

The **Operation Data Store** (**ODS**) is basically the destination tables in which data from the source tables, that is the Application Data Store (ADS), arrives using the collection process.

The Collection process

The Collection process is as shown in the following figure:



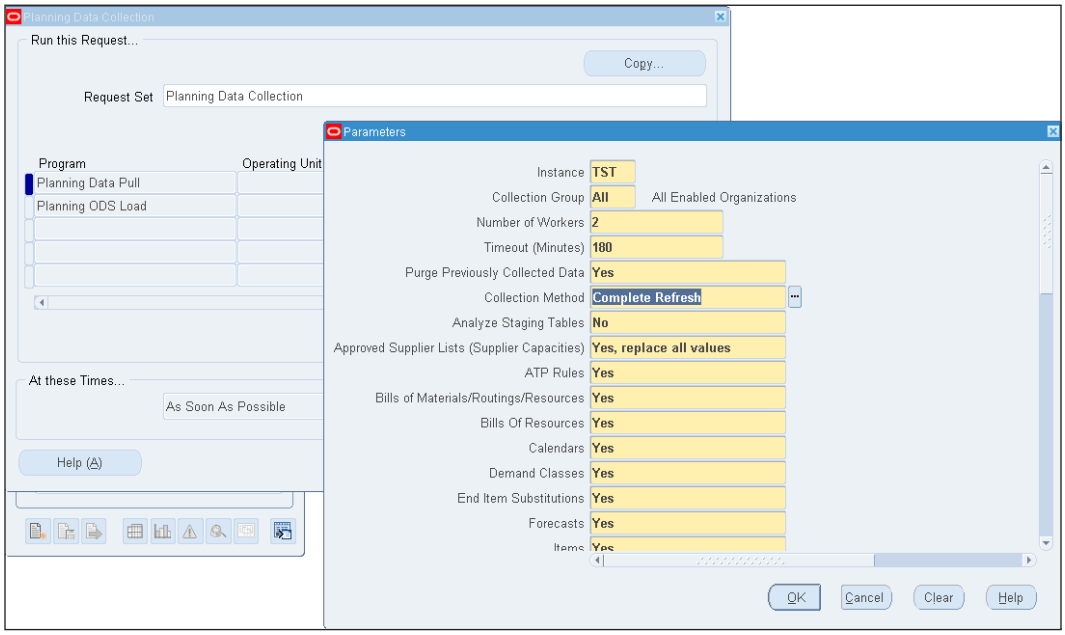
Collection methods

Oracle Advanced Supply Chain Planning provides different types of collection methods that reduce the collection time span. There are three collection methods:

- Complete Refresh method
- Targeted Refresh method
- Net Change Refresh method

Complete Refresh method

The Complete Refresh method clears all transaction data for all business entities from the planning server and copies the new information about the user-selected entities. This method can be time-consuming if there are many planning-related activities.

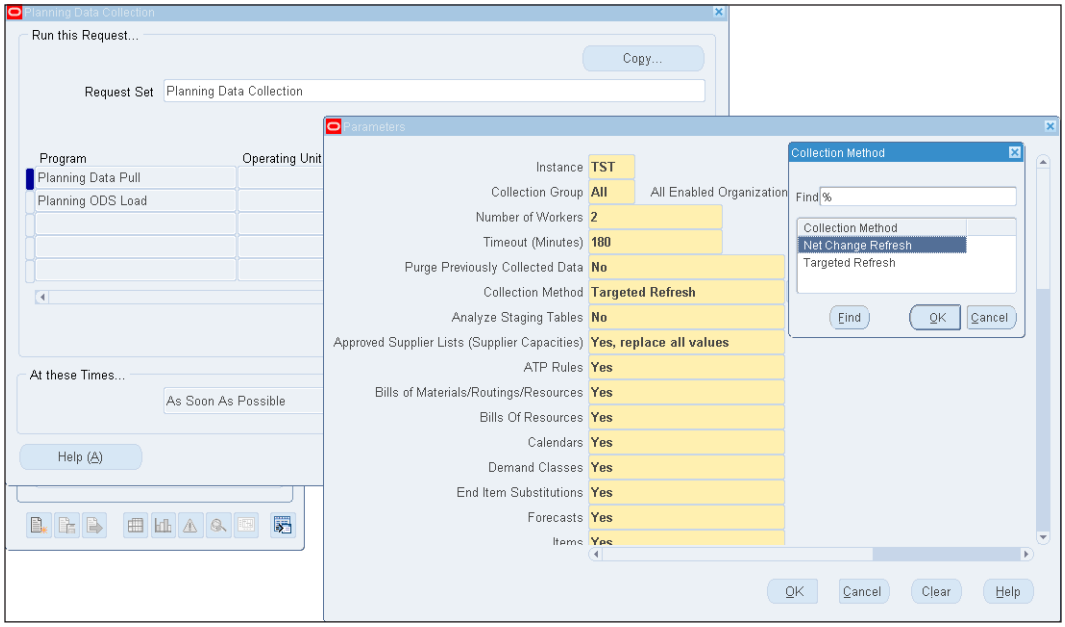


Targeted Refresh method

As it is clear from its name, the Targeted Refresh method only updates the targeted data. The Targeted Refresh method clears transaction data for the entities that are selected by the users from the planning server, and then copies the entity information over from the Source instance. Information about unselected entities remains intact on the planning server.

Net Change Refresh method

The Net Change Refresh method only copies the information that is not already present in the planning server. Thus it is very efficient and quickly updates the planning server with the new entries and leaves the previous data as it is.



Types of collection process

In Oracle Advance Supply Chain Planning, the collection process is of two different types:

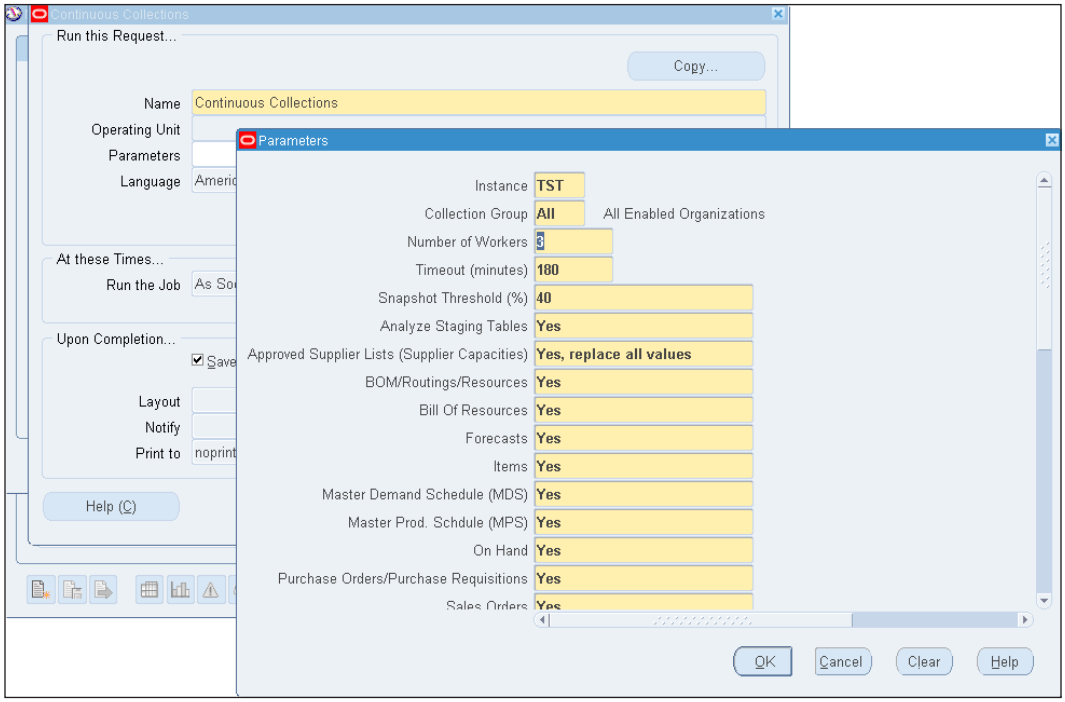
- Standard
- Continuous

Standard

The standard process is a manually generated collection process through which we can run the three types of collection methods.

Continuous

The continuous process is an automated process with minimal human intervention. It synchronizes the data on the planning server by verifying that data exists on the source and planning instance in a continuous system repeatedly running the type of collection that is required.



Creation of plans

Using ASCP, we can create different types of plans. For example, Unconstrained plans, Constrained plans (enforce capacity constraints, enforce demand due dates, decision rules, and so on), and optimized plans. Before we start planning our data the most crucial thing is the accuracy and reliability of the data. If our data is not accurate and clean then the suggestions of the Planning Engine will not be accurate due to the inaccuracy of the data. So before we start the planning process, we should make sure that our data is accurate.

Some common flaws that we see in the system, which cause data inaccuracy, are:

- Items' attributes are not properly defined
- Wrong on-hand availability of items is shown in inventory
- Improper substitutes are defined
- The wrong item is selected for BOM
- Pre and post-processing time not accurately defined, and so on

The data required for planning are:

- Organization
- Items
- Bill of Material
- Resource
- Departments
- Calendar

Organization

Organization is your business facility; it can be your manufacturing and processing plant or it can also be your distribution facility.

Items

Items are raw materials, technical stores, or finished goods that you buy, make, or sell from your manufacturing and distribution organizations.

Bill of Material

The Bill of Material is the list of items that we use for the manufacturing of goods and calculations of forecasts and configuration of the orders.

Resource

In an Oracle application, we consider resource as everything except the material that we use for the production. We can define the work shifts and attach different departments to them for tracking.

Departments

The resource that we use is assigned to different departments. These departments are usually called the work centers. For example, cutting, assembling, and packing can be different departments where different resources are associated.

Calendar

A calendar consists of the work days. Using the calendar, we can differentiate which are working days and which are holidays.

Types of plans in Oracle ASCP

Using Oracle Advance Supply Chain Planning, we can make the following types of plans:

- **Material Requirement Planning** (**MRP**)
- **Master Production Scheduling** (**MPS**)
- **Master Production Planning** (**MPP**)

Constrained plans

Constrained plans contain the following:

- **Enforce capacity constraints**:

  When capacity constraints are enabled on any constrained plan it strictly follows the manufacturing, transporter, and supplier. The supplies can be late in enforcing capacity plans but the resource and supplier capacity cannot be violated. Demand can be late when using a constrained capacity plan.

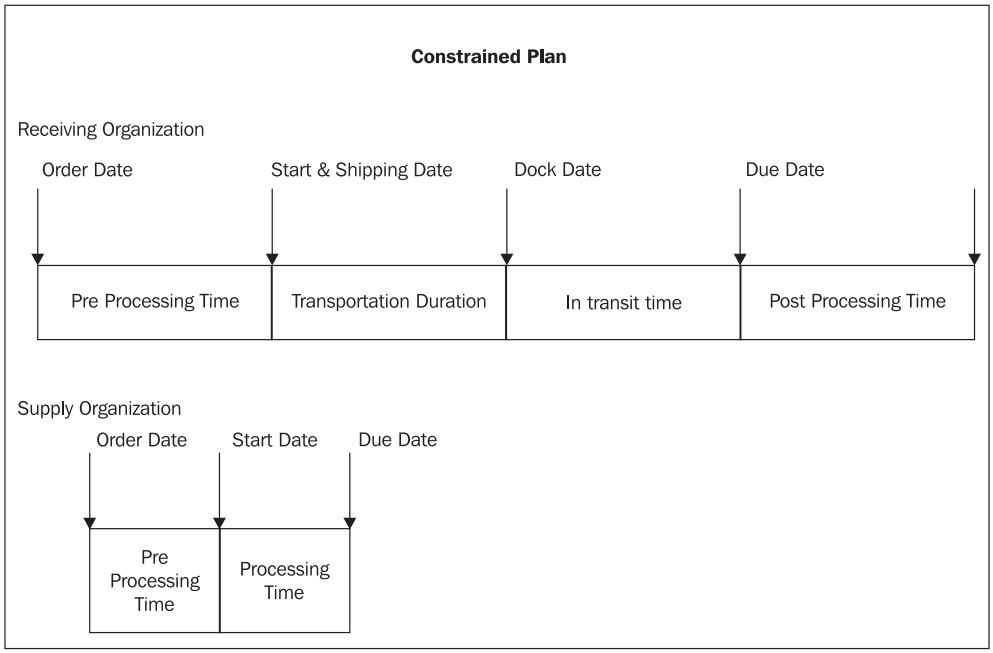
- **Enforce demand due date constraints**:

  In enforce demand due date constraints, demand will always be on time. Resource capacity and supplier capacity can be violated and the pre-processing, processing, post-processing, and lead time can be violated.

- **Decision rules**:

  These are settings that can be given to the Planning Engine using the alternative routing for BOM, alternate resource if required, and item substitution for creating the plan orders.

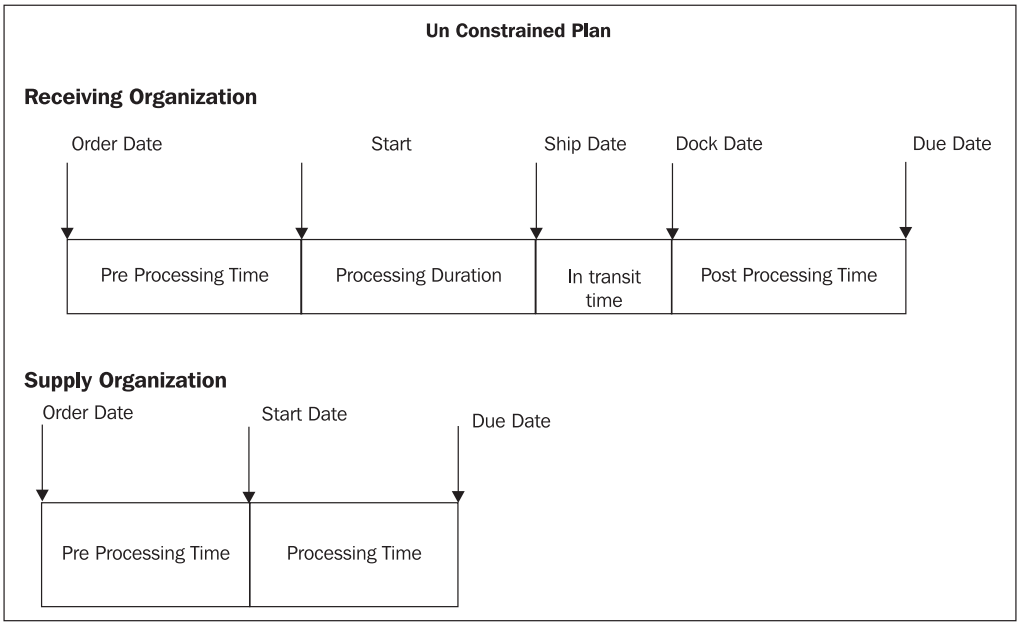
In constrained plans, transportation duration is added.



Unconstrained plans

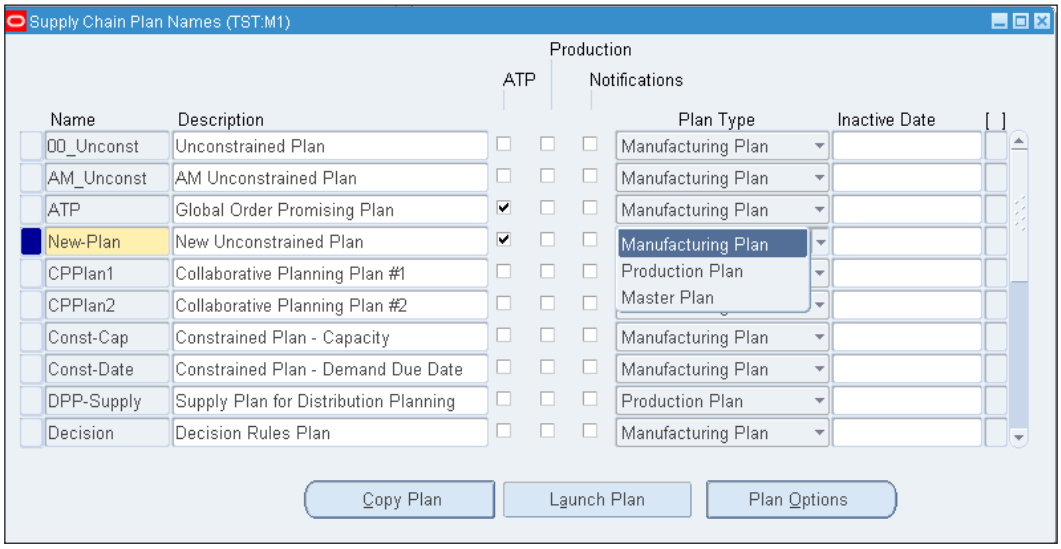
An unconstrained plan uses formula and routings with high and low preferences that are effective for the date and quantity in range. For a planned order, an unconstrained plan uses only the primary Bill of Material.

There is no transportation duration in unconstrained plans.



Creating plans in Oracle ASCP

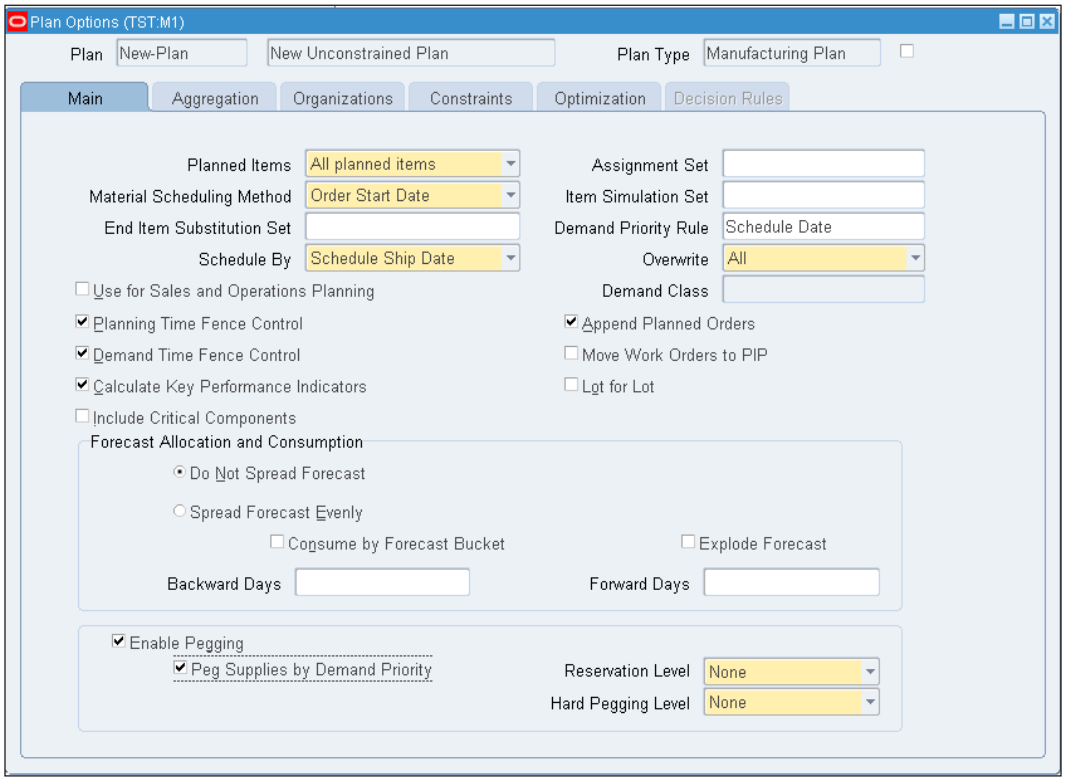
Navigate to the Advance Supply Chain Planner responsibility and add a new manufacturing plan in the plan **Name** and **Plan Type**.



After creating a new plan click on **Save**. Next, click on the **Plan Options** button to define the further processing options for the newly created plan.

Main tab

Now we come to the **Main** tab where we have to select the checkboxes and values from the LOVs to make our plan work as per our desired requirement.

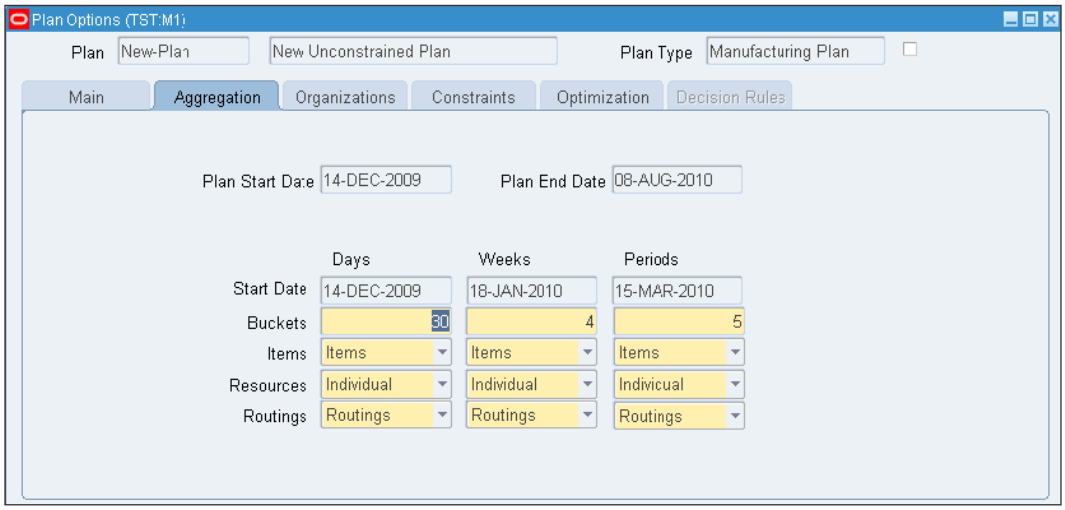


- **Planned Items**: Only those items should be considered that are planned.
- **Material Scheduling Method**: This will order the material as per the start date and as per order date.
- **End Item Substitution Set**: Using this option we can run a simulation for proper substitution.
- **Assignment Set**: This contains the rules for material flow.
- **Item Simulation Set**: Attach the Item Simulation set to plan.
- **Schedule By**: We can schedule the plan on the basis of sales order line using arrival date, shipping date, promise arrival and promise shipping date, and so on.
- **Calculate Key Performance Indicators**: To calculate the KPIs we will check this option.

- **Lot for Lot**: For creation of a separate supply for each demand and to avoid multiple supplies for multiple demands.
- **Enable Pegging**: Advance Supply Chain Planning gives you a graphical view of the demand of an item if we check this checkbox. The pegging engine pegs demand to supply.

Aggregation tab

Now we will move to the **Aggregation** tab, which holds the information related to plan date and buckets.

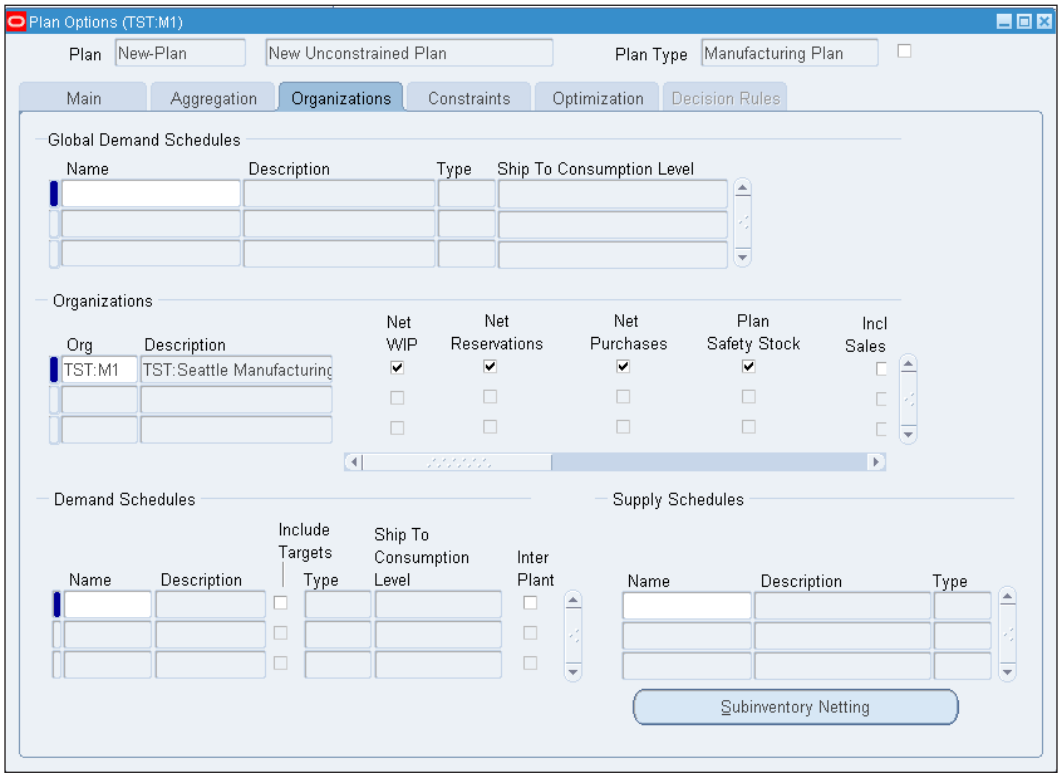


The main options in this tab are:

- **Plan Start Date**: Displays the date on which you run the plan and by default it will pick the system date.
- **Plan End Date**: This date is as per the defined bucket of your organization.

Organizations tab

In the **Organizations** tab, information related to organization and scheduling is specified.



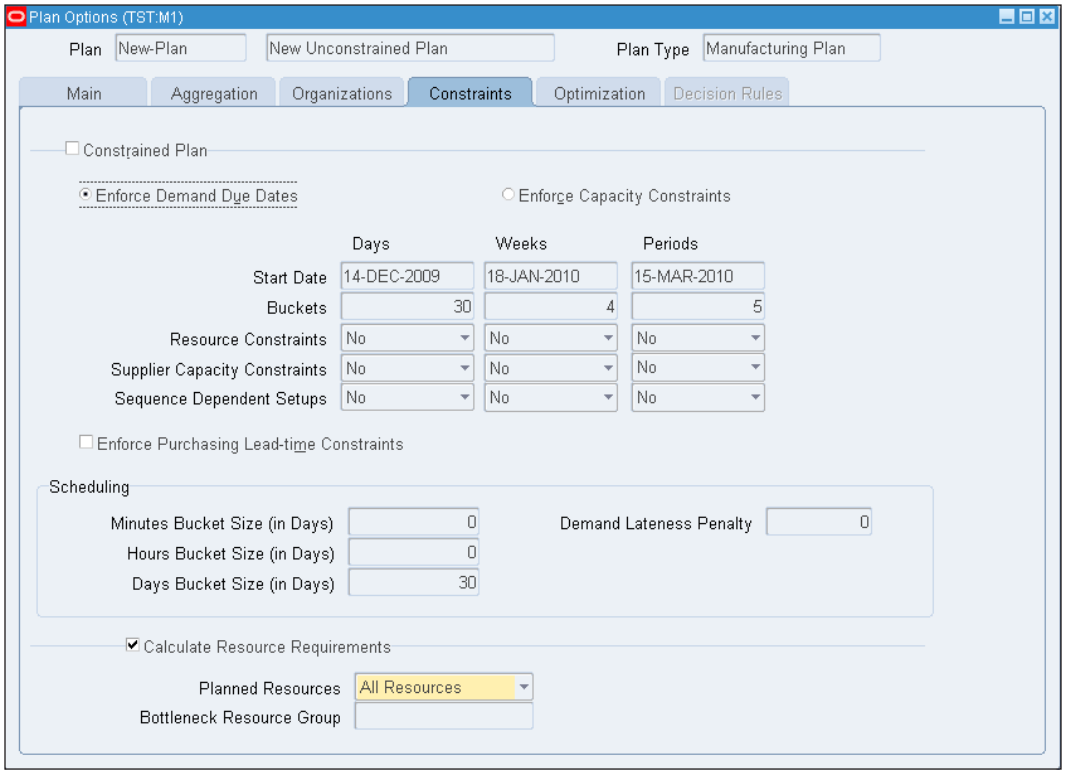
The options in this tab are:

- **Global Demand Schedules**: Enter the name of a demand schedule that is global, not organization-based.
- **Organizations**: Enter the organization that will be planned with the newly created plan.
- **Net WIP**: Discrete manufacturing job orders and planning receipts will be selected by the planning process.
- **Net Reservations**: If we enable this checkbox, the Planning Engine will not perform the planning for reserved items in the specific inventory organization.

- **Net Purchases**: All the purchase-related transactions like purchase requisition, purchase order, receipts, and so on will be considered by ASCP by clicking on this option.
- **Plan Safety Stock**: Safety stock will also be considered by ASCP and it plans the safety stock during the planning process.

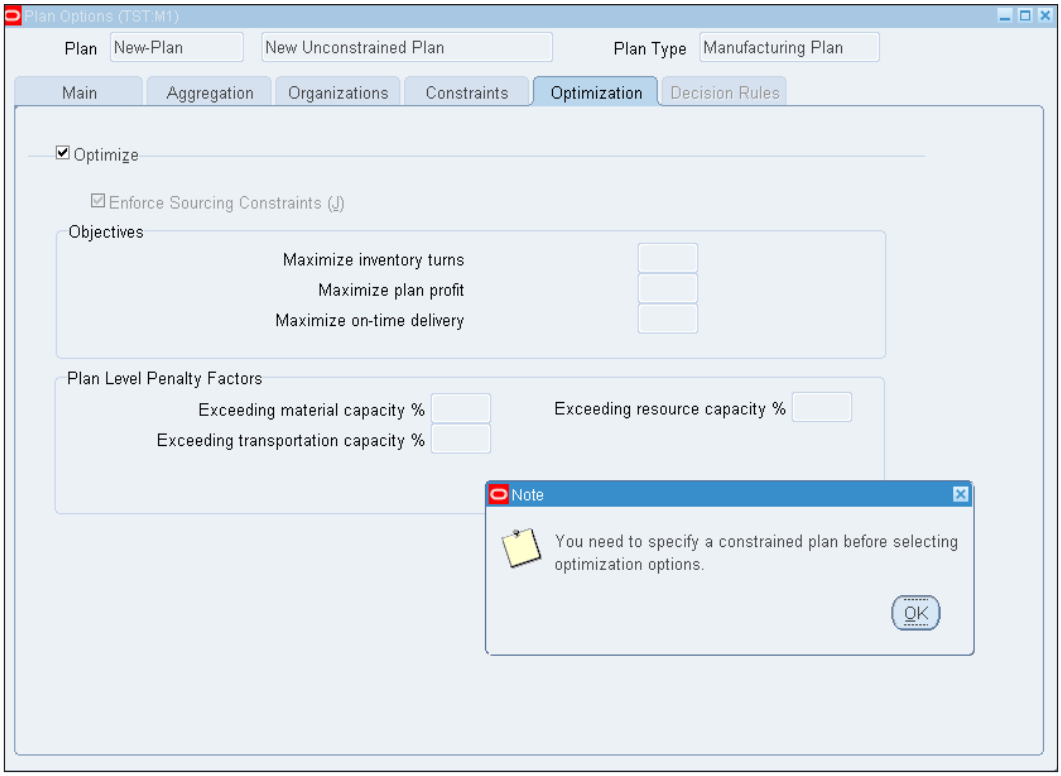
Constraints tab

If we enable the **Constrained Plan** checkbox, we have to enable either constraint by demand due date or by capacity constraints. We also have to enable values for resource constraints, capacity constraints, and so on.



Optimization tab

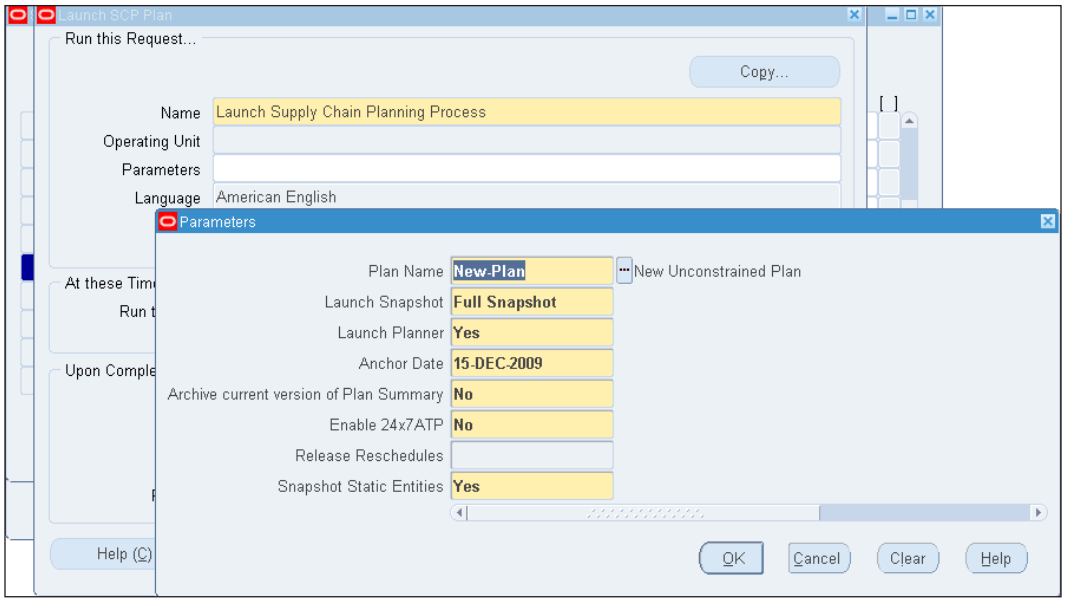
This tab is only available when we have previously set our plan as a constraint plan.



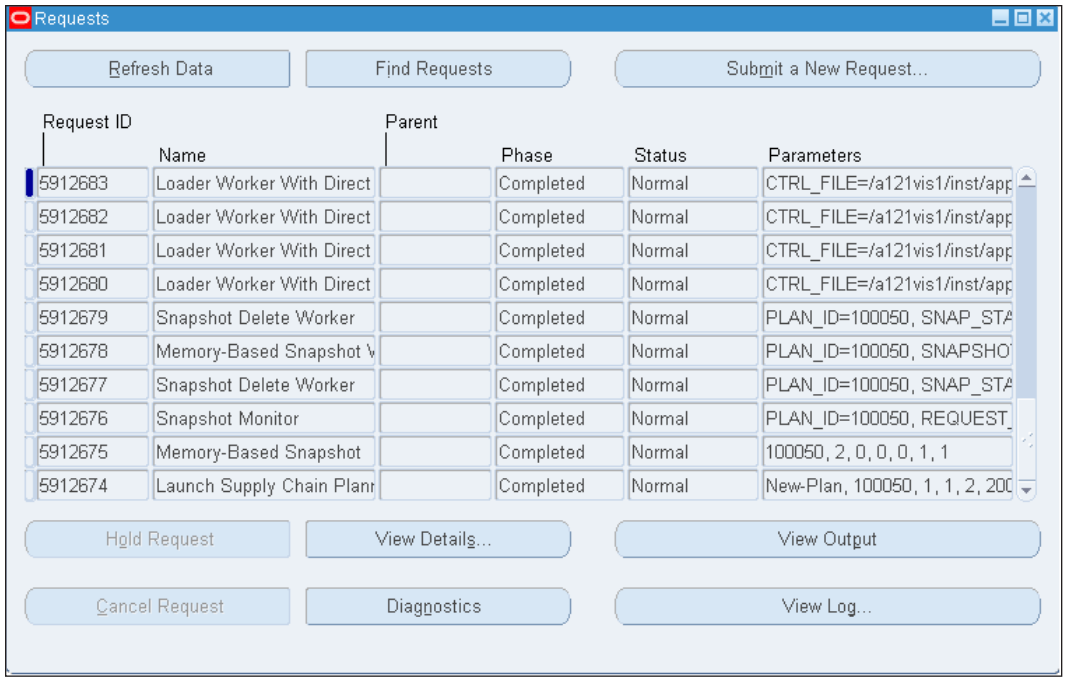
Launching the plan

After the creation of our plan we have to launch the plan so that it will be available for us in the Planner Workbench.

For launching the plan, we will navigate to **Names | Launch plan**. A new request will be run from the request window, so we need to give the parameter for this request and submit the request.



After we press **OK** and submit our request, the following requests also initiate as shown in the next screenshot:

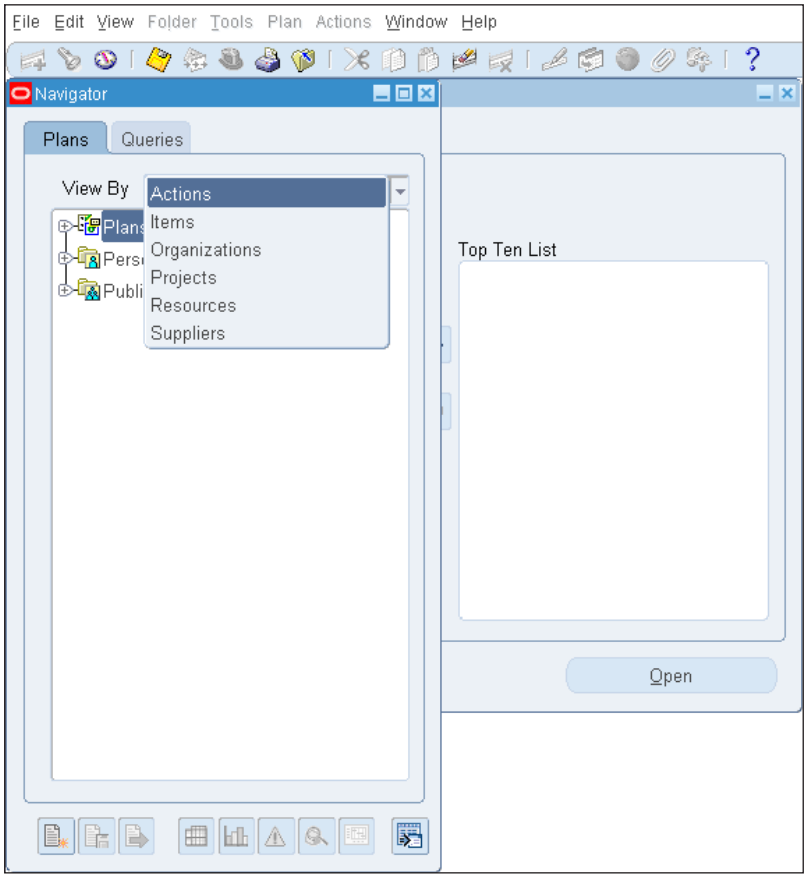


Planner Workbench

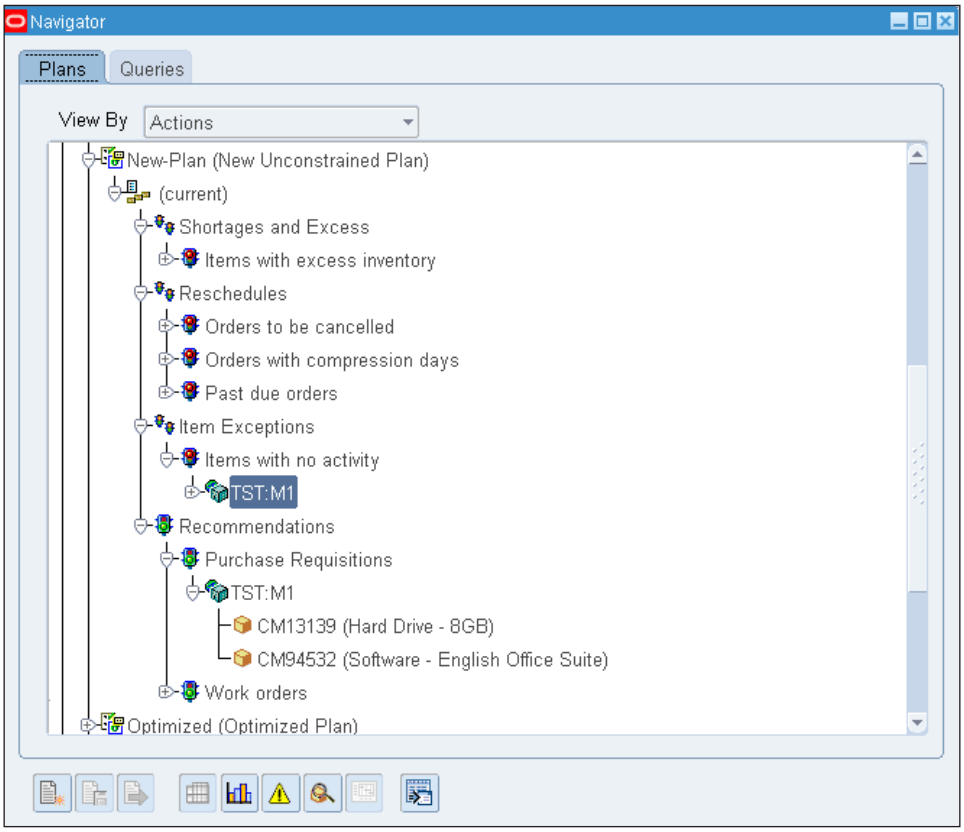
The Planner Workbench is the basic form that is used by the planner so we can analyze and edit the data that is suggested by the Advance Supply Chain Planning. Using the Planner Workbench we can see the suggested recommendation as well as edit the given information.

We can also filter out the data as per our given and written queries and criteria.

In Advance Supply Chain Planning's Planner Workbench, a drill-down facility is also available, so we can go to the transaction level to see the order history and information.



To view the newly created plan, we will navigate to the Planner Workbench, **Supply Chain Plan | Planner Workbench**.



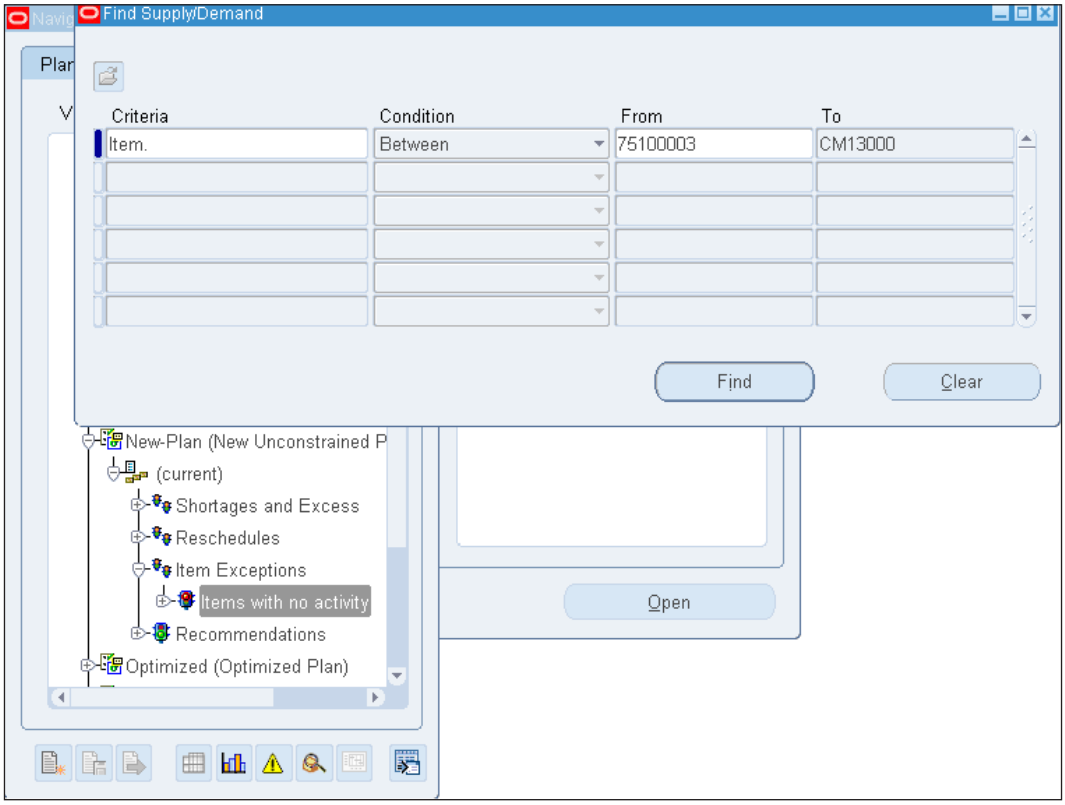
The Planner Workbench offers two different tabs:

- **Plans**
- **Queries**

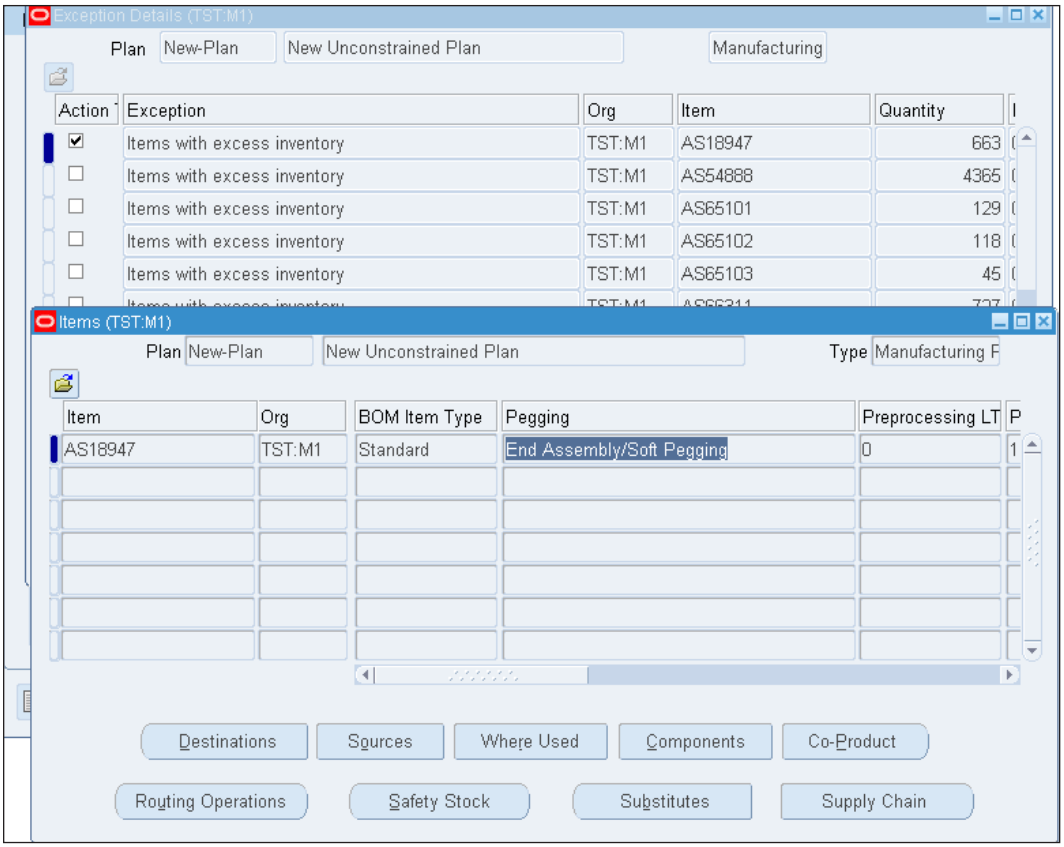
In the **Plans** tab, we see the plans that we have created. For viewing the plans in the plan region we have different viewable criteria options under **View By**, such as:

- **Actions**
- **Items**
- **Projects**
- **Resources**
- **Suppliers**

We can also view our plan in the plan region using the hierarchy tree, where we can sort the plan according to the exception messages and recommendations by ASCP. By selecting the **Queries** tab we can write queries and fetch the data according to our preselected requirement. These queries can be saved as well as modified and edited for future use. In the **Queries** tab, we have different filter criteria using which we can get the appropriate results.



We can view the plan and see the exceptions generated by the ASCP in the following screenshot:



Queries in Oracle ASCP

Using the Oracle ASCP queries, we can filter out our required information as per our required format.

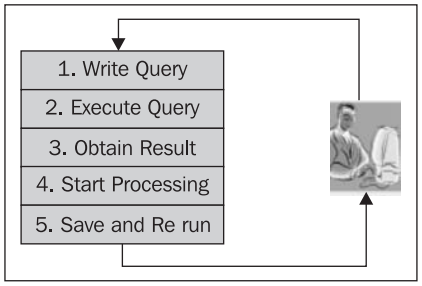
We can create queries and save the queries for further use and processing. Using queries we can filter the data according to the following criteria:

- Items
- Resources
- Suppliers
- Exceptions

How a query works

In Oracle ASCP a query works in the following simple steps:

- Initiate or write a query
- Execute the query
- Obtain the result
- Start processing it
- Save and rerun for future use



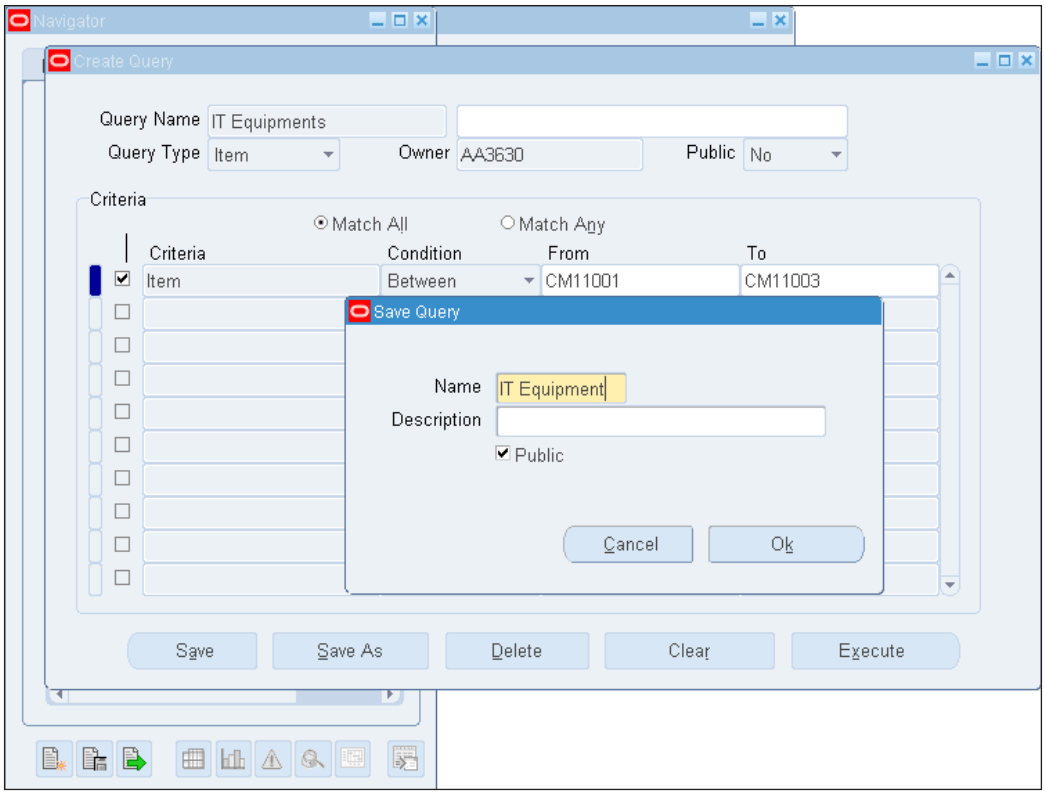
The queries created can be saved as private queries or as public queries.

Private queries

Queries created by any user using Oracle ASCP responsibility cannot be seen by other users or planners who have the Oracle ASCP planner responsibility attached to their users.

These queries are private to the owner or the person who has created the query as per his or her requirement.

Personal queries made by planners are normally more specific and detailed on item-level, which is specific and could be less beneficial for other users.



Public queries

Public queries are queries that are not hidden from the other planners or users who have access to Oracle ASCP Planner responsibility. These queries are shared and due to being public in nature, any user can use these queries at any point to query the results accordingly.

Public queries are generally queries with generic requirements, which are normally in routine need by the planners and management.

Oracle Advanced Supply Chain Planning simulations and analysis

In Oracle ASCP we can perform simulations to see the results of our plans. Simulations give us an idea and by changing the parameters of the simulation we can get near desired results and requirements.

While simulating the plans we can add and subtract resources and quantities. We can change the machine hours and work hours, add new orders, discrete job orders, and purchase orders.

We can use the Planner Workbench to see the changes in orders along with supplier and resource capacity.

While simulating, we can plan and analyze the what-if scenario as to what would be the result of the plan if we change the supplier capacity to this level, and resource and item to this level. So we can get a clear picture of the what-if analysis.

On the basis of the simulation we can make adjustments in our plan to view the changed and updated information.

We can also make a graphical comparison between different scenarios in the plans and after making the comparison we can select the final plan. So the result in the actual scenario gets more accurate and meets the objective of planning.

Net Change plan in Oracle ASCP

Only the changed and updated plan is considered in the Net Change plan. The Net Change plan processes the outputs for only those plans that have been changed from the base plans.

The Net Change plan generates a baseline plan with the help of the Planner Workbench and we can make changes in the plan.

The Net Change process gives us two different modes to re-plan:

- Batch mode planner
- Online mode planner

Batch mode planner

The advantage in the batch mode is that it is a public mode, so it gives access to the other users as well access to the plan at the time we perform the simulations.

Online mode planner

The online mode planner allows us to simulate the plans. We can make the changes in the data then plan again to see the effect in the plan. Using the online mode, we can see the changes in the Planner Workbench. We use the online planner for quick simulations.

Full re-plan simulation mode

Full re-plan simulation works in a different manner. It completely renews the plan unlike the Net Change re-plan process, which just processes the output for the changed plan.

In the full re-plan simulation mode, we can compare different types of plans with each other. We can even compare a constrained plan with an unconstrained plan and we can analyze the resultant output of both.

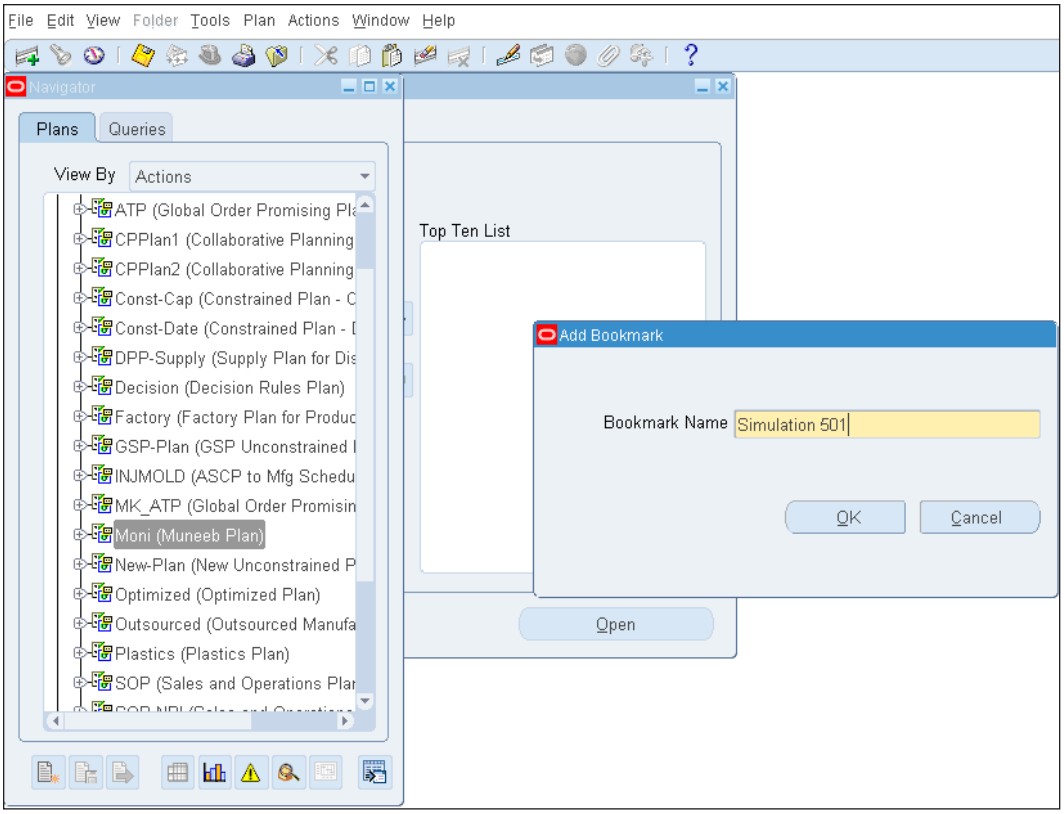
The simulation process

To start the simulation process, first of all we will navigate to the Planner Workbench and select the plan that we have created.

After we have found our plan, we now have to make a bookmark to keep track of the changes that we have made in our plan. This will help us review the processes and the changes that we have made in our plan.

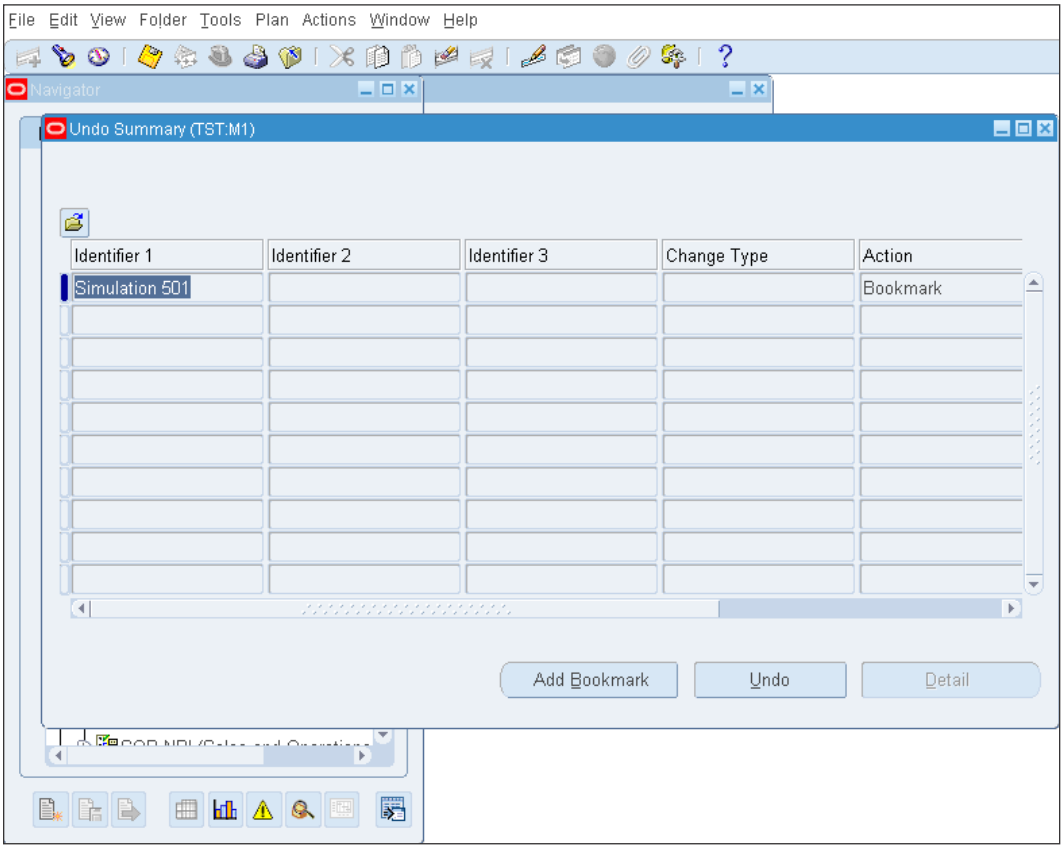
Create a bookmark

Add a new bookmark using **Add Bookmark**.



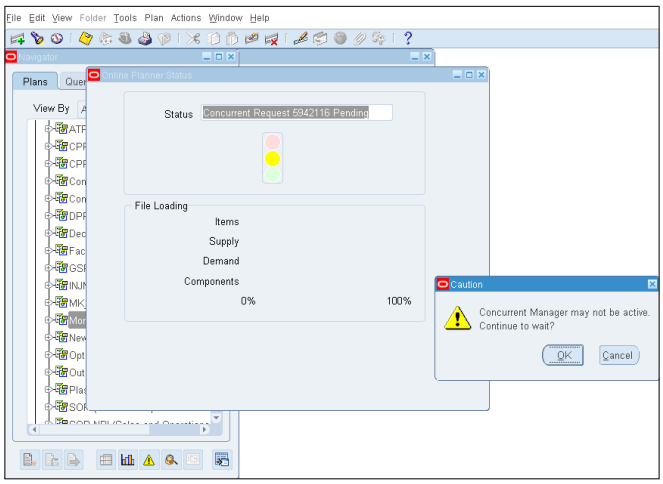
Review the bookmark in the Undo Summary

After creating a bookmark, we will now navigate to the **Undo Summary** to check if our bookmark exists or not. It is a confirmation for us that we are going on the right track.

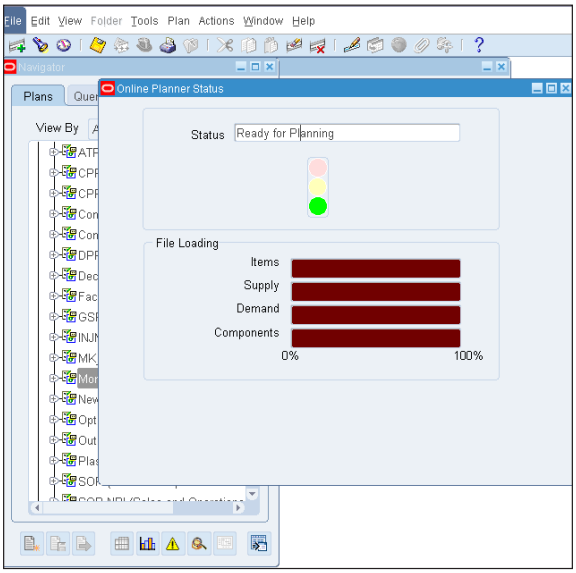


Start the online planner

When we have reviewed the bookmark in **Undo Summary**, we will navigate to **Plan** and select **Start online plan** from the options in the plan. This will start a concurrent process through which the planner gets ready. It will take some time and then display the message **Ready for Planning**.

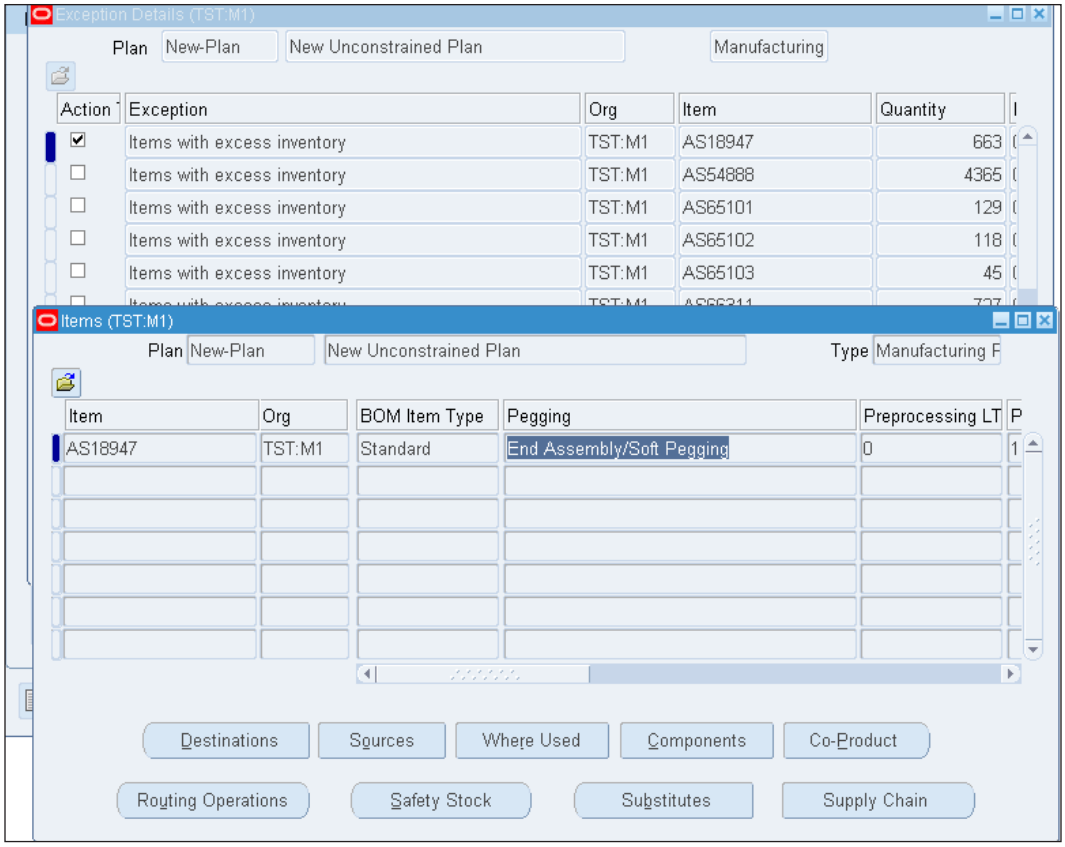


As we can see in the next screenshot, the file loading which was at 0% in the previous screenshot has now completed to 100%, and the status which was Pending on concurrent request is now **Ready for Planning**.



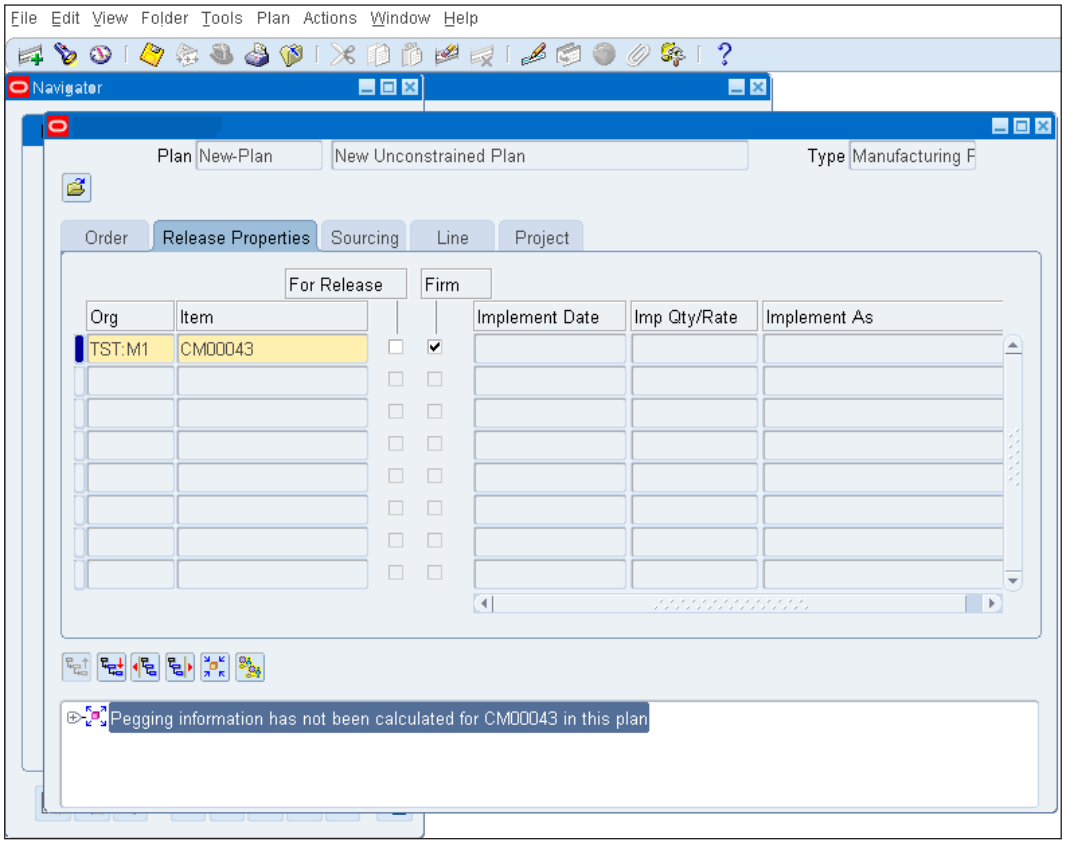
We will review the exceptions raised by the plan review and then add a newly planned order.

After these steps we will navigate to **Undo Summary** again to see and confirm the changes that we have made in our plan.

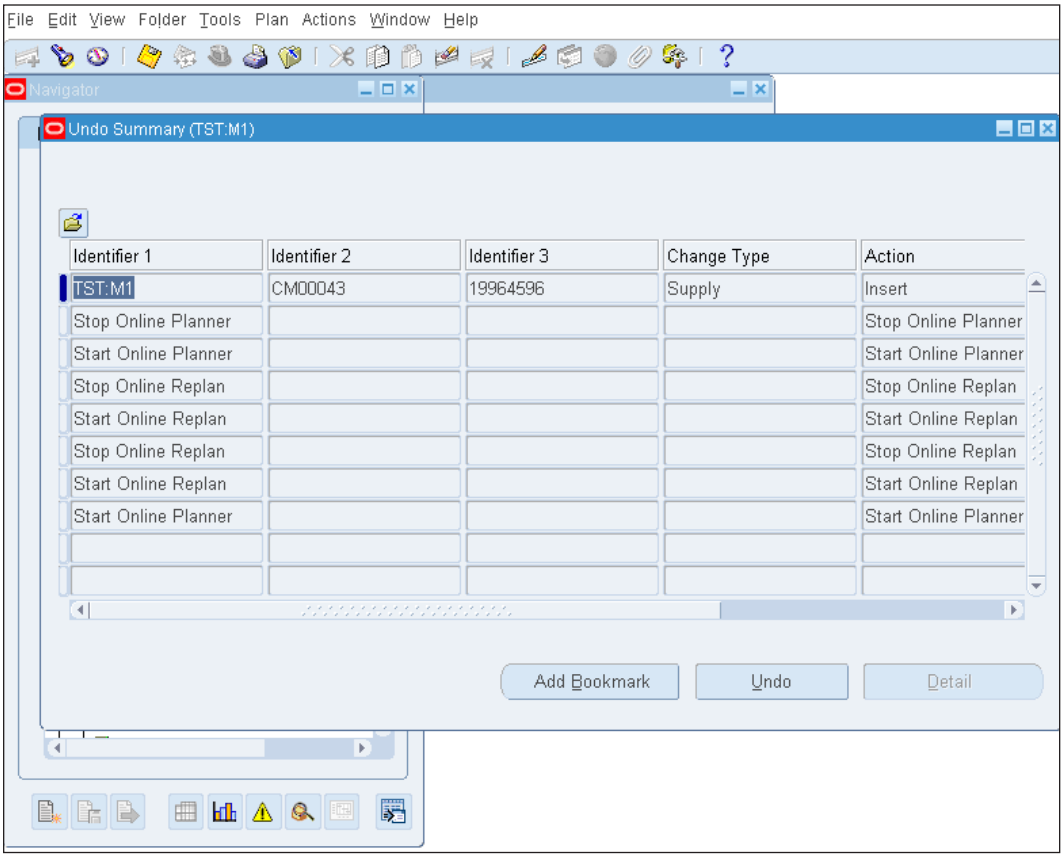


Now we add a new planned order in the supply screen and we will again run the batch re-run process.

Add a new planned order

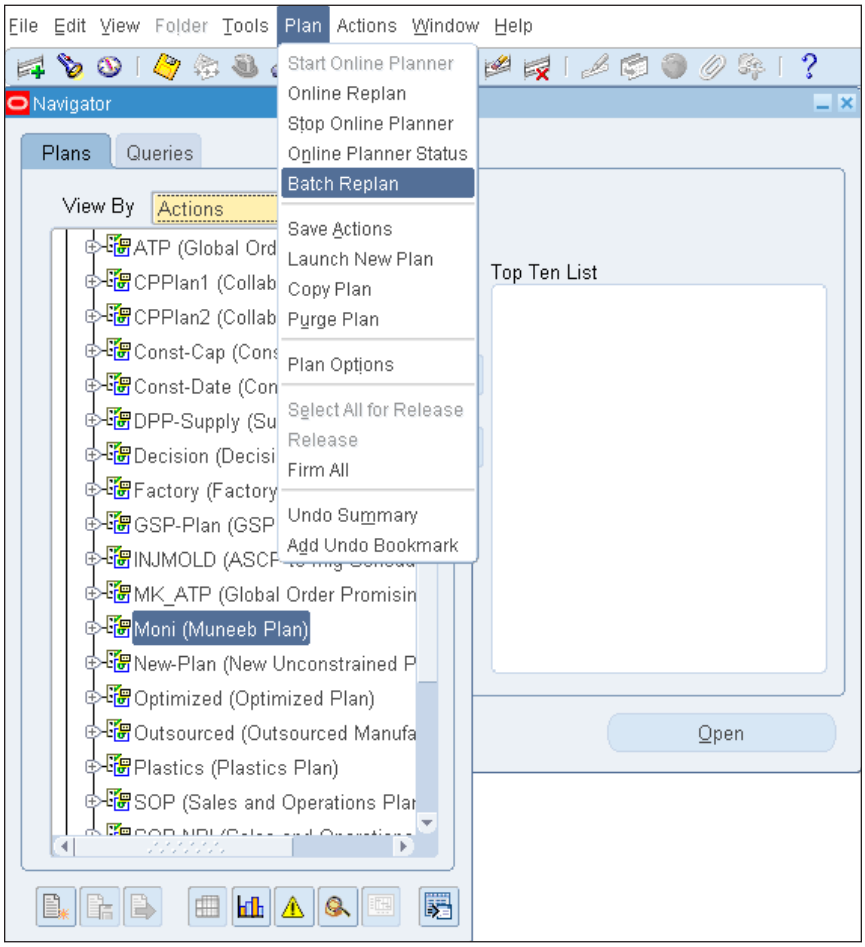


Now after entering the planned order with quantity in the supply screen, we will go to **Undo Summary** again to review the changes that we have made in the supply of a particular item.



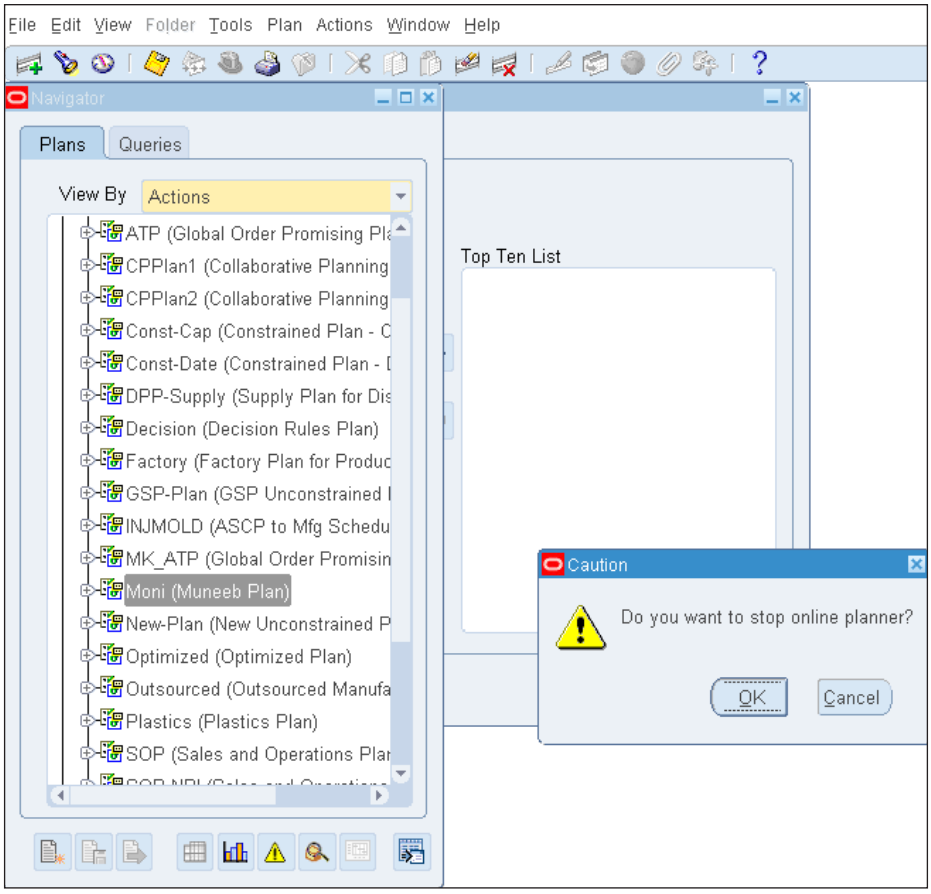
Batch re-run process

After reviewing the summary using the **Undo Summary** screen, we will navigate to **Batch Replan** and run the request for the batch again.



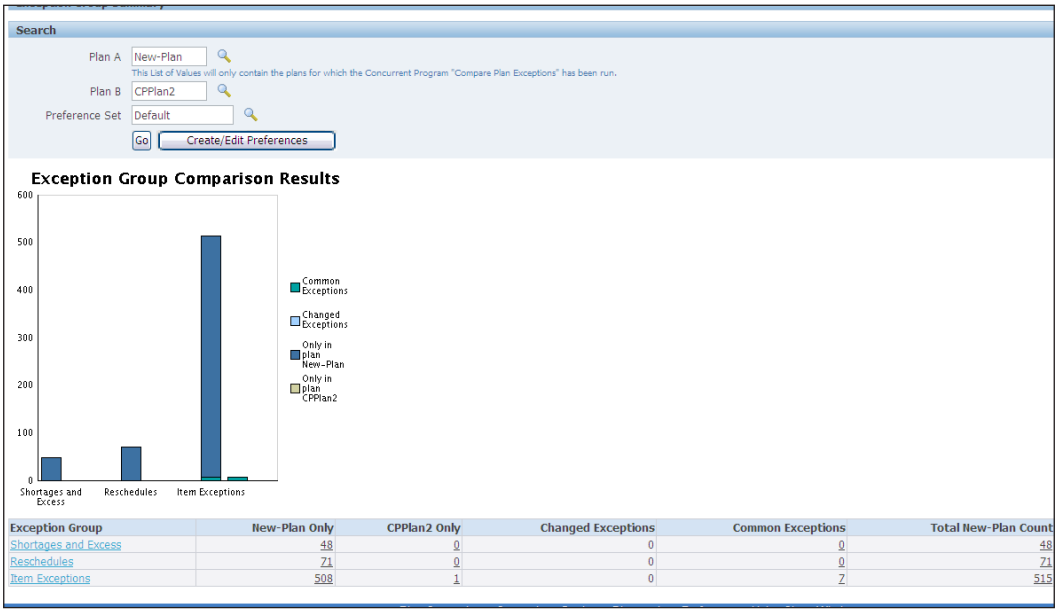
Stop the online planner

After re-running the batch plan request we will now stop the online planner.



Comparison report

Run the Comparison report between the newly created plan and the previous plan to see the difference.



Exception Group	New-Plan Only	CPPlan2 Only	Changed Exceptions	Common Exceptions	Total New-Plan Count
Shortages and Excess	48	0	0	0	48
Reschedules	71	0	0	0	71
Item Exceptions	508	1	0	7	515

Oracle Advanced Supply Chain Planning exceptions

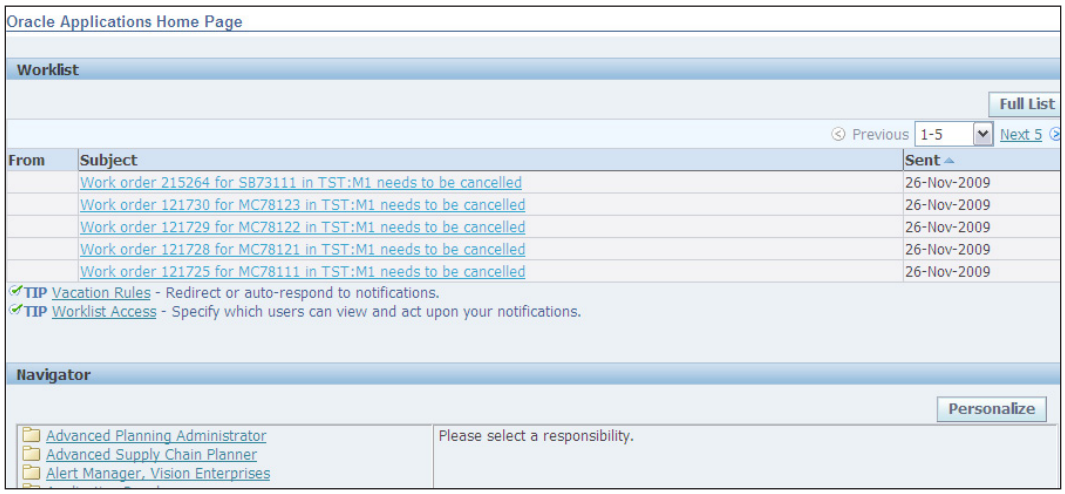
On the basis of plans and collection, Oracle ASCP throws exception messages. These exceptions are normally system-generated alerts, which are considered to be recommendations from the Planning Engine.

The planning server only throws exceptions for those items on which we have previously assigned an exception set.

Some common exceptions are:

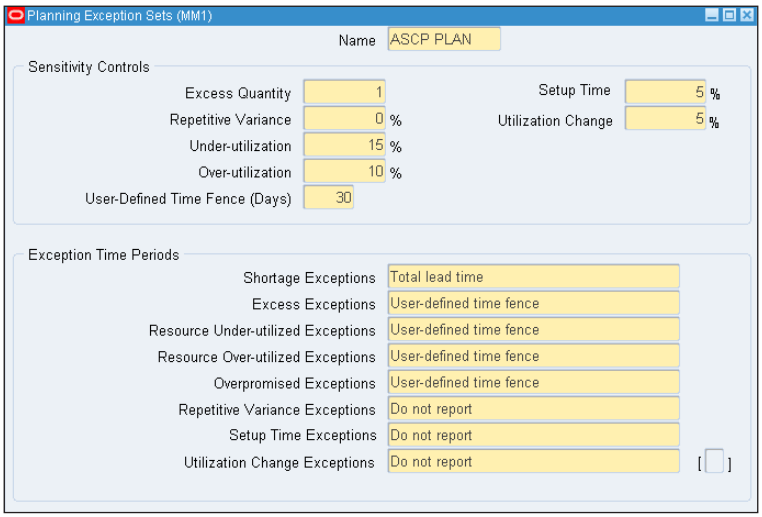
- Item with excess inventory
- Item with expired lots
- Item with no activity
- Late replenishment for sales order
- Early replenishment for sales order

- Order to be cancelled
- Orders to be rescheduled
- Order sourced from alternate supplier
- Demand satisfied using end item substitution



Planning exception sets

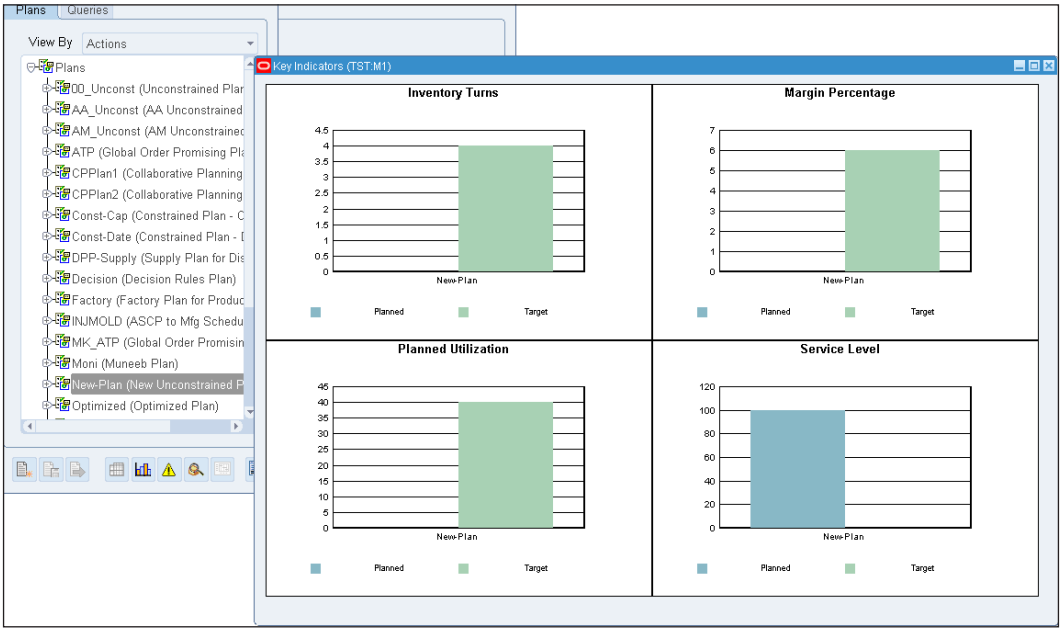
Using Oracle ASCP, we can make planning exception sets so that we can group the exceptions as per our convenience. We can create as many planning exception sets as we want, on the basis of our requirement, using the exception set form.



Assign the newly created exception set to items and resources, only for those items and resources with an exception set assigned with them.

Key Performance Indicators

Key Performance Indicators (KPIs) are a set of targets and exceptions which we set in Oracle Advance Supply Chain Planning. It automatically updates and notifies us when certain conditions meet.



In Oracle Advance Supply Chain Planning, KPIs are used to compare the plan. Some common KPIs in Oracle ASCP are:

- **On-time delivery**:

  Customer on time delivery and late order Key Performance Indicator works on the following logic.

  Subtract the number of late orders from the total number of orders in the system. Multiply the difference by one hundred and divide the result by the total numbers of the orders.

  *{(Total number of orders - Number of late orders) * 100} / Total number of orders*

- **Inventory turns**:

  Inventory turns work on the time range basis considering the initial time T1 and final time T2.

  The total inventory turns annually equals the value of MDS in between the period of T1 and T2, divided by the value of the average inventory in the period of time range T1 and T2. This is multiplied by the annual number of days (that is, 365) and divided by time period difference T1 and T2.

  *Total Inventory Turns = the Value of MDS demand in the period [T1, T2] / Value of Average inventory in Period [T1,T2] * 365 / (T2-T1)*

- **Cost breakdown**:

  The cost breakdown Key Performance Indicator is the sum of the following cost factors.

  - **Production cost**: Production cost is the sum of resource time into the resource cost in the organization.
  - **Inventory carry cost**: Inventory carry cost is the average inventory of period into the percentage of carry cost.
  - **Penalty cost**: Penalty cost is the late demand cost into the difference of demand satisfied rate and requirement rate into quantity demanded and multiplied with item price.
  - **Purchasing cost**: Purchasing cost is the sum of list price into the supply quantity against the purchase order. If the items do not have the list price available then the standard cost of items will be used.

Summary

In this chapter we understood the purpose of Oracle Advanced Supply Chain Planning (ASCP). We saw how demand and supply are managed using Oracle ASCP and how to balance the purchase, production, and sales using Oracle ASCP Suite. We also saw what is the logic behind the Oracle ASCP Planning Engine, how different types of Plans for production and distribution can be made in Oracle ASCP, and how they are managed using the Planner Workbench. We had a look at the design and architecture of Oracle Advanced Supply Chain Planning as well as at the end-to-end process of Oracle ASCP and the step-by-step setup of Oracle Advanced Supply Chain Planning.

4
Overview of Oracle Order Management

Oracle Order Management is one of the most important parts of Oracle E-Business Suite. Using Oracle Order Management we can create and maintain different types of orders. These orders can be created in Oracle Order Management Suite as well as in some other front-desk application. We can integrate these applications with Oracle Order Management for keeping a controlled track of orders and proper business flow. Using Oracle Order Management, different types of orders can be created. These orders can be for inventory items as well as for services. Using Oracle Order Management, these orders can be reviewed and maintained in **Order Management Workbench** (**Order Organizer**). In this chapter, we will take a look at the following:

- Process flow of Oracle Order Management
- Integration with other Oracle modules
- Setting up Oracle Order Management
- End-to-End process of Oracle Order Management
- Summary

The key functionalities of Oracle Order Management

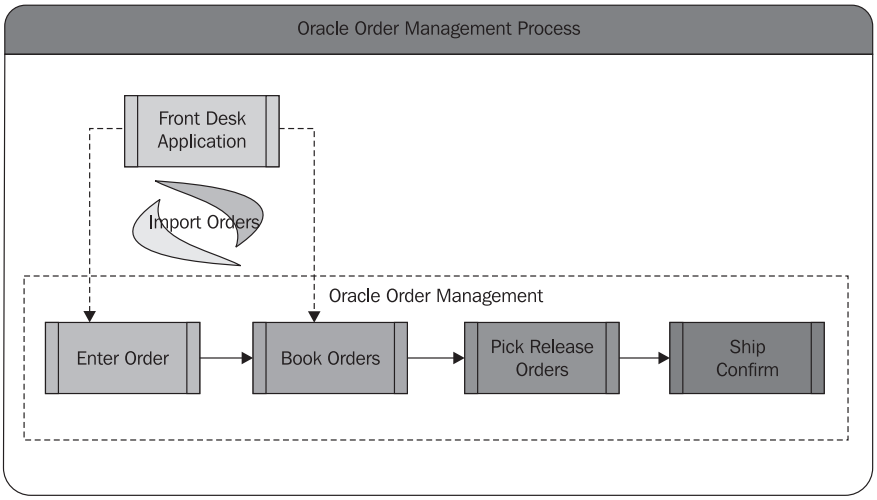
The key functionalities of Oracle Order Management Suite are as follows:

- Using Oracle Order Management, we can create and maintain sales order
- We can maintain internal orders, which are for fulfillment of needs within the organization

- Oracle Order Management enables us with the functionality of back-to-back orders
- Using Oracle Order Management, we can create orders in other front-desk applications and can import sales order
- We can enter returns against sales orders in Order Management
- Using the Oracle Order Management Workbench, we can create a new sales order, enter a new quote, open an existing sales order, and make amendments

Oracle Order Management process

Order processing in Oracle Order Management initiates when an Order is created in Oracle Order Management or we import an order from other integrated sales applications. These orders from integrated sales applications can be of booked or unbooked statuses, on which further processing can take place according to the following process flow.



Creating a sales order

In this phase we create a sales order using Oracle Order Management. The order creation process consists of some basic information, as follows, which must be provided at the time of order creation:

- Order type
- Customer name and location
- Payment terms
- Currency
- Sales person
- **Freight On Board** (**FOB**)
- Price list
- Item
- Customer **Purchase Order** (**PO**) number
- Book sales order

After an order is entered in the system, we can book the order. For booking an order we need some information such as:

- Price list
- Items
- Payment terms
- Order type
- Sales person
- Inventory organization
- Customer

This valid information should be there to book an order. If there is any information missing, then the Oracle sales order form prompts that in the form of an exception and upon proper recording of all the fields on the form, the order is booked.

Using the sales order screen, we can also enter a sales return in Oracle Order Management. A return should be negative in quantity so that it will be considered as returns.

Pick Release

After an order has been booked in Oracle Order Management, it is time for us to communicate to the inventory/warehouse regarding the order and quantity, which should be picked against the sales order; therefore, in order to communicate we run Pick Release.

In Oracle Order Management, we can create individual pick slips as well as grouped pick slips. In individual pick slips, against every sales order a pick slip will be generated by Oracle Order Management; and in grouped pick slips, a batch is created for every selected item that is released.

Ship Confirm

When the orders that we have created are dispatched from the warehouse, then we run the Ship Confirm process. As we can guess from its name, it is the confirmation that ordered items are shipped to the customers against the sales orders.

Integration of Oracle Order Management with other modules

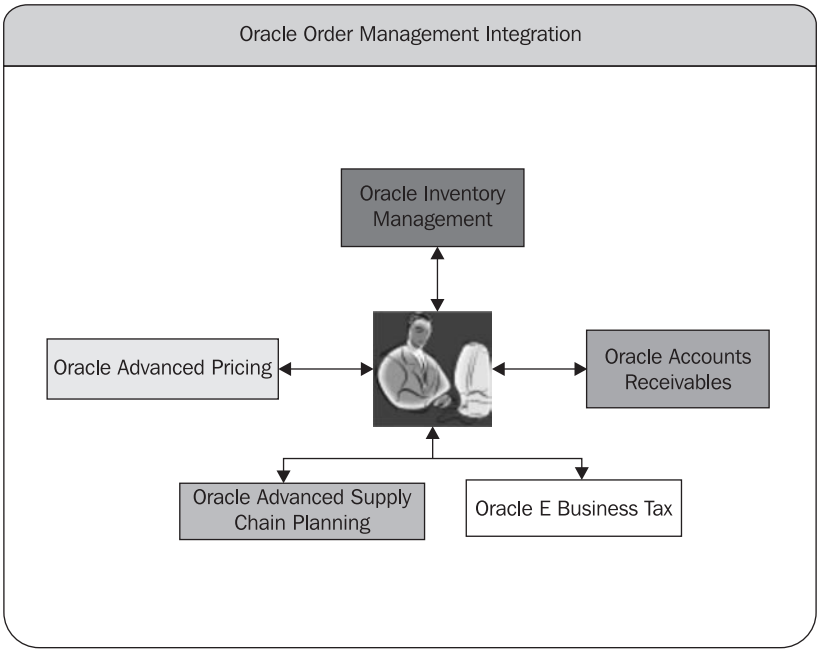
Oracle Order Management fully integrates with other Oracle E-Business Suite modules. The following are the modules that are integrated with Oracle Order Management Suite:

- **Oracle Inventory Management**: Oracle Order Management Suite is fully integrated with Inventory Management. An example of an integration point is when we create a sales dispatch from inventory against sales orders. Inventory management reserves the quantity that is booked against orders, and when we receive sales returns against orders, they are also captured in Inventory Management Suite.
- **Oracle Advance Pricing**: Oracle Order Management Suite is fully integrated with Advance Pricing. Using Advance Pricing the price list for an item is picked at the time of booking the order. The pricing engine reads and verifies the price against items and calculates using modifiers and shows the unit price on the sales order form.
- **Oracle Accounts Receivables**: Oracle Order Management Suite is fully integrated with Accounts Receivables. Sales invoices are created against sales orders in accounts receivables. Invoices are interfaced using the auto-invoice program. Advances against sales orders can also be received and maintained in Oracle Accounts Receivables.

- **Oracle E-Business Tax**: Oracle Order Management Suite is fully integrated with Oracle E-Business Tax modules. The sales tax is created in **E-Business Tax** (**EBT**) and is applied to sales orders. Using EBT, we can create different types of sales tax having different tax rates and conditions to apply.

The following are the other modules integrated with Oracle Order Management Suite:

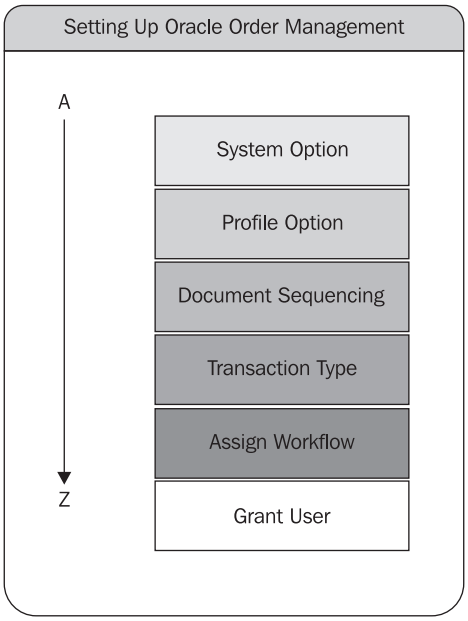
- Oracle Bill of Material
- Oracle Purchasing
- Shipping Execution
- Trading Community Architecture



Setting up Oracle Order Management

In order to set up Oracle Order Management, there are some mandatory and optional steps. Most of the information that is required while setting up Oracle Order Management is shared through other modules. Some common features include the following:

- Inventory organization
- Key and descriptive Flexfields
- **Unit Of Measure** (**UOM**)
- Price list
- Customer
- Picking rules



System options

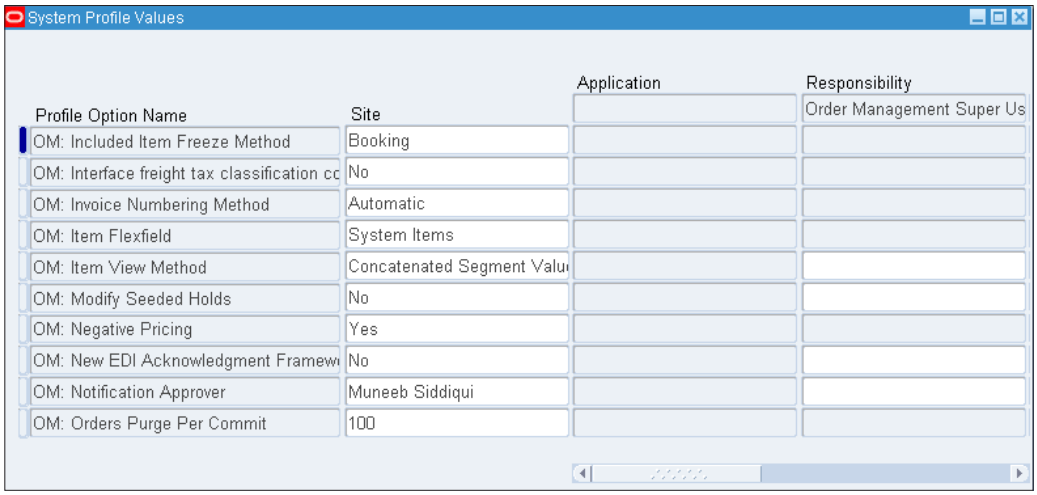
System options are the key values that are used for setting up Oracle Order Management Suite. These parameters contain a list of values that should be used as per our business requirement. We can see some common parameter values in the following figure:

Oracle Order Management System Options	
Parameter	**Values**
Default Order Type	Default Sales Order
Default value for Action - Copy Complete Configuration	
Enable Freight Ratings	
Enable Fulfillment Acceptance	
Enable Recurring Charges	
Enable Retrobilling	
Enable Ship Method	
Firm Demand Events	
GSA Violation Action	
Initiate Credit check at Cancellation	
Installment Options	
Inventory Item for Freight	
Invoice Freight as Revenue	
Invoice Source	
Invoice Transaction Type	Standard Invoice
Item Validation Organization	Item Master Organization
Requestor For Drop Ship Orders Created By External Users	
Reschedule with Request Date Change	
Reschedule with Ship Method Change	
Reservation Time Fence	
Retrobill Reason Code	
Schedule Line On Hold	
Show Discount Details on Invoice	YES
Transaction Date for Inventory Interface Non Ship Process	

Profile options

Profile options are the system profiles that we assign as per our requirement. These profiles fulfill critical business requirements. We can use these profiles on four different levels, as follows:

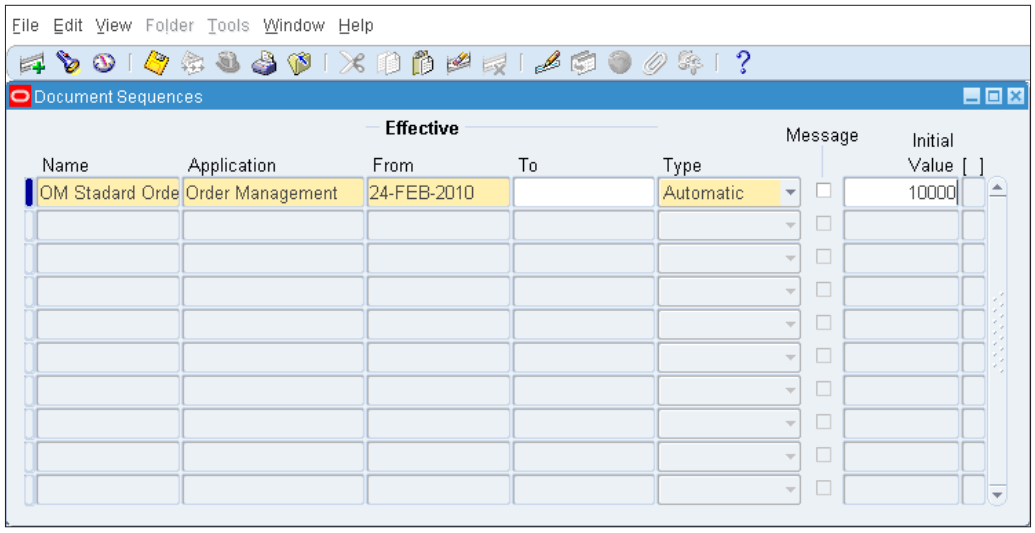
- **Site**
- **Application**
- **Responsibility**
- **User**



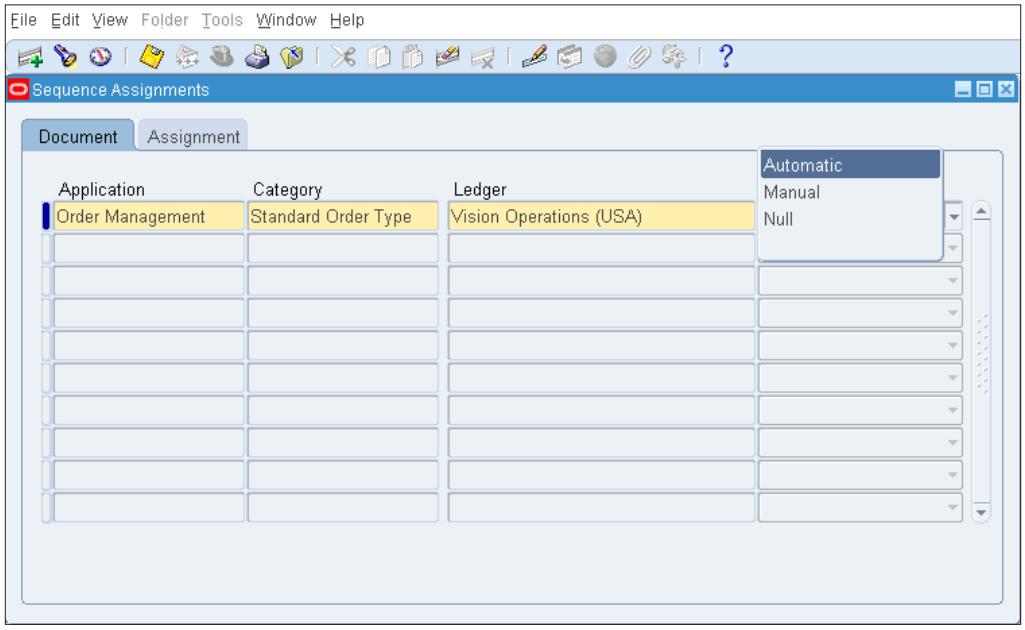
Document sequence

Document sequence is used for generating sequential number for orders. Using the document sequence an automatic document sequence number will be generated. These document numbers are user defined. We can identify from where new document sequencing should take place and where it is going to end. Also, we can have a unique number sequence for a particular time period.

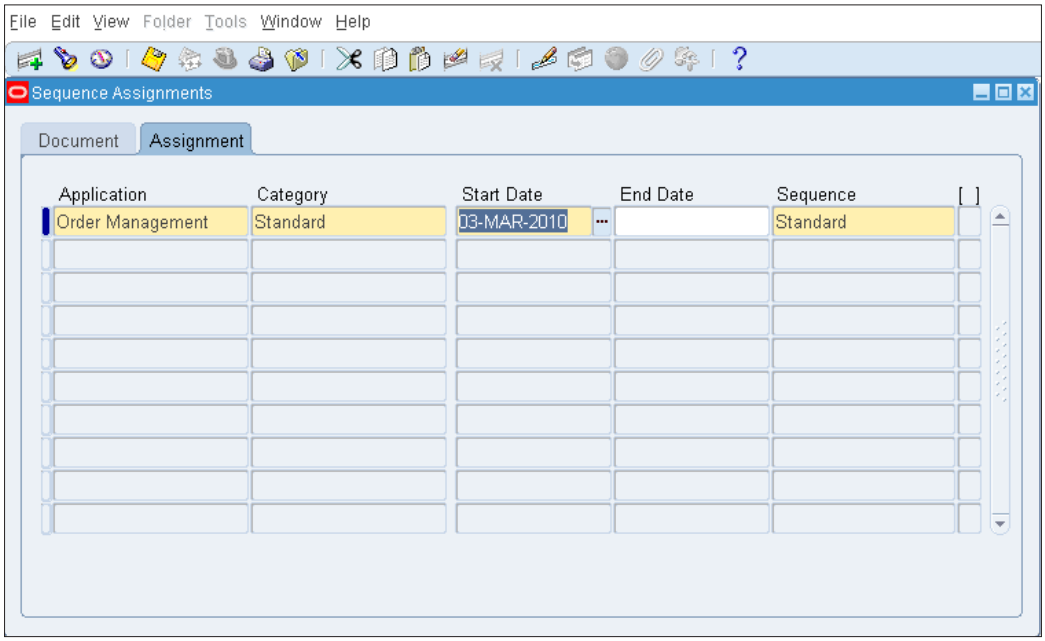
Using the document sequence, we differentiate our document sequencing for sales order documents. We can assign these document sequences to particular transaction types. Each transaction type has its own document sequence numbering.



In the **Name** field, we will give a unique name for the number sequence. Select the application for which the document sequence will be working, and enter start and finish dates from when to when this sequence will be applicable. If we want to keep this document sequence for an unspecified period, then we will keep the **To** field blank. For automatic number generation, select the **Type** as **Automatic**.



For the assignment of the document sequence, we will again select **Order Management** in **Application** field, which we have selected at the time of defining the new sequence. In the **Category** field, we will select the order type for which we require the document sequence. In the **Ledger** field, select the ledger and select **Automatic** in the **Method Type** field.



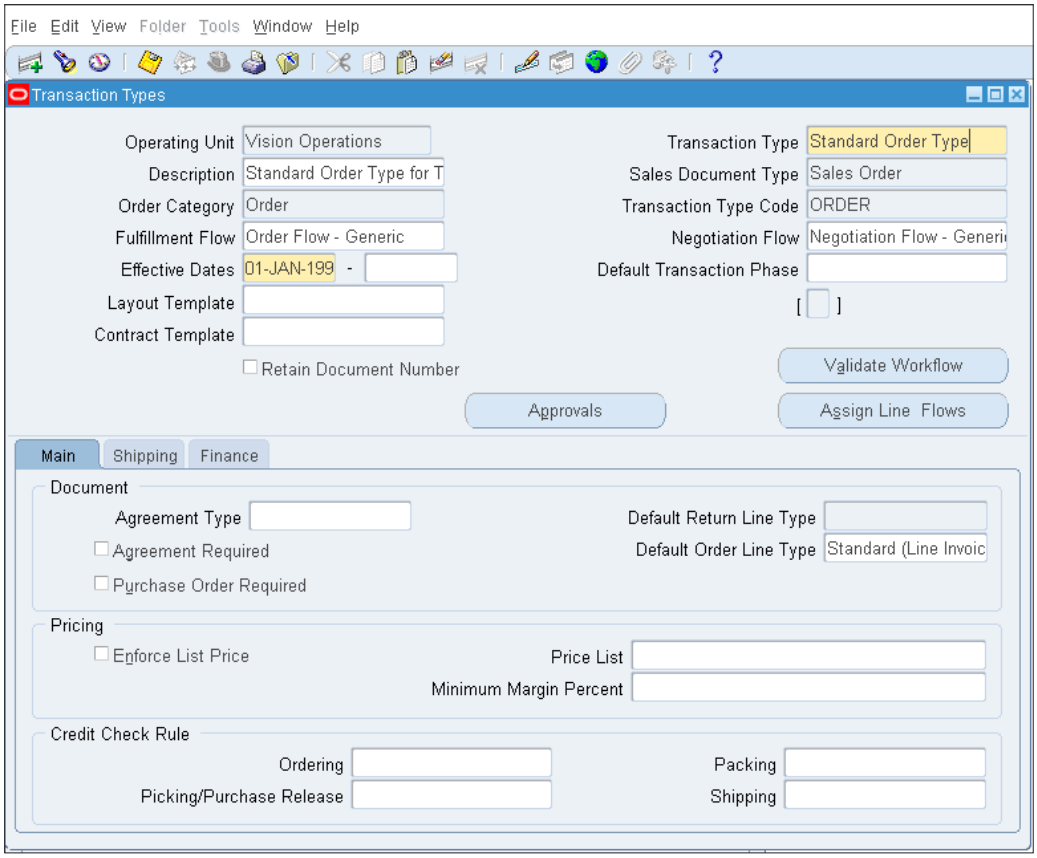
Under the **Assignment** tab, we will again select the sequence that should be used for the transaction type and the **Start Date** from when this template would be applicable.

Transaction type

We use transaction types to manage different types of sales order. These transaction types can be according to business requirements (how we want to differentiate our orders). There are various options for which we can classify a new transaction type, as follows:

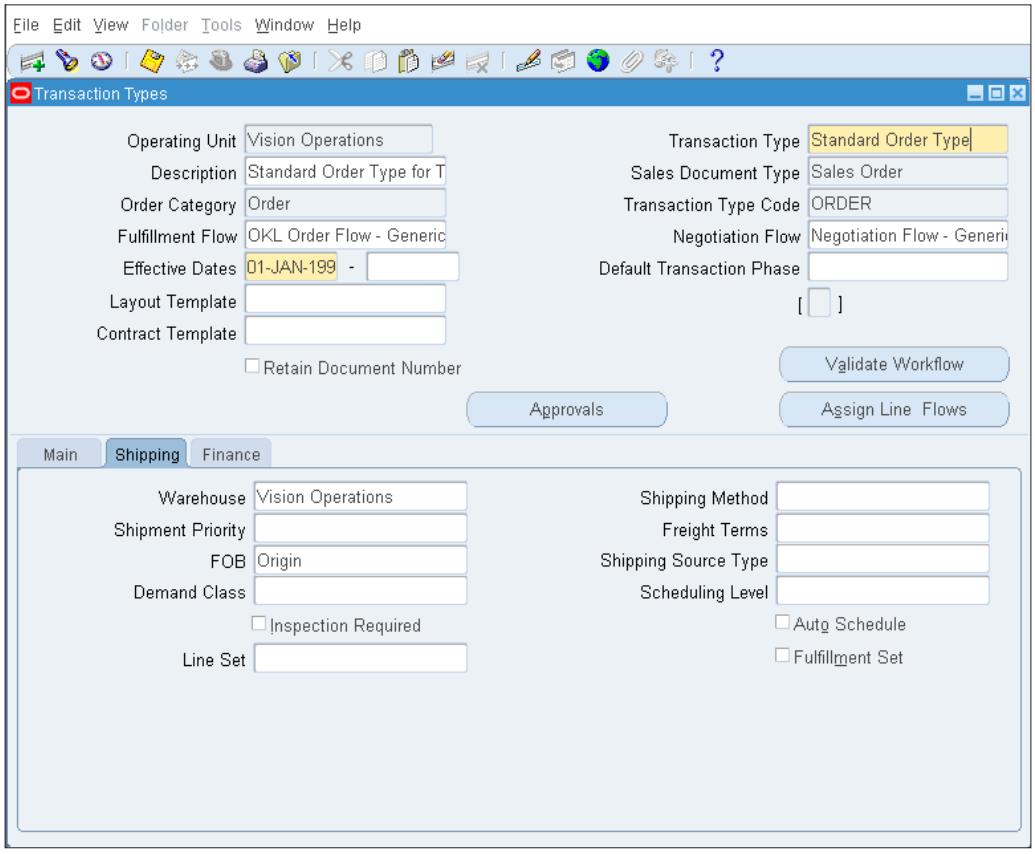
- Export sales
- Local sales
- Territory-based
- Price-based

Workflows are assigned to transaction types. We can assign price lists, payment terms, invoicing rules, and the inventory organization from where the items against the order would be picked and shipped.



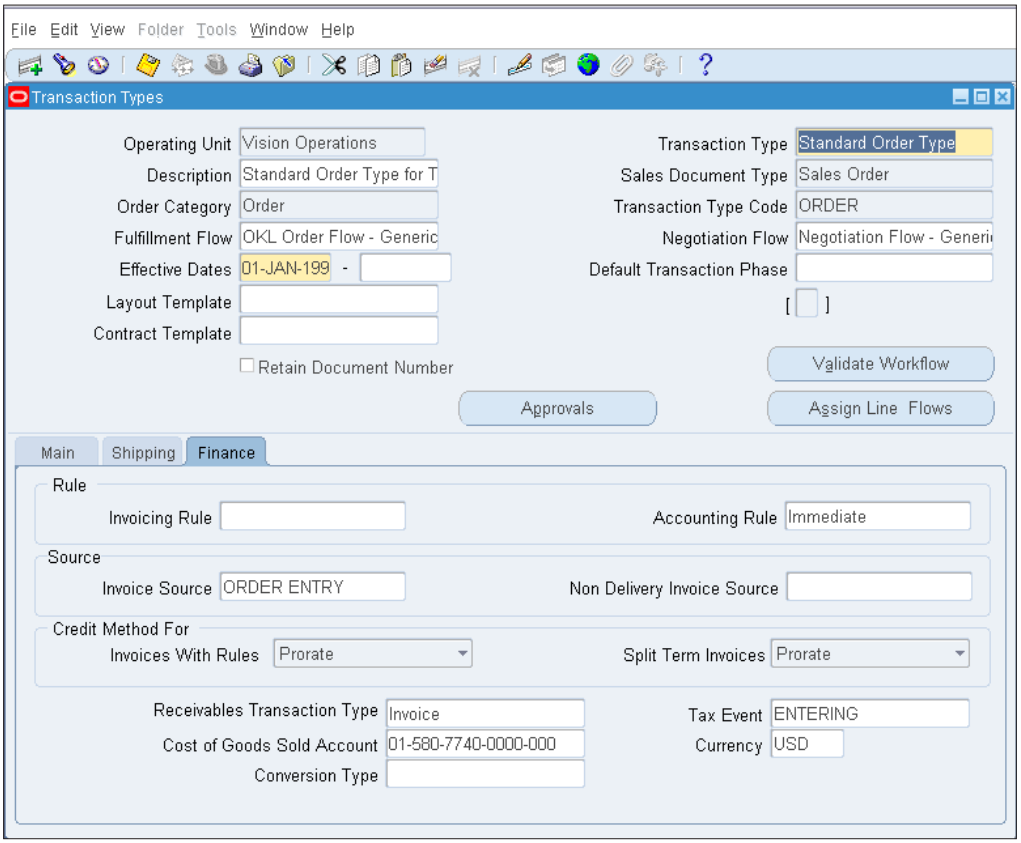
To create a new transaction type in Oracle Order Management, navigate to **Setup** | **Transaction Types**.

Here we will give the name of the new transaction type such as **Standard Order Type** and so on. Now we will attach the Fulfillment Flow and Negotiation Flow to this transaction type. We will also assign an effective date to this transaction type in order to start working from that date. Also, we can assign the price list and the picking rule to this transaction type.



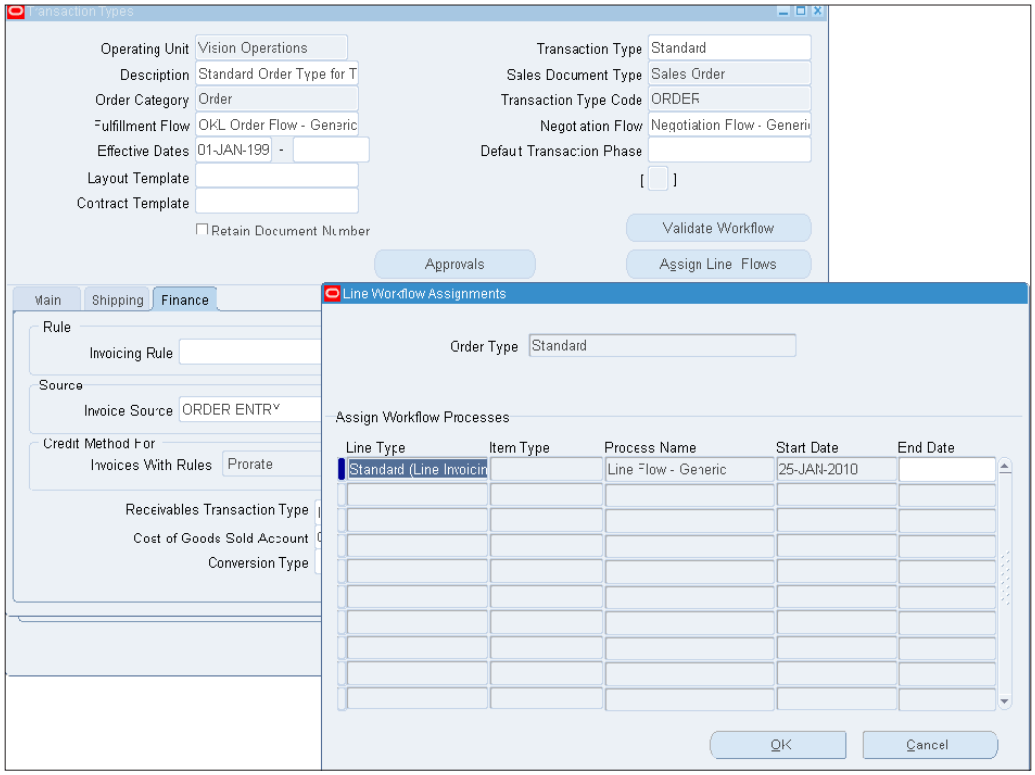
Now under the **Shipping** tab, we will provide the information for the Warehouse from where the inventory should be picked. We can also leave that blank if we have specified that at the picking-rule level or we can specify that at the order-entry level.

We can specify the **FOB** field. We can attach the transaction type freight terms, as well as specify the shipping method at **Transaction Type** level.



Under the **Finance** tab, we enter information that would be required in Oracle Accounts Receivable at the time of invoice creation. We can also specify the account for **Cost of Goods Sold** (**COGS**) at the **Transaction Type** level; else we have the option to pick from the Inventory Organization.

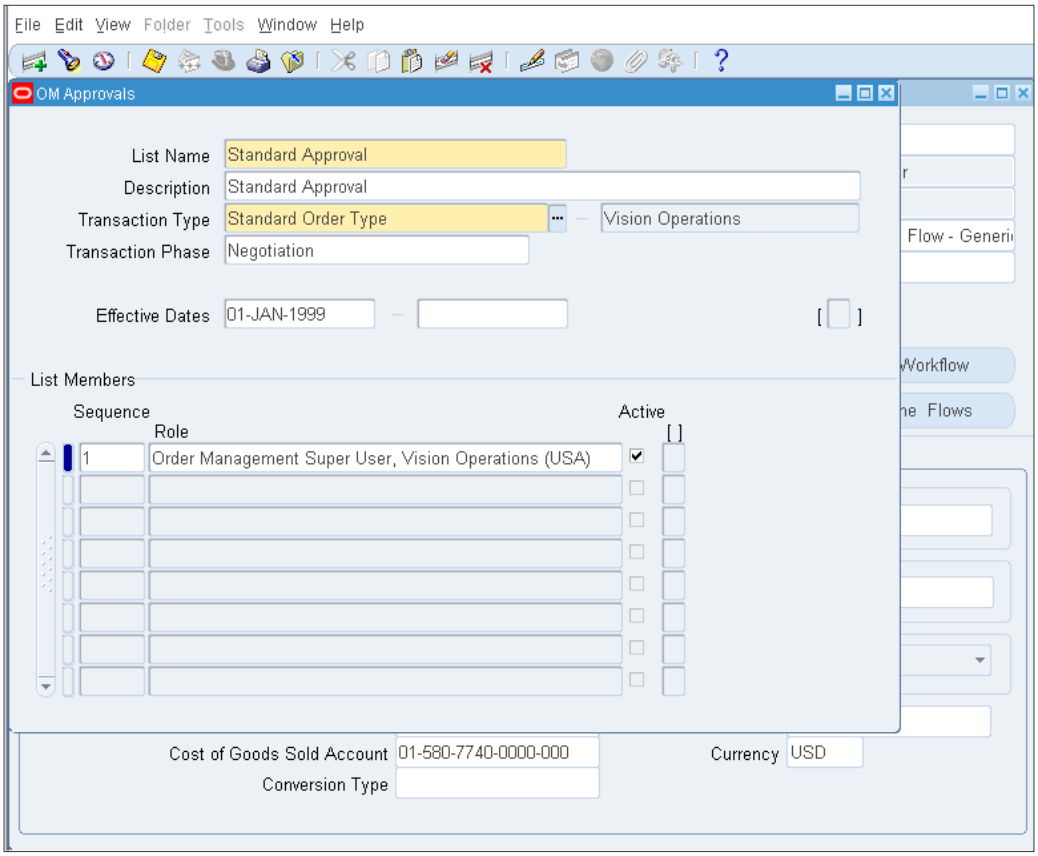
Invoice Source type will be the source type used for invoices interfaced to Accounts Receivable. We can also specify a particular invoicing rule for the transaction type.



Assigning workflow

In Assign Line Flows, we assign the workflow to the transaction type line. These workflows are updateable and we can create a new workflow and disable the previous one by giving it an end date.

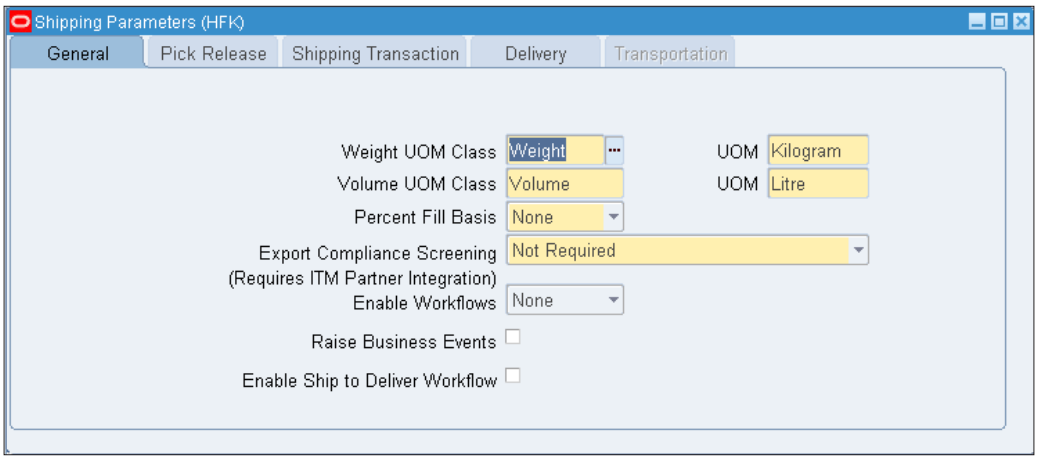
After assigning the workflow, the next step is to allow the approvals for this particular transaction type that we have created, as shown in the next screenshot:



Now in the **Approval** section, we will enter a new approval list name in the **List Name** field and description in the **Description** field. Select the **Transaction Type** for which we are allowing the members to select the workflow negotiation of fulfillment as per requirement. Negotiation flow is a header-level flow, while the fulfillment flow is a line-level flow. If we select the negotiation flow, the values for all the lines will be according to the negotiation as it is at the header level and cannot specify a flow for order lines.

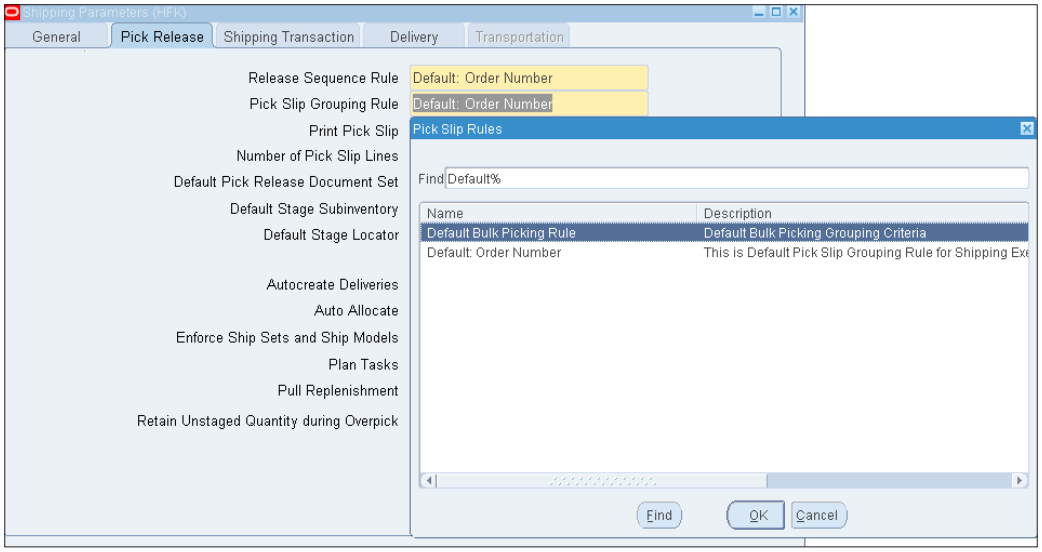
Picking and shipping

Now we have to create the shipping parameter. We will describe what **Weight UOM Class** and **Volume UOM Class** would be. In the same manner, we will specify workflow and Pick Release options, such as what is the stage sub-inventory, how the deliveries would be created, and so on.

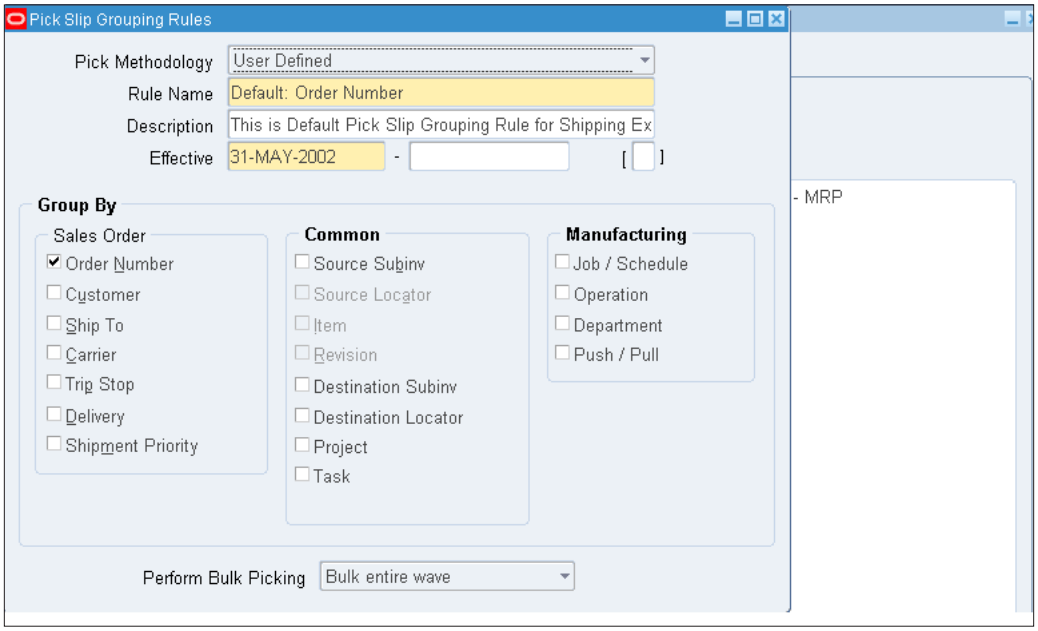


Navigate to **Setup** | **Shipping Parameter**.

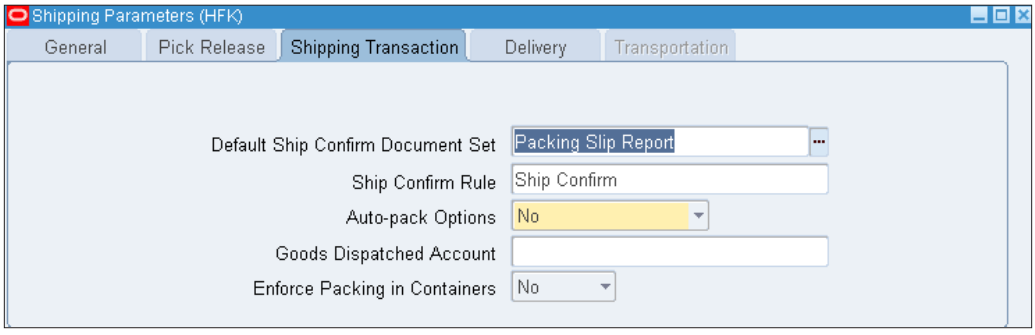
Under the **Shipping Parameter**, we will select the classes for **Weight** and **Volume** and the UOMs of the respective classes.



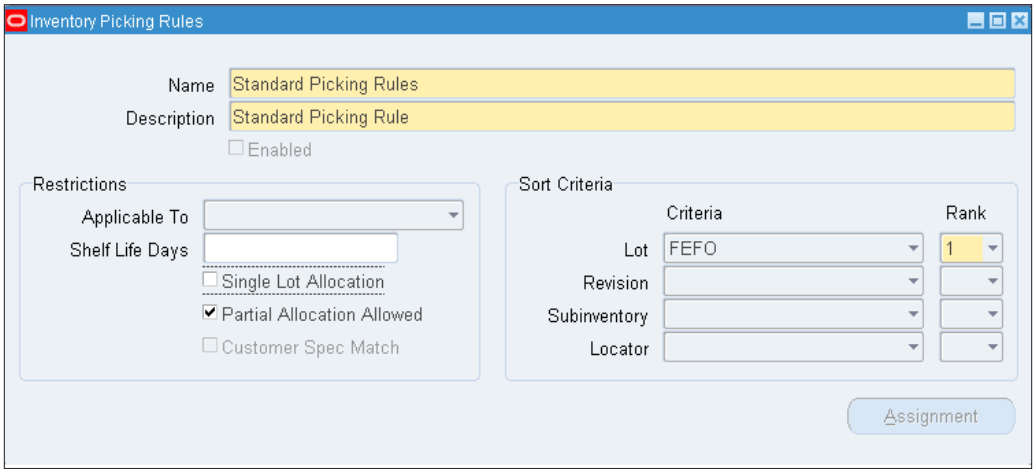
Now in the **Pick Release** section, we will select the **Release Sequence Rule** for orders. Here we have an option for pick slip grouping, using **Pick Slip Grouping Rule** we can control the pick slip generation. We can create pick slips for individual orders or we can generate a single pick slip for a bulk of sales order. We can also define the staging sub-inventory and the options such as manual and auto-create deliveries.



We can also create our own pick rules which we can group by different grouping criteria as seen in the previous screenshot, such as **Order Number**, **Customer**, **Delivery**, **Sub Inventory**, and so on.



Now, under the **Shipping Transaction** tab, we need to attach the shipping rule and the documents that would be generated at the time the "Ship Confirm" takes place in Oracle Order Management.



In Inventory Management, we define these picking rules according to the picking requirement of the organization. These rules elaborate on where the goods are picked from in the warehouse and allocation is created for the sales order. There are many ways we can pick our inventory out from the warehouse. For example:

- Lot numbers
- Sub inventory
- Locator

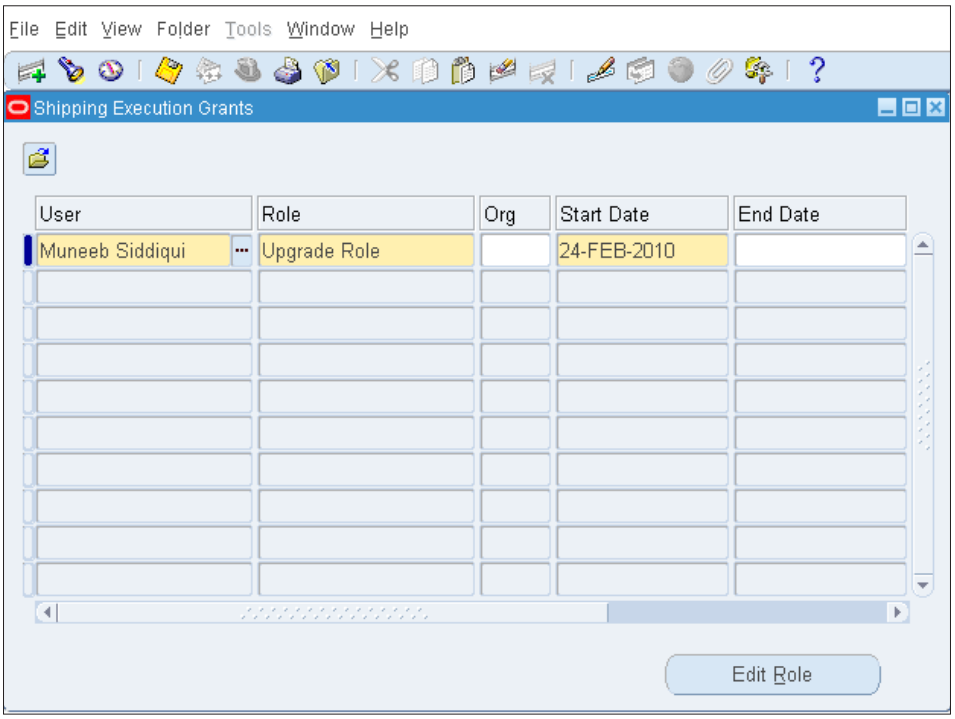
Lot numbering allows us to allocate our inventory in the following ways:

- **FEFO (First Expiry First Out)**
- **FIFO (First In First Out)**
- Ascending Lots
- Descending Lots

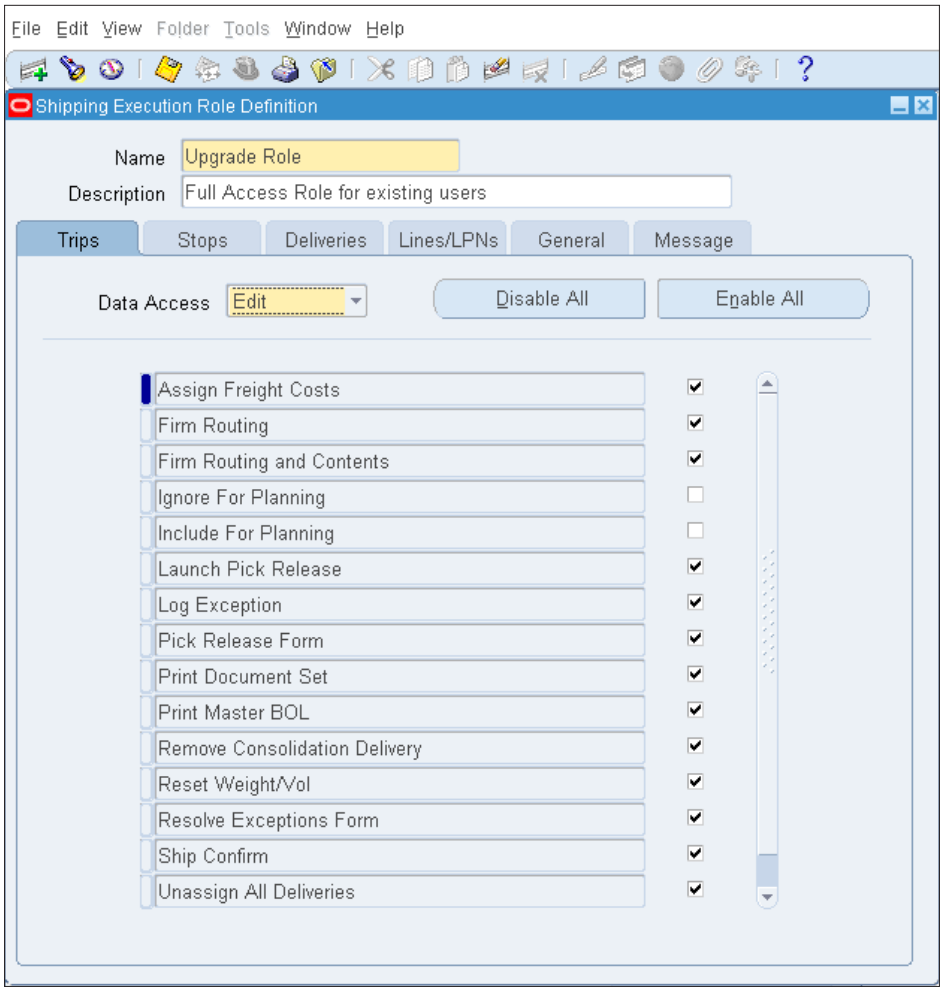
In the same manner, we can allocate the sub-inventories in ascending and descending orders. We can also allocate inventory by item locator. For example, first pick up an item from the ascending locator and then from the descending locator.

Grant Users

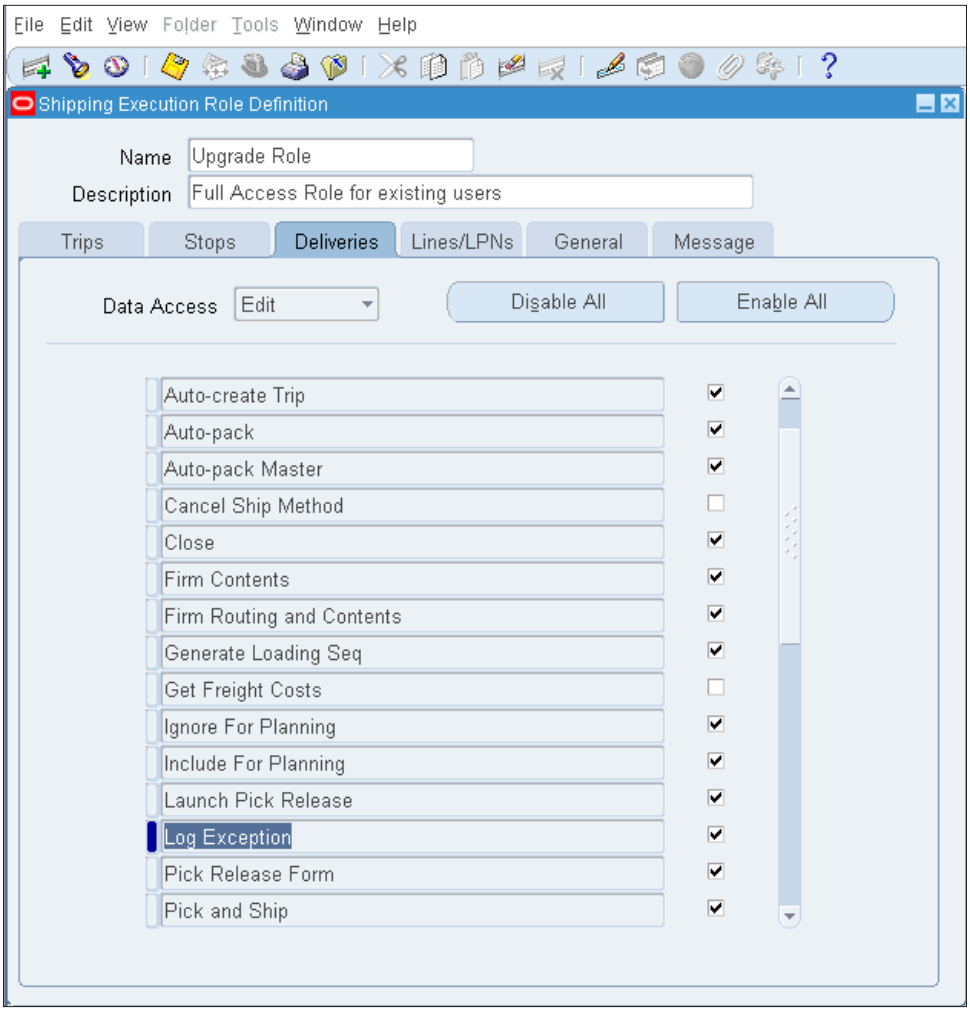
After creating the transaction type, now we have to specify the users who will be accessing this shipping execution form and who can create the Pick Releases, Deliveries, Ship Confirm, and so on. Using the Grant User function, we can assign a super-user grant to a single user as well as control the task according to the assigned roles by editing the assigned roles.



Now, if we do not want to assign the full responsibility to a single user, we can edit this role as per our business process requirement and we can assign single as well as multiple functionality access to a single user. This is possible using the Data Access controls.



Under the **Trips** tab, we can view the list of options that can be granted to our users. For example, the **Launch Pick Release** option will control the rights of creating deliveries. We can also assign and revoke functions using the Grant Control Data Access form.



Oracle Order Management end-to-end process

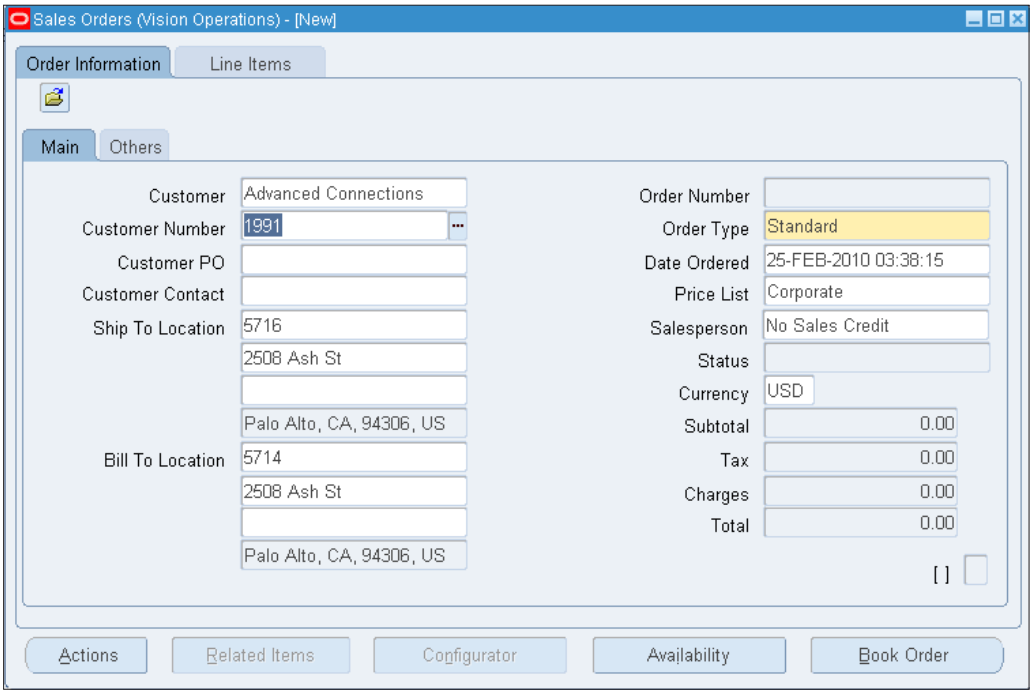
In this section we will see an end-to-end process for Oracle Order Management:

- Enter Sales Order
- Book Sales Order
- Launch Pick Release
- Allocate Move Order
- Transact Move Order
- Ship Confirm

Enter Sales Order

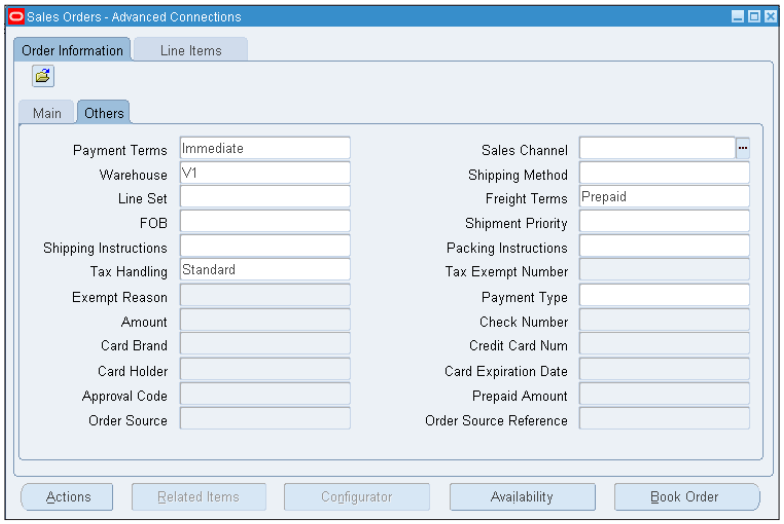
As we have discussed earlier, a sales order can be entered using the sales order form or we can import a sales order from a front-desk or legacy system. Let us create a new sales order using Oracle Order Management sales order form.

Navigate to **Order** | **Returns** | **Sales Orders**.



As shown in the previous screenshot, in the **Order Information Main** tab, we will enter the information that is required for entering the sales order. Select the **Customer** for the sales order, and then select the **Order Type** as **Standard**. In the **Salesperson** field, select the sales person. If there is no salesperson, select the **No Sales Credit** option.

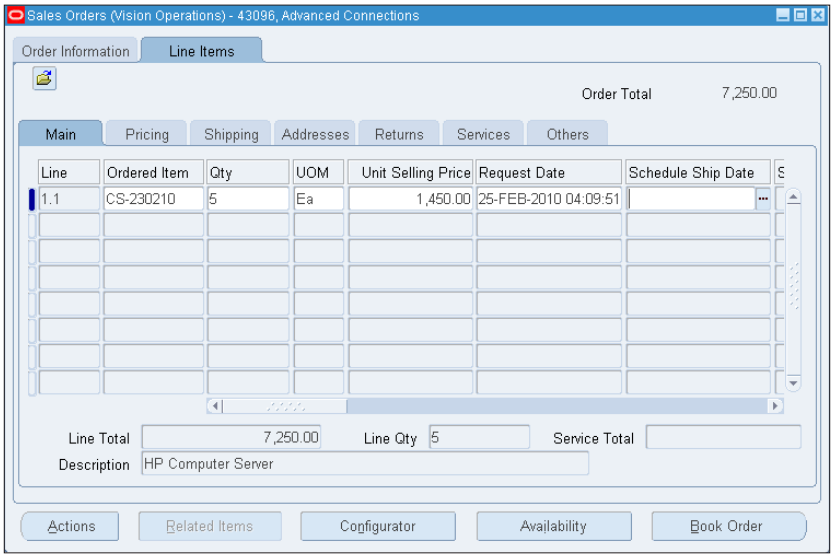
In the **Currency** section, we will select the currency in which we are booking the sales order, after entering the data in the **Main** tab we will now navigate to the **Others** tab for entering more information to the order.



In the **Others** tab, we will enter the extra information that is required for booking the sales order. This may consist of the payment terms on which both the parties—the customer and we—have agreed to buy and sell the goods and services. Other information includes **FOB**, **Shipping Method**, and so on.

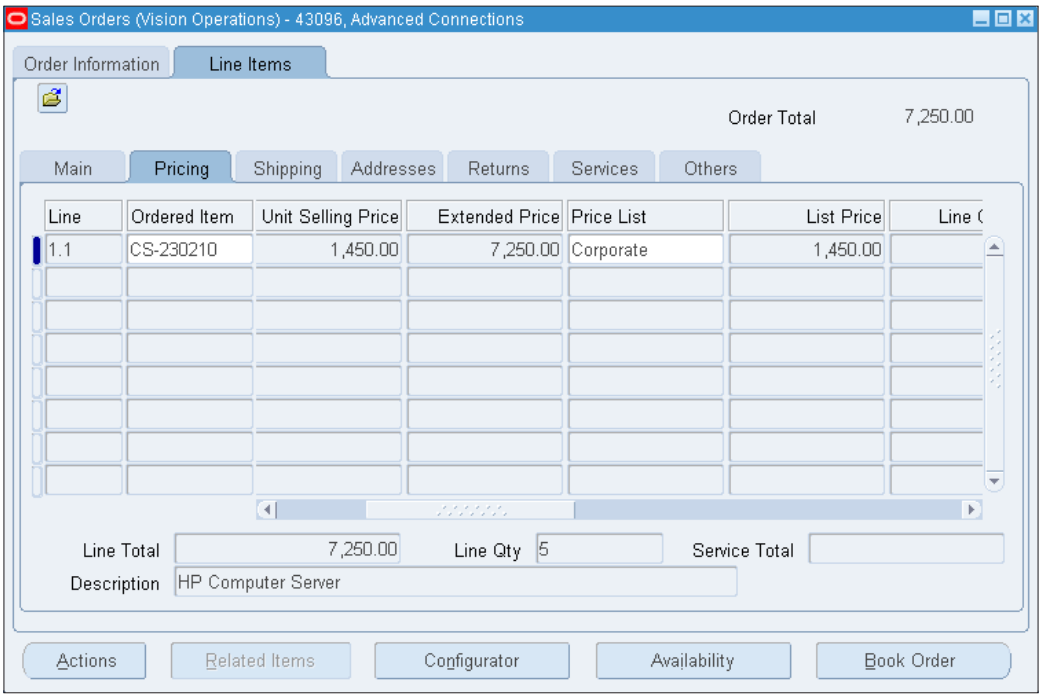
Here we can also define the type of payment in the **Payment Type** field, for example, cash and check; we can specify the check number here.

Now we will navigate to the **Line Items** tab to enter the item, quantity, and price information, as shown in the following screenshot:

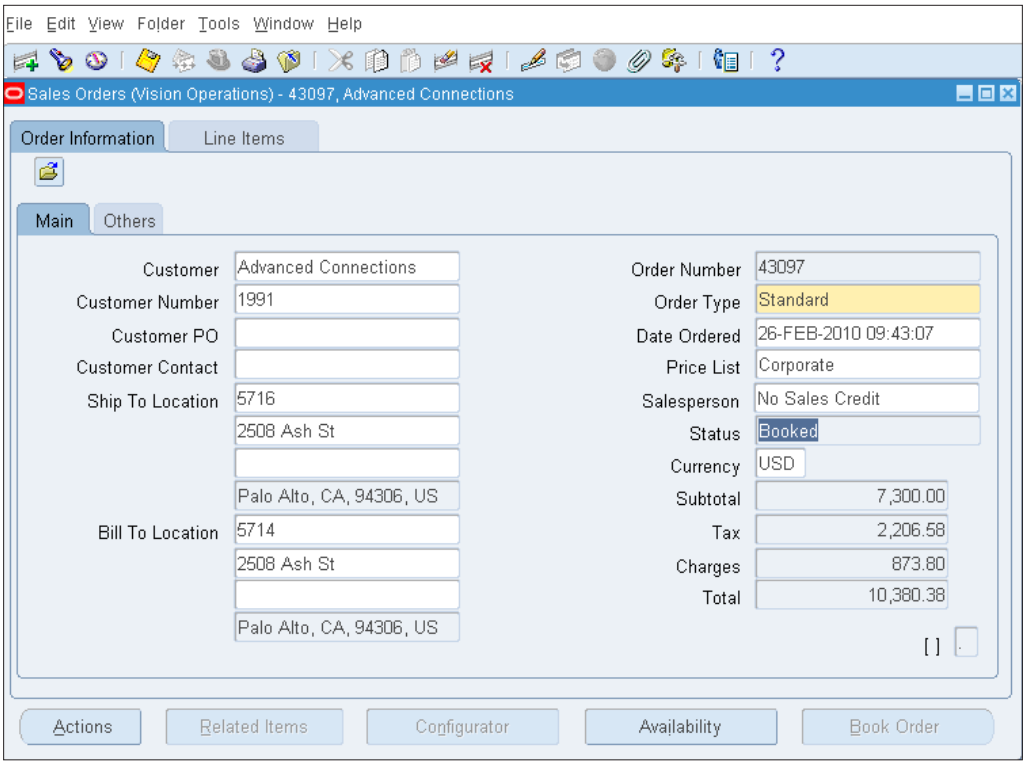


Now under the **Line Items** tab, we will select the **Main** tab where we select the item for the sales order. We also need to enter the quantity of the item. Based on the **Order Type** and **Price List** in the main of order information, the pricing engine will calculate the price of the item.

When we select an item, its UOM will be defaulted based on the setup of the item. The requested date is also defaulted, based on the system date. The **Description** of the item, **Line Qty**, and the **Line Total** is displayed on the form.



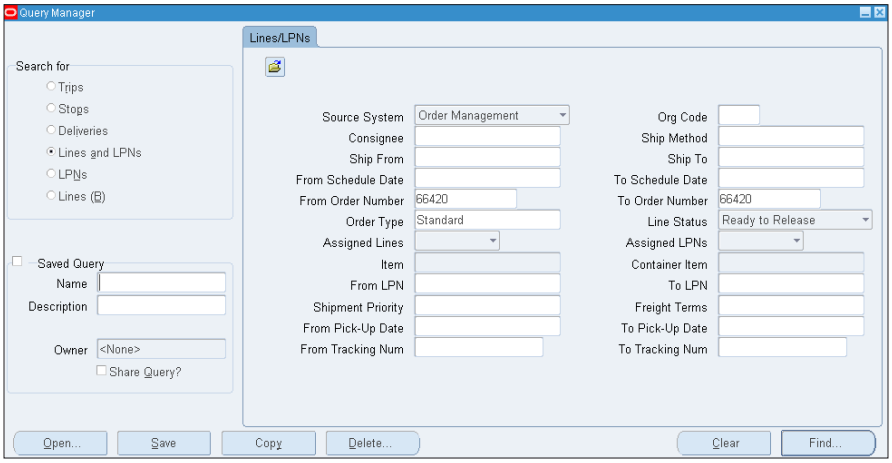
Now under the **Pricing** tab, we will see the **Price List** against which we are calculating the price of the item. We also need the **List Price** of the item, which is maintained at the item level. After entering all the mandatory information in the sales order form, we will book the order. In the following screenshot, we can see the **Status** of the order has now changed to **Booked**.



In this section we have seen how an order is entered, how a pricing engine calculates the price for an item, and how payment terms, customer, and inventory organization are mapped on an order.

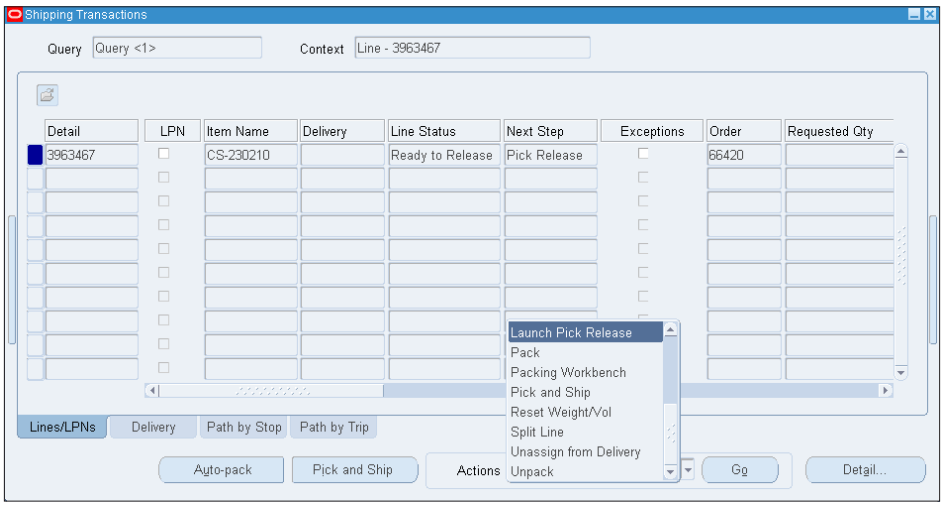
Launch Pick Release

After the order is booked in Oracle Order Management, it is time to inform the warehouse that we have a sales order from our customer and we need to pick and ship the inventory against the sales order.

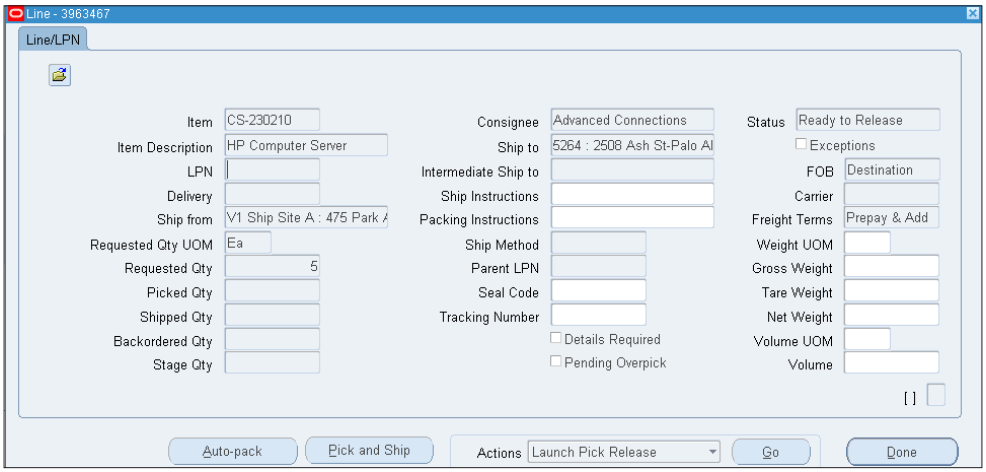


We will navigate to **Shipping | Transactions** and query the order that we have created, using the following criteria:

- Order Number to-from
- Order type
- Line status
- Ship from-to location

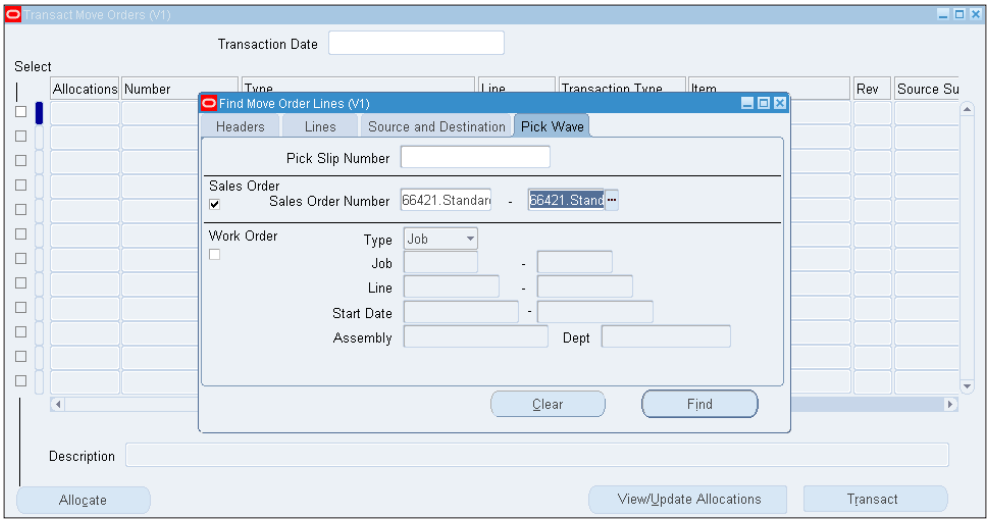


Now, after we query our sales order, we select **Launch Pick Release** from the **Actions** tab. Before launching the Pick Release, we can see the detail and verify our order by clicking on the **Detail…** button.



Also, in the previous screenshot we can see the options that we had selected at the time of creating the sales order, such as:

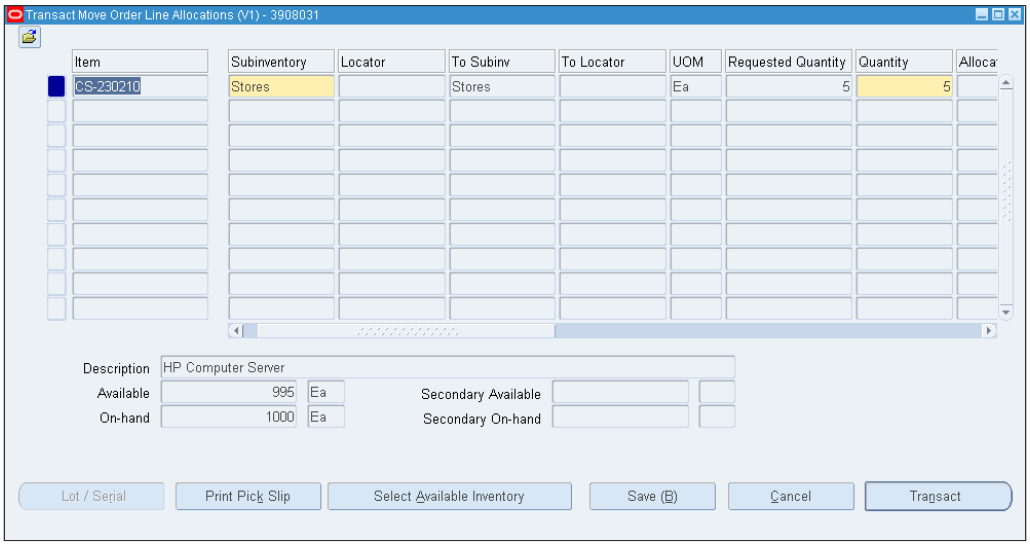
- **FOB**
- **Freight Terms**
- **Item Description**
- **Customer**
- **Qty**



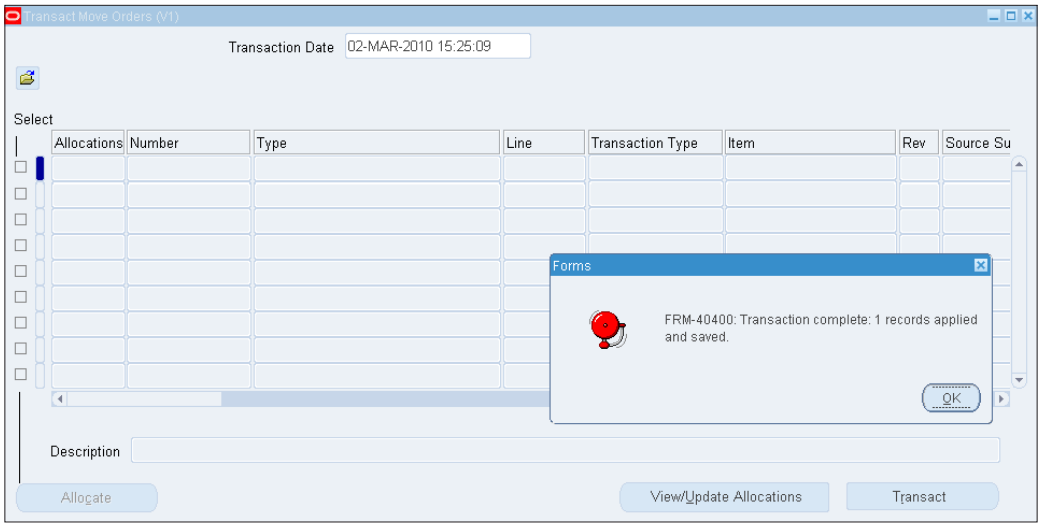
For a sales order, we can create **Allocations**—both manually and automatically. In our case, we are manually allocating the item quantity against the sales order. If we select auto-create allocation in the **Shipping** option, then we do not need to create an allocation here.

As shown in the previous screenshot, for allocation we need to query our sales order under the **Pick Wave** tab. We have to select the **Sales Order** option and enter the **Sales Order Number** there.

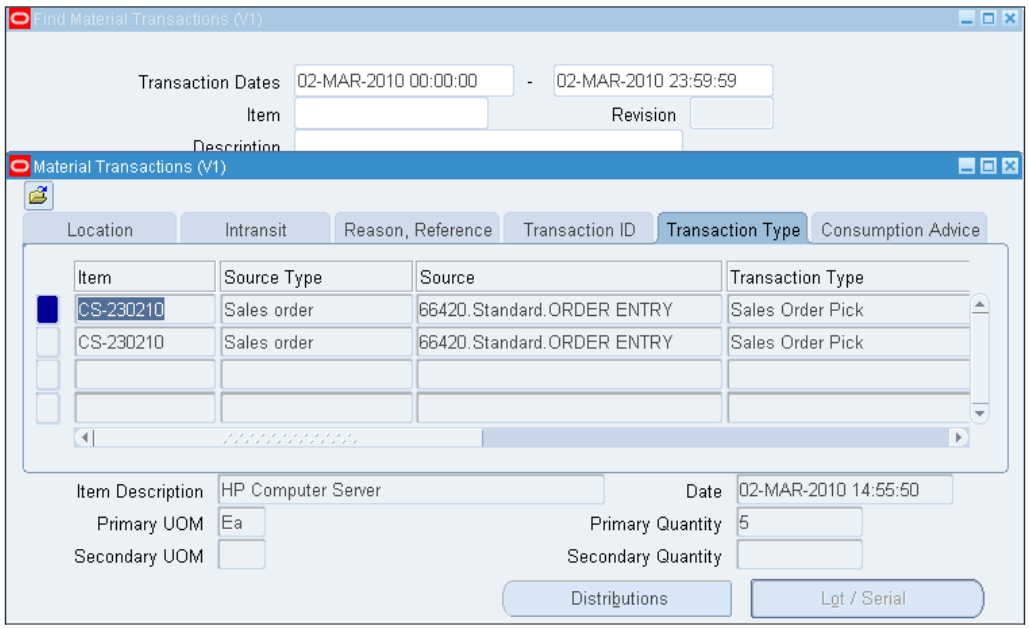
Press the **Allocate** button and the quantity will be allocated against the sales order.



Now, if we need to update the allocation that we have created, we will click on the **View/Update** allocation option and verify if the inventory is picked as per the rule that we have made. We can also select and update the available inventory, we can override the lot and serial (if the item is lot and serial controlled), and we will save the transaction.



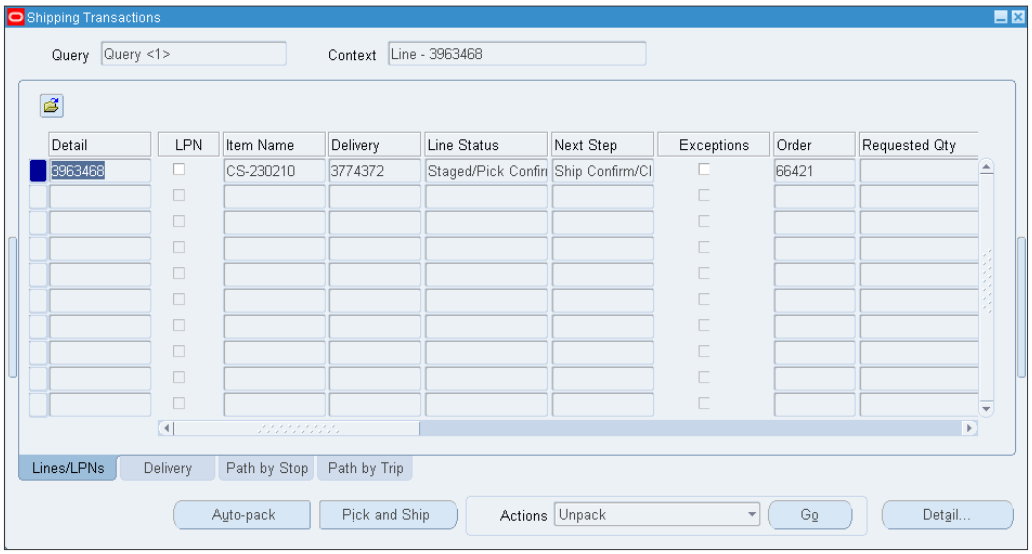
Upon transacting, the move order inventory will be transacted and issued against the sales order. We can verify the item that we have transacted, by viewing the Material Transactions form, as shown next:



Now, the move order quantity will be picked up from the stores sub-inventory and transferred to the staging area. This inventory is picked using the picking rule, which we have created for our sales order.

We can verify the transaction that took place in inventory from **Material Transaction | Transaction Summary**.

Here we can find our sales order using different search criteria such as date, type, item, and so on.

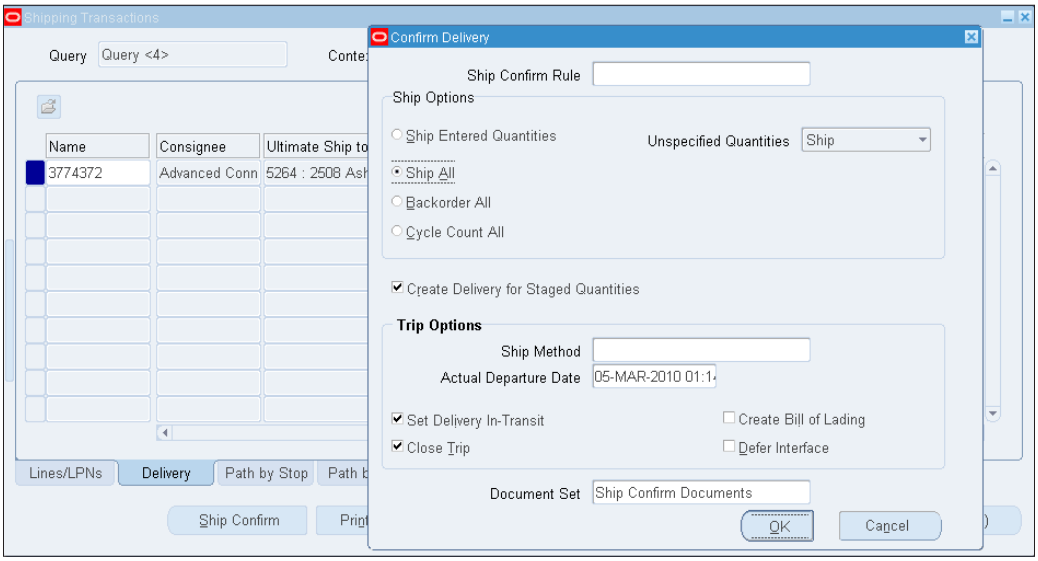


Now if we navigate to **Shipping | Transaction** and query our sales order, we can see the status of the sales order is changed from **Ready to Release** to **Staged / Pick Confirm**. This means that the order is being picked and dispatched from the staging location and will Ship Confirm the order, to confirm that order is shipped and we are confirming using the Ship Confirm process.

Ship Confirm

After transacting the orders from the warehouse, we have to give the confirmation that the orders have been shipped against the sales order. If the order that we have created is dispatched from the warehouse and the quantity is issued from the warehouse, then we run the Ship Confirm process. This is the confirmation that the ordered items are shipped to the customers against the sales orders.

Navigate to **Shipping | Transaction**.



After we Ship Confirm the order, the status of the order will be **Shipped**. Navigating to the order lines will verify if the Trip stop has completed.

Summary

In this chapter, we have learned about the the following:

- Oracle Order Management
- How to set up Oracle Order Management
- What are the core needs for setting up Oracle Order Management that we need to verify
- Dependencies and prerequisites for setting up Oracle Order Management
- The process flow of Oracle Order Management
- The document routing
- How an order flows from its initial state to Ship Confirm

In the next chapter, we will see how procurement is done using Oracle Purchasing Suite. We will see how to create a requisition, request for quotation, and the quotation document in Oracle Purchasing. We will also learn how a purchase order is created with different controls for matching and receiving. At the end, we will run an end-to-end process of Oracle Purchasing.

5
Overview of Oracle Purchasing

Oracle Purchasing gives us the concept of centralized procurement using Oracle applications. Using Oracle Purchasing, we can create various purchasing documents and keep track of previous purchases. On the basis of previous purchases we can forecast our future requirement's costs, and carry out supplier management, product trend analysis, spend analysis, and so on.

Purchase requisition is normally the point of initiation of the procurement process in Oracle applications and after physical receipt of the goods from the supplier or vendor, the procurement process ends. In between these processes, there are various steps of capturing business processes. The documents that are generated by Oracle Purchasing are called the **procurement documents**.

The key functionalities of Oracle Purchasing

Oracle Purchasing gives us features to map our business scenarios and processes. Some of the key functionalities of Oracle Purchasing are as follows:

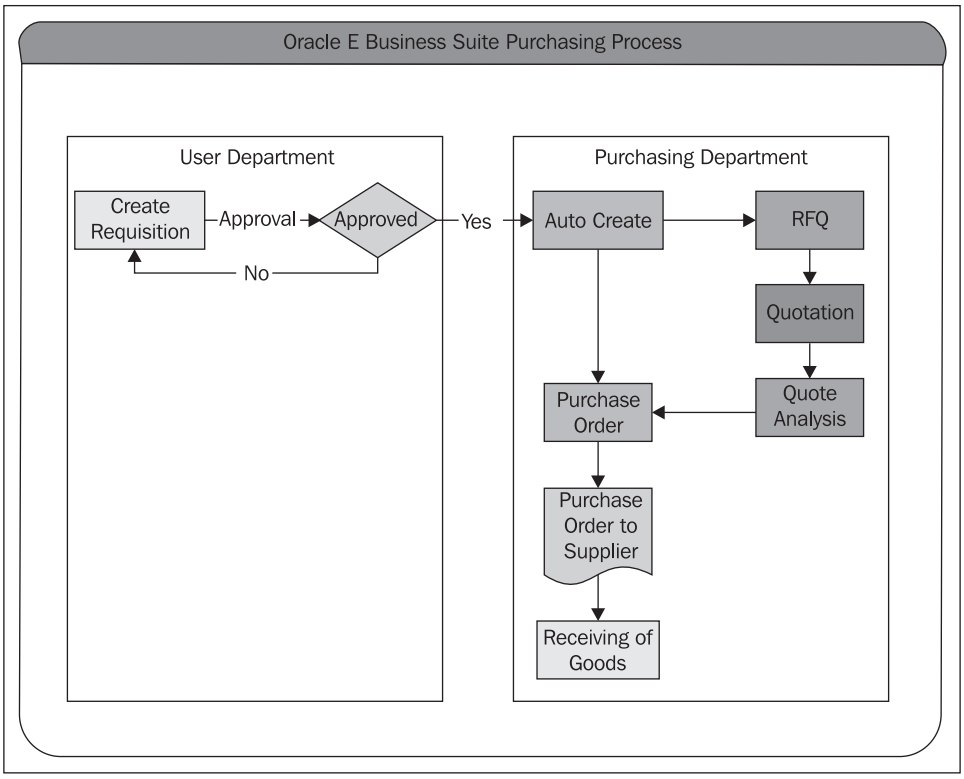
- Using Oracle Purchasing we can create internal and purchase requisitions.
- We can create request for quotation documents for different suppliers.
- Oracle Purchasing allows us to enter and maintain supplier quotations.
- Using Oracle Purchasing, we can perform the quote analysis process using a selected potential supplier for procurement.
- We can enter and maintain supplier master records, which enable us to calculate the efficiency effectively, and allow time management of different suppliers.

- Using the Oracle Purchasing, we can create different types of purchase orders, which enable us to perform the business process in an efficient manner.
- Oracle enables us with the promising feature of receiving of goods, using which we receive the requested goods.

Oracle Purchasing process

The procurement process using Oracle Purchasing starts when we create a purchase requisition in the Oracle application. Once the purchase requisition is completed and verified by the requester, it is forwarded towards its approval hierarchy for managers' approval. Only an approved requisition can be seen in the Auto Create Workbench from where the procurement department converts it into a procurement document.

We can also directly create a request for quotation document as well as a purchase order if there are certain business requirements. Normally, RFQ and purchase order documents are created using an approved purchased requisition with the help of the Auto Create utility.



Requisition

Requisition is the point of initiation for the procurement process at the purchase requisition level. We decide what is required; the requirement can be generated from different modules such as Inventory Management, Order Management, Work In Process, and Oracle iProcurement.

For creating a purchase requisition, we select the item that is required, the requested quantity of the item, when the item is required (its need-by date), and we can mention the supplier that we think is appropriate for this purchase requisition. There are two different types of requisitions we can create using Oracle Purchasing, as follows:

- Purchase requisition
- Internal requisition

Purchase requisition

A **purchase requisition** is created when we need to procure goods and services from a supplier. Using a purchase requisition, we can create an RFQ document and then create a purchase order. A purchase requisition provides us with workflow approval so that the document created by a requester automatically routes over to an approver.

Internal requisition

An **internal requisition** is created when we need the goods internally within our organization. On the basis of an approved internal requisition, an internal order is created. We can transfer the goods from one inventory organization to another. We can issue from inventory on a particular expense account using an internal requisition.

Request for Quotation (RFQ)

The request for quotation document is created when we do not have the actual quotes and prices available for the item. In order to update the price lists and availability as an active quote, we create a request for quotation document.

Using the Auto Create utility available in Oracle Purchasing, we convert a purchase requisition into a request for quotation document. We can add suppliers to a newly created RFQ to accept quotes. We can also add a predefined supplier list, which contains suppliers for particular item or category.

Quotations

In response to our sent RFQ document, the suppliers reply with quotations. These quotations contain the response to the RFQ containing items, unit price of items, payment terms, delivery date, and schedule.

Each quotation refers to the RFQ number against which it is entered in the system.

On the basis of an approved quotation we create a purchase order, which contains the reference number of the quote as well as the price quoted by the supplier.

Quote analysis

Upon receiving the quotations from the suppliers, we select the supplier for procurement in order to approve the quotation. We review and approve the quotation using the quote analysis. We find all the quotations available against the raised RFQ by querying the quotation against the RFQ number.

Purchase order

A purchase order contains the list of items and price, which is agreed with the supplier in the RFQ and quotation process. The purchase order is a legal document between the supplier and the buying organization. The purchase order contains the payment terms, the need-by date, and the promised date of the goods. It also contains the shipping schedule, ship-to location, bill-to location, and accounting information. Oracle Purchasing allows us to create different types of purchase orders, as follows:

- Standard purchase order
- Planned purchase order
- Blanket purchase agreement
- Contract purchase agreement

Receiving

Receiving is the process in which we physically receive the purchased goods. Receiving can be a closing point for a purchase order in terms of quantity. After receiving goods at the receiving location, the process of inspection takes place where we accept or reject the received quantity. If we need to move the goods to some other location, we can transfer the goods using the same window. Purchased goods are received, inspected, and delivered using the receiving form.

Integration of Oracle Purchasing with other modules

Oracle Purchasing is fully integrated with other Oracle E-Business Suite modules. The following modules are integrated with Oracle Purchasing Suite:

- **Oracle Inventory Management**: Oracle Purchasing Suite is fully integrated with Inventory Management Suite. Integration points include items that are created in Oracle Inventory and shared by Oracle Purchasing. In the same way, categories and catalogues are shared. Oracle Inventory shares planning information with Oracle Purchasing. Reorder point planning enables us to reorder goods automatically. When the reorder level is reached, it automatically generates a purchase requisition in the system.

  After receiving goods in Oracle Purchasing, we inspect and deliver the goods, the quantity is updated, and the on-hand availability of Oracle Inventory is also updated for an inventory item.

- **Oracle Payables**: Oracle Purchasing Suite is fully integrated with Accounts Payable. After the procurement of goods and services, we match the purchase orders to the invoice. It ensures that the invoice amount is the same as the purchase order amount. It prevents us from over and under paying for any invoice. Purchasing also shares the information about suppliers and payment terms with Oracle Payables. To create a standard manual invoice in Oracle Payables, a trading partner is required and should be enabled as a supplier in Oracle Purchasing.

- **Oracle Human Resource Management**: Oracle Purchasing Suite is fully integrated with Human Resource Management. It shares the information about employees, jobs, positions, and position hierarchy, which are defined in Human Resource Management when we use the "employee expense" account from human resource, which is used as "purchasing charge account". We also share the ship-to and bill-to locations and organization from Human Resource Management.

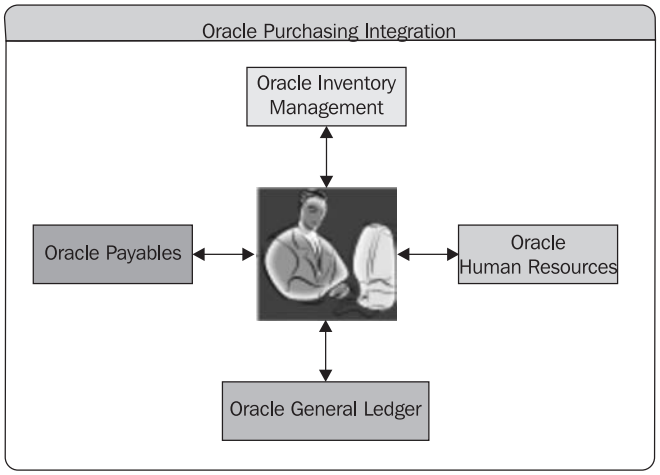
- **Oracle General Ledger**: Oracle Purchasing Suite is fully integrated with Oracle General Ledger; as we know eventually all the accounts are transferred to the General Ledger for the purpose of preparing company accounts and financial statements. The accounting accruals created during receiving are also transferred to the General Ledger. They are also visible as journal vouchers in Oracle General Ledger.

  Oracle Purchasing also shares the information about daily exchange rates from Oracle General Ledger. In order to create purchasing documents in foreign currency we need foreign currency rates. These foreign currency rates are maintained on daily basis in Oracle General Ledger.

- **Oracle Assets**: Oracle Purchasing Suite is fully integrated with Oracle Assets. Oracle Assets shares master supplier information with Oracle Purchasing. The purchase orders, which contains asset items, are transferred to Oracle Assets using the clearing account and asset category maintained at item level. These invoices are transferred to Oracle Assets using the "create mass addition" process.
- **Oracle Order Management**: Oracle Purchasing Suite is fully integrated with Oracle Order management Suite. The requisitions that are of internal types are converted into internal orders in Oracle Order Management. These orders are then processed in Oracle Order Management and inventory is transferred and issued to warehouses or expense locations.

Other modules integrated with Oracle Purchasing Suite are as follows:

- Oracle Sourcing
- Oracle Advanced Supply Chain Planning
- Oracle Work In Process
- Oracle Projects



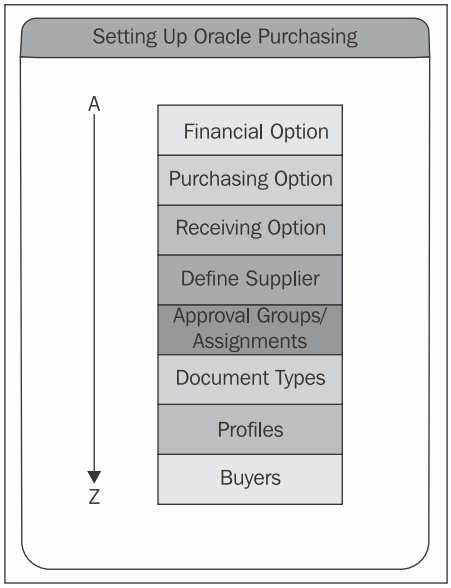
Setting up Oracle Purchasing

In order to set up Oracle Purchasing, there are some mandatory and optional steps. Most of the information that is required while setting up Oracle Purchasing is shared through other modules. The following are some of the common features:

- Inventory organization
- Key and descriptive flexfields

- Unit of measure
- Items
- Categories
- Employees
- Jobs
- Positions
- Position hierarchy
- Payment terms

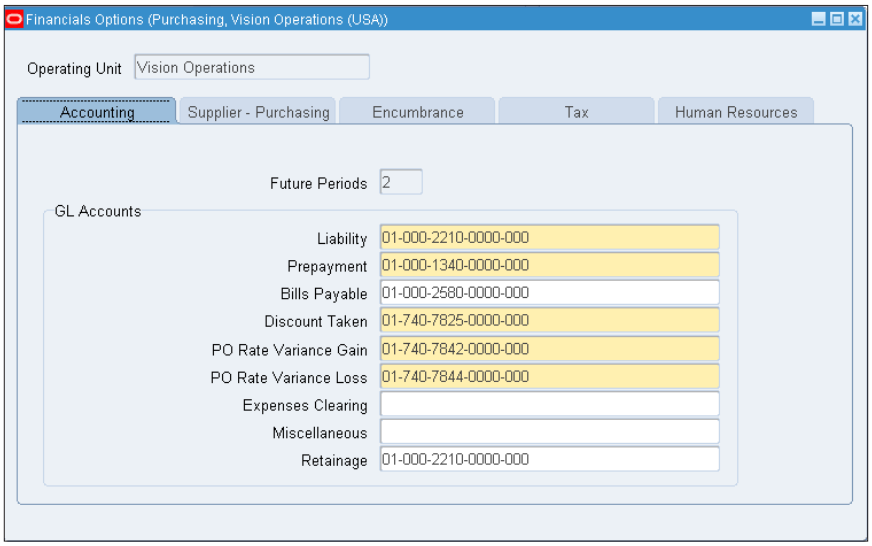
Let's go through the options for setting up Oracle Purchasing as shown in the following figure:



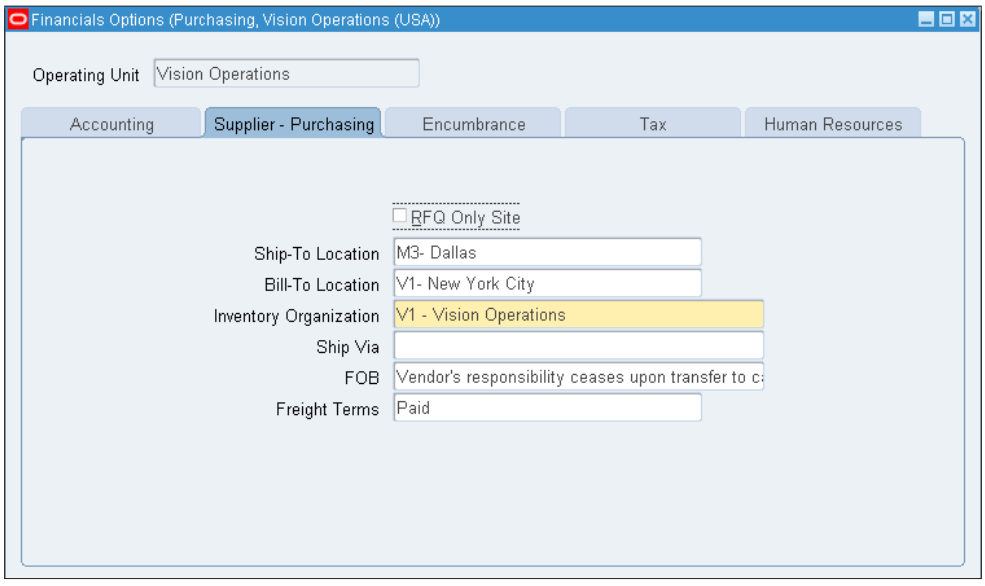
Financial options

Financial options are set up at operating-unit level. The accounting information is shared between Oracle Payables and Purchasing modules in financial options. We provide information such as accounts, business group, inventory organization, and use of approval hierarchy for purchasing.

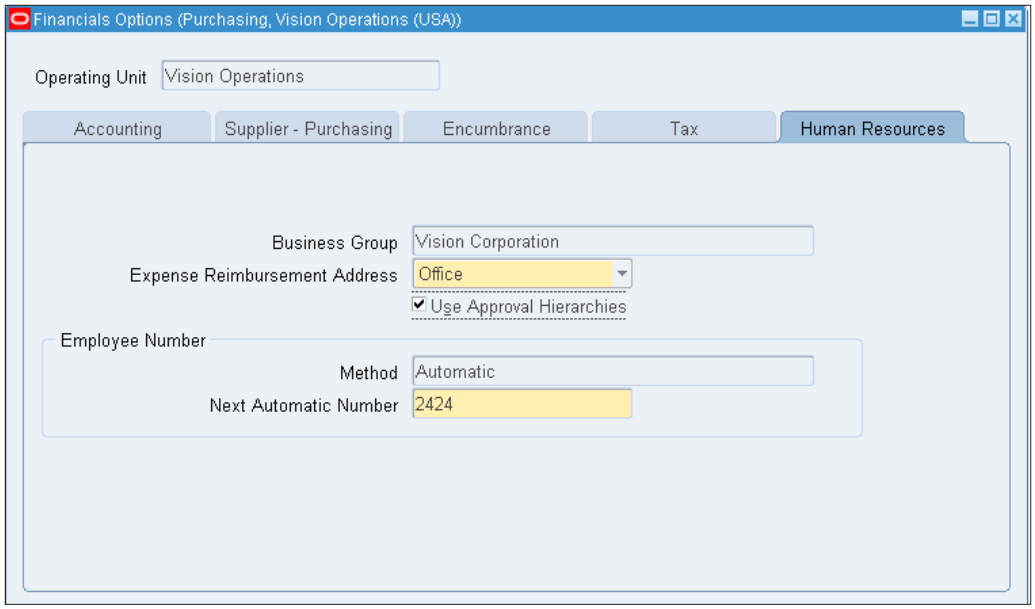
Navigate to **Setup | Organization | Financial Options**.



As shown in the previous screenshot, under the **Accounting** tab of **Financials Options**, we enter the accounts that will be used at invoicing. The **Liability** and **Prepayment** accounts are defaulted from the financial options. If the liability and prepayment accounts are not defined at supplier site level, then these accounts will be defaulted from the financial options.



As shown in the previous screenshot, under the **Supplier - Purchasing** tab we will enter the information that enables us to default the **Ship-To Location** and **Bill-To Location** for all purchasing documents as well as inventory organization. We can also enter defaults for the **FOB** and **Freight Terms** for purchasing documents.

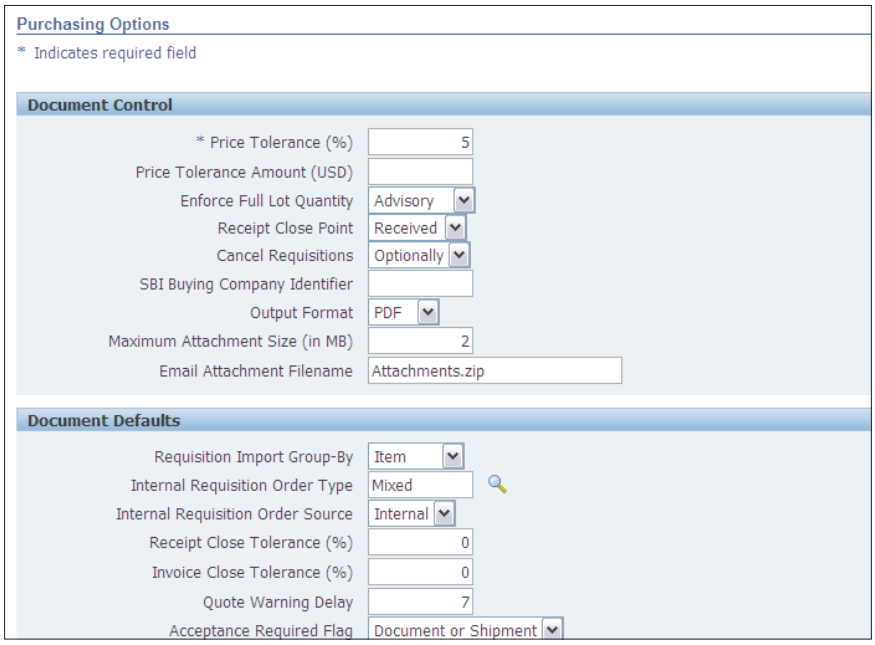


Under the **Human Resources** tab, there is an option to select the **Employee Reimbursement Address**. We can also decide to use the approval hierarchy by selecting the **Use Approval Hierarchies** checkbox.

Purchasing options

Purchasing options are set up at the operating unit level. To enter the accrual information, we will specify the controls as well as the numbering sequences of the purchasing documents.

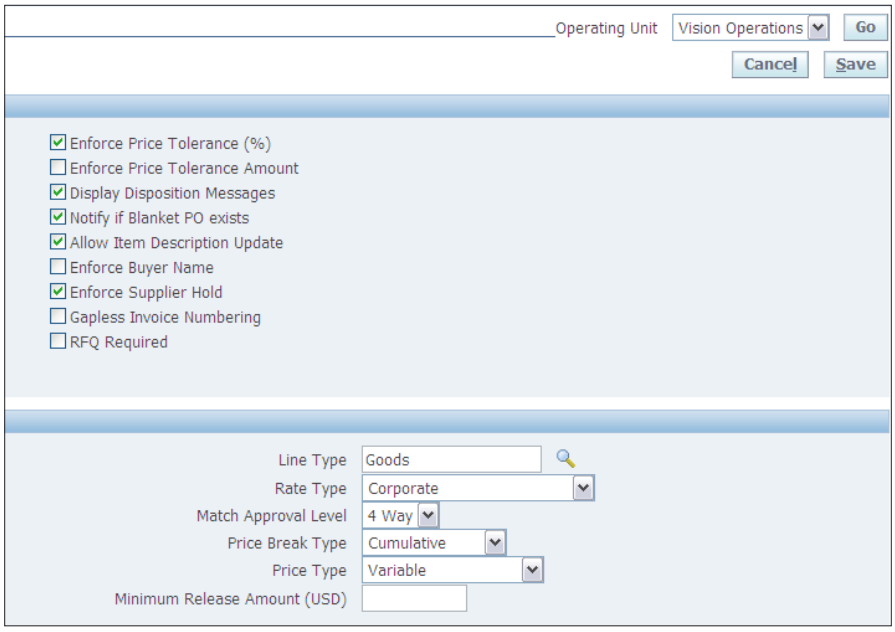
Navigate to **Setup** | **Organization** | **Purchasing Options**.



In the **Purchasing Options**, there are many regions, for example, **Document Control**, **Document Defaults**, **Document Numbering**, and so on. First, we will enter the values in the **Document Control** region. The values should be based on our business requirements. Here we have to set options; for example, in the **Price Tolerance (%)** field we have to enter the tolerance level for purchases, which depends on the goods we purchase and terms agreed with the supplier and our standard operating procedures.

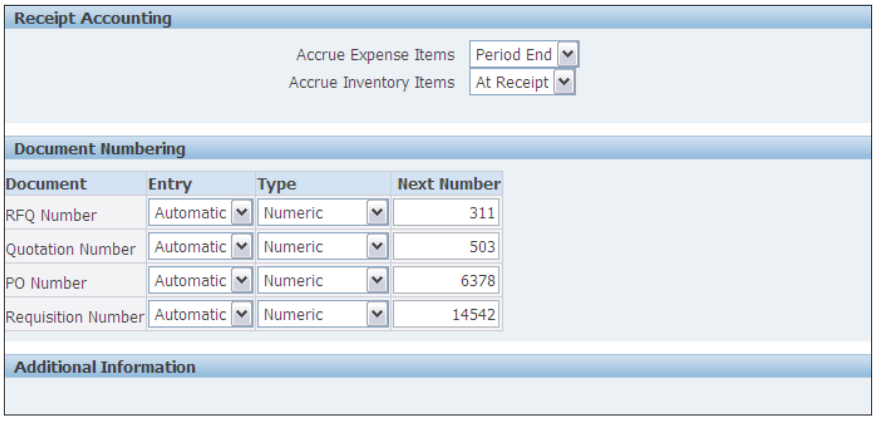
Using the **Document Control** region, we can control the documents as to at which point the purchase order closes for receiving. In the same manner, we can also select whether or not the requisition can be cancelled.

One very important option, which is available in the document defaults, is the **Internal Requisition Order Type**. As we know, we can also create internal requisitions. When they are converted into internal orders this controls the order type for those orders; hence, they are easily located and identified in the order organizer Workbench.

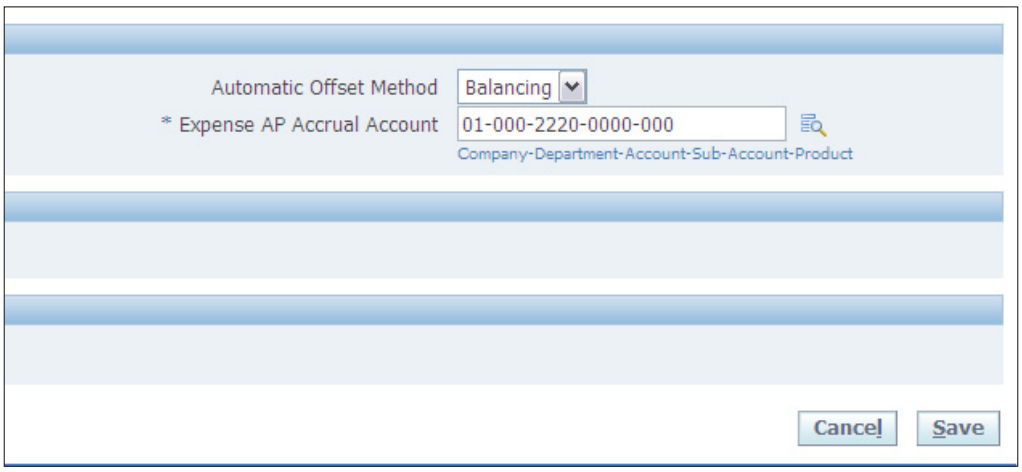


We also have the option to define a default **Line Type** for purchase orders. In the same way, the matching option and foreign currency **Rate Type** can also be selected for purchasing.

In the checkbox section, we have options such as **Allow Item Description Update**, which provides us with the functionality of updating the item description at purchase order level, which only updates the description for the particular purchase order. The item description for other purchase order and inventory will be the same. All the values that we select here should be based on the business requirements, business process, and standard operating procedures.



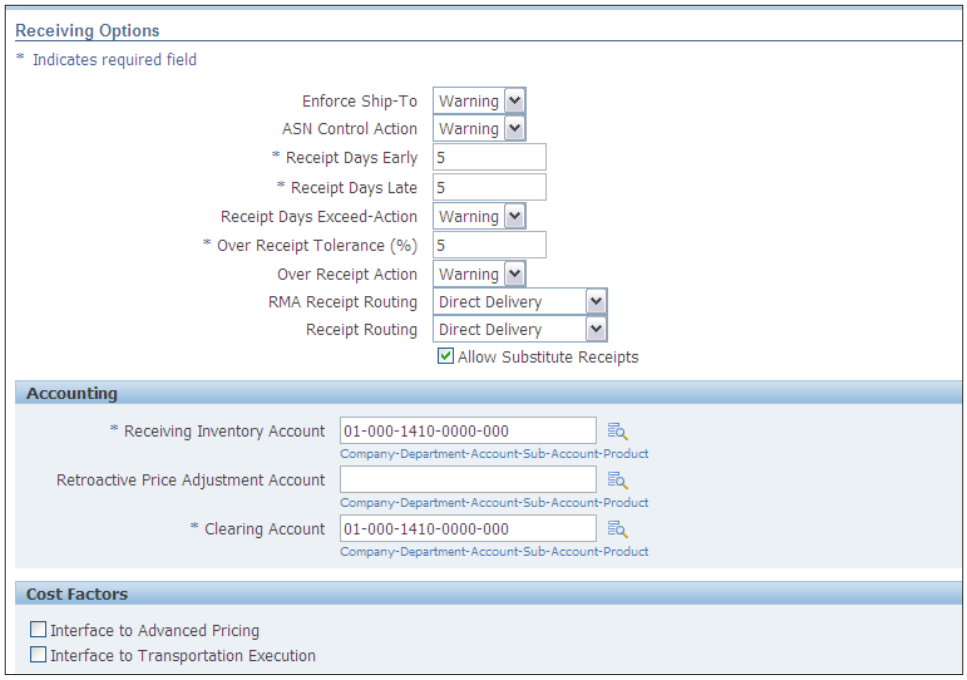
In the **Receipt Accounting** region, we define the accrual options for receiving that should be used for accruals when an inventory or an expense item is received. Just below the **Receipt Accounting** region is the **Document Numbering** region, as shown in the earlier screenshot. This region enables us to generate number sequences of alphanumeric or numeric number type. We can also select whether the document number entry will be **Manual** or **Automatic**. These document numbers are used to control the purchasing document's sequence number, which becomes a unique identifier of the document that makes the tracking easier for purchasing documents.



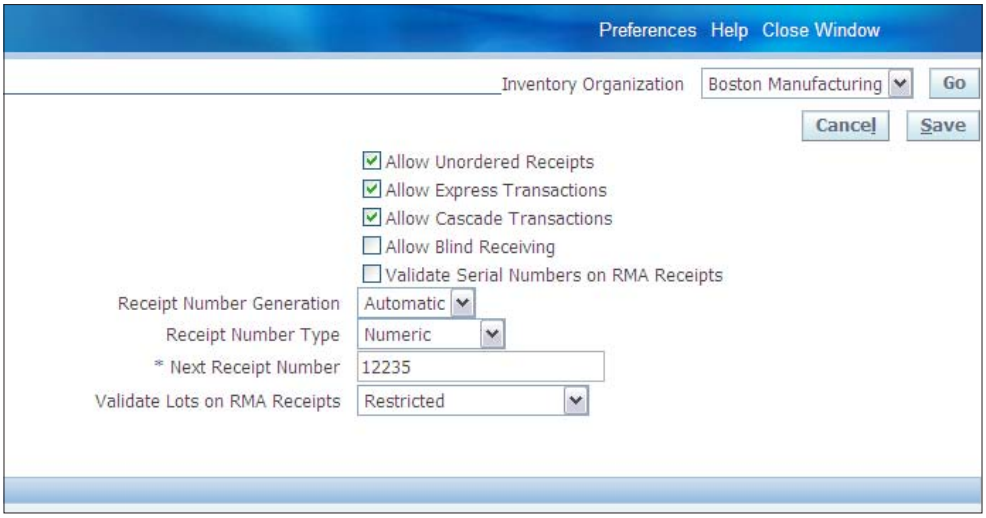
In the **Expense AP Accrual Account** segment, we have to provide the account that is used for booking the accruals for expense items. This account will only be used when we receive expense-type item. For inventory-type items the "Inventory AP Accrual Account" will be picked, which is defined at the organization level.

Receiving options

Receiving options provide us with various control options. These are the default settings for receiving the items in the inventory organization. Receiving options are set up at the inventory organization level. Each inventory organization will have separate receiving options.



In the **Receiving Options** region, we define options that enable us to control the receiving of goods in the inventory organization. These controls should be according to the policy and standard operating procedures of the organization. In the **Accounting** section of the receiving options, we define the clearing account that will be used at the time of receiving the goods in inventory.



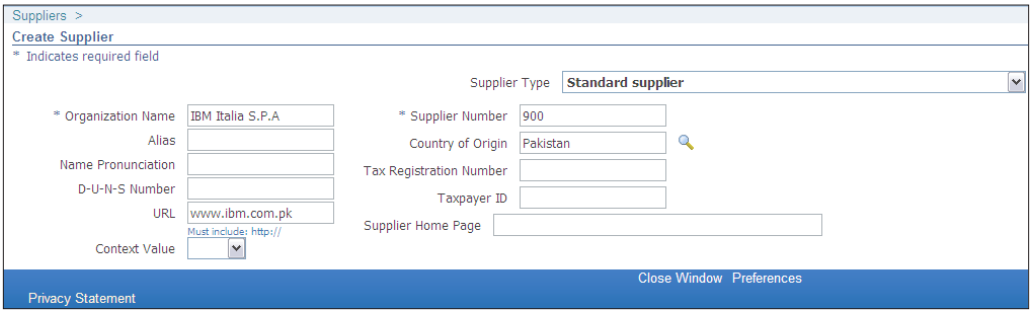
The checkboxes in the receiving options define the control for receiving. For example, we can accept the receipt of unordered items and then we apply them on the purchase orders eventually. Here we can also control the receipt number sequence. In the **Next Receipt Number** field, we enter the next numbering sequence for receipts.

Define supplier

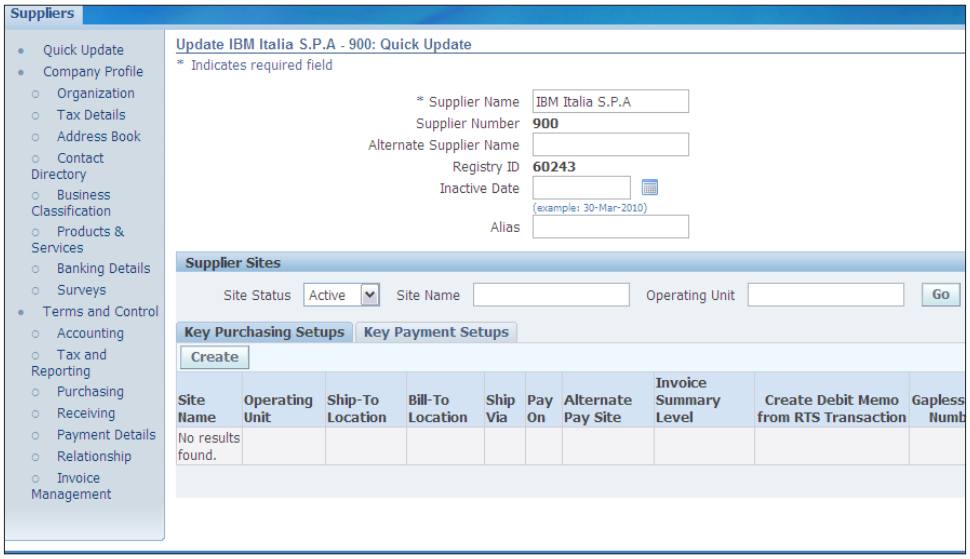
In Oracle E-Business Suite, suppliers can be employees to whom we reimburse their expenses or organizations from which we purchase goods and services. Suppliers are essential for creating purchasing documents. The form is shared between Oracle Purchasing and Oracle Payables, for example the financial options.

To define a new supplier in Oracle Purchasing module we need to navigate to **Supply Base | Suppliers**.

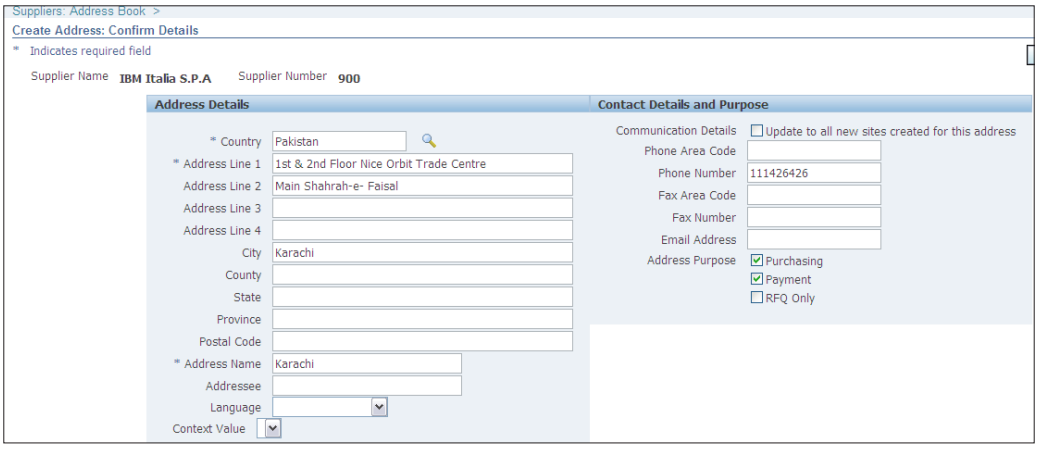
In the **Suppliers** search form we will first look for the supplier that we are going to create, to check whether the supplier already exists or not. This will avoid duplication in creating the supplier name. We can enter the full name of the supplier or we can use the other search criteria provided on the supplier master form.



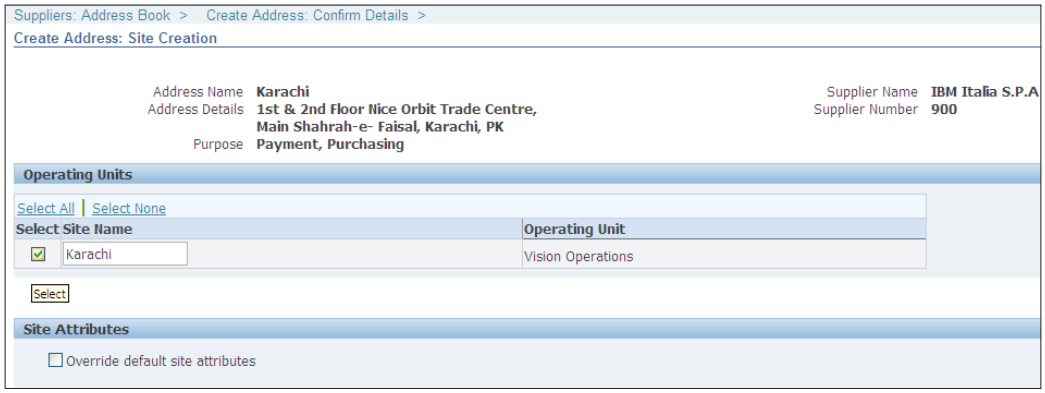
In the previous screenshot, we will enter the **Organization Name** and **Supplier Number** in the fields provided. We can also enter additional information—for example, the **URL**, **Country of Origin**, and so on. This is the header-level information, which would be same for all the supplier sites of this supplier.



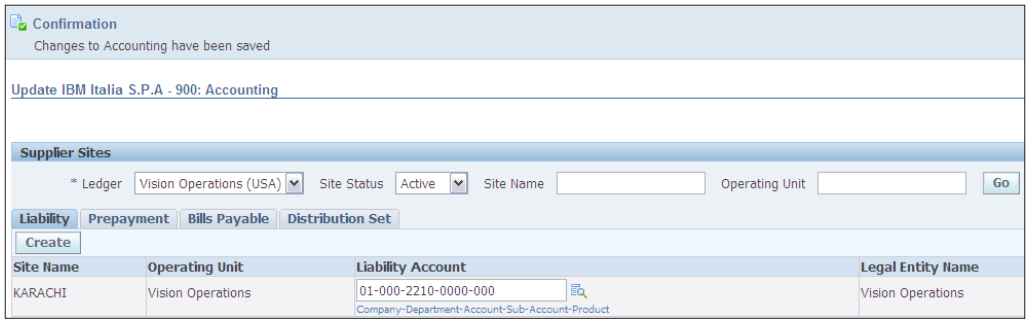
The **Suppliers** form consists of lots of items of information. Some of them are mandatory and other optional values are dependent on the business process and requirement. We can create a supplier with the basic information. Now we will move further to the **Address Book** option in the left pane to create a supplier address and site.



We need to enter the **Operating unit** and the supplier's **Site Name**. The supplier's site name in this example is **Karachi**.



In the **Accounting** tab of the supplier, the account codes are defaulted from the financials options. We can verify or override the defaults for the **Liability** and **Prepayment** accounts.



This is how a supplier is created with the basic level of information. There are some other informational fields, which can be filled as per the policy of the organization and business requirements.

Approval groups

Approval groups consist of approval rules. In approval groups we can create different approval rules. These approval rules will be used for approval of purchasing documents. Using the approval group, we can create different types of approval level and controls.

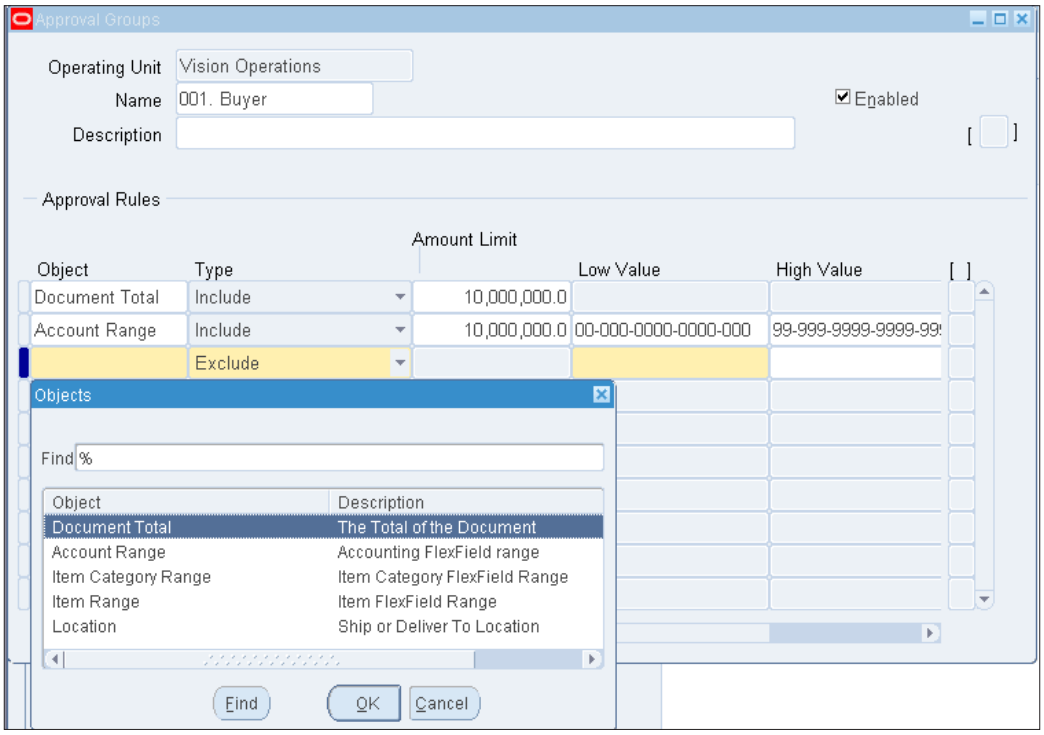
The controls that are available for an approval rule are as follows:

- Document total
- Account range
- Item categories
- Item ranges
- Locations

Using these approval objects, we can include and exclude the approval criteria. For example, if we want a specific approver to approve some particular account ranges then we include these ranges of that account with an amount limit. In the same manner, if we want to exclude some account that we do not want this approval group to approve, then we exclude that using the exclude option. In the same manner, we can create non-financial approval. For example, if we want to exclude some location from approval then we select the object as location and exclude that particular location from the approval group.

We need to define the approval groups according the procurement policy of the organization.

Navigate to **Setup | Approvals Groups**.



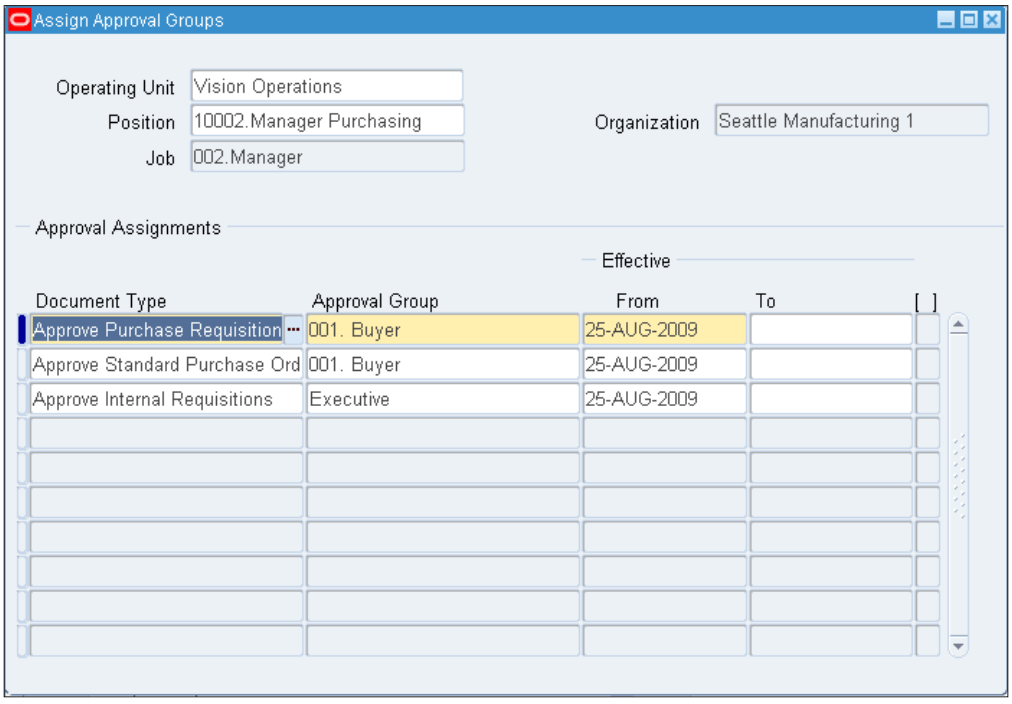
As shown in the previous screenshot, we have **Object**, **Type**, and **Amount Limit** fields, which should be assigned to a group. If a group is obsolete or expired, we can uncheck the **Enabled** checkbox on the header so that it cannot be used. If some objects expire and we need to enter new criteria, we can inactivate the existing criteria by entering an inactive date, and then enter a new object and an amount limit.

Approval Assignment

Approvals can flow into different levels, as follows:

- Position hierarchy
- Employee supervisor approval

In our scenario, we are using the position hierarchy. This position hierarchy is a shared feature between Oracle Purchasing and Oracle **Human Resource Management System** (**HRMS**). Employees, jobs, positions, and position hierarchy are defined in Oracle HRMS and we use this as a shared application in Oracle Purchasing. We can assign position to approval groups for the different document types. These documents will be approved according to the rules that are defined at approval group level. In the approval assignment, we assign these groups to the respective positions.



Oracle Purchasing end-to-end process

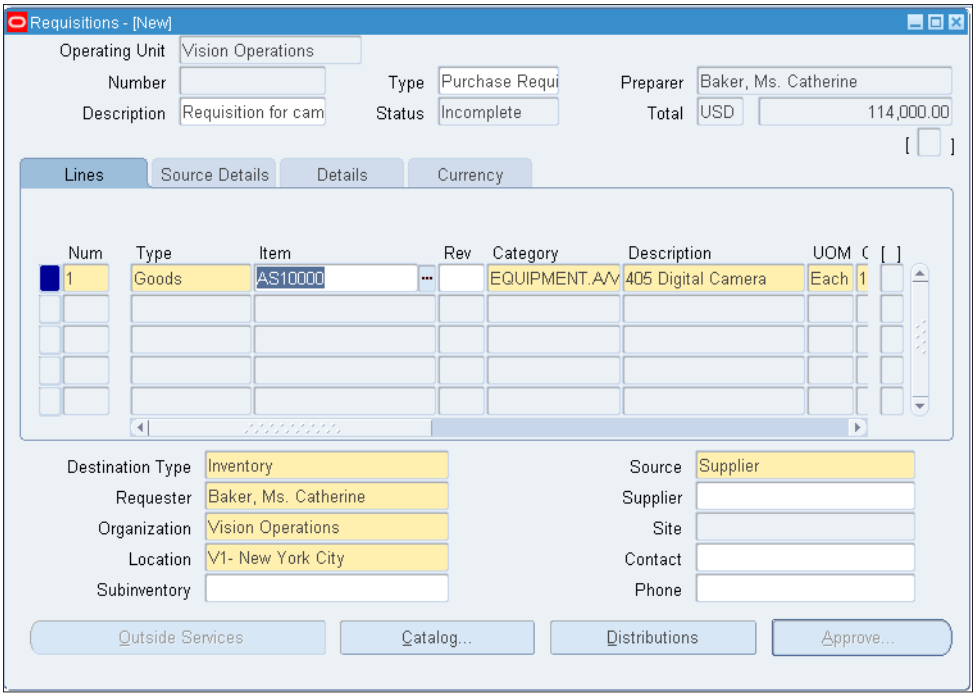
In this section, we will see an end-to-end process for Oracle Purchasing:

- Enter purchase requisition
- Auto Create requisition in RFQ
- Standard quotation
- Quote analysis
- Purchase order
- Receiving

Purchase requisition

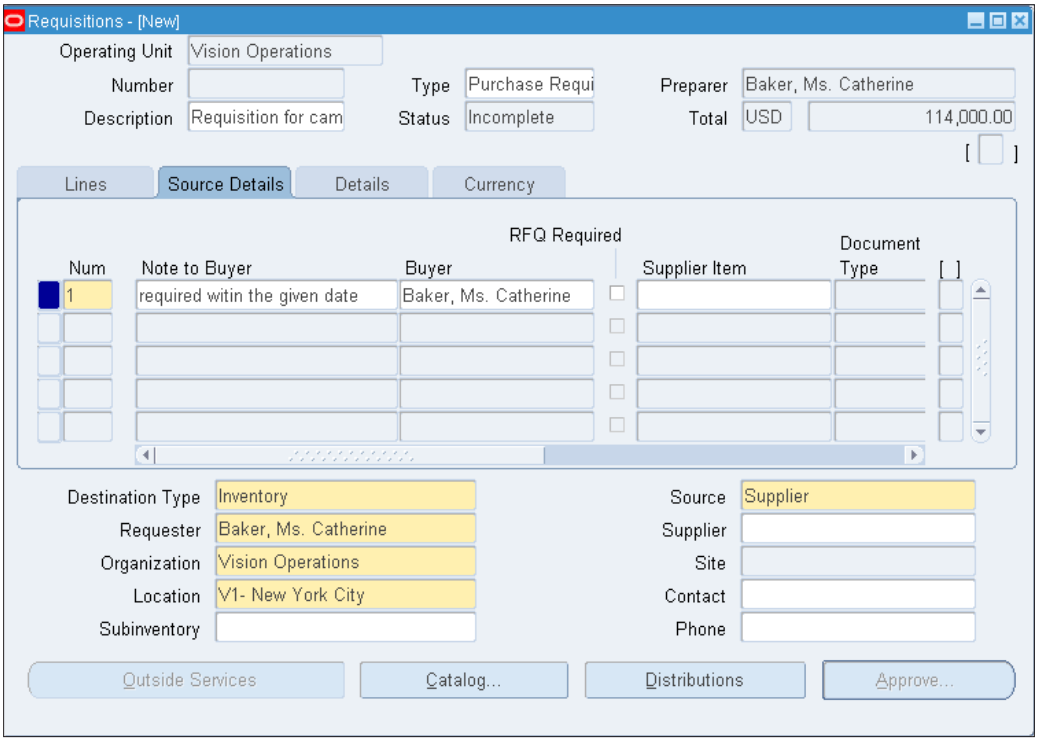
As we have discussed earlier, purchase requisition is the point of initiation of the procurement process on the basis of requirement and demand. A purchase requisition is raised when we require some goods or services. This requirement can originate from different departments. The buyers will only process approved purchase requisitions. Requisitions that are in the **Incomplete** and **In process** statuses, will not be converted into a procurement document until they are approved.

Navigate to **Requisition** | **Requisitions**.

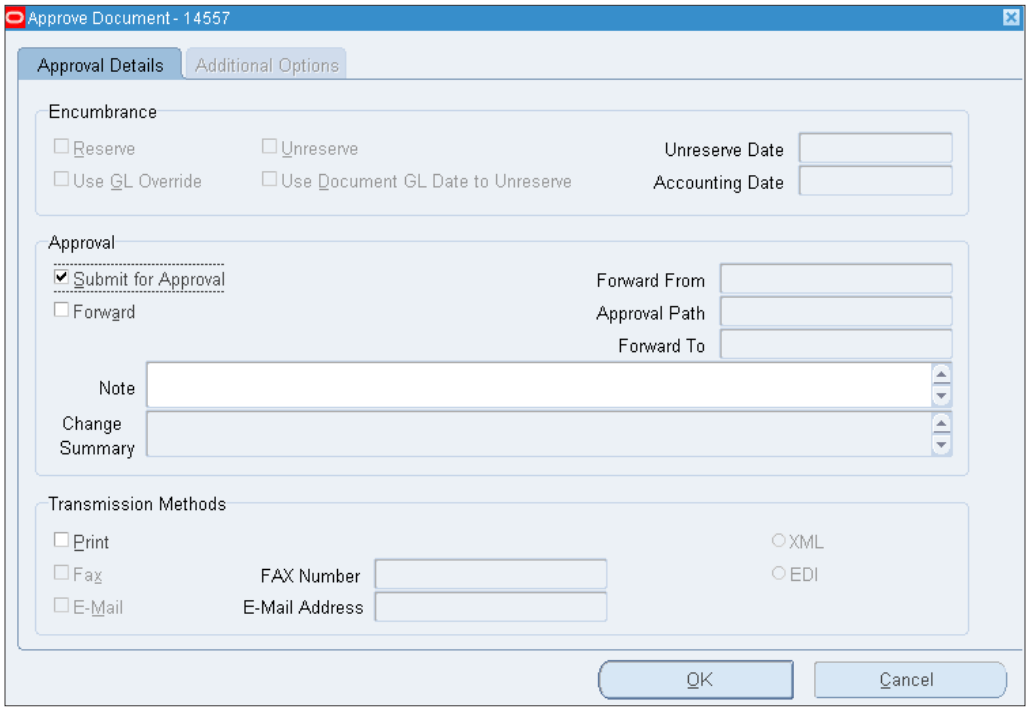


In the **Requisitions** header section, we will enter the description for the purchase requisition in the **Description** field; its type will be **Purchase Requisition** in the **Type** field. We use the same form to create purchase and internal requisitions.

After adding the information in the headers, we will navigate to the line level. Under the **Lines** tab, we will select the item we are requesting, and enter the quantity and tentative price. The list price will appear if it is entered at **Item** level. For each item, the destination type will be based on the nature of the item. We can also select the inventory organization and suggest the supplier.

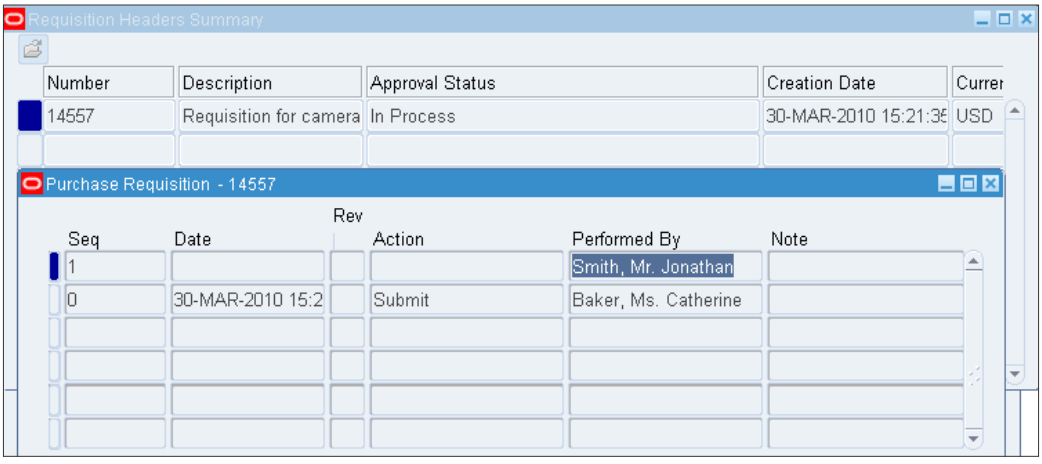


Under the **Source Detail** tab, we can enter a note for buyers in the **Note to Buyer** field. This can be additional instructions, which the requisitoner believes should be included in the purchase requisition. We can also select the buyer in the **Buyer** field who will further process this requisition into a purchasing document.



Now, we will save and approve the document and verify the status of the requisition document that we have created, as shown in the previous screenshot.

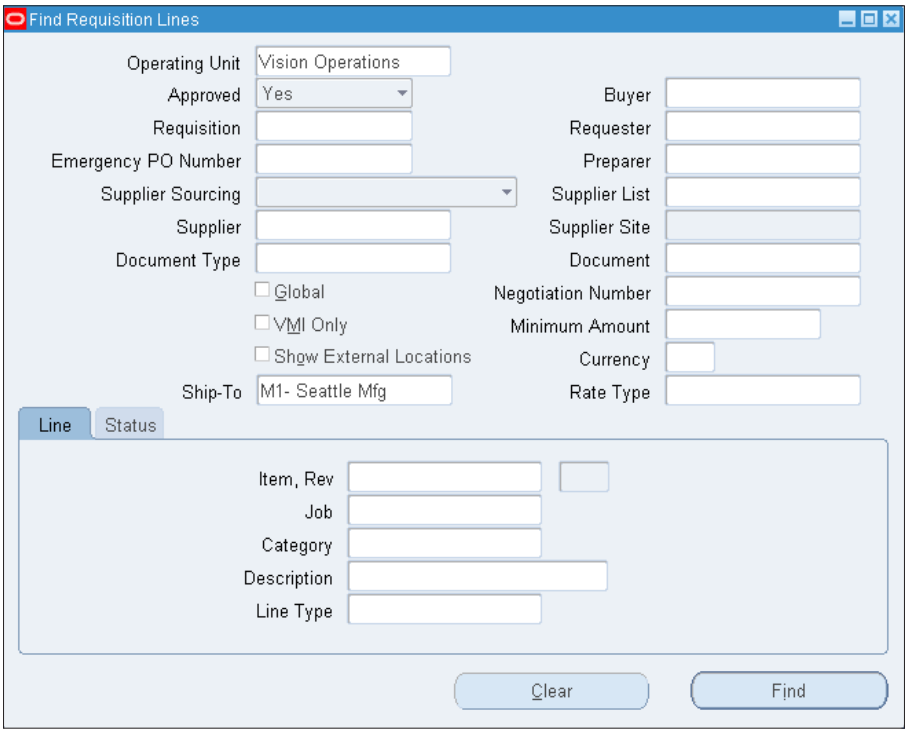
We will navigate to the purchase requisition summary, enter our document number in the search criteria, and view the status of the document we have just created, as shown in the following screenshot:



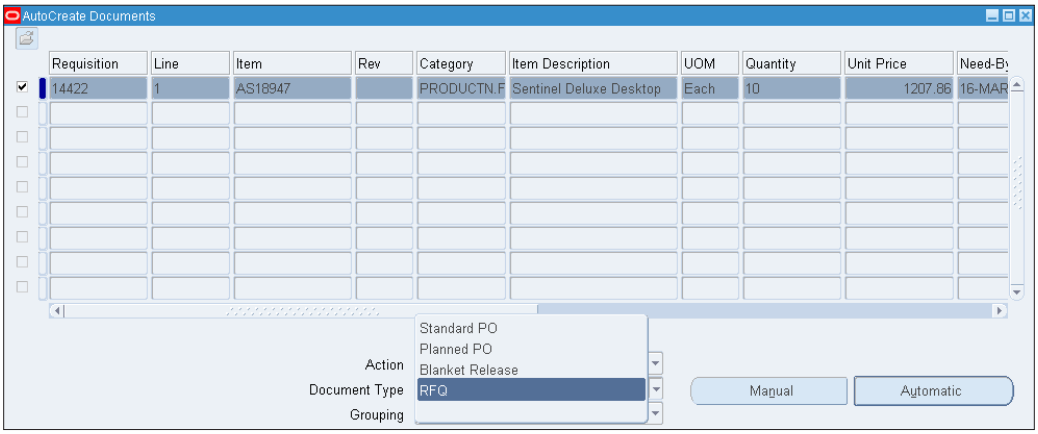
Auto Create RFQ from purchase requisition

Auto Create empowers us with the functionality to create purchasing documents. This includes purchase orders of different types. A Request for Quotation (RFQ) can be created from an approved purchase requisition using the Auto Create form. We use Auto Create when we need to prepare documents with minimum effort required.

Navigate to **Auto Create**.

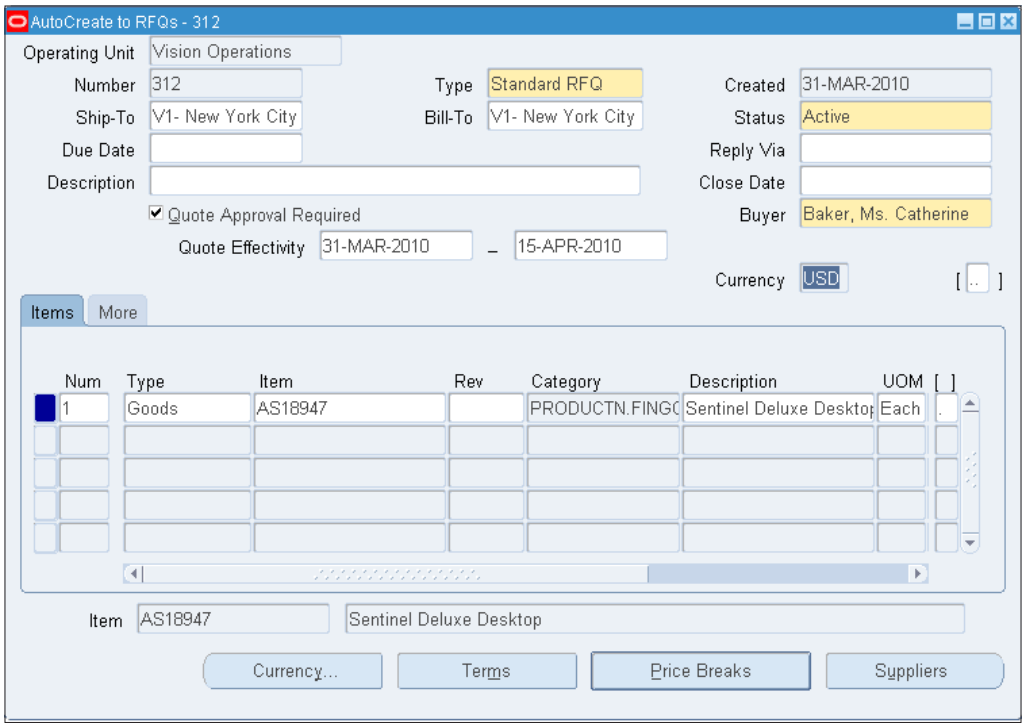


When we open the Auto Create form, we have different search criteria for the requisitions. We can specifically find the purchase requisition according to **Buyer**, **Requester**, and the other search criteria given in the previous screenshot.

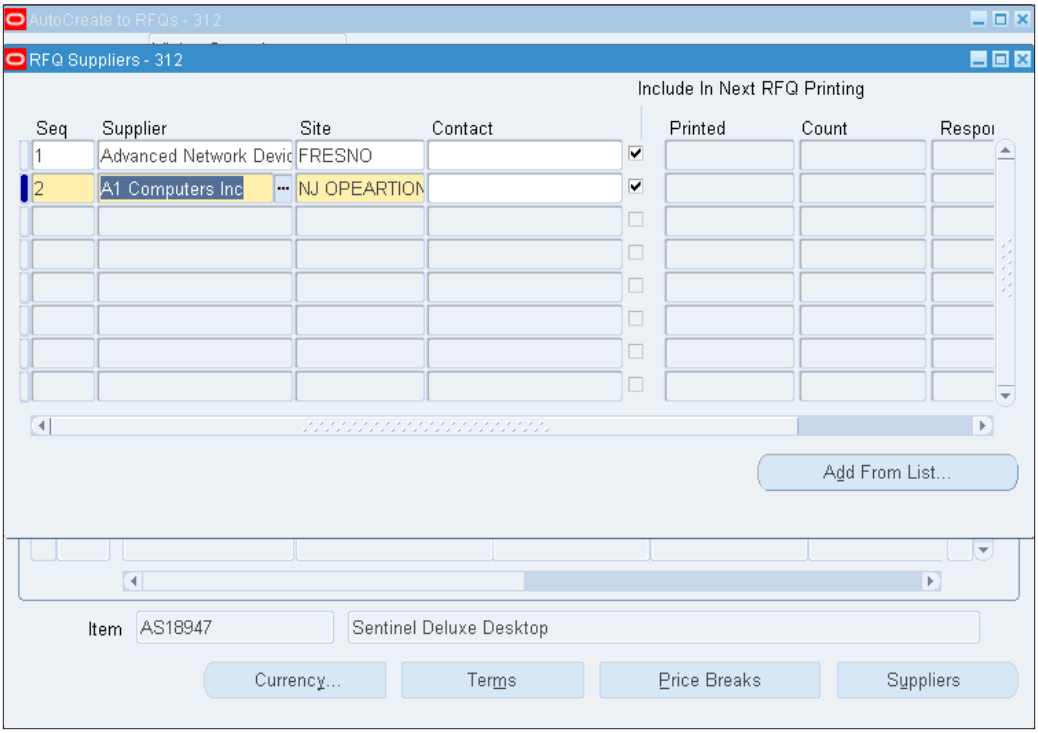


We have discussed earlier that using the Auto Create utility we can create purchase orders and RFQs. In the **Document Type**, we have various options available.

From the options, we will select the **RFQ** from the **Document Type** and press the **Automatic** button.



Now a new RFQ form will be opened. The requisition list amount will be automatically copied to the target price for suppliers. Other data from the requisition will also be copied to the RFQ screen. To activate the RFQ, we will change its status to **Active**, manually.

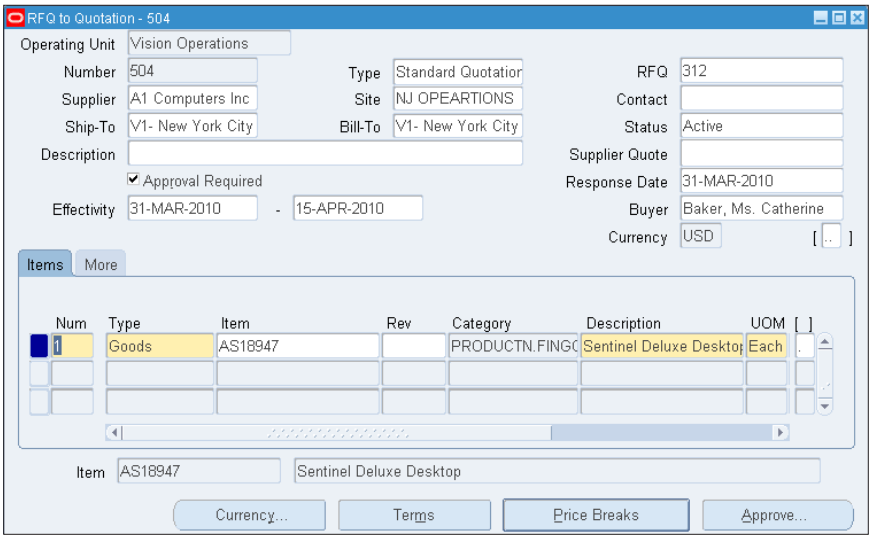


After we have completed the lines information, we will add **Supplier** or supplier list to the RFQ. We can add as many potential suppliers as we want for the RFQ. Now we will print the RFQ document and e-mail or fax it to the suppliers and wait for quotation responses from the suppliers in return.

Quotation

As we have created and submitted the RFQ for supplier quotes, we can now assume that quotations in response to our RFQ have been received and we need to enter these quotations to perform quote analysis. This will enable us to order, to move ahead to the procurement process.

In order to enter a quotation in the system, we will query the RFQ against which we have received this quotation and copy to a new quotation.

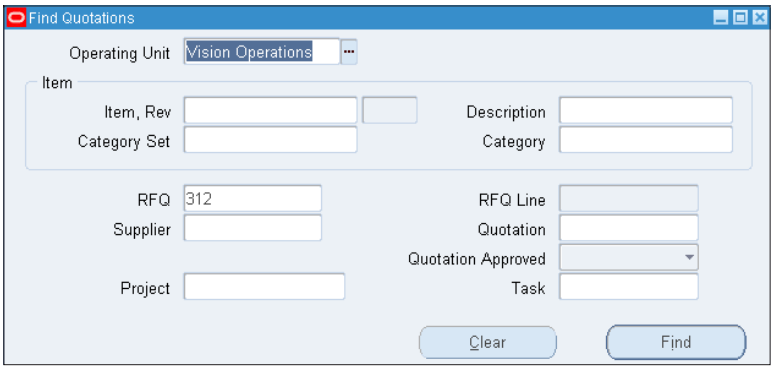


Now, we will update the amount and other information as received in the quotation from the supplier. In order to use the quotation, we have to change the status from **In process** to **Active** and click on **Save**. As we save the document, the **Approve** button enables. In the same manner, we will enter the other quotations and perform the quote analysis process.

Quote analysis

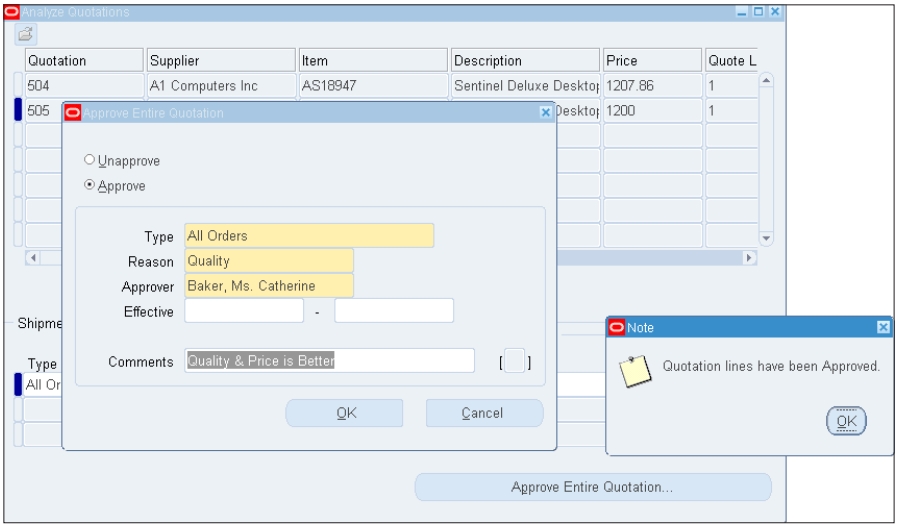
Quote analysis is the process where the quotations that are received from the suppliers against the given RFQ are finalized for the purchase order. Approving a quote among the several quotes automatically rejects the other quotations that are non-beneficial for us.

Navigate to **RFQ and Quotation | Quote Analysis**.



Now we will query the quotation using the **RFQ** number. Therefore, all the quotations that are in response to the RFQ number will be shown. It gives us a clear picture and ease of decision-making.

We can also find a quotation using other search criteria given in the previously shown form.



As we can see in the earlier screenshots both the quotations that we have received against the RFQ, we are in a better position to make a decision about whom we should select. And upon approving the quotation we can give the reason and comments stating why we have approved the particular quotation. Therefore, if in the future we recall the reports or data, we can see the reason there.

Purchase Order

Oracle Purchasing provides us with the facility of creating different types of purchase orders as follows:

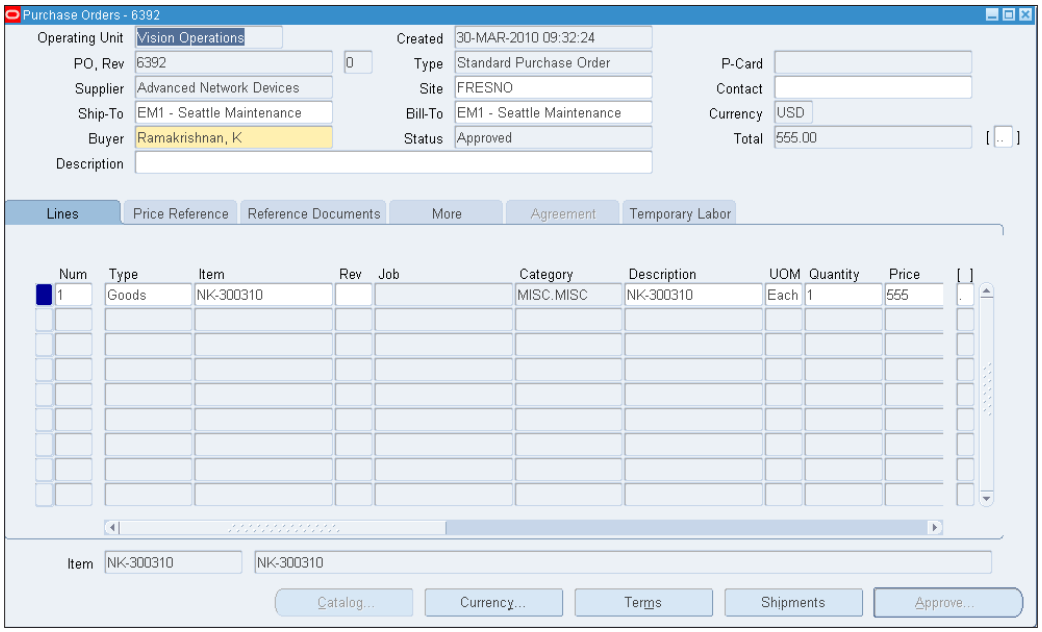
- Planned Purchase Order
- Standard Purchase Order
- Blanket Purchase Agreement
- Contract Purchase Agreement

A purchase order is the basic document that we use for procurement of goods and services from any supplier. Oracle offers these different types of purchase orders to capture different types of business scenarios in purchases.

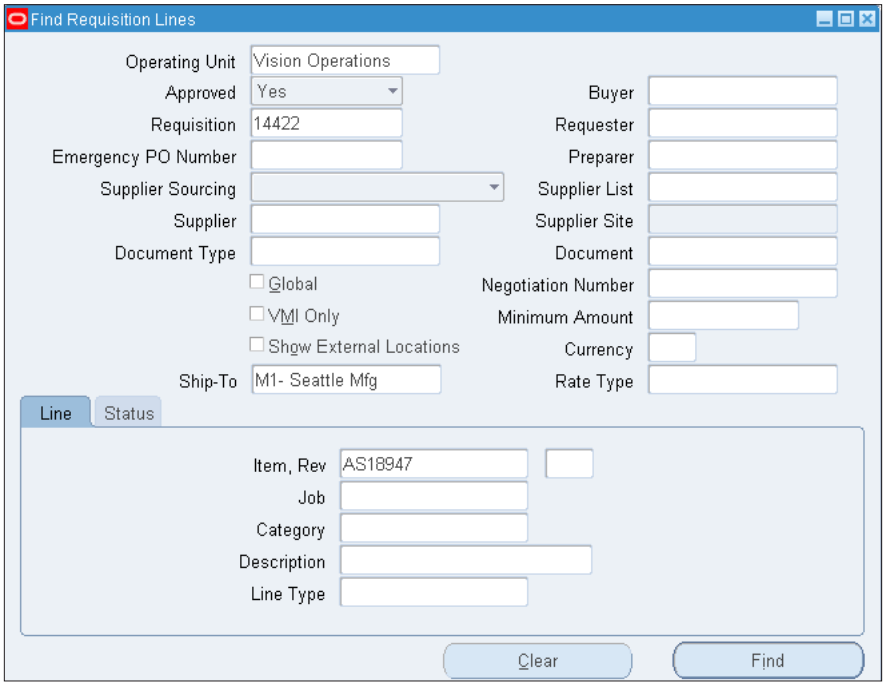
We can directly create a purchase order. It can also be created using the Auto Create form in which we convert requisitions into purchase orders. In the same way, we can amend and update the prices, according to the quotations that have been negotiated from the suppliers.

A purchase order contains basic information such as supplier, ship-to and bill-to locations, lists of items, required prices, need-by and promised dates, shipping and accounting information.

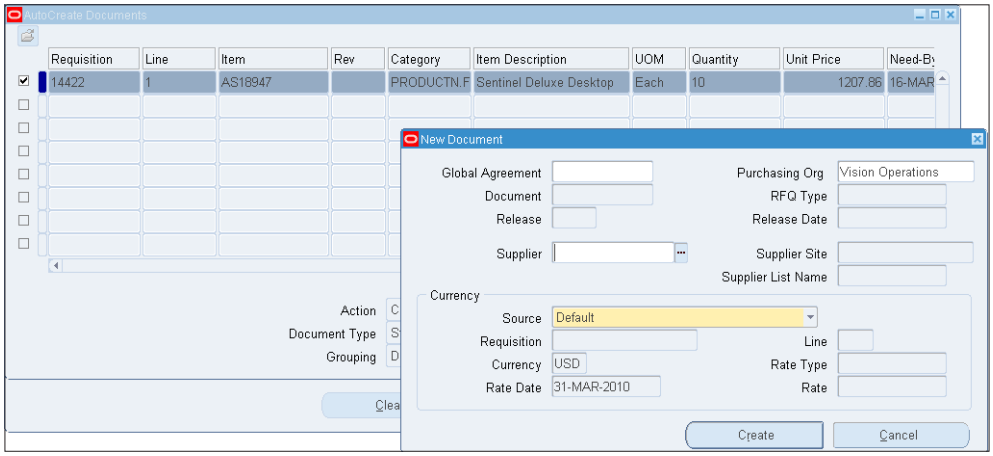
We can also add other document styles. These customized document styles are only accessible from the buyer's work center. We can capture complex procurement scenarios such as advance and retention by creating customized document styles and complex-natured purchase orders.



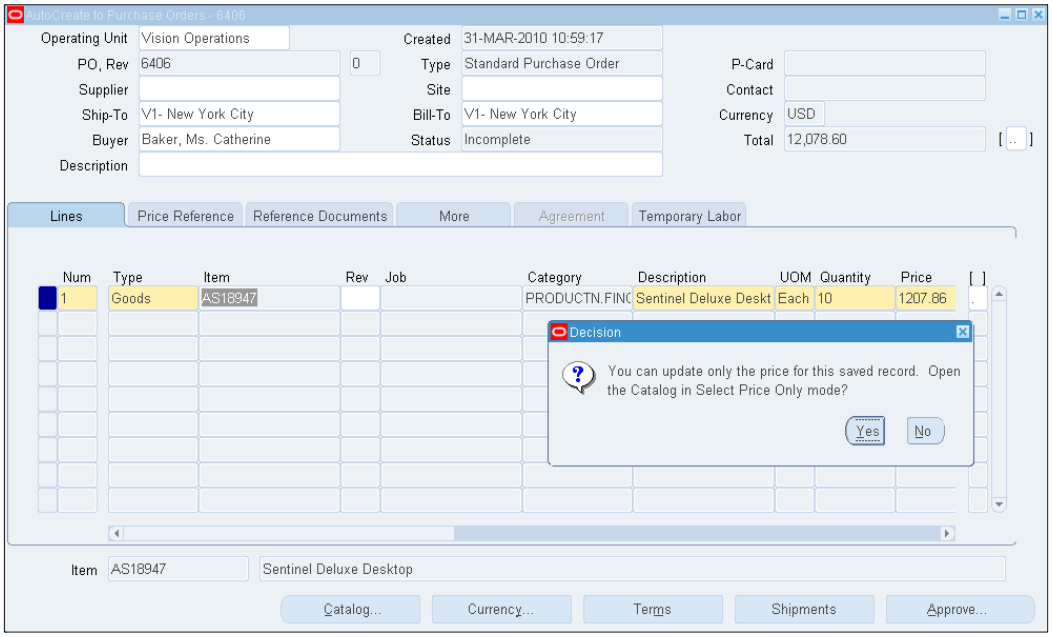
We will create a new purchase order using the Auto Create utility, which will enable us to close the requisition that we have previously created. We will also apply the price that we have received from the supplier.



Using the Auto Create utility, we will first query our requisition using the filter criteria that are given in the Auto Create search form and click on the **Find** button so that the particular record will be filtered out.

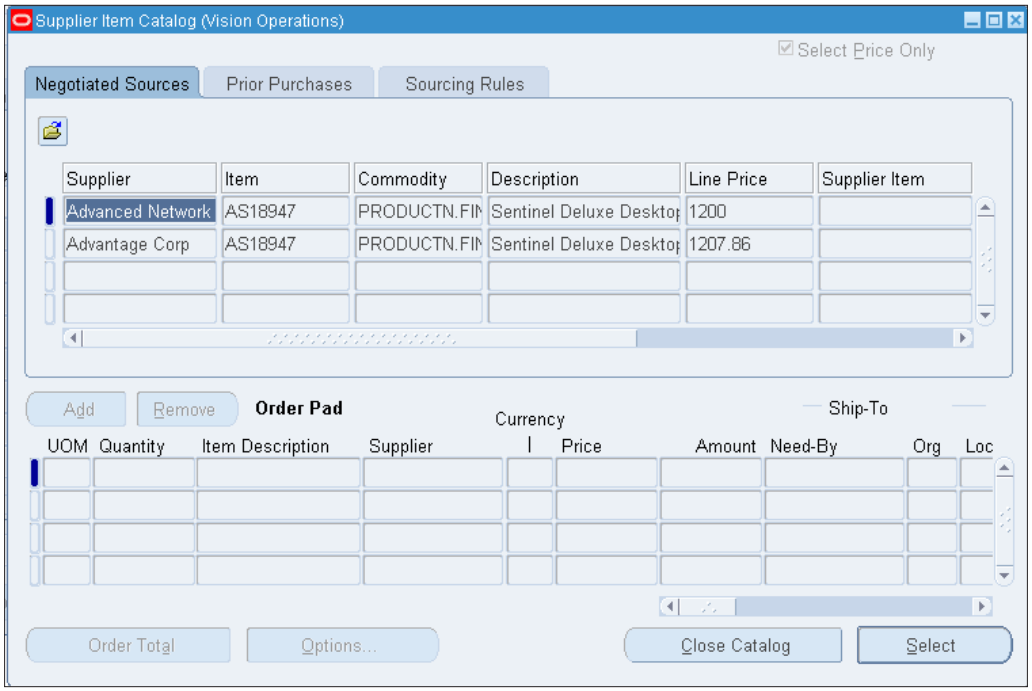


We will select the shortlisted record and select the document type as **Standard Purchase Order** in the **Type** field and in the **Action** we will select **Create**. We can also select the **Update** option from the **Action** menu so that it allows us to update this requisition line on an existing purchase order, rather than creating a new purchase order document.



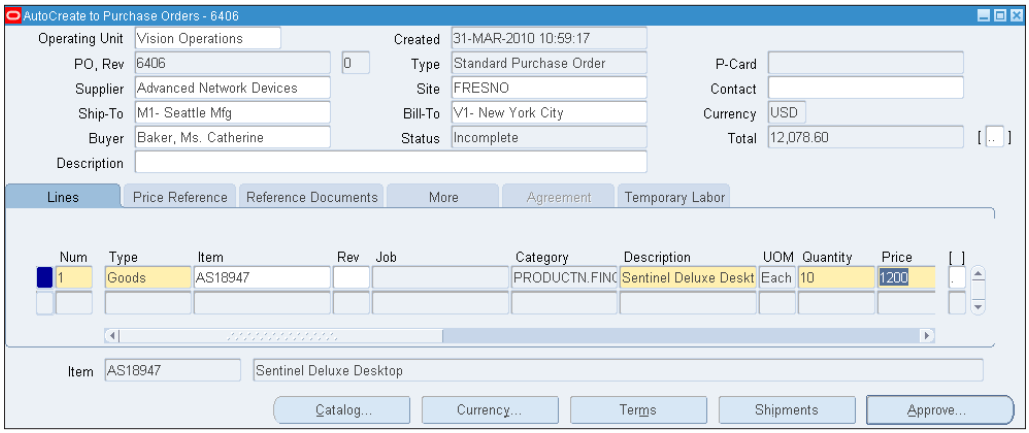
The requisition that we have created is converted into a purchase order. We can update the price of the newly created order as per the quotation that we have approved during the quote analysis process.

When we try to update the price from the quotation, the purchase order form will show the message displayed in the previous screenshot. For this reason, we open the purchase order in the Select Price Only; other things will not be allowed to change.

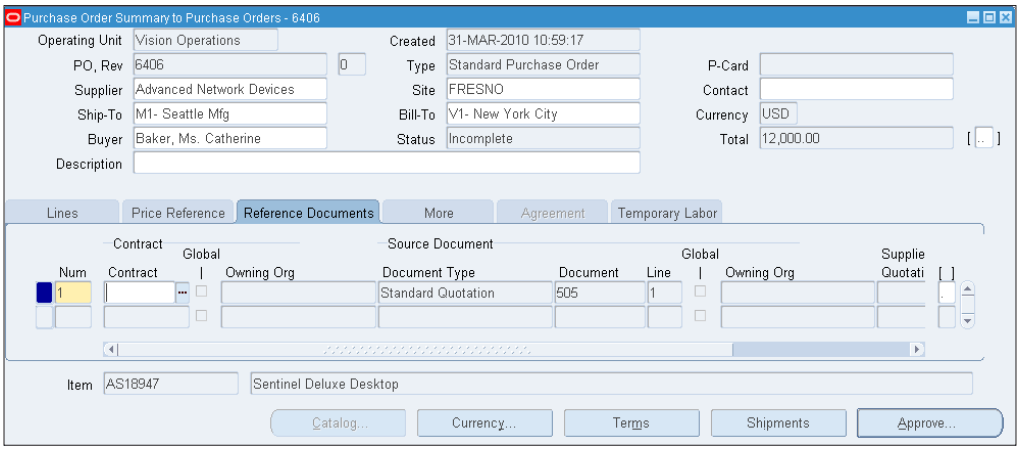


Therefore, we will query the quotations and then we need to select the appropriate mode if we have more than one approved quotation for the particular item.

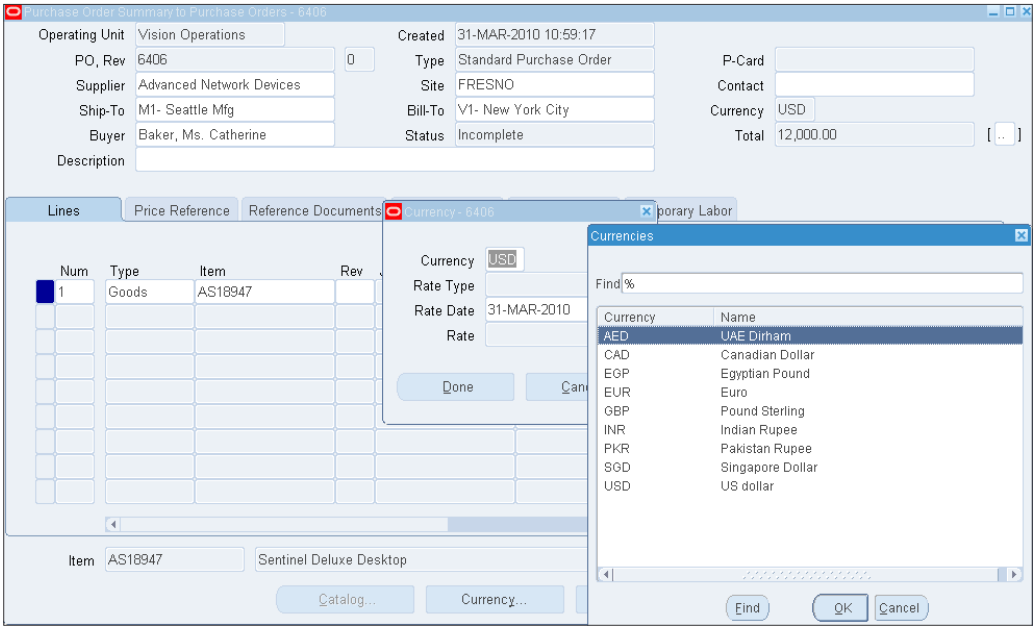
By selecting the line using the **Select** button, the price will be updated on the purchase order.



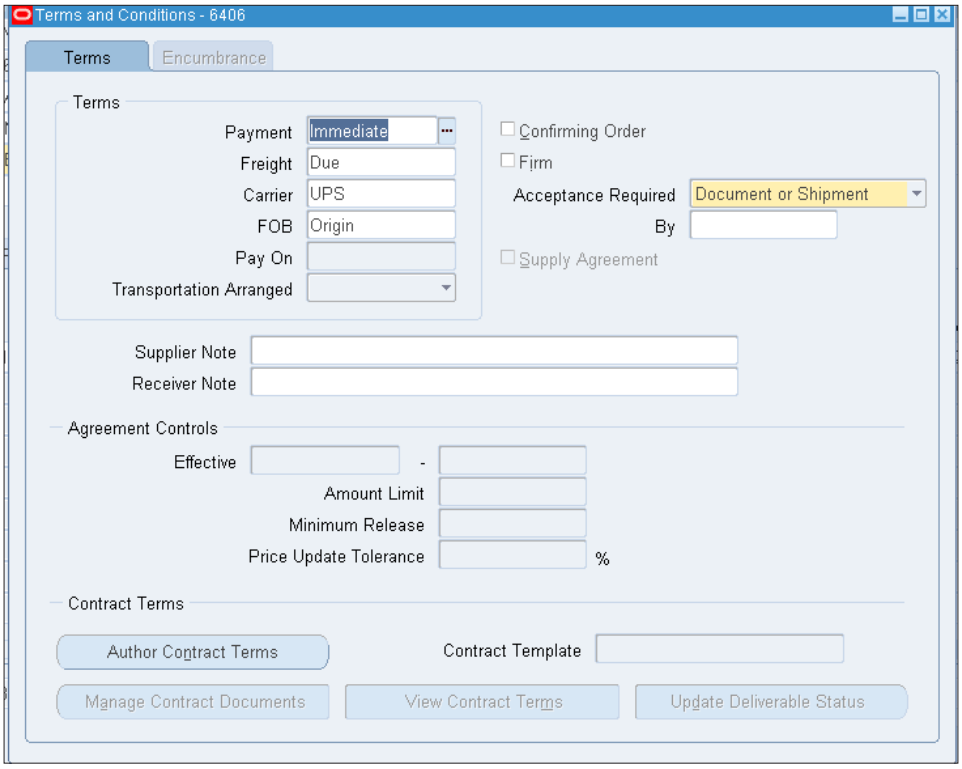
The purchase order is updated with the new price and under the **Price Reference** tab we can see the reference of the quotation whose amount is transferred over the purchase order.



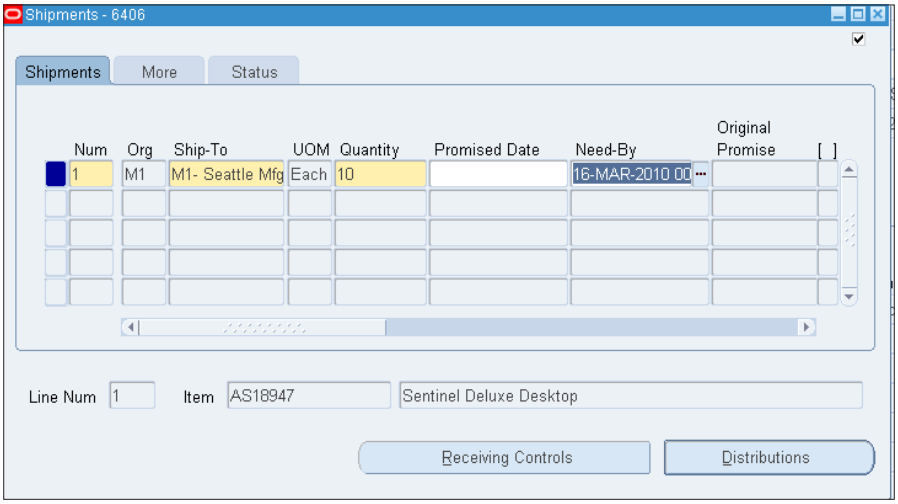
Under the **Reference Documents** tab, the document type is **Standard Quotation** and in the **Document** field is the document number of the quotation form for which the purchase order has been created. We can create a note to the supplier for each item. If we move to the next tab, we have an option to enter a note to the supplier. If the note is for a particular line and not for the purchase order, then it can be written on the item line level.



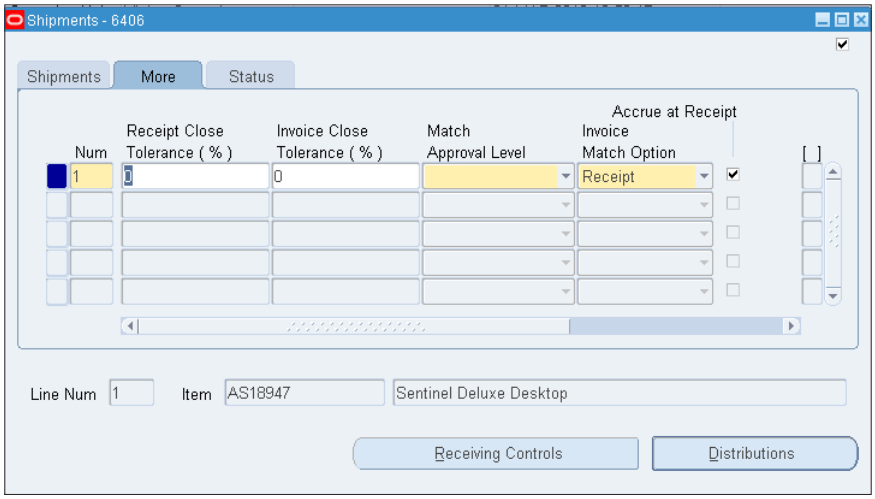
If our purchase order is in a currency other than the functional or primary currency, then we can click on the **Currency** button and change the currency as per our purchase order requirement in the **Rate Type** and **Rate Date** fields; they can be selected according to our business requirement.



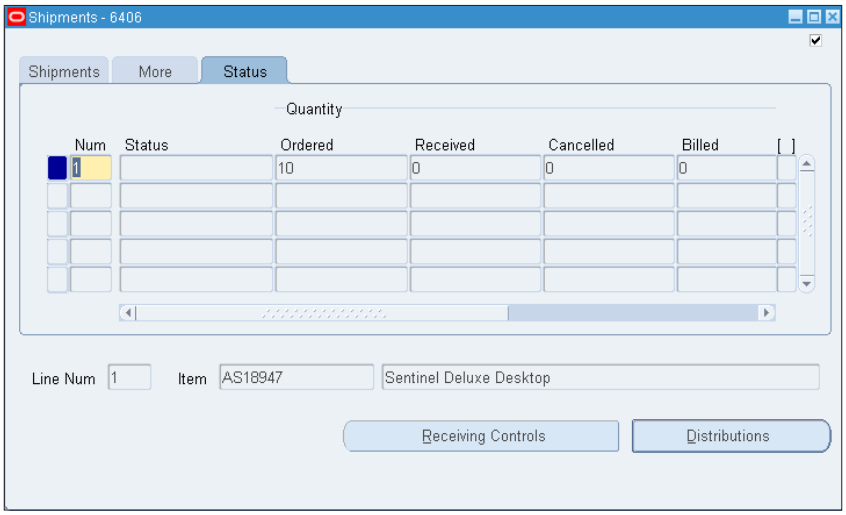
Click on the **Terms** button to select the terms. On the basis of these terms, the supplier will invoice us for the purchased goods. **Freight** and **Carrier** are also defined for the document. Special notes, if any, are also defined at this level.



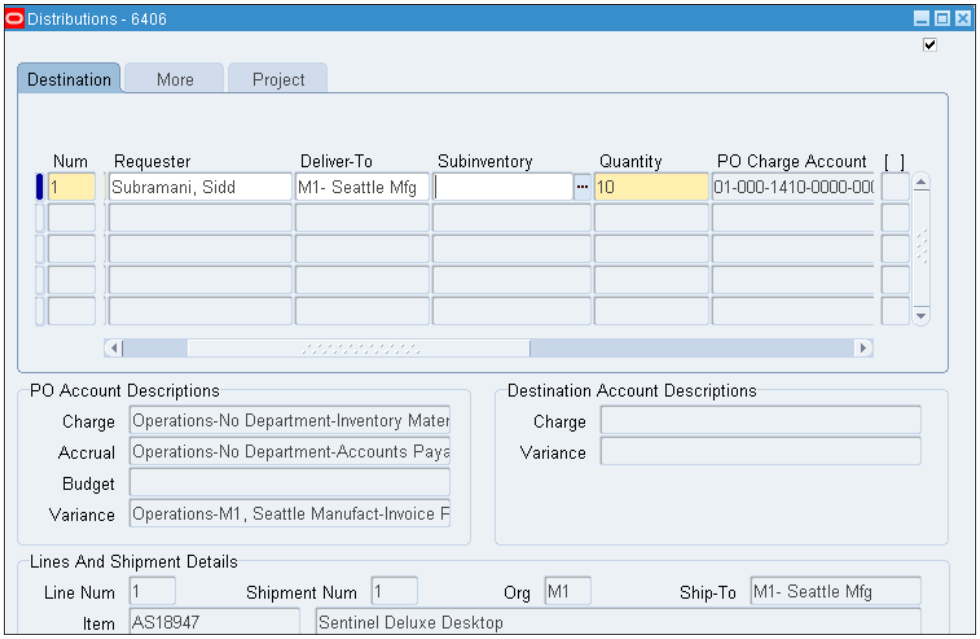
The **Shipments** tab is an important tab where we need to indicate the inventory organization and location for the goods to be received. We can also specify the quantity of goods, location, and the promised and need-by dates of the shipment. We can also see the **Charge** account, which will be debited, when the accounting entry is generated.



When we move to the **More** tab, we can see the **Tolerance** level, if set, for **Invoice Close** and **Receipt Close**. The **Match Approval Level** has options such as two-way, three-way, or four-way matching. We also define the **Invoice Match Option** either at **Purchase Order** or **Receipt**. The controls should vary from process to process. We can manage our business issues with these options available on the purchase order form.



Under the **Status** tab, we can see the status of the purchase order. As the process from procure to pay progresses, the information is also updated. For example, when we receive goods in inventory the **Received** status is updated. When the invoice is entered and matched with the purchase order, the billed quantity is also updated. Therefore, the buyer does not need to ask the inventory and payables departments for the status and an update of the purchase order.



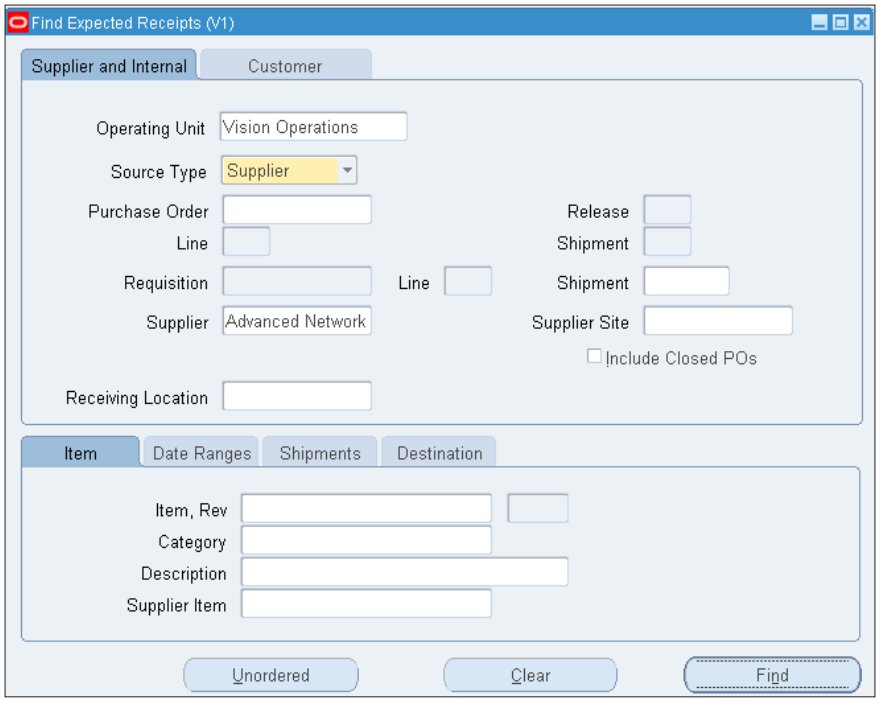
In the **Distributions** window, we see the information that is copied for the purchase requisition, on the basis of which we have created the purchase such as **PO Charge Account**, **Requester**, and so on.

Receiving of goods

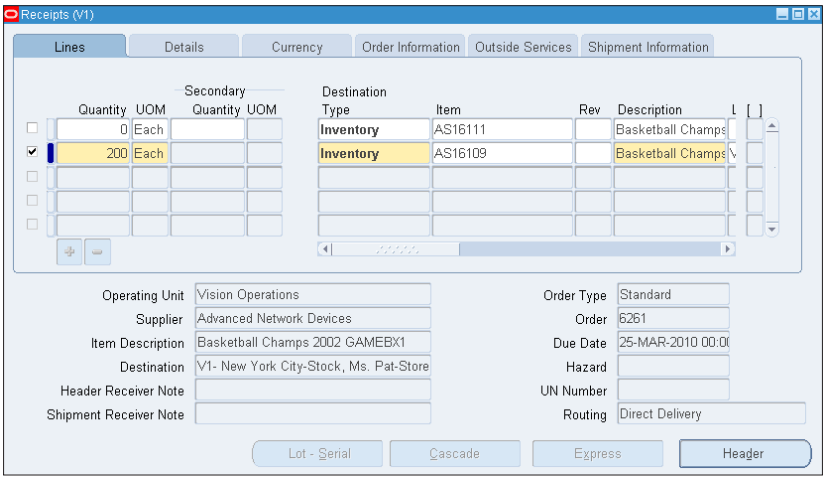
Receiving can be a closer document of one side of the purchase order, as we know purchase order closes for receiving as well as for invoicing.

After the purchase order is created and submitted to the supplier, the supplier delivers the goods on the scheduled date and by the need-by date. Scheduled deliveries can be pre-identified, by the store in charge, by running the expected receipts reports. These reports show receipts that are expected.

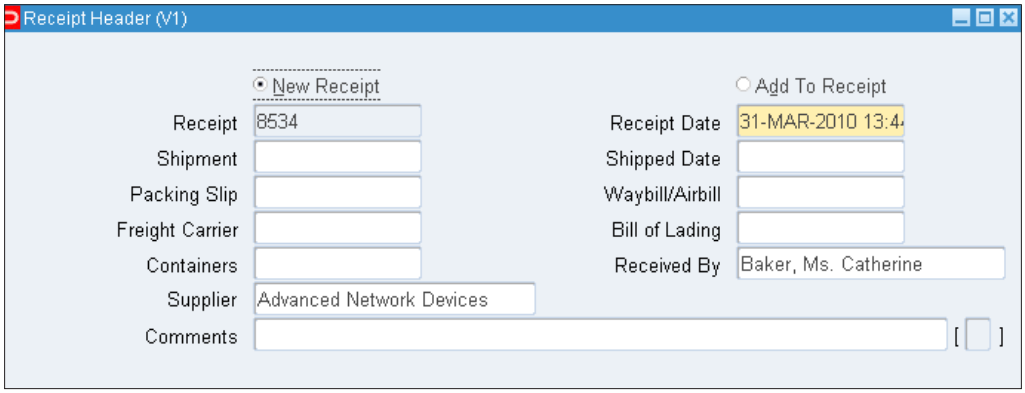
We will only look at receiving from purchasing. The receiving, inspection, and delivery process will be reviewed in the *Chapter 7, Overview of Oracle Inventory Management*.



We will navigate to **Receiving** | **Receipts** and enter the search criteria. If we have the purchase order number then we will enter it in the **Purchase Order** field, else we can search using the previously shown search criteria.



As shown in the previous screenshot, we will go to the **Lines** tab and select the line that we need to receive and click on the **Save** button. Then we will move to the receipt header to view the new receipt number generated by the system.



Summary

In this chapter, we have learned about the following:

- Oracle Purchasing
- How to set up Oracle Purchasing, its prerequisites, and process flow
- Document routing
- How the procurement process starts from purchase requisition and ends at receiving
- Purchasing documents, how they are generated, and how they are related to each other
- How to set up financial, purchasing, and receiving options
- Controls that should be kept under consideration while setting up Oracle Purchasing

In the next chapter, we will see how **Landed Cost management** (**LCM**) is used in Oracle E-Business Suite and how estimated and actual costs are calculated using Oracle Landed Cost Management. We will also see how LCM deals with freight charges, port charges, and demurrage.

6
Overview of Oracle Landed Cost Management

Oracle **Landed Cost Management** (**LCM**) is a part of the Oracle E-Business Suite. It is a web-based application. Using LCM, we can calculate the estimated cost and actual cost for an item. The costs are variable and can include the following:

- Transportation charges
- Freight charges
- Port charges
- Demurrage charges
- Container deposit and insurance, and so on

In this chapter, we will see how we can configure and use Landed Cost Management as a pre-receiving application, and how these charges are associated with the item. We will also learn how estimated and actual costs of items are managed using LCM.

The key functionalities of Oracle LCM

The key functionalities of Oracle LCM are as follows:

- With Oracle Landed Cost Management, actual and estimated item costs are managed. We can apply charges to different items using its costs, weight, quantity, and volume.

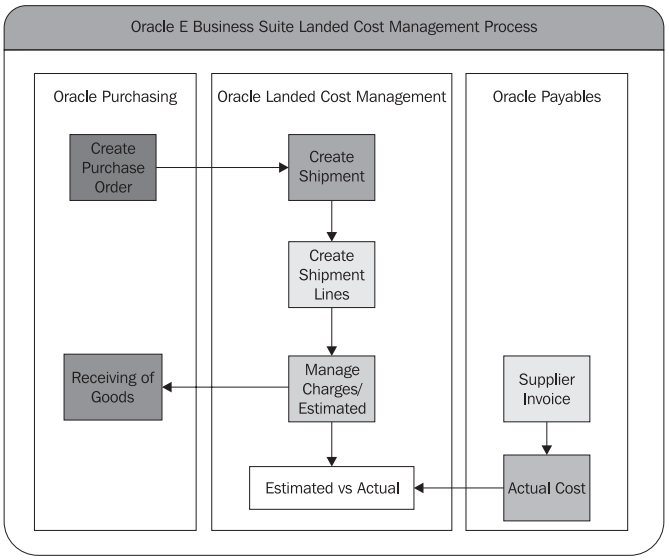
- It is fully embedded with Oracle Purchasing, Pricing, Cost Management, and Payables, which empowers us to eventually manage the estimated and actual cost.
- Each item cost is factorized using a cost factor. These cost factors eventually build up the estimated cost. We can use as many cost factors as we need to achieve the desired item cost.

Oracle Landed Cost Management process (pre-receiving application)

The process initiates when we create a purchase order for an item that a landed cost is associated with. The matching options for such purchase orders will always be receipts, otherwise, we cannot create a purchase order for an LCM-enabled inventory organization. After an approved purchase order is created, we can search for the purchase order in the LCM module. We can create a shipment for the item referred to in the purchase order. Now, at this level, the estimated cost against the cost factors will be entered. After entering the cost, we will validate and submit it.

After providing the estimated cost, the goods will be received in the inventory organization using the new estimated cost. Upon receipt of actual invoices against the order, we will match the invoice with the shipment and have the estimated and actual value of the item.

The process for Oracle Landed Cost Management is shown in the following figure:



Creating a purchase order

A purchase order contains the list of items and prices, which are agreed with the supplier in the RFQ and Quotation process. A purchase order is a legal document between the supplier and the buying organization. It contains the payment terms and the need-by and promised date of goods. A purchase order also contains the shipping schedule, ship-to location, bill-to location, and accounting information.

Creating a shipment

In LCM, as pre-receiving information, we can create shipments. These shipments are against the purchase order for the LCM organization. In the shipment form, information such as the party name and source type picked from the purchase order lines is displayed. It contains information about the purchase order item, the quantity, and amount. After adding the shipment lines and header in the **Action** drop-down menu, select the **Manage Charges** option. This empowers us with the functionality of charge lines. Here we can add charges such as freight charges, transportation charges, and so on.

Managing charges

In the shipment line we add the charge type, third-party name, site name, amount, and the allocation basis of the cost weight, value, and so on. These charges will be part of the cost used for the value of our inventory.

Actual and estimated charges

When the actual invoices arrive for the goods we will enter these invoices into Oracle Payables. All invoices are entered and matched with the receipt, item, freight, and miscellaneous charges. These costs will be transferred to LCM using the concurrent program "matches interface import".

On submitting these charges, we can see the comparison of the estimated cost as well as the actual cost in Oracle LCM.

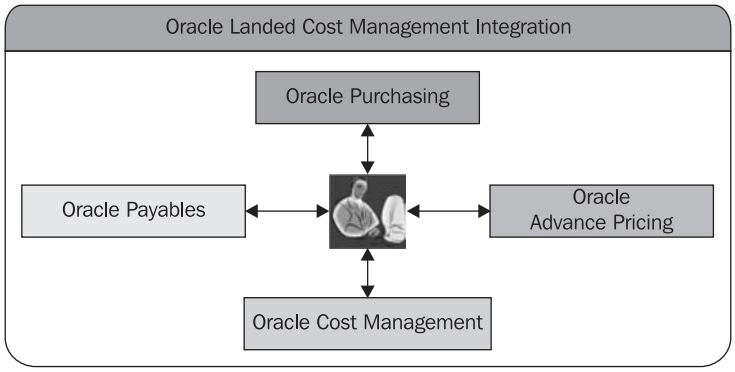
Integration of Oracle LCM with other modules

Oracle Landed Cost Management is fully integrated with other Oracle E-Business Suite modules. The following are the modules that are integrated with Oracle Landed Cost Management:

- **Oracle Purchasing**: Oracle Landed Cost Management is fully integrated with the Oracle Purchasing Suite. When a purchase order is raised for an inventory organization, which has landed cost available on it as a pre-receiving application, the approved purchase order can be called and updated in LCM. In LCM, extra charges such as freight, miscellaneous charges, port charges, and duties are added, which eventually update the cost of the goods that are to be received in the inventory.
- **Oracle Payables**: Oracle LCM is fully integrated with the Oracle Payables Suite. When the actual invoices against the purchase order arrive and enter in to Oracle Payables, the actual cost is transferred to Oracle LCM to see the difference that is raised between the actual and estimated cost of the items.
- **Oracle Advanced Pricing**: Oracle LCM is fully integrated with Oracle Advanced Pricing. When Advanced Pricing is enabled, the cost and freight duties are automatically picked from Advanced Pricing, and all shipments are updated directly.

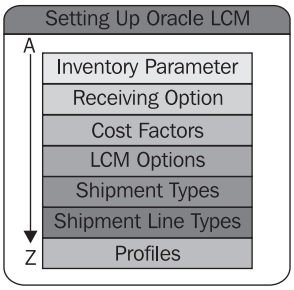
Other integrated modules are as follows:

- Oracle Inventory
- Oracle Cost Management **Sub-Legder Accounting** (**SLA**)



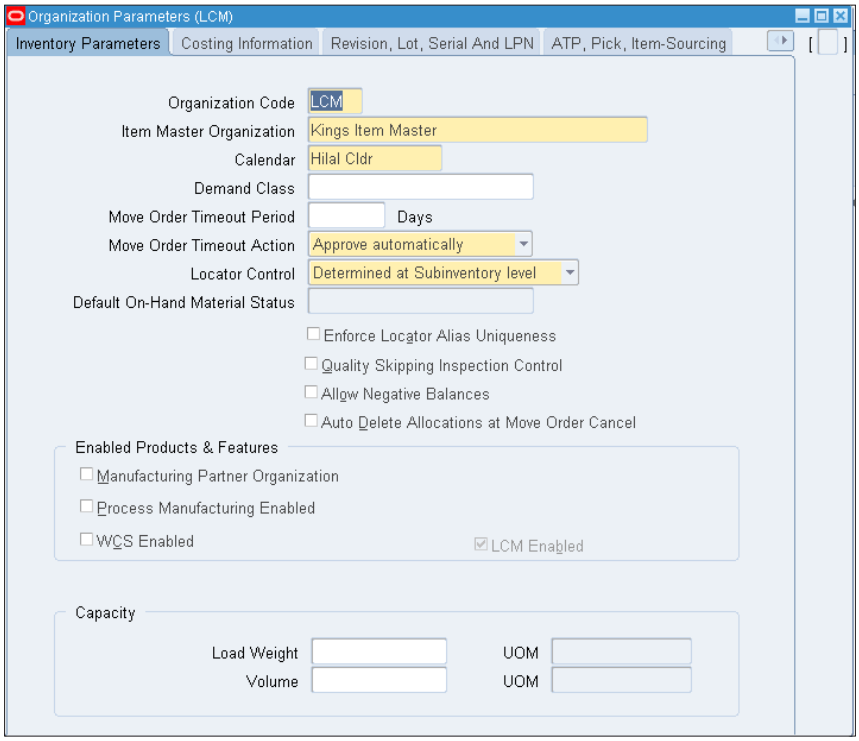
Setting up Oracle LCM

In order to set up Oracle LCM, follow the steps as shown in the following figure:

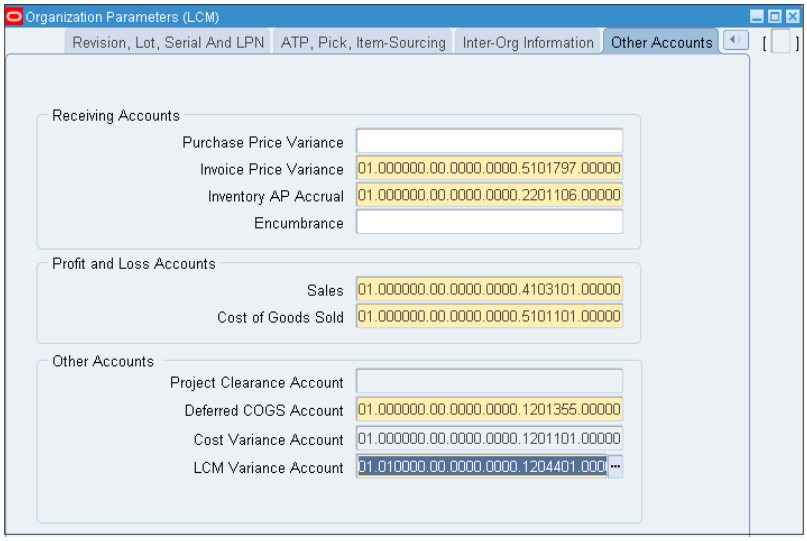


Inventory organization parameter

When we set up LCM as a pre-receiving application, the first step is to enable the LCM option under the **Inventory Parameters** tab by selecting the **LCM Enabled** checkbox in the **Enabled Products & Features** region, as shown next:

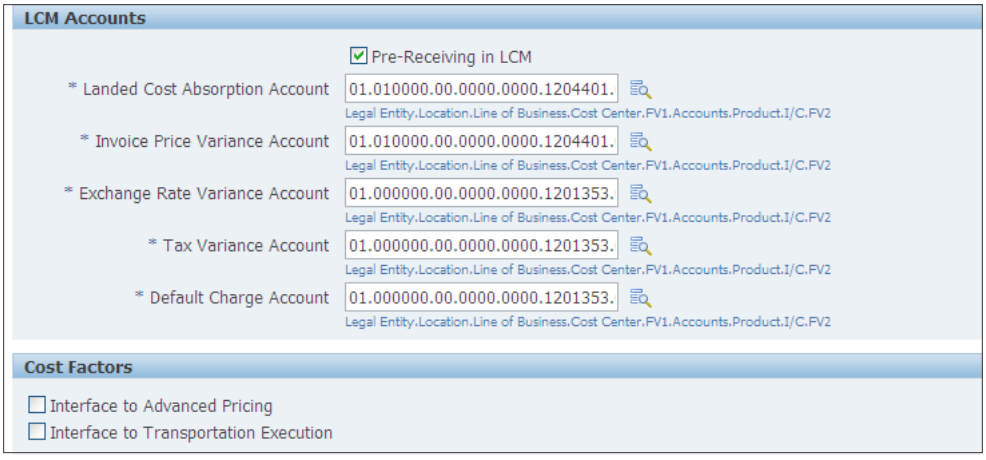


After enabling the LCM Enabled checkbox, the inventory organization is enabled for LCM. Under the **Other Accounts** tab there is an account, which is enabled for capturing landed cost variance.



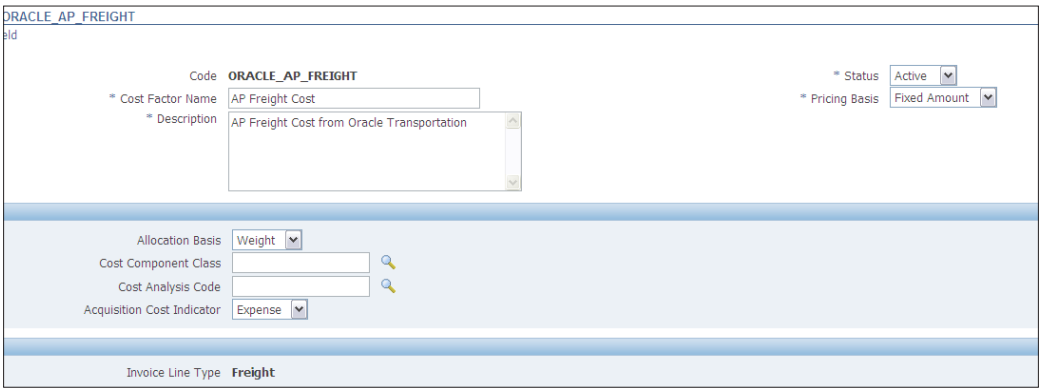
Receiving option

When we set up LCM as a pre-receiving application, we need to set up the receiving option for the inventory organization. Here we need to fill in these extra accounts that will be used while processing the orders that have extra charges identified at later stages of the purchase order.



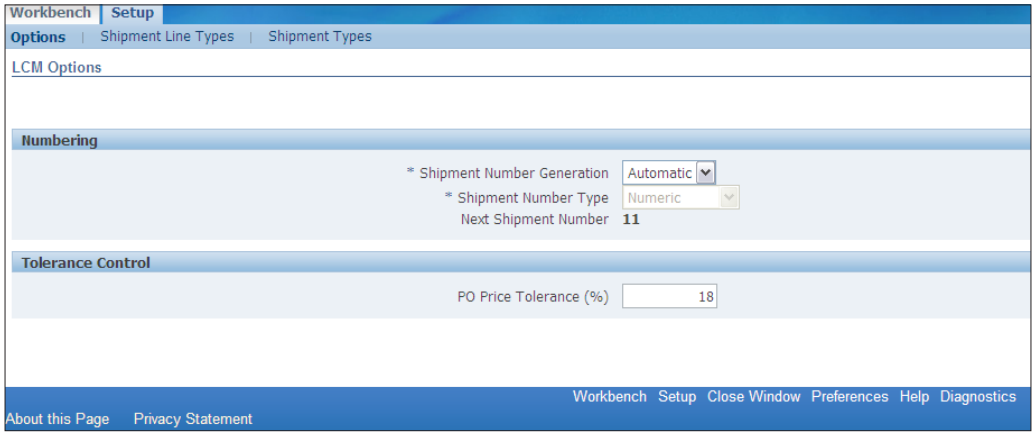
Cost factor

When we set up LCM as a pre-receiving application, we need to set up the cost factor. These factors absorb the cost of other charges incurred during the completion of the transactions. To create a cost factor we need to enter the factor name, code allocation, and pricing basis.

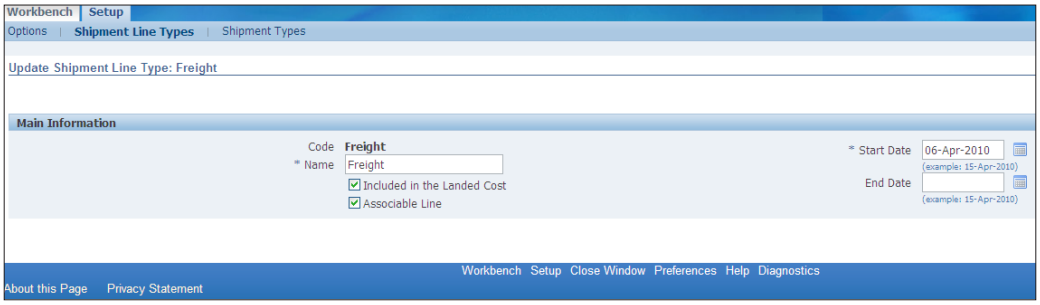


LCM options

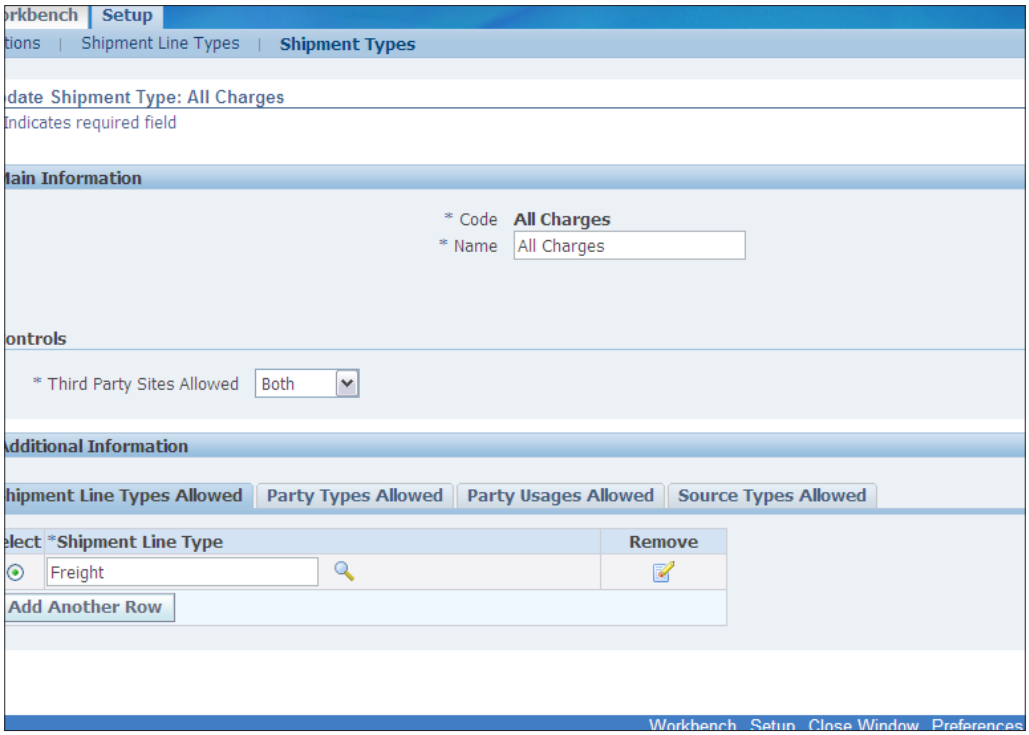
When we set up LCM as a pre-receiving application, we need to set up the LCM options. For this we need to select the inventory organization. Here we need to define the sequence number for shipments and tolerance for the purchase price.



Under the **Shipment Line Types** tab, we will enter the line code and options, such as the shipment may or may not be included in the landed cost.



Now we will move on to the **Shipment Types**, where we give the reference of **Shipment Line Types** as shown in following screenshot. We can also enter the **Party Types Allowed**, **Party Usages Allowed**, and **Source Types Allowed**.



Oracle LCM end-to-end process

In this section, we will see an end-to-end process for Oracle Purchasing, as follows:

- Entering purchase order
- Creating shipment header
- Creating shipment line
- Managing charges
- Validating and submitting charges
- Entering actual invoice
- Matching invoice interface
- Viewing estimated and actual cost

Entering purchase order

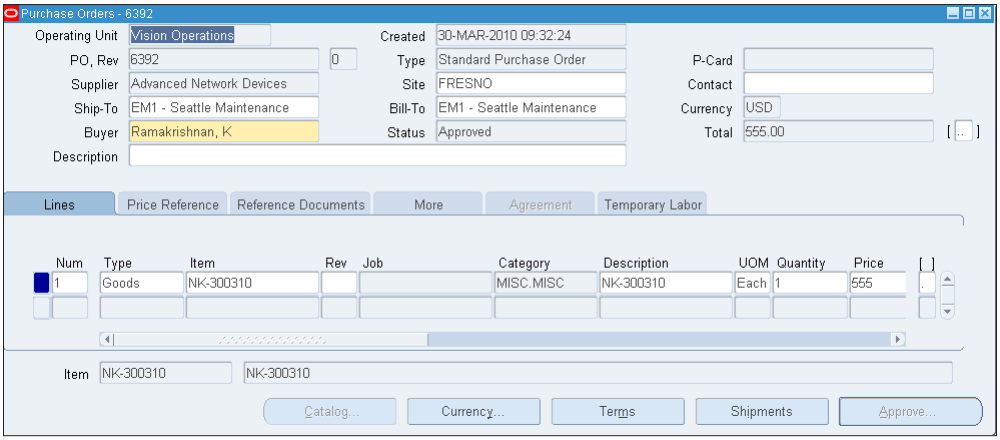
Oracle Purchasing provides us with the facility to create different types of purchase orders, as follows:

- Planned purchase order
- Standard purchase order
- Blanket purchase agreement
- Contract purchase agreement

A purchase order is the basic document that is used for the procurement of goods and services from any supplier. Oracle offers different types of purchase orders to capture different types of business scenarios in purchases.

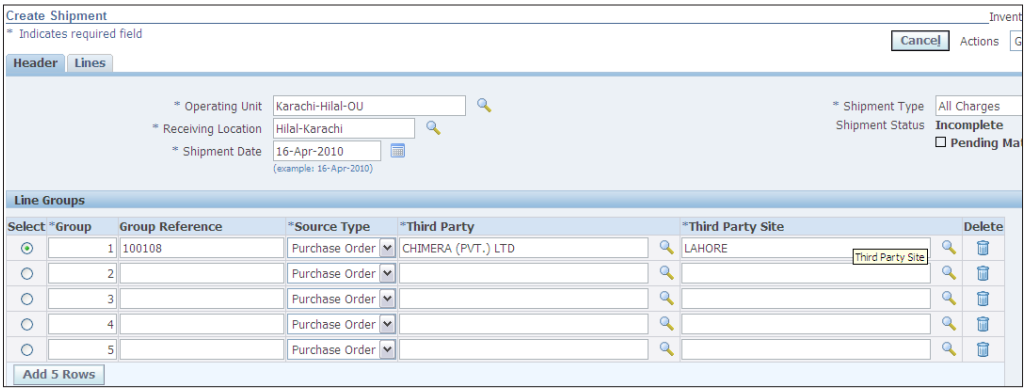
We can create a purchase order directly or by using the Auto Create form in which we convert requisitions into purchase orders. In the same way, we can amend and update the prices that are according to the quotation and have been negotiated by suppliers.

A purchase order contains basic information such as suppliers, ship-to and bill-to locations, lists of items, required prices, need-by and promised dates, and shipping and accounting information.



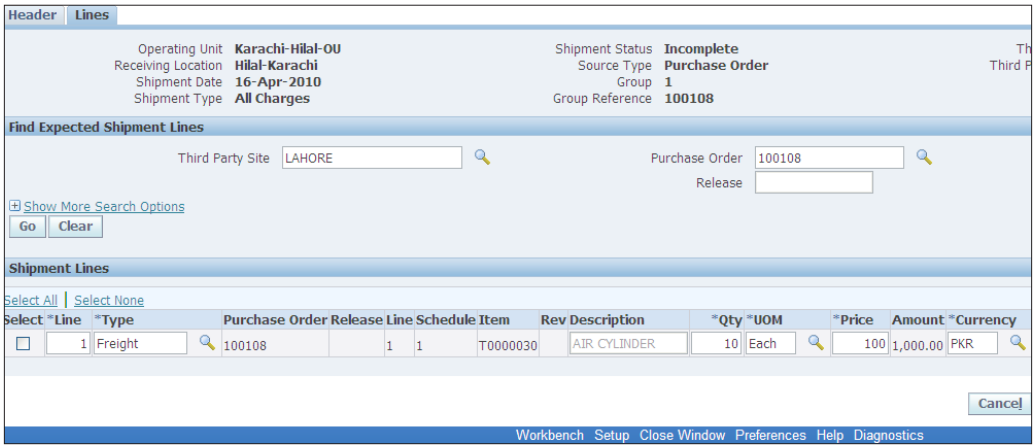
Creating shipment headers

After the purchase order is created in Oracle Purchasing and the shipping organization, we need to manage the other charges for the item. This purchase order is a Landed Cost Organization. We will navigate to **Create Shipment** and create the shipment headers for the purchase order, as shown below:



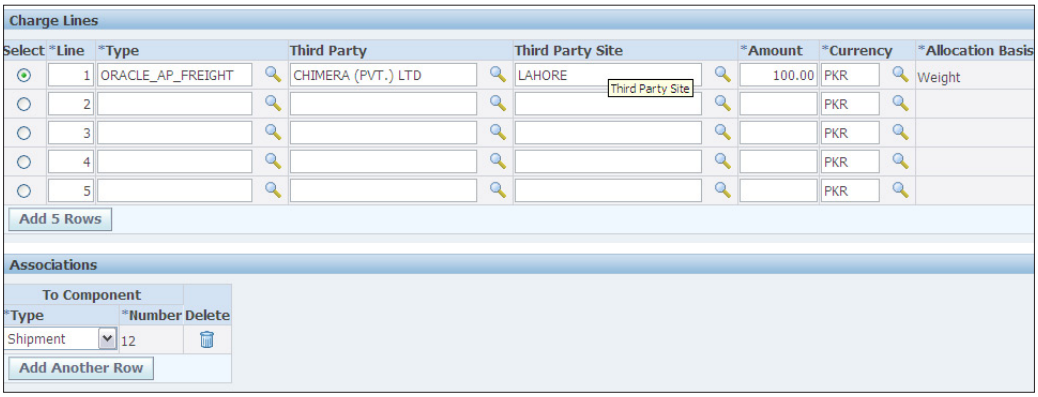
Creating shipment lines

After the header is created the shipment and information, such as supplier and supplier site, is added to the shipment header. We will navigate to create the shipment lines, as shown in the following screenshot:



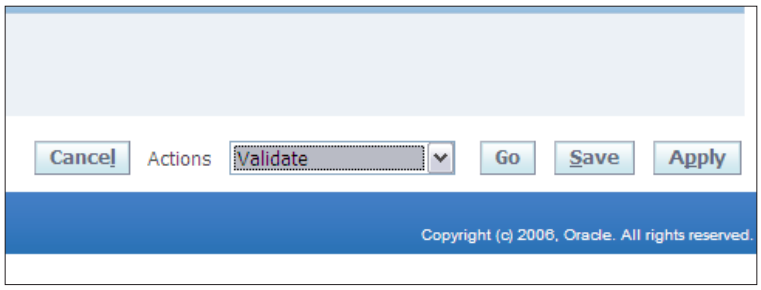
Managing charges

Select the **Managing Charges** option from the drop-down list. Enter the line types, these are actually the cost factors that we have created. We will select the party and the amount that will be charged for this particular cost factor.

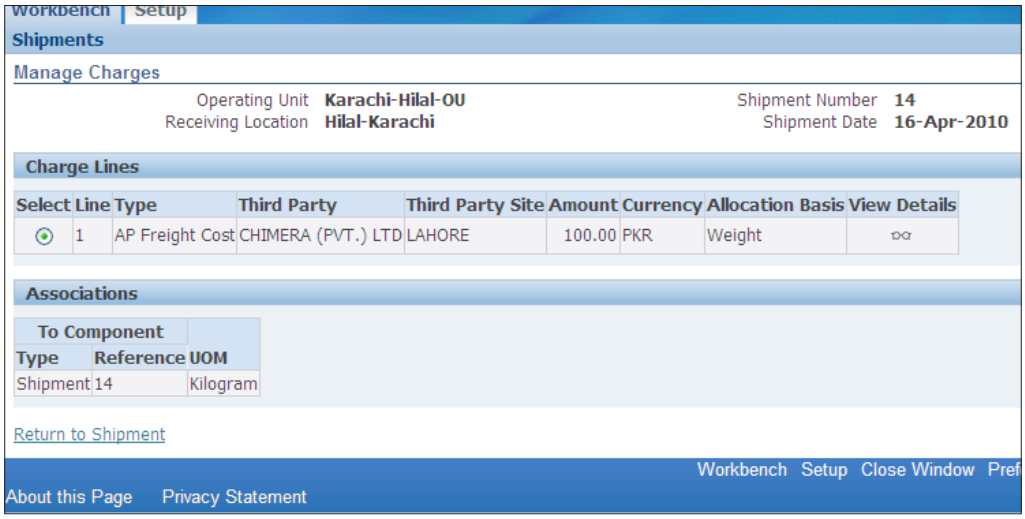


Validating and submitting charges

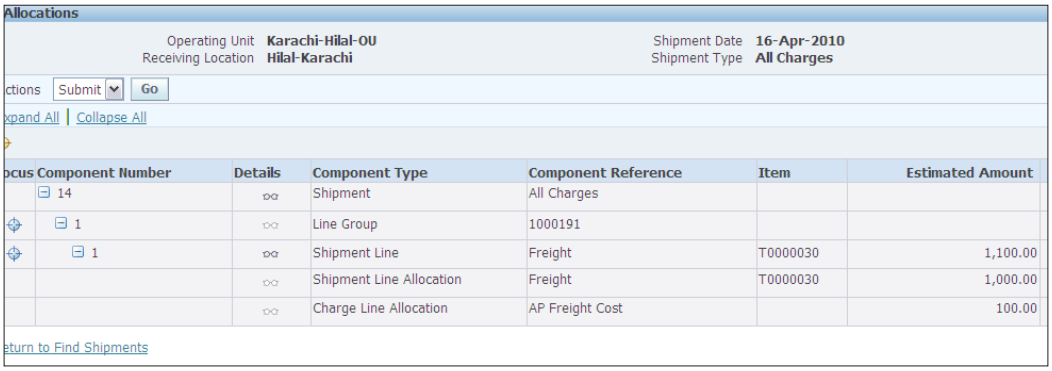
We will validate the charges that we have incorporated with the shipments. We will use the same drop-down menu, select the option **Validate**, and submit so that the record we have just created will be validated and submitted. Therefore, no further processing of the estimation can take place on this shipment.



After entering charges, we will validate and submit the charges to the shipment and the record will be saved. The charges will be applied to the shipment, we will see the **Shipment Number** and the **Cost Factor Type** that have been applied.

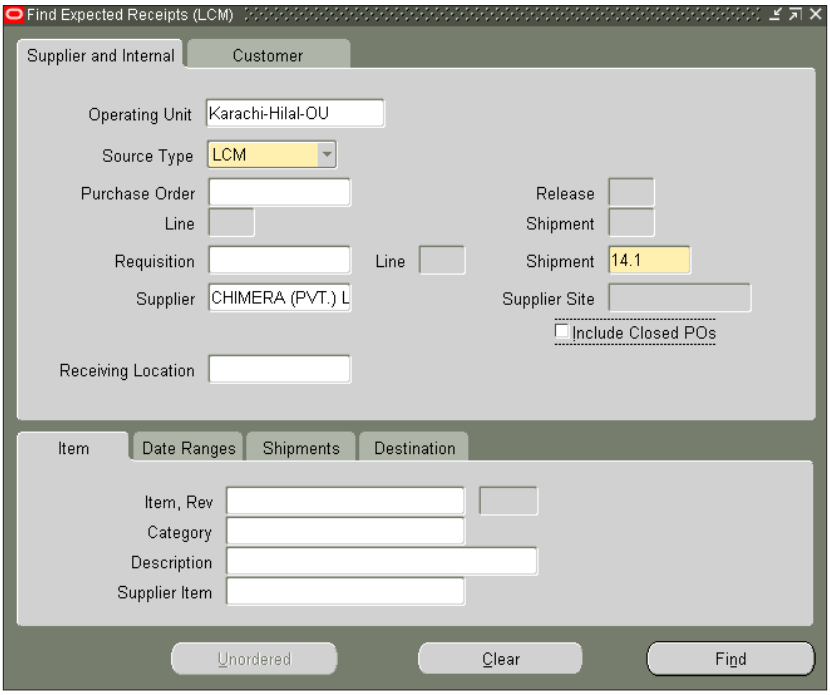


We can query the **Shipment Number** that we have just created to see the status and charges that were applied in the **Action** drop-down menu. We can select the **View Landed Cost** option to navigate us to another page where we can see the estimated amount.



Entering receipt

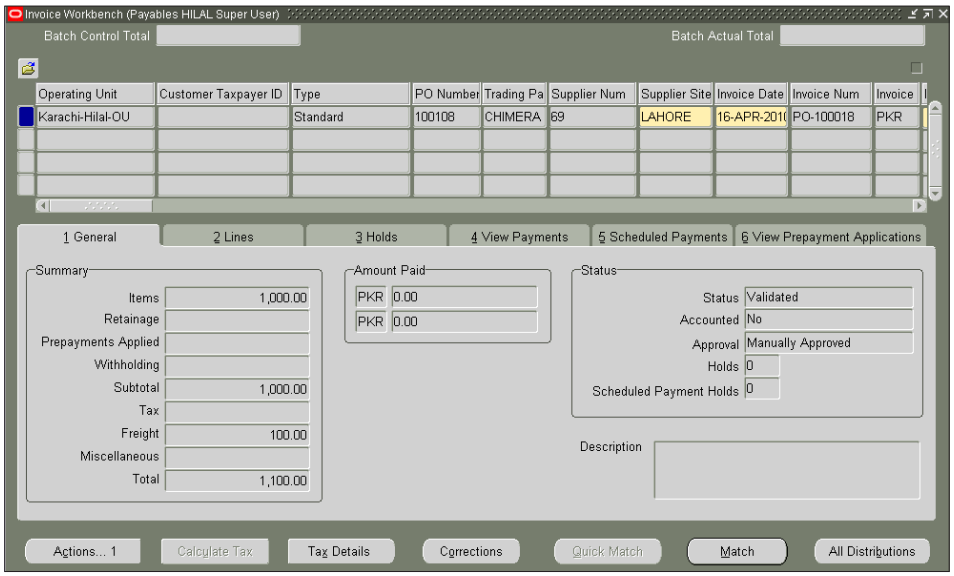
Now we will enter the receipt for the shipment that we have created in the receiving form of Oracle Purchasing. We will select the **Source Type** as **LCM** and enter the shipment number that we created in the LCM module.



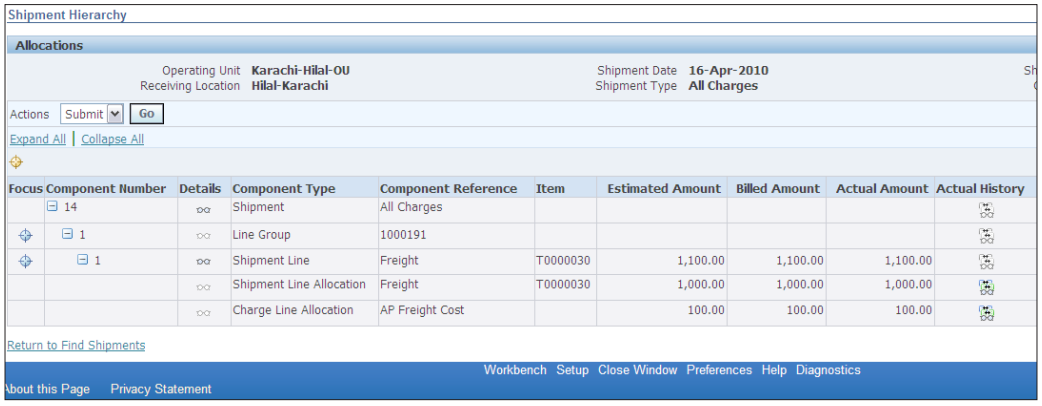
After finding the record, we will enter a normal receipt as we receive goods in the Oracle Purchasing and Inventory modules.

Entering invoice into Oracle Payables

Now we will enter the actual invoice, which is received from the supplier. These invoices will be entered into Oracle Payables. The newly entered invoice will then be interfaced with LCM, which will eventually create the actual and estimated cost comparison in LCM.

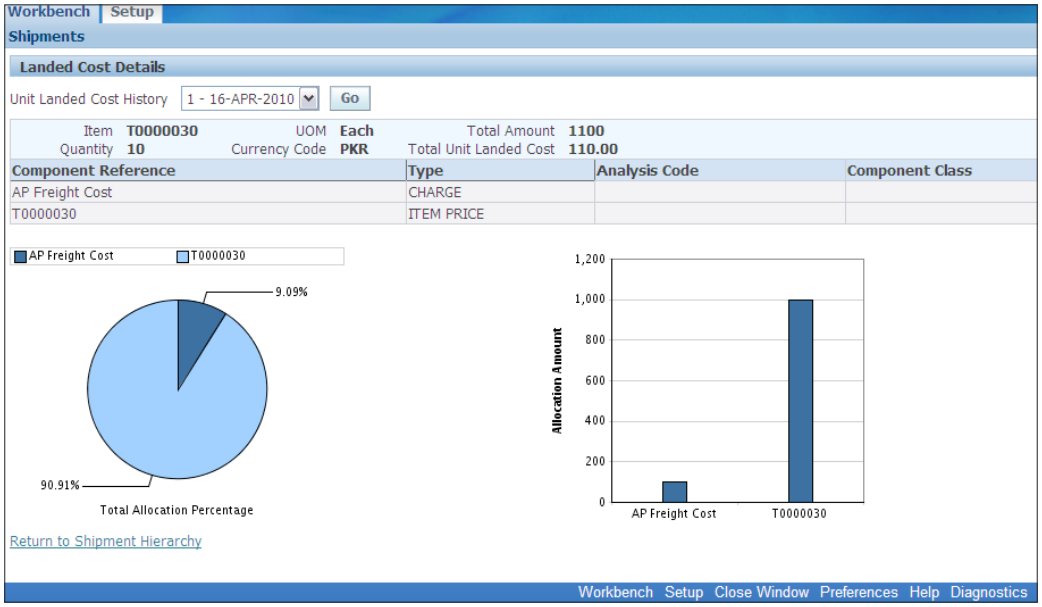


After entering the invoice, we will run the import program to match invoices using LCM. This will help us bring the actual cost in line with the estimated cost in LCM.



Now we can see the estimated cost as well as the actual cost that is incurred. We can also see the history of charge lines and the shipment lines by clicking on the **Actual History** button, in order to have a better picture.

Now if we click on the **Unit Landed Cost**, a graphical view of the item cost and other charges incurred for this item are shown.



Summary

In this chapter, we have seen the functionality of Oracle LCM and its uses. We have created a scenario in which we entered a purchase order, against which some estimated freight charges were added. Upon receiving the actual invoices, we made a graphical comparison of the estimated and actual charges, the cost factor is shown separately. We have also seen the integration of LCM with other Oracle E-Business Suite modules.

Also, we have seen how to set up Oracle LCM, the end-to-end business process, and document routing using LCM, Purchasing, and Payables.

7
Overview of Oracle Inventory Management

Oracle Inventory Management is a very important part of the Oracle E-Business Suite. Its main functionality is to manage and provide real-time transactions for our Inventory Suite. It allows us to manage our inbound and outbound logistics and to keep track of transactions in real-time. In simple words, Inventory Management allows us to manage items, which can be in the form of raw material, semi-finished goods, finished goods, services, and so on.

In this chapter, we will review the following topics in detail:

- Configuring Inventory Management
- The end-to-end process of Inventory Management
- Receiving of goods and management
- Achieving optimal inventory performance
- Issuing goods for managing different requirements

The key functionalities of Oracle Inventory Management

The key functionalities of Oracle Inventory Management are as follows:

- Receiving goods and services with Oracle Inventory Management
- Creating and updating different items as raw materials, semi-finished, and finished goods
- Managing item categories and category sets

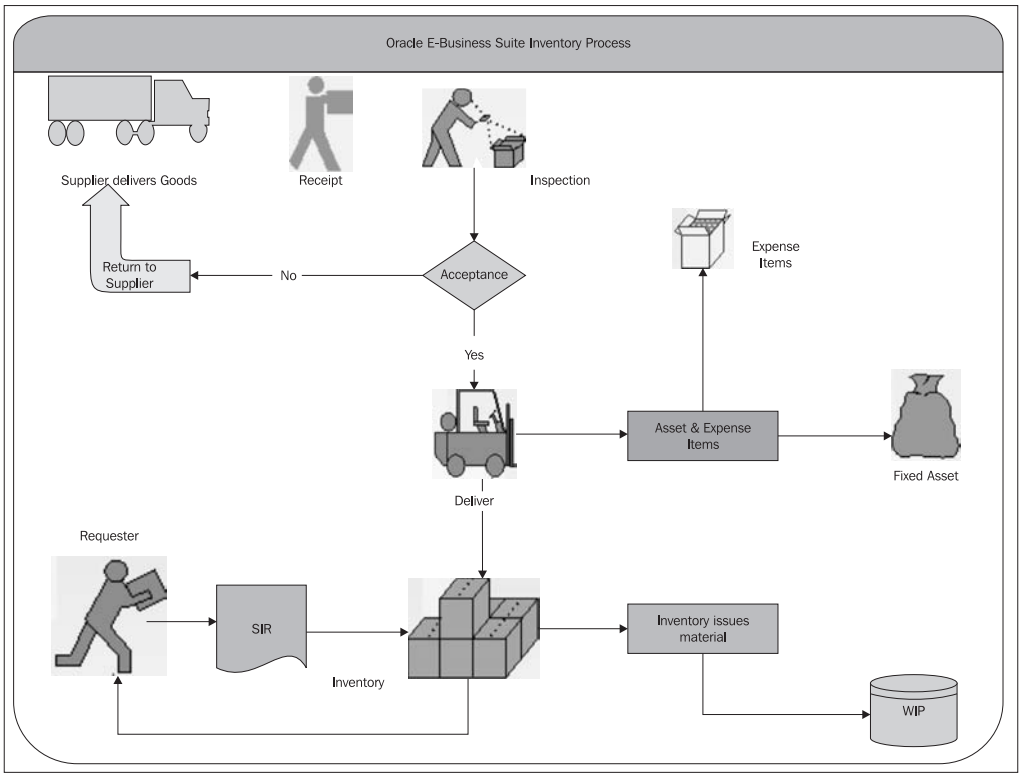
- Creating and managing Units of Measures (UOMs) and defining the possible conversions
- Managing sub-inventories and stock locators for proper placement of items in the warehouse and proper control for optimal inventory performance
- Issuance of goods using move order, managing issuance for consumption, and different business requirement using miscellaneous transactions
- Managing the warehouse for optimal performance using min., max., and other planning methods
- Controlling the inventory using various controls such as locator, lot serial, and so on
- Transferring goods from one inventory organization to another
- Transferring goods from one sub-inventory to another
- Managing and updating item costs as per business requirements
- Physical inventory and stocktaking, managing warehouse as per actual, and performing periodic audits to synchronize the Inventory Management Suite with a physical inventory in the warehouse
- Running various reports to perform daily business processes, transaction summaries, overviews, and month-end reconciliation of inventory

Oracle Inventory Management process

The Oracle Inventory Management process normally starts when a shipment arrives against a purchase order. This shipment is received at the receiving dock and receiving will then be carried out in Oracle Inventory. On the basis of the received transaction, the process of inspection will take place. This process will determine the quantity of the shipment that is to be accepted or rejected at inspection level.

The accepted quantity will be delivered to the warehouse, where it will actually physically increase the value in stores, as well as in the books.

The inventory that is received in store should be against the requirement that is generated from different departments. The inventory is managed and organized in the warehouse until the requirement is received from the requesting department for goods. On receiving the requirement from these departments, the goods will be issued.



Receipt

Receipt is generated when goods arrive at the receiving dock as per the quantity ordered during the procurement process. Using the receipt form, we will receive the supplied quantity at the receiving dock where the inspection process will take place.

Inspection

After the goods are received at the receiving dock against the purchase order, these goods will be inspected. The inspection process is usually conducted by the Quality Assurance department of the respective department who ordered the goods. The process of inspection will take place according to our business practice and requirement. At the inspection level, we will make to decision that either accept the received quantity or reject it.

Deliver

Deliver is the stage where the quantity accepted during the inspection process will now be moved to inventory, it will increase the quantity of the item in the stores. At the time of delivery of the goods into the store, the material account will be debited and the inventory received will actually be shown in our stores and books.

Returns

After the goods are inspected, if some of the quantity is rejected then the rejected quantity can be returned to the supplier. In the "comments" section of the form, we can also enter the reason for rejection. Oracle provides us with the functionality for two different kinds of returns, as follows:

- Return to receiver
- Return to supplier

The process that fits our business requirement will be used.

On-hand availability

On-hand availability is the form where the goods received at the receiving location, in transit due to an inter-organization transfer, or that exist in the warehouse, are shown. It is also known as **Material Workbench**. When viewing the on-hand quantity, we have different search and find criteria that can be used to refine the search for our items.

Sub-inventory transfer

Sub-inventory transfer is used when we need to transfer goods from one sub-inventory store to another. This transfer is within the same inventory organization. If we have more than two sub-inventories available in the inventory organization then we can efficiently use this functionality.

Inter-organization transfer

Inter org or **inter-organization** transfer is the mechanism of transferring goods from one inventory organization to another. We can achieve this functionality by creating shipping networks between inventory organizations, which hold the complete information regarding the transfer of the cost that occurred during the transfer. Also, accounting entries of inter-organization payables and receivable are managed.

Move order

Move order is normally used to transfer and issue goods from the inventory to the user department. A move order requisition is basically a request generated for issuance of the item that is allocated to the desired quantity and lot. This allocation is reviewed and then transacted by the inventory manager. The transaction of move order will be less than the quantity from the inventory organization. The accounting entry for the move order will also be created in the system.

Integration of Oracle Inventory Management with other modules

Oracle Inventory Management is fully integrated with other Oracle E-Business Suite modules. The following are the modules that are integrated with Oracle Inventory Management:

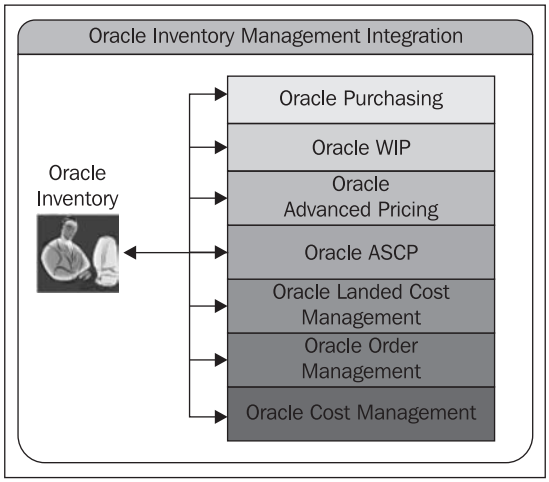
- **Oracle Purchasing**: Oracle Inventory Management is fully integrated with the Oracle Purchasing Suite. When a purchase order is raised, we need to specify where these goods will be shipped and we need to specify the inventory organization. The goods will be received at the receiving location and further operations such as inspections, returns, and deliveries take place on the received goods.

  For inventory items when a purchase order is raised, the charge account is always the material account in the case of an average costing organization. Oracle Purchasing shares the setup and master data with inventory such as items, inventory organization, sub-inventory locators, receiving options, and so on.
- **Oracle Order Management**: Oracle Inventory Management is fully integrated with Oracle Order Management. In Oracle Order Management, internal orders are created which are a result of the internal requisition created in Oracle Purchasing. The inventory is issued and transferred using internal orders. Oracle Order Management shares the setup and master data with inventory, such as items, inventory organization, sub-inventory locators, rules, and so on.
- **Oracle Payables**: Oracle Inventory Management is fully integrated with the Oracle Payables Suite. When invoices against the purchase order arrive and enter Oracle Payables, these invoices are matched with receipts. In three-way and four-way matching controls, Oracle Payables validates whether or not the quantity has been received and accepted in the warehouse, else it applies a hold on the invoices.

- **Oracle Advanced Pricing**: Oracle Inventory Management is fully integrated with Oracle Advanced Pricing. We prepare different price lists for our items in Oracle Advanced Pricing, and calculate surcharges and discounts using different modifiers and formulae.
- **Oracle Cost Management SLA**: Oracle Inventory Management is fully integrated with Oracle Cost Management. It is responsible for managing the accounting transaction for Oracle Inventory. It transfers the accounting entries to Oracle GL. In Cost Management SLA, various costing methods for product costing are maintained; for example, average, standard, LIFO, FIFO, and periodic costing. Costing for products and the costing history is also maintained in Cost Management.

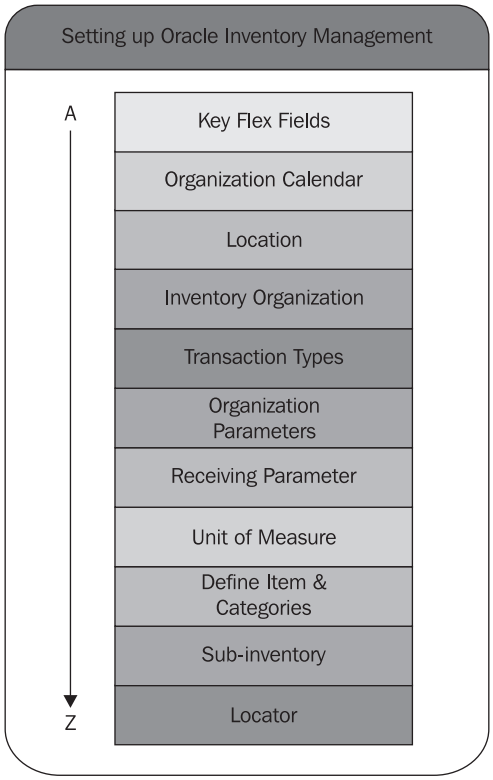
The following are the other modules integrated with Oracle Inventory Management:

- Oracle Project Manufacturing
- Oracle Flow Manufacturing
- Oracle Global Order Promising
- Oracle Warehouse Management
- Oracle Engineering
- Oracle Field Service
- Oracle Bill of Material
- Oracle Work in Process
- Oracle Landed Cost Management
- Oracle Advanced Supply Chain Planning



Setting up Oracle Inventory Management

In order to set up Oracle Inventory Management, the following setup steps are required, as shown next:



Key Flexfields

Key Flexfields are used to describe the identifier of the entities. Key Flexfields are normally used to structure our module according to our business requirements. We can map the flexible extendable segments as per our needs.

In Oracle Inventory Management, the following Flexfields are used:

- System Items Flexfield
- Item Categories Flexfield
- Account Aliases Flexfield
- Item Catalogue Flexfield
- Sales Order Flexfield

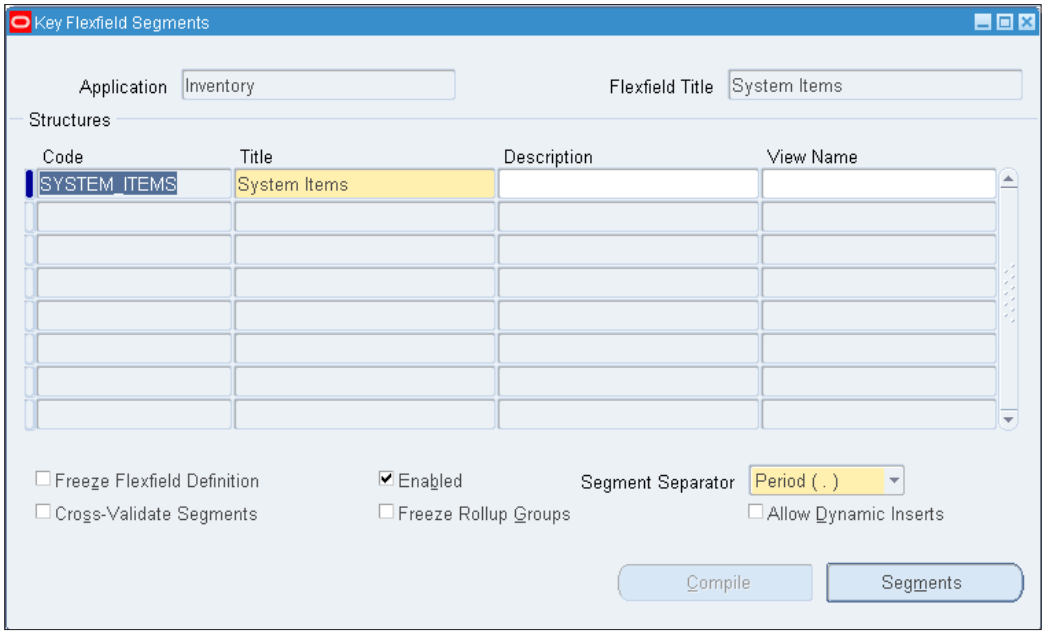
- Stock Locators Flexfield
- Service Items Flexfield

System Items Flexfield

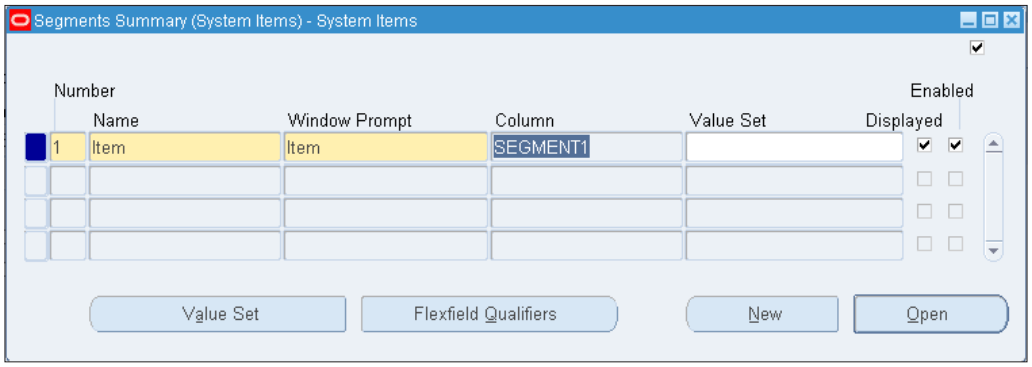
The System Items Flexfield demonstrates the structure of our item code. The structure of the item code will depend on the business requirements.

To create a new System Item structure, we will navigate to **Setup** | **Flexfields** | **Key** | **Segments** and query the Flexfield title as System Items.

In System Items, we can have only one structure. We cannot add multiple structures here.



Now we will move to segments. In the **Segment** window, we can create as many as 20 segments for our structure. It varies from business to business how we code our items. The best practice is to limit our item to one to three segments, all the intelligence can be covered using the item categories.

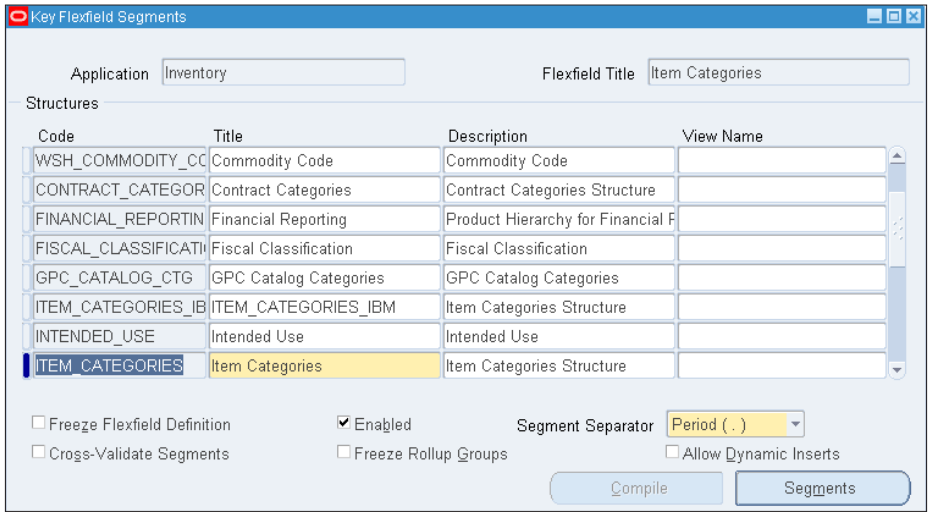


Once we have finished with the structure, we will save our transaction and freeze the structure by enabling the **Freeze Flexfield Definition** checkbox, which will not allow us to make further changes to the Flexfield structure. The structure will be frozen after enabling the checkbox. The **Compile** button will be enabled and we will compile the structure we have created so that it becomes finalized and compiled.

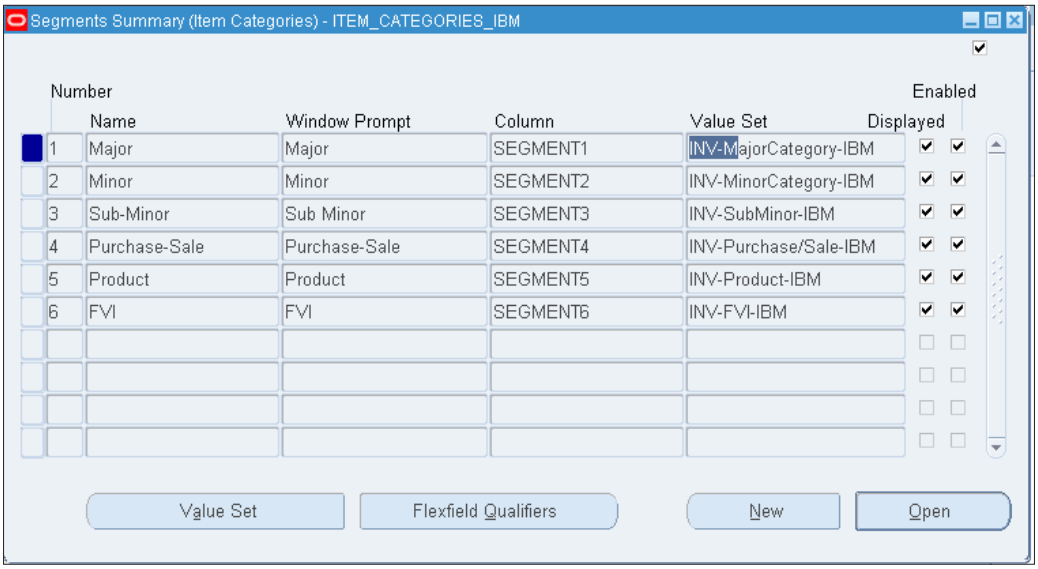
Item Categories Flexfield

The Item Categories Flexfield demonstrates the structure of the item categories that will be used to determine the category that the item belongs to. We can create many segments in the Item Categories Flexfield, to capture our business needs and requirements.

To create a new Item Category structure, we will navigate to **Setup** | **Flexfields** | **Key** | **Segments** and query the Flexfield title as Item Categories.



In Segments, we will create the segments as per our business requirements, that best fit and suit our reporting needs, and which easily differentiate items at different categorical levels. The basic functionality of Item Categories is to categorize your item at different reporting segments.

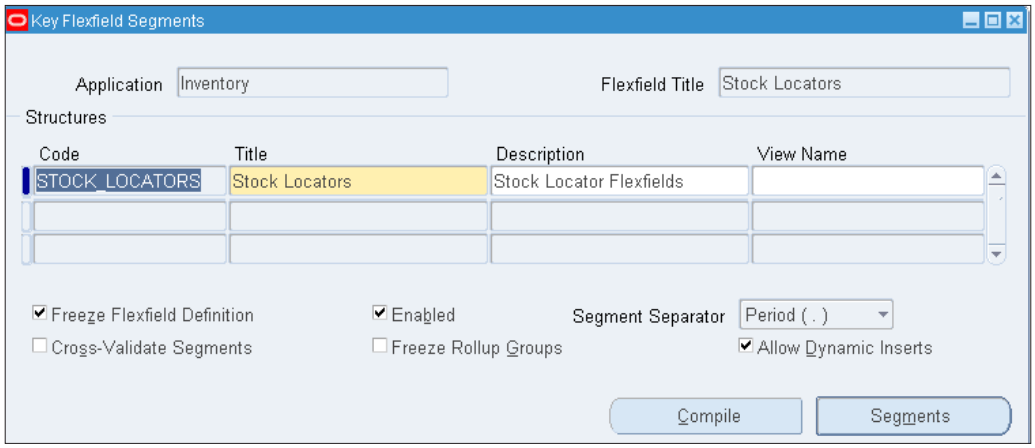


Once we are finished with the structure we will save our transaction, freeze the structure by enabling the **Freeze Flexfield Definition** checkbox, which will not allow us to make further changes to the Flexfield structure. The structure will be frozen after enabling the checkbox, the compile button will be enabled and we will compile the structure we have created so that it becomes finalized and compiled.

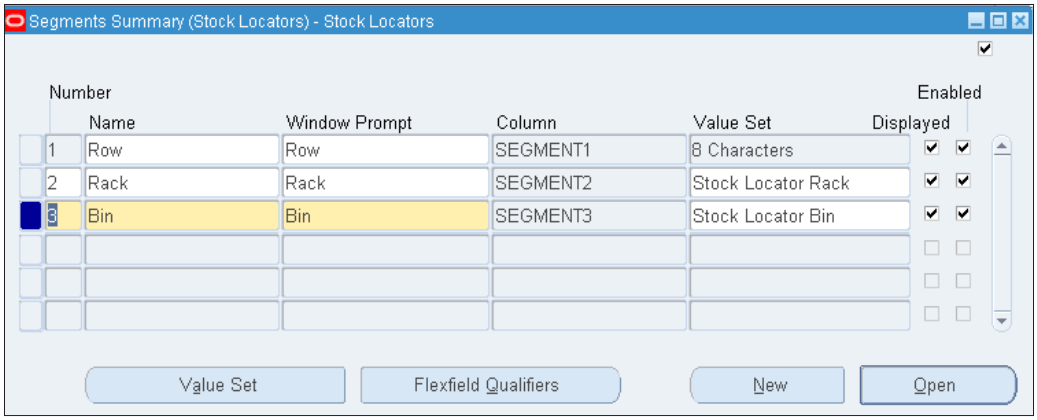
Stock Locators Flexfield

The Stock Locators Flexfield demonstrates the structure of your stock locator in the inventory warehouse. Stock Locators define the particular physical location of the goods in the warehouse, which makes it really easy to find the goods in huge warehouses.

To create a new Stock Locator structure, we will navigate to **Setup** | **Flexfields** | **Key** | **Segments** and query the Flexfield **Title** as **Stock Locators**.



Now, we will open the segments as per our needs and requirements of stock locators in the warehouse. We can create as many as 20 segments. Normally we use three to six segments, which can be used to specify any location in the warehouse.

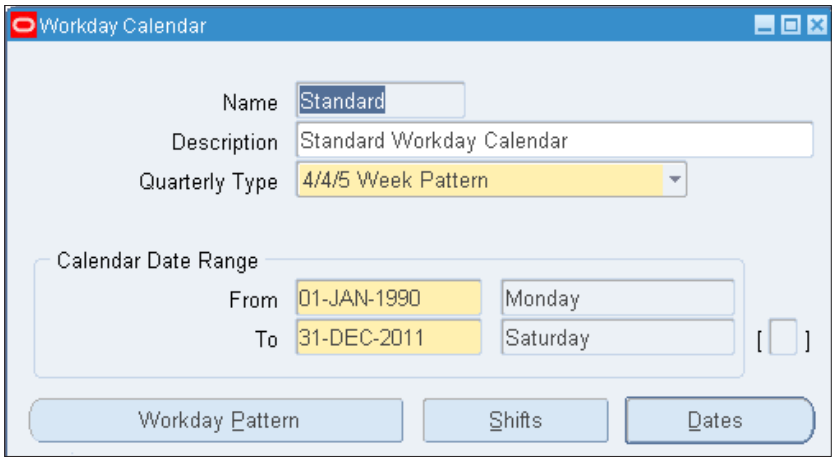


Again we are finished with the structure, we will save our transaction and freeze the structure by enabling the **Freeze Flexfield Definition** checkbox. In the same manner, we will create other Flexfields and the structure according to our business needs and requirements.

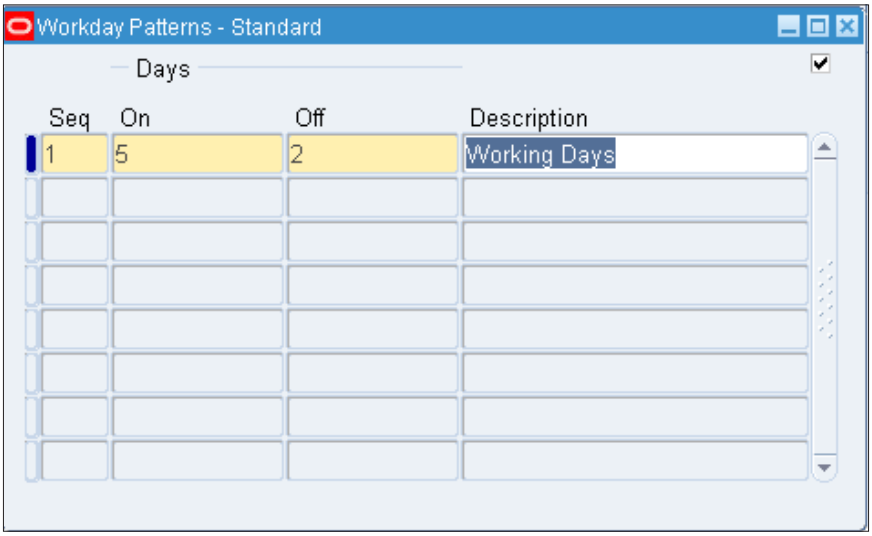
Organization calendar

The inventory organization calendar is mandatory for any inventory if we are performing activities related to planning and forecasting. The calendar is also used for calculating the number of working days and holidays for manufacturing inventory organization. In the calendar, we can specify the days on and off.

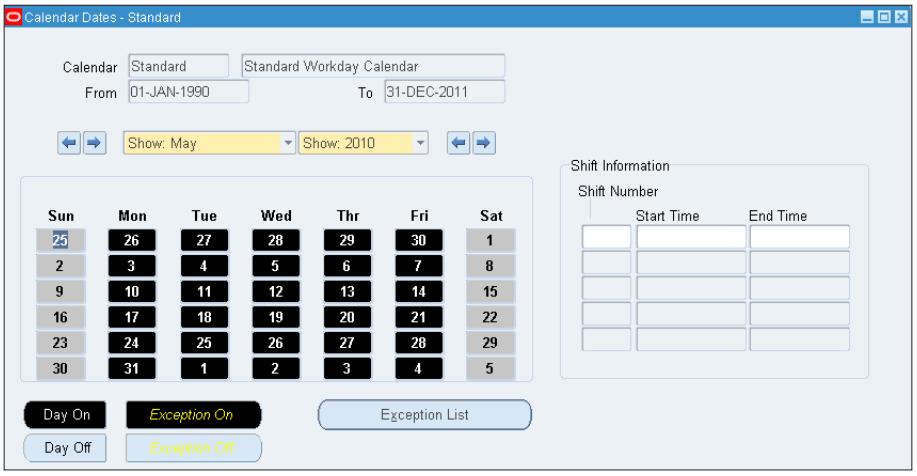
To create an organization calendar, navigate to **Setup** | **Organization** | **Calendars**.



Now we will finalize the workday pattern that will define the number of working days and holidays in a week.



After creating work patterns, we will move to the shifts and dates that we will follow in the inventory organization.

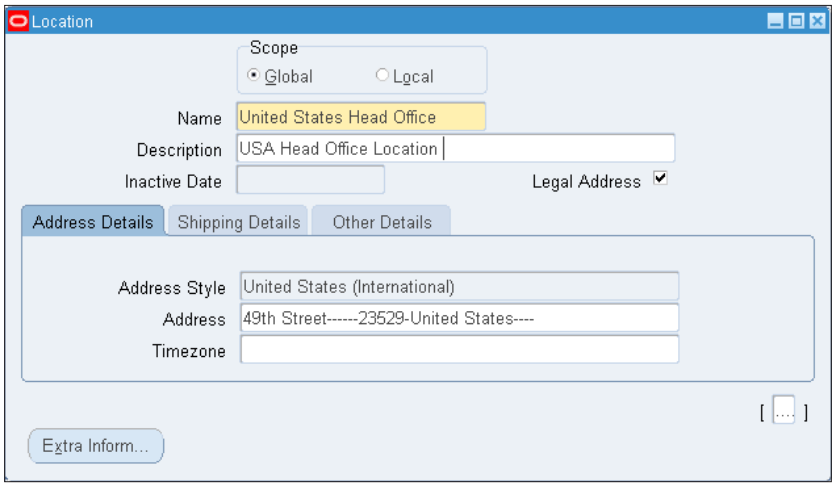


It is clear from the previous screenshot, we can review the calendar in **Standard** date and time view, where Saturdays and Sundays are holidays and the remaining five days are working days for the inventory organization. If we have other day on/off exceptionally, we can click the **Exception List** on/off for that particular date.

Location

The locations are the physical locations, which are mapped with our inventory organization. These locations define the physical address of the inventory organization. We can assign only one location to any inventory organization.

To set up the location, we need to navigate to **Setup** | **Organization** | **Locations**.



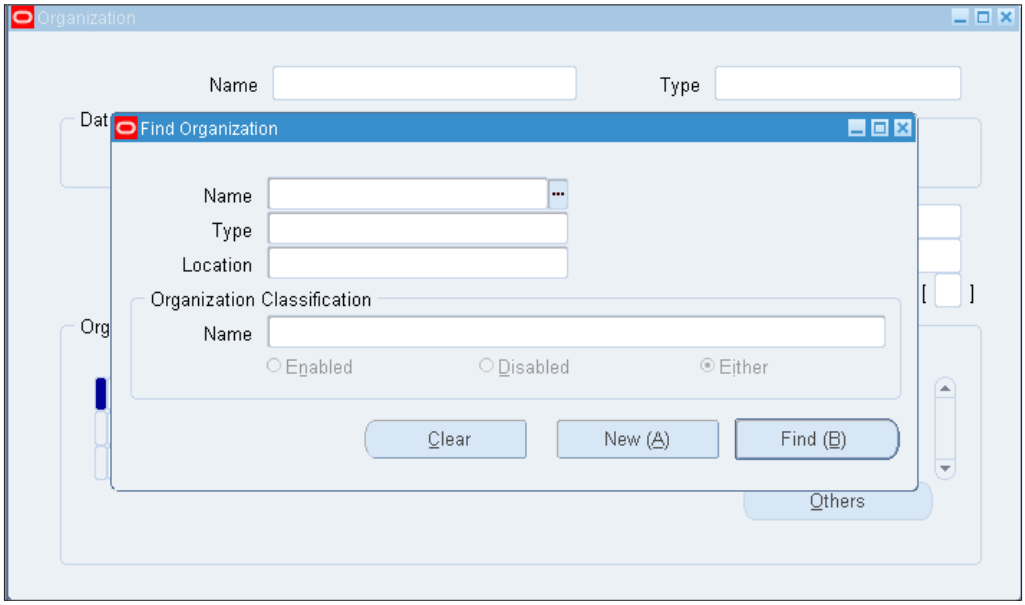
This location is required when we are creating an inventory organization so that we can assign proper physical locations to our inventory organizations.

Inventory organization

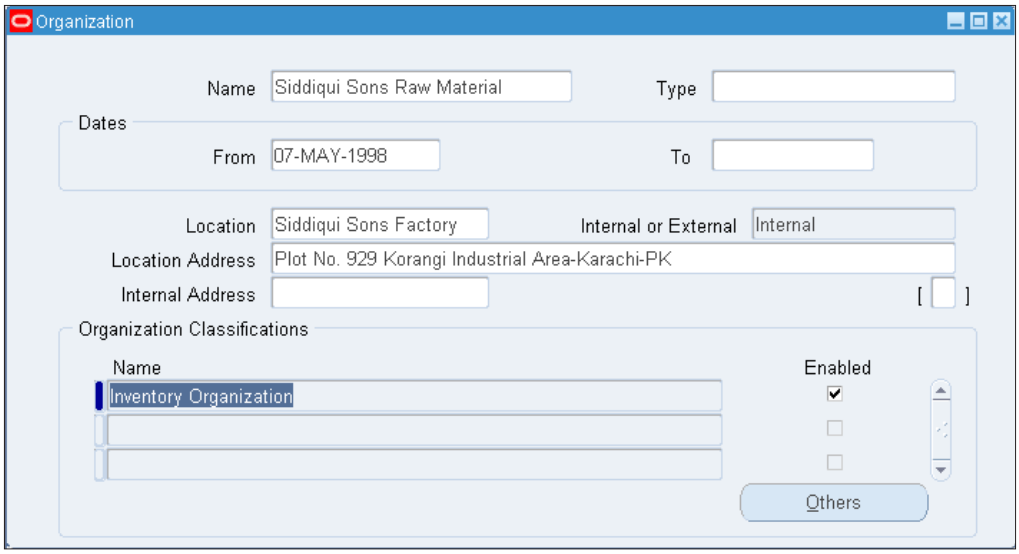
The **inventory organization** is the warehouse to define items or the logical differentiation of material. In every inventory organization, we have controls to manage our item at different levels. For example, in sub-inventories we create the inventory organization where goods actually reside. In the same way, we have controls such as locators, lots, and serials.

We can create many inventory organizations for an operating unit and business units. In Oracle, inventory organization can be for finished and semi-finished goods, raw materials, the technical store, and packing material. The number of different inventory organizations depends on the business process requirements of the organization.

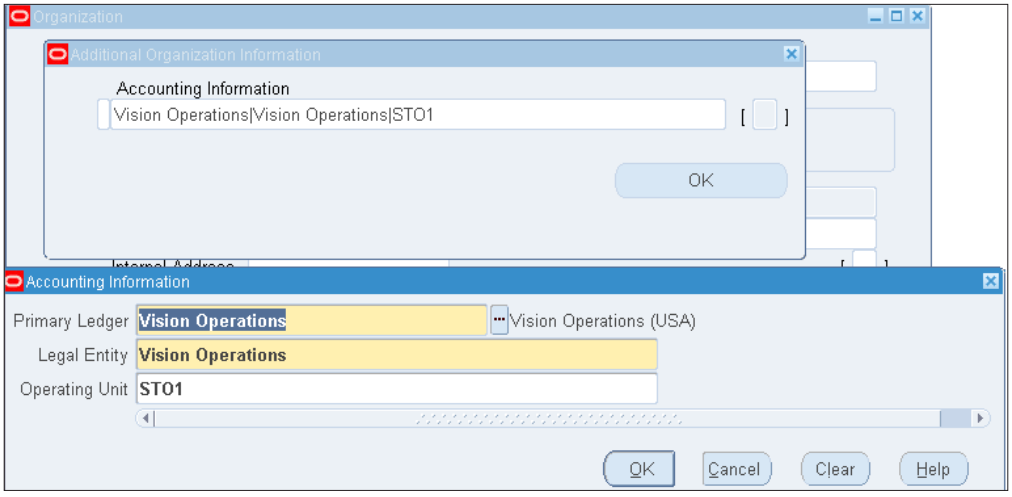
To define an inventory organization, we need to navigate to **Setup** | **Organization** | **Organization**.



Now we can query the previously created inventory organization, as well as create a new inventory organization using the previous screenshot.

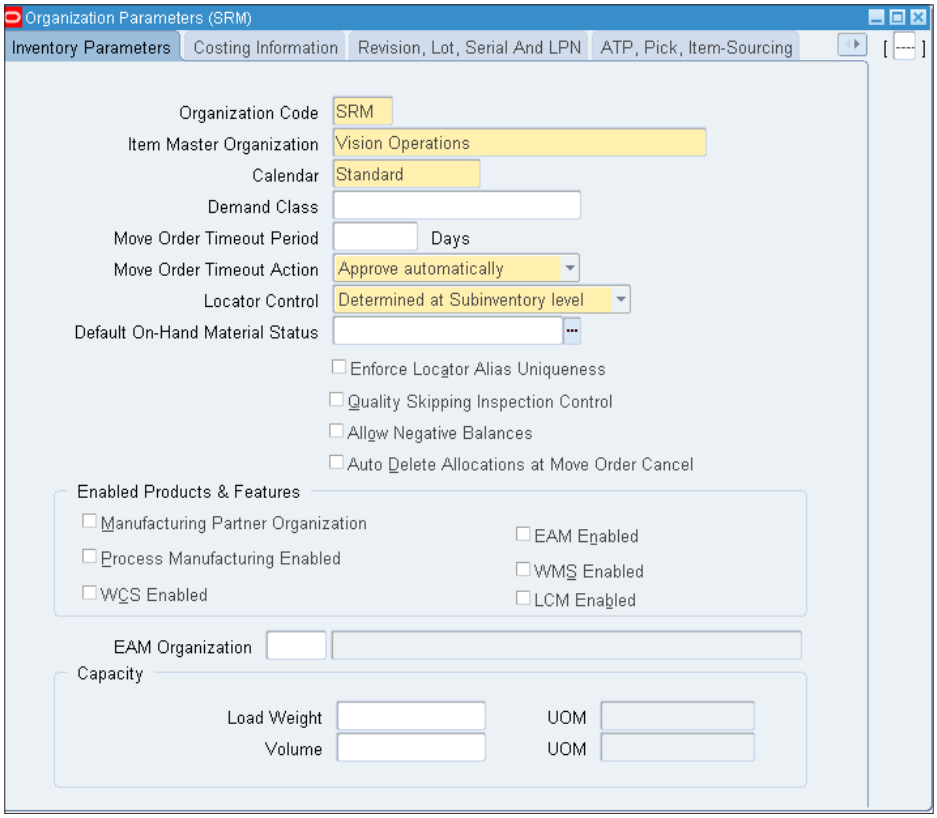


In the **Name** field, we will enter the name of the inventory organization, as we are creating an inventory organization where all the raw material items will be managed. In the **From** field, under the **Dates** section, we will give the date the inventory organization was created. Now, we will include the **Location** that we have created for the inventory organization that specifies the physical location of the factory where it is physically present. After saving all the information on the form, we will navigate to the **Others** button to enter all the other information for the inventory organization, such as accounts and inventory organization parameters.

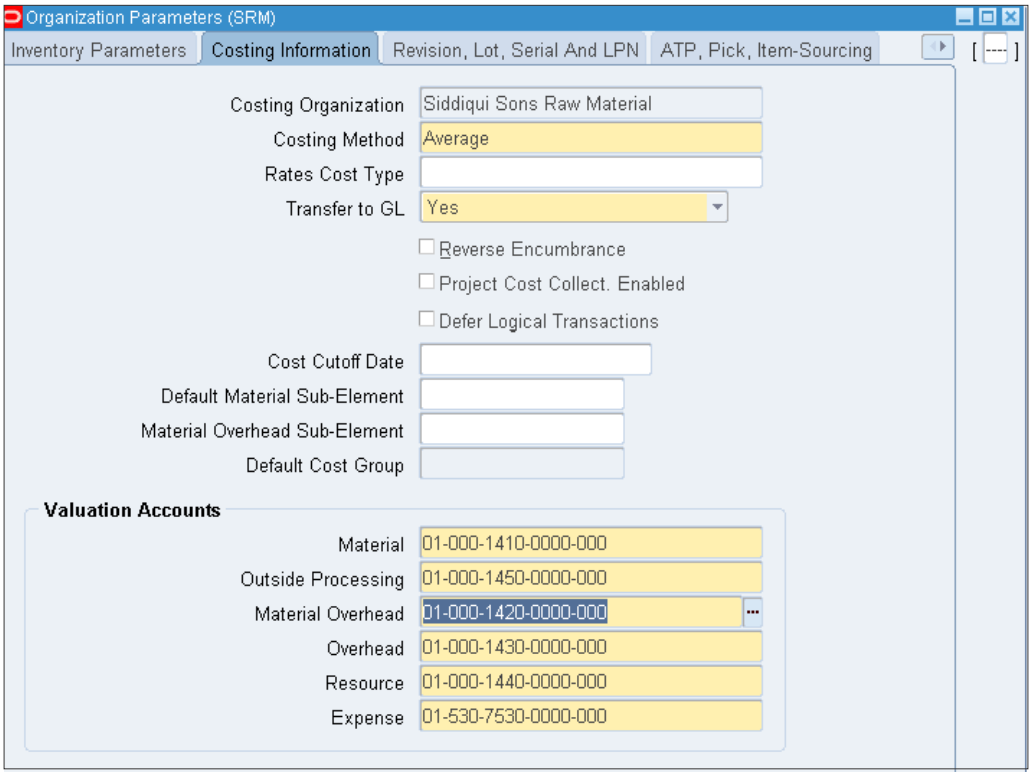


In the **Accounting Information** window, we will provide the information related to **Primary Ledger**, **Legal Entity**, and **Operating Unit** to specify where this inventory organization resides. This defines the financial and accounting treatment for this inventory organization.

After clicking on the **Others** button, we will move to the inventory information.

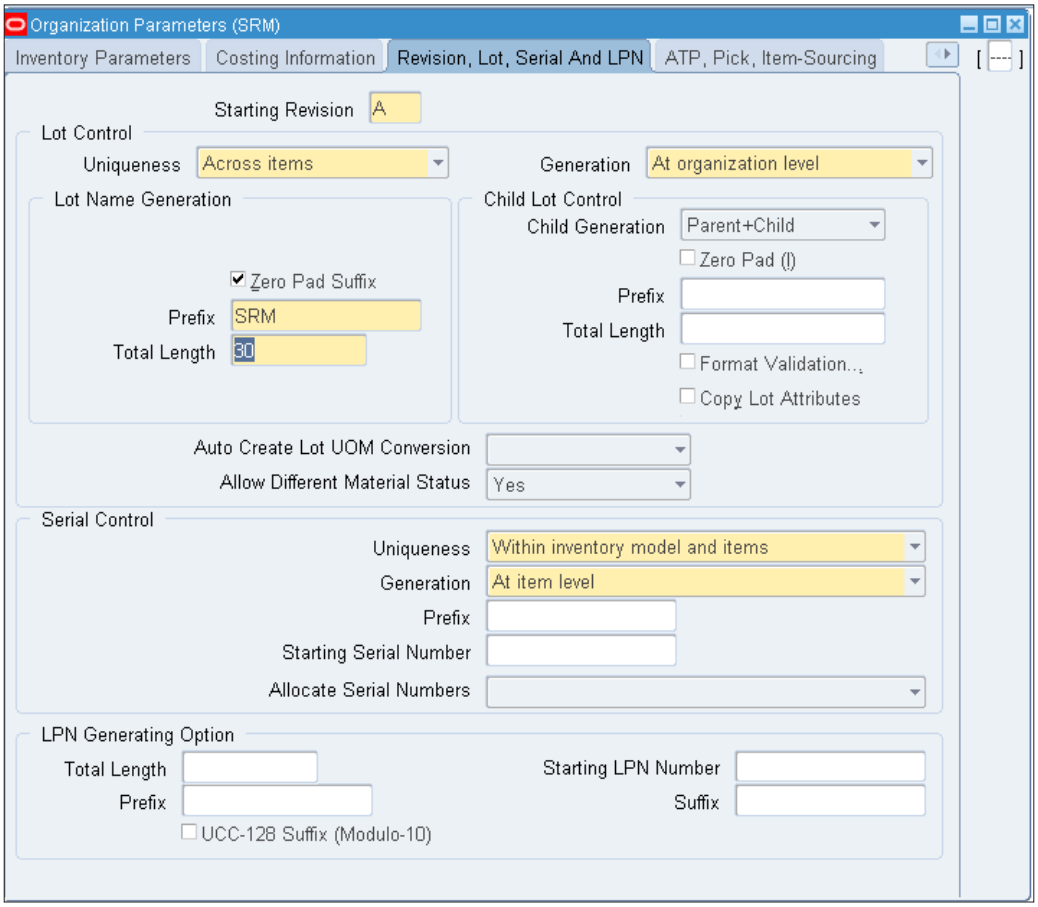


Let's move to the **Inventory Parameters** tab. This is the core setup for any inventory organization here. We will give the short code to the inventory organization. Each organization has a three-digit short code, which should be unique. In the same manner, we will attach the suitable item master organization, which will be used for this inventory organization. Here, we will also attach the calendar that we have created. At the inventory organization level, if we do not define the locator control we will not be able to create locators for a particular inventory organization in the future, these fields will be frozen once they are finalized and saved.

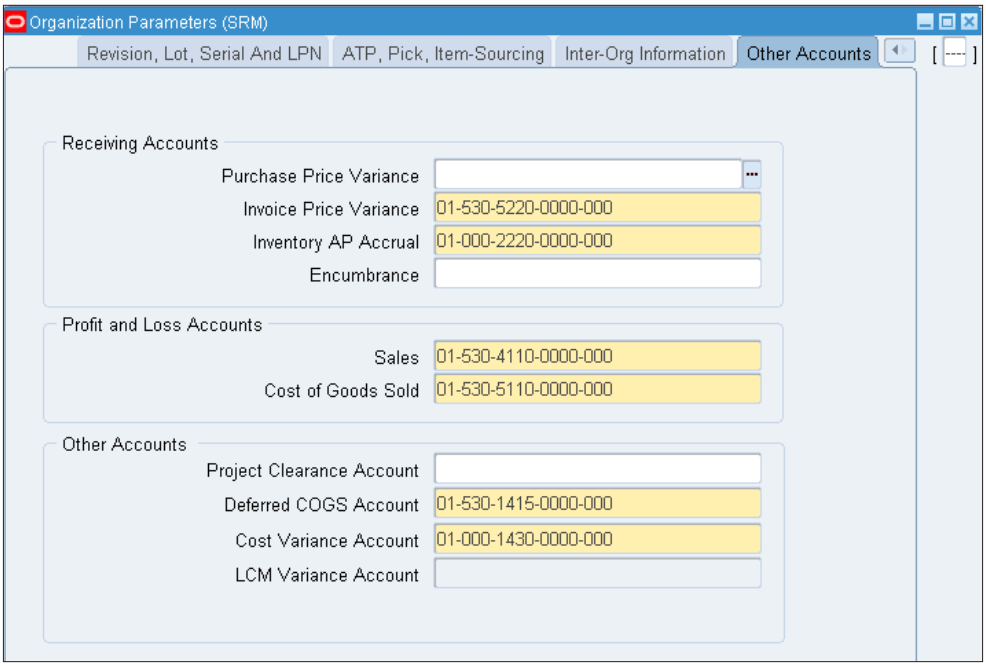


Under the **Costing Information** tab, the most important decision is the costing method for our inventory organization. The inventory supports various costing methods such as average, standard, LIFO, FIFO, and so on. Therefore, whichever costing method we follow within our inventory organization, we can capture it using this feature of Oracle Inventory. Under this tab we have options such as **Transfer to GL,** the value for this option can be **Yes** or **No**. If **Yes** is selected, the transactions that are created in the inventory module can be transferred to General Ledger for final accounts.

Similarly, if **No** is selected, the transfer will not take place. **Valuation accounts** are the accounts that would be used in the transaction process as we are using the average costing method for our inventory organization. This material account will be holding the value of our inventory, and will be used to hold the value for all the sub-inventories in the inventory organizations.



Now under the **Revision, Lot, Serial And LPN** tab, we will define the **Lot Control** in terms of what should be the uniqueness for lots in the **Uniqueness** field. In the same way we will be deciding at what level the generation of lots will take place, the prefix and number of the lot generated, and so on.



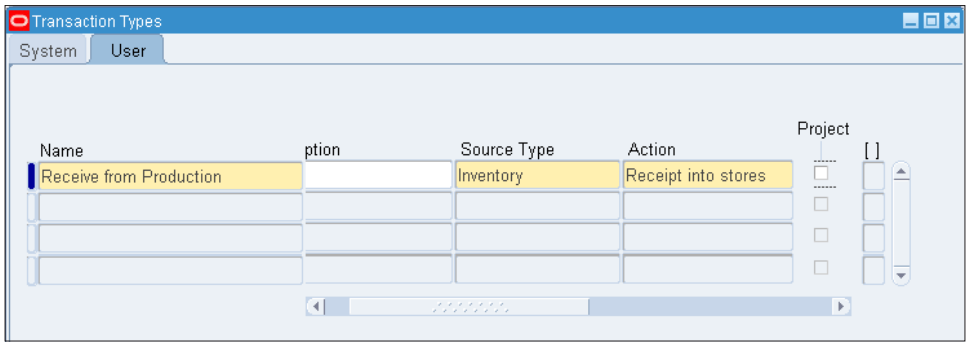
Under the **Other Accounts** tab, we will enter the accounts that will be used when making various transactions, such as when there is variance in the payables accrual account, which will be the contra accounts for liability. Sales and COGS accounts are also defined here that will be used in accounts receivable and Order Management.

Transaction types

Oracle Inventory allows us to create different transaction types. They help us perform various actions such as cost update, inter-org transfers, issuance and receiving into stores, and sub-inventory transfer. To create a user-defined transaction type we need to navigate to **Setup** | **Transaction** | **Types**.

Here we already have some system-defined transaction types, which are used when creating various transactions such as return to vendor, move order issue, miscellaneous receipts, and so on.

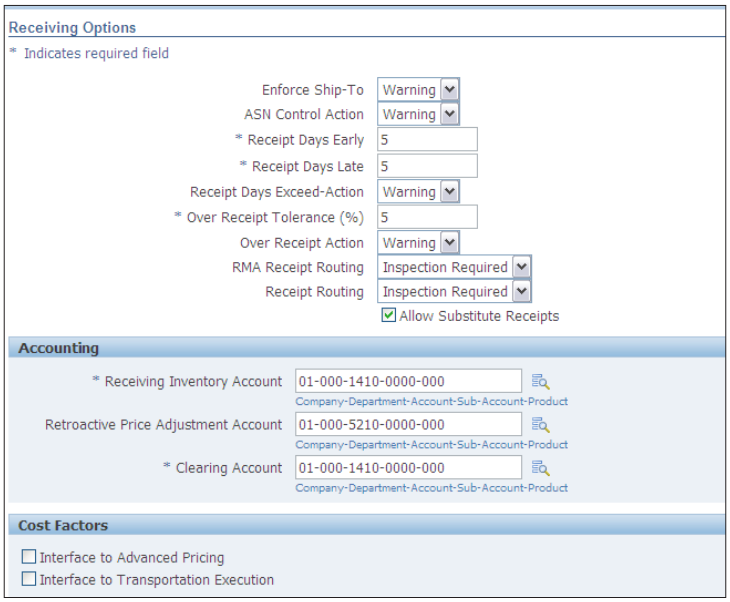
To create a user-defined transaction type, we will navigate to the **User** tab.



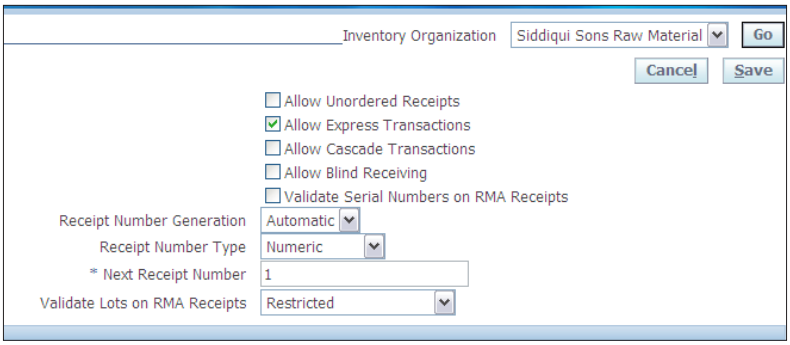
In the **Name** field, we will enter the name of the transaction type. We will enter the type of source that will be used for this transaction in the **Source Type** field. Finally, we will define the action to perform for the transaction type, such as **Receipt into stores**, in the **Action** field.

Receiving parameter

Now we will move to the receiving parameter, which is the setup for receiving goods in the warehouse. The **receiving parameter** is a set of flexible options defined to capture the business process required here. Using different parameters we can control our receiving options and our transactions.



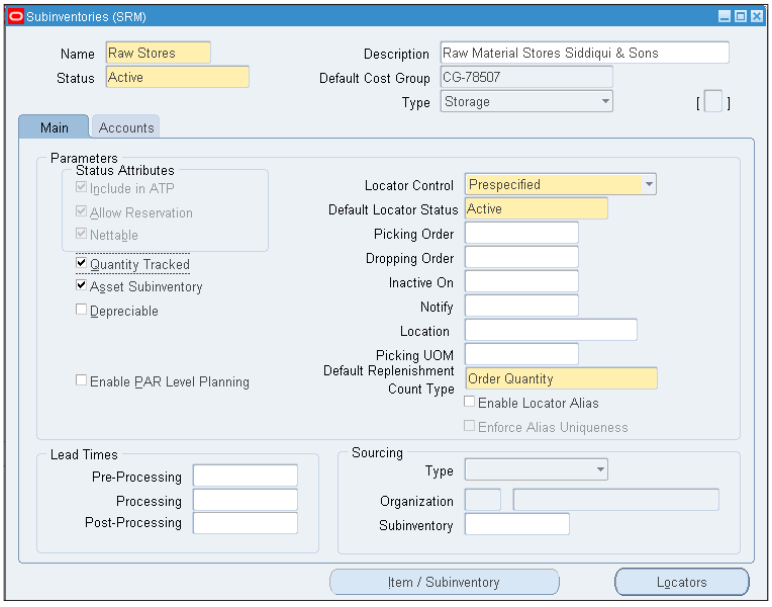
Here, we also decide the early and late day action and control over our receipts. We can also define the routing methods for receipts against purchase orders and **Return Material Authorization** (**RMA**) documents, generated by Order Management. We also define the accounts that are used for receiving goods.



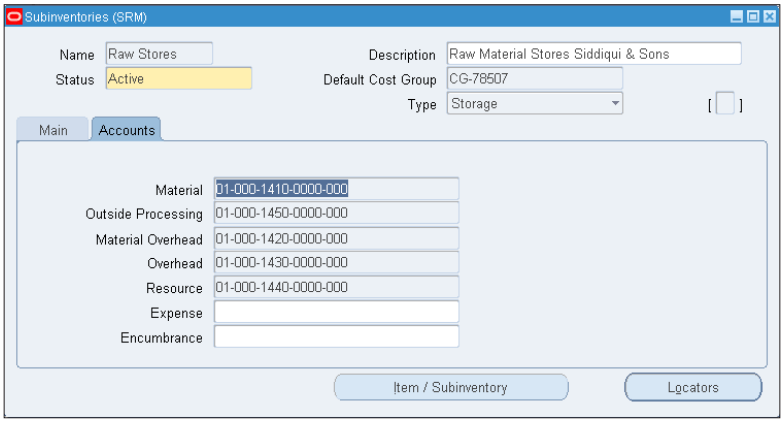
Sub-inventory

Before we can receive an inventory item in the warehouse, we need to have at least one sub-inventory defined. The sub-inventory is the actual warehouse where the items exist. In the sub-inventory there are many controls available, such as locator, lot, and serial. Therefore, items are controlled in the sub-inventory.

Navigate to **Setup** | **Organization** | **Subinventories**.



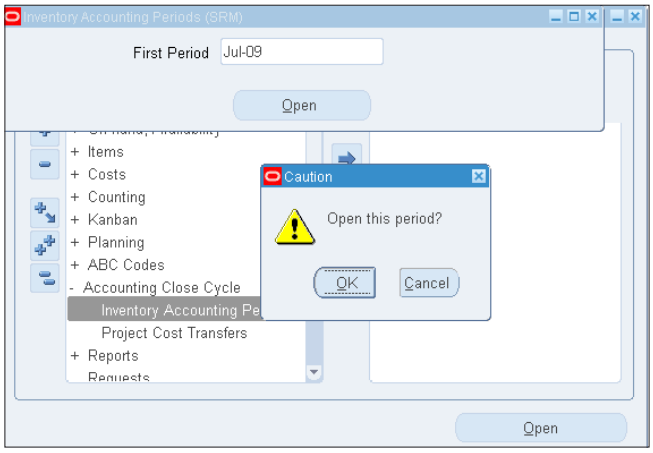
While defining a sub-inventory, we will give a unique name to each sub-inventory and change its status to **Active.** While defining a sub-inventory we can define the locators.



As we are using the average costing method, accounts will be same for material and others, except the expense account for all sub-inventories within the particular inventory organization.

Inventory accounting period

Like other Oracle application modules, Inventory Management also has accounting periods, which are defined according to the periods in Oracle General Ledger. We can only create transactions in an open accounting period of **Inventory Accounting Period**. Once frozen we cannot reopen the inventory period and cannot enter any other transactions.



When we open the period for the first time, the inventory asks for the first accounting period to be opened. Here we select the period from the date our inventory organization was created. This message only appears when opening the period for the first time, as shown in the previous screenshot.

Oracle Inventory Management end-to-end process

In this section, we will see an end-to-end process for Oracle Inventory Management, as follows:

- Entering receipts
- Entering inspections
- Delivering goods to the store
- On-hand availability
- Move order requisition
- Move order issue
- Miscellaneous transactions
- Returns
- Viewing material transactions
- Material transaction and distribution
- Item cost

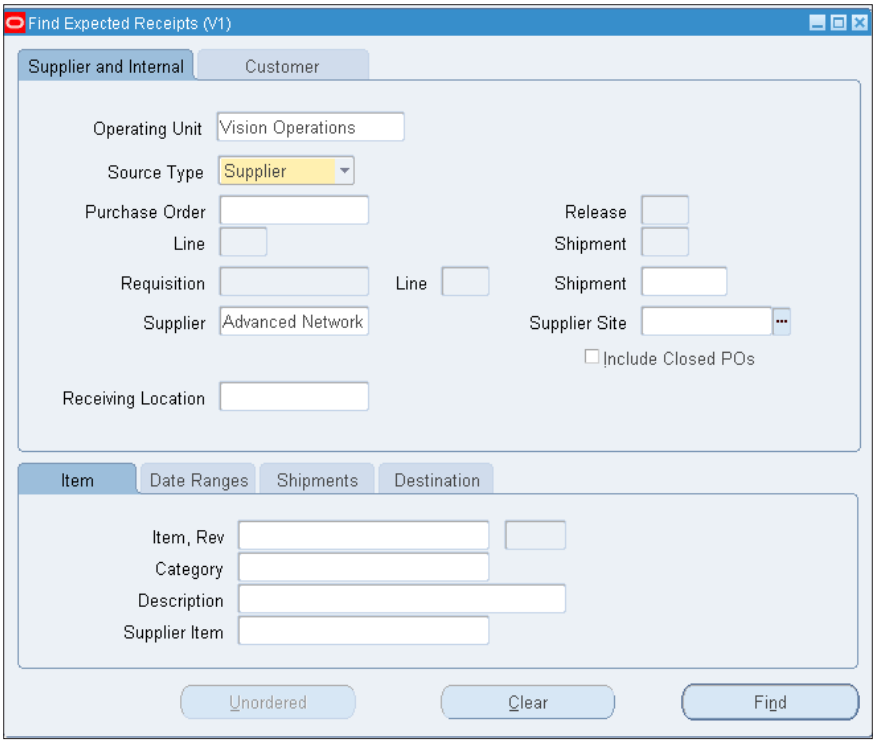
Entering Receipts

Receipts are a standard functionality of the Oracle application for receiving goods from the supplier, returns from customers, and receipts from internal suppliers.

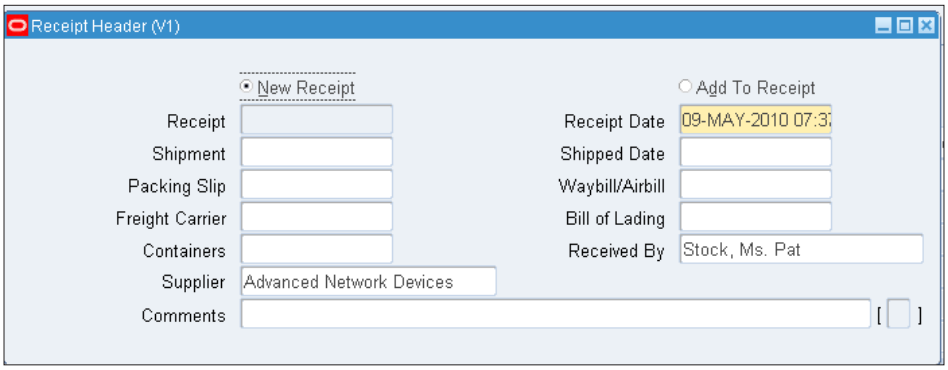
Receipt routing has three different types of controls, as follows:

- Standard
- Direct
- Inspection required

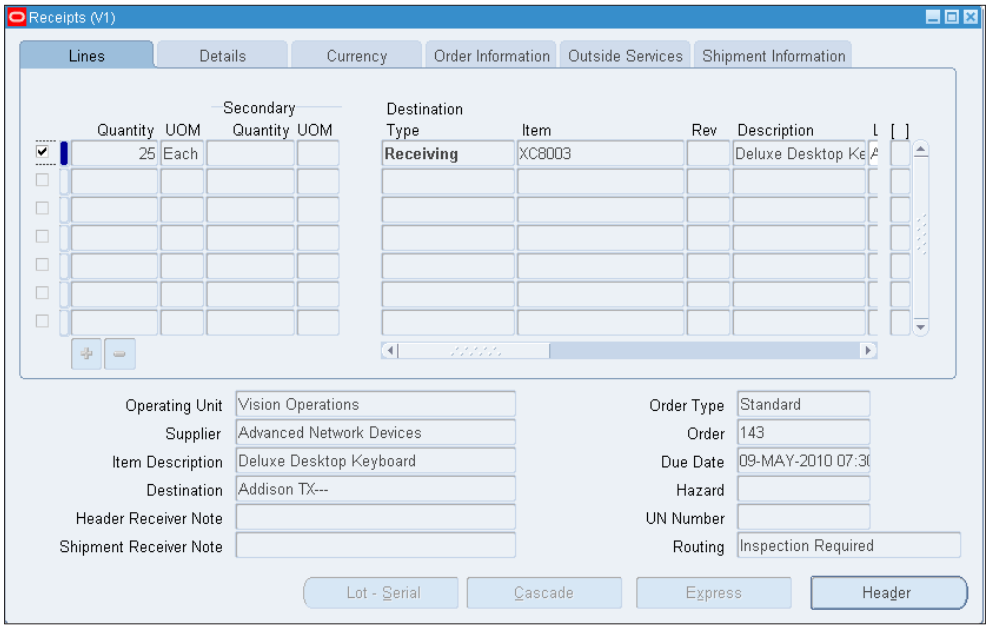
To enter a receipt we will navigate to **Transactions** | **Receiving** | **Receipts** and will search the receipts using the search criteria of the expected receipt form.



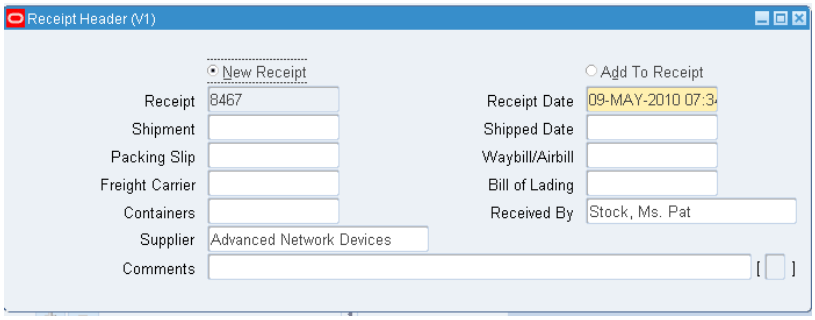
Here we can enter different search criteria, according to our requirements, to find a particular receipt. Using this search criteria, we can find the orders which we need to receive into the stores.



Now we will go to the **Lines** tab and enter the quantity, which we need to receive, in the **Quantity** field. Next, select the checkbox next to **Quantity** for the line that will be received, and click on **Save**. A new receipt number will be generated in the receipts header.



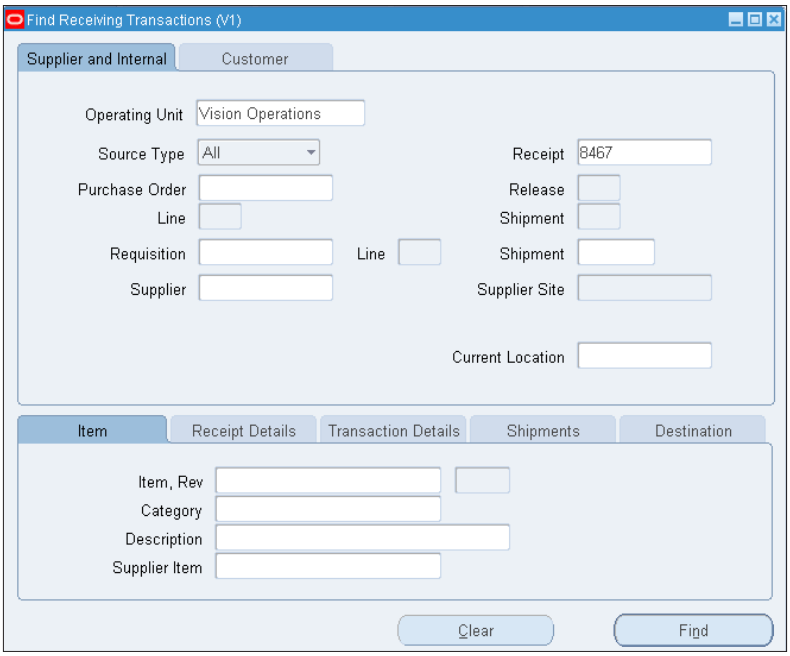
Now we will click on the **Header** button to review the receipt number that is generated on the receipt header. To add this receipt to a previous receipt number, can click on the radio button **Add To Receipt** and specify the receipt number.



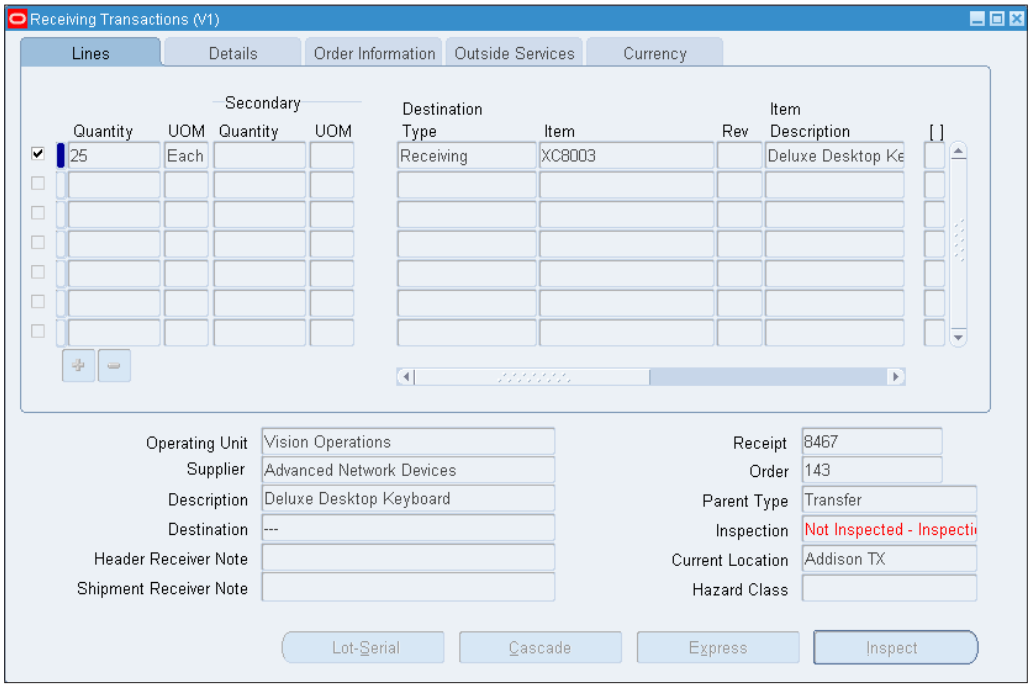
Entering inspection

Inspection is the process in which quality control or a quality inspection check is required for on the item we have received from the supplier. To receive goods for inspection, we need to check the receipt routing at the inspection purchase order level, or at item level if it is identified.

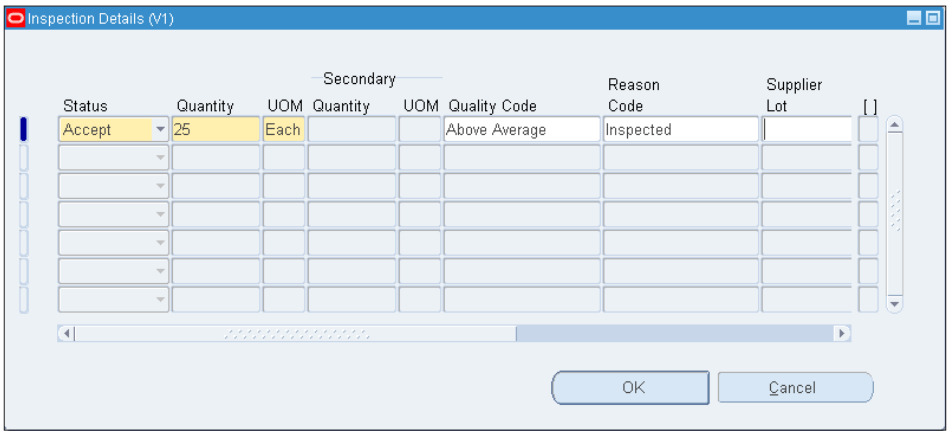
Navigate to **Transaction** | **Receiving** | **Receiving Transactions**.



Now, in the search criteria, we can enter the receipt number in the **Receipt** field as well as other options shown in the previous screenshot.



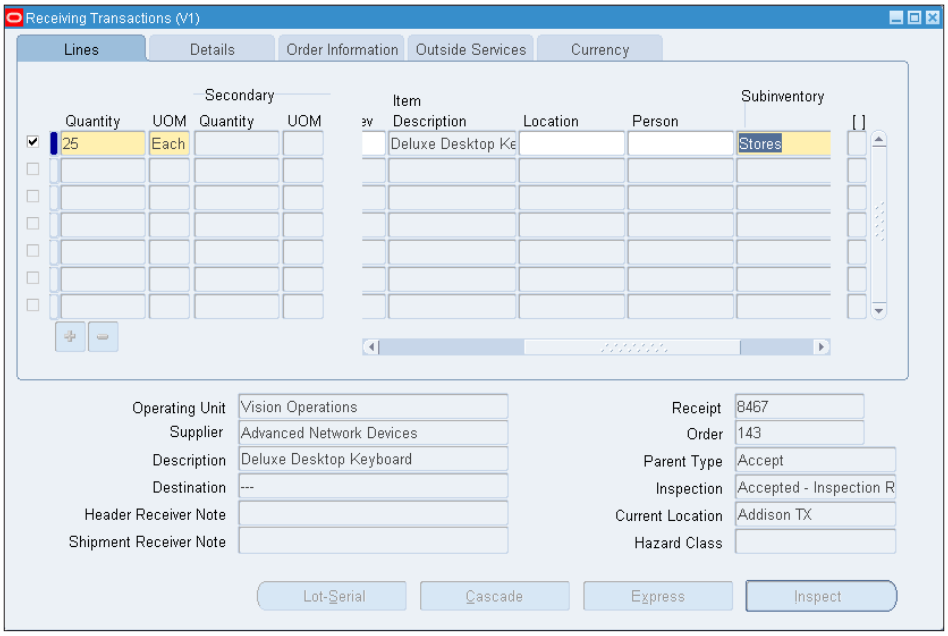
After finding the desired receipt to be inspected, we will now check the quantity to be inspected and click on the **Inspect** button. It take us to the **Inspection Accept/ Reject** form. If the inspection level is **Quality**, then the inspection will be done according to Oracle Quality, else it will be according to **Purchasing**.



The quantity, which we have inspected during the inspection procedure, is now ready to be delivered to the stores. Upon delivering the goods to the warehouse, this will update the on-hand quantity and the cost of our inventory organization.

Delivering goods

Deliver is the process in which received and inspected goods finally become part of the inventory against the material account. Delivering goods to the store will update the cost and quantity of the inventory organization. To deliver goods to the warehouse, we will navigate to **Transaction** | **Receiving** | **Receiving Transactions**.

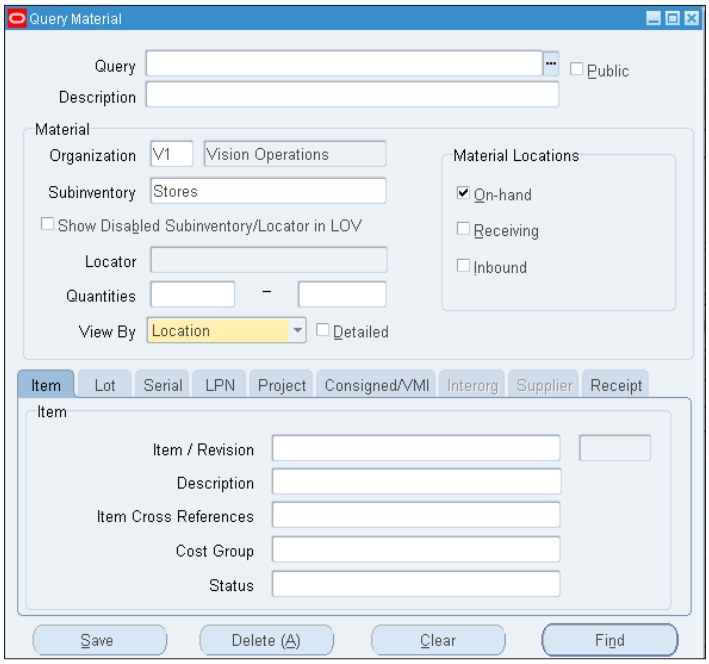


Now we will navigate to on-hand availability to see whether the quantity has been updated or not.

On-hand availability

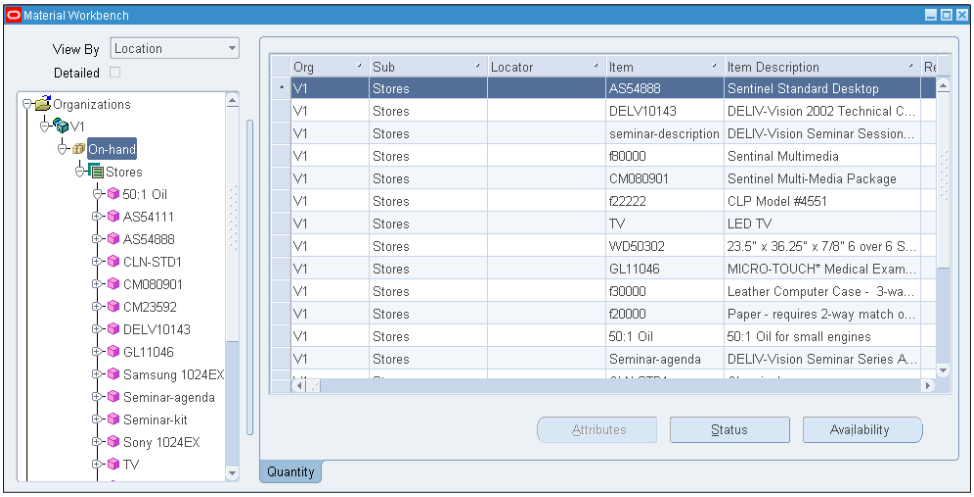
On-hand availability gives us the number of items we have in our warehouse. This can be displayed by inventory organization, sub-inventory, locator, and so on. In the Material Workbench form, we can also view the inventory, which is at the receiving location as well as in transit and resides in our stores by clicking on the **Material Locations** radio button.

To view the on-hand quantity navigate to **On Hand Availability** | **On Hand Quantity**.

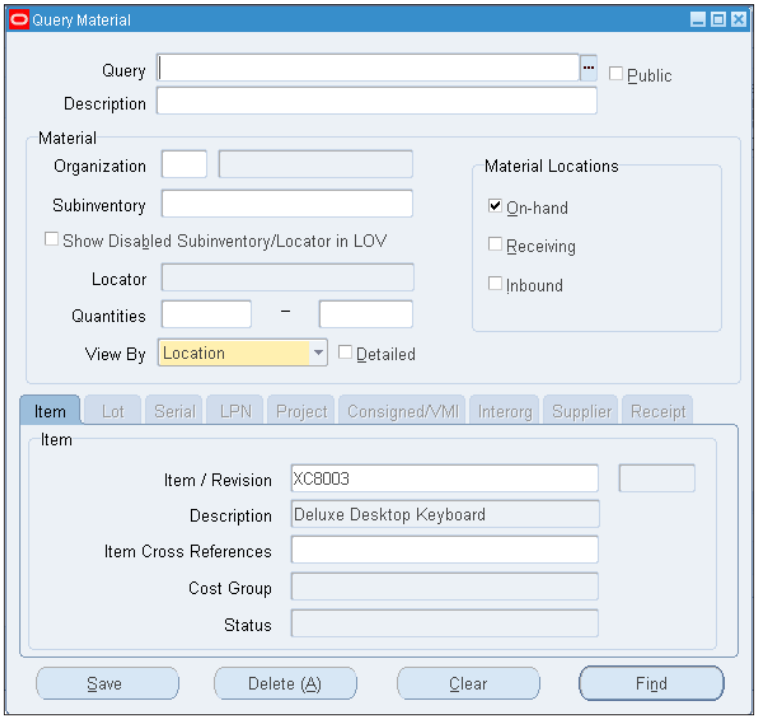


In the previous screenshot, we have various options available to query the records. If we click on **Find** without entering any filter criteria, it will find all items in all sub-inventories in the **V1** warehouse.

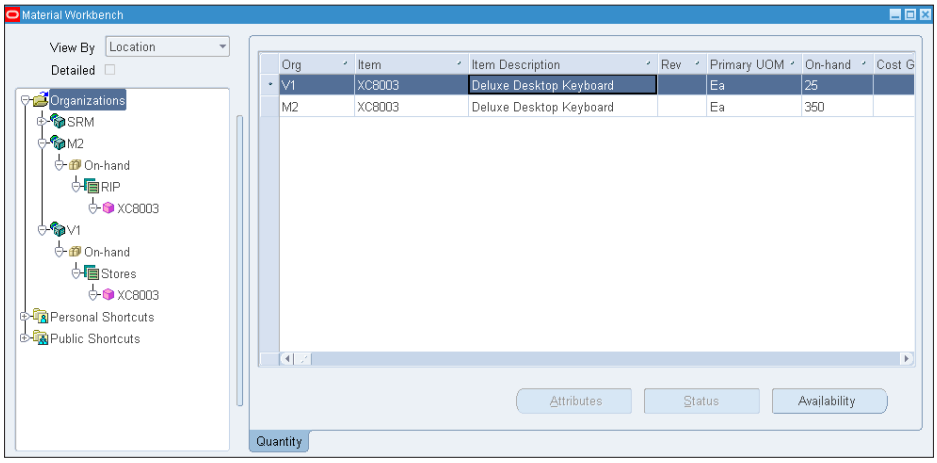
Here we select the sub-inventory stores and click on **Find** to see the quantity available in that particular sub-inventory.



Now, if we want to search an item to find out where the particular item resides in the inventory organizations, give the item code in the search criteria of the on-hand availability form and it will query according to the item.



The result shows that the particular item, which resides in different inventory organizations, for example, **V1** and **M2** as shown in the following screenshot:

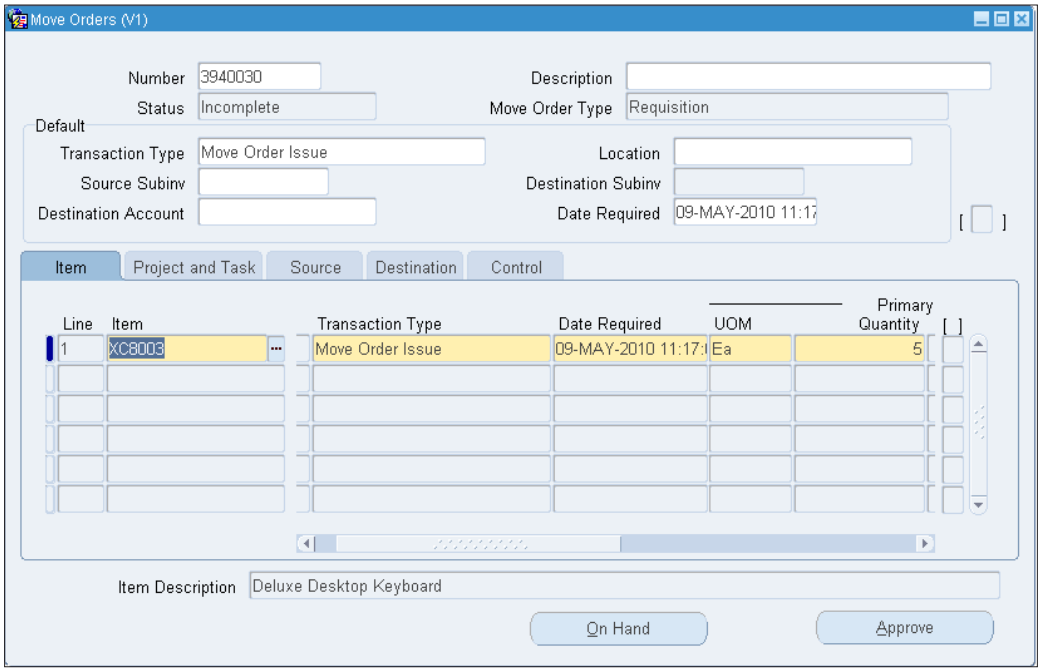


Move Orders

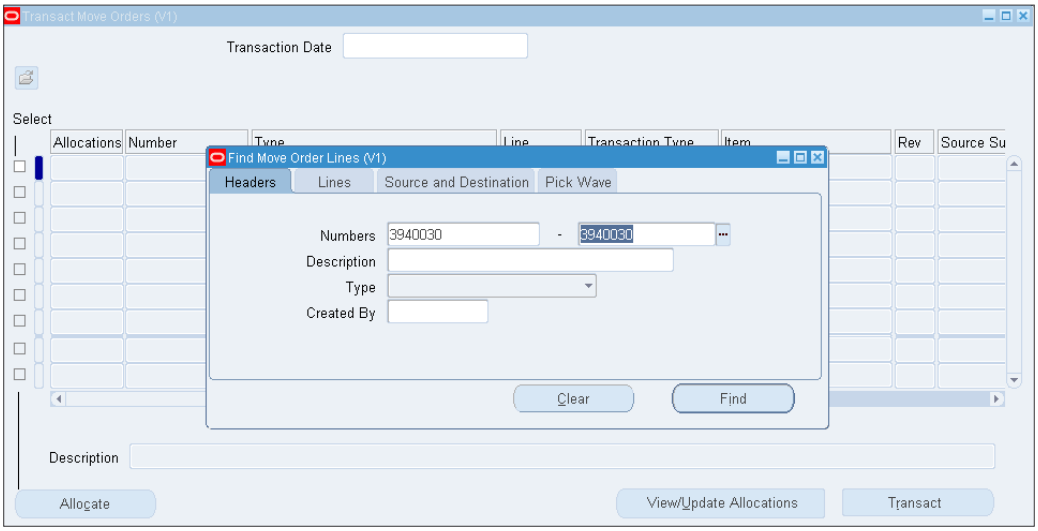
Move orders are the requests for transferring and issuing goods from an inventory organization. When we issue goods using the move order, we need to select the **Transaction Type** as **Move Order Issue**.

A move order requisition for transfer and issuance can be manually created in inventory, as well as sourced from other modules such as internal order sources by Order Management and inventory replenishment.

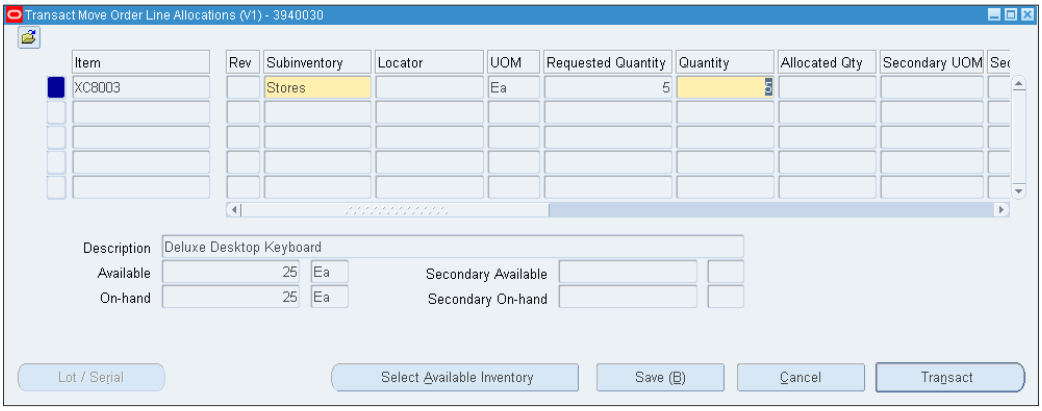
To create a move order, we need to navigate to **Move Orders** | **Move Order**.



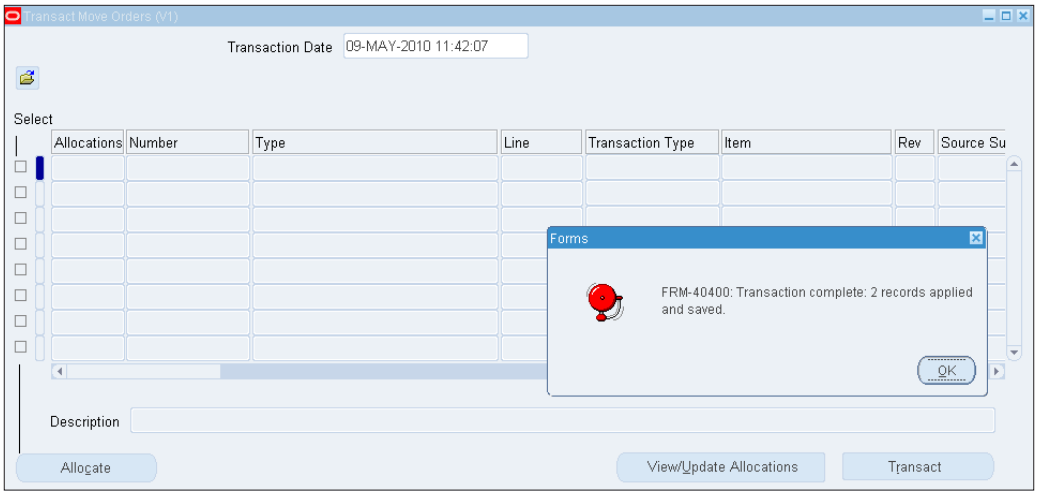
After completing all the required and optional fields, approve the move order requisition on which allocation and transaction will be performed in the next steps:



We can find the move order requisition that we created earlier using the find criteria available in **Transact Move Orders**. If we use an empty query, it will bring the entire move order request to transact.



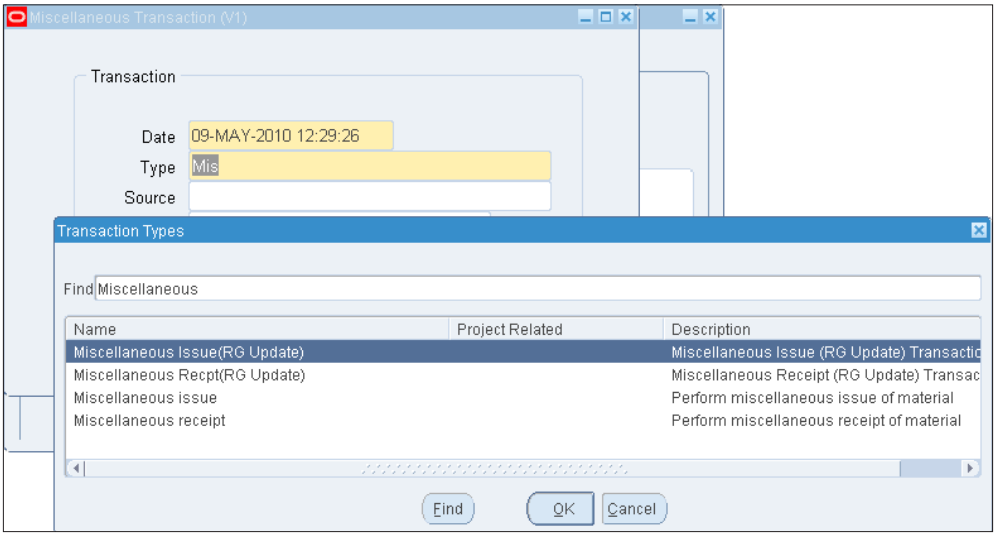
In update and transact move orders query the move order requisition, verify it carefully, and then transact. Upon transacting, the quantity requested will be issued from inventory and charged to the charge account that was selected at the time of creating the move order requisition.



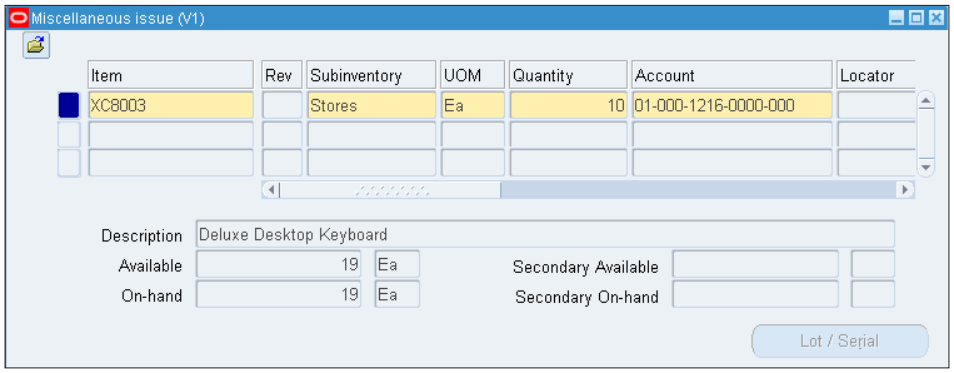
Miscellaneous transactions

The miscellaneous transactions functionality is available to receive and issue goods casually for transactions which rarely take place, such as quality assurance sampling, load of opening balance for new implementation, scraps, and adjustments to the inventory organization.

To enter **Miscellaneous Transactions** navigate to **Transaction | Miscellaneous Transactions**.



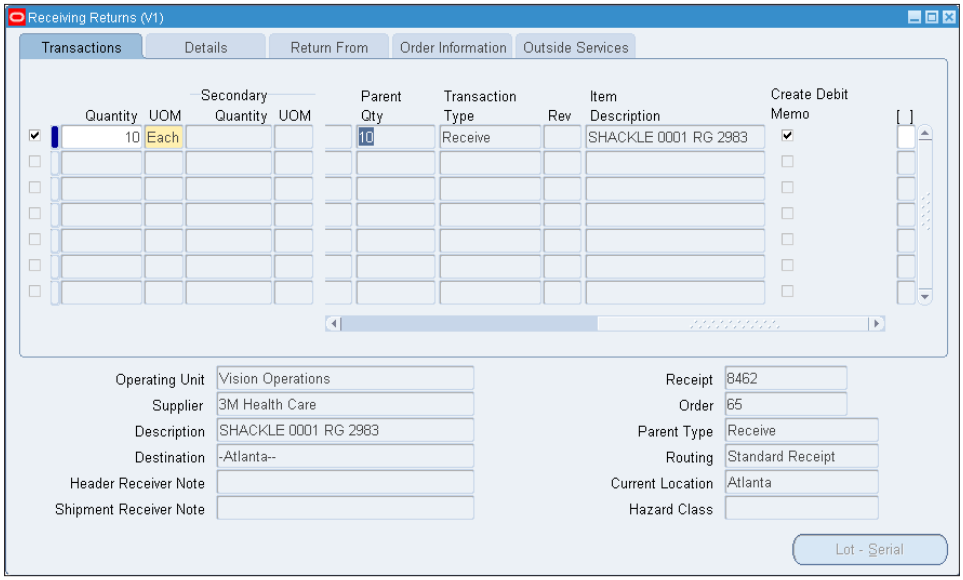
Now select the type of transaction we want. Either receive goods into the store using the **Miscellaneous receipt** or issue goods from stores using **Miscellaneous Issue**. Now press the **Transition** button, where we can enter the information for the item quantity and account, which will be charged against the inventory material account.



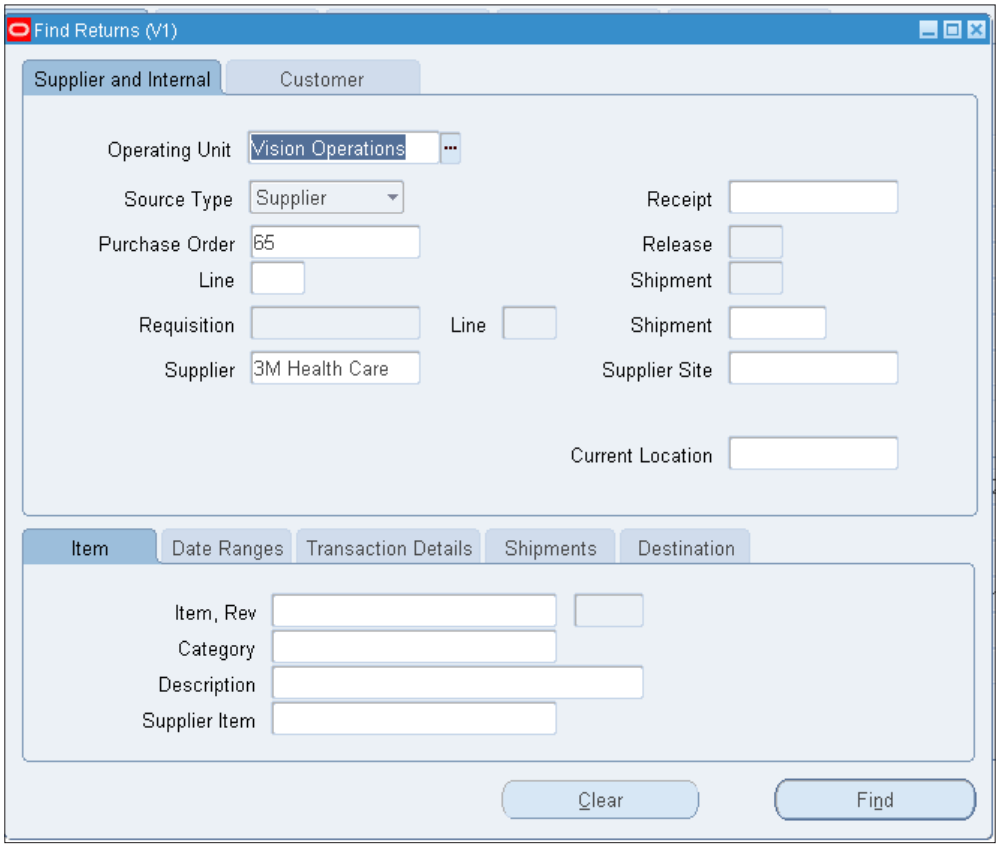
Returns

Returns is a standard function of Oracle Inventory. We enter returns when we need to return the goods, either to the receiving location or to the supplier.

To enter returns in the system we need to navigate to **Transaction | Receiving | Returns**.



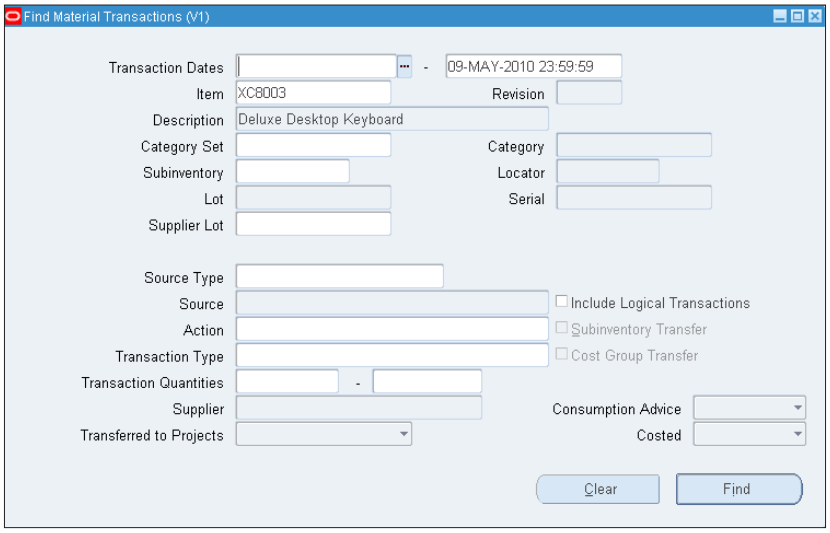
Now enter the quantity that is to be returned to the vendor. By looking at the parent quantity we can have an idea of the quantity received into the stores. By clicking the **Save** icon, the transaction for returning the item will be performed, and the purchase order will be opened again to receive the returned item if the purchase close point is receipt.



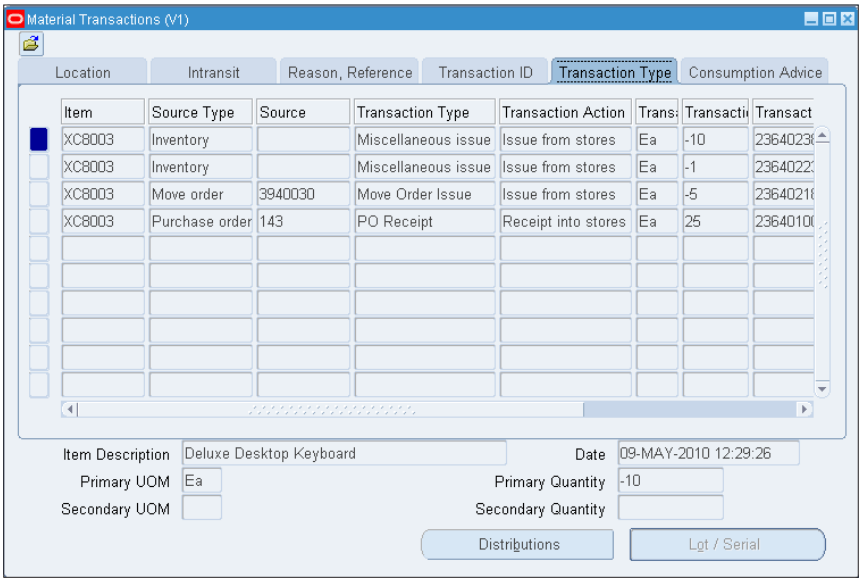
Viewing material transactions

Using material transactions, we can view the history, nature, and the source of the transaction we entered at a particular time. We can use this feature to review the transaction we have created. We can query the transactions using various search criteria such as item, item categories, transaction type, and source types.

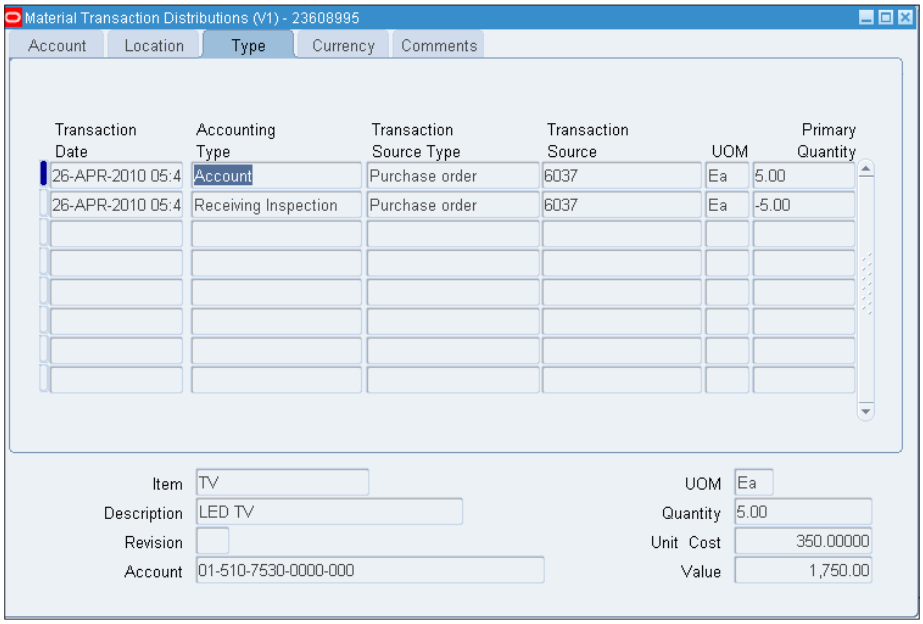
To view the **Material Transactions**, we need to navigate to **Transactions** | **Material Transactions**.



As shown in the previous screenshot, enter the search criteria according to our desired results and click on the **Find** button. This screen leads us to the screen where we can verify the transaction and shows details associated to the transaction, as shown in the following screenshot:



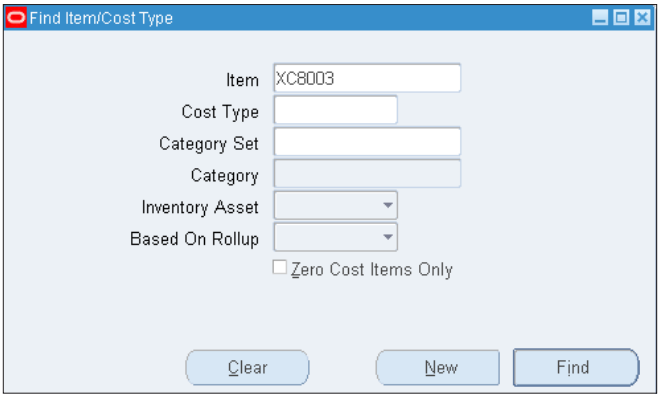
Now, if we click on the **Distributions** button for the selected transaction, it will show us the accounting entries that are created for the transactions.



Item cost

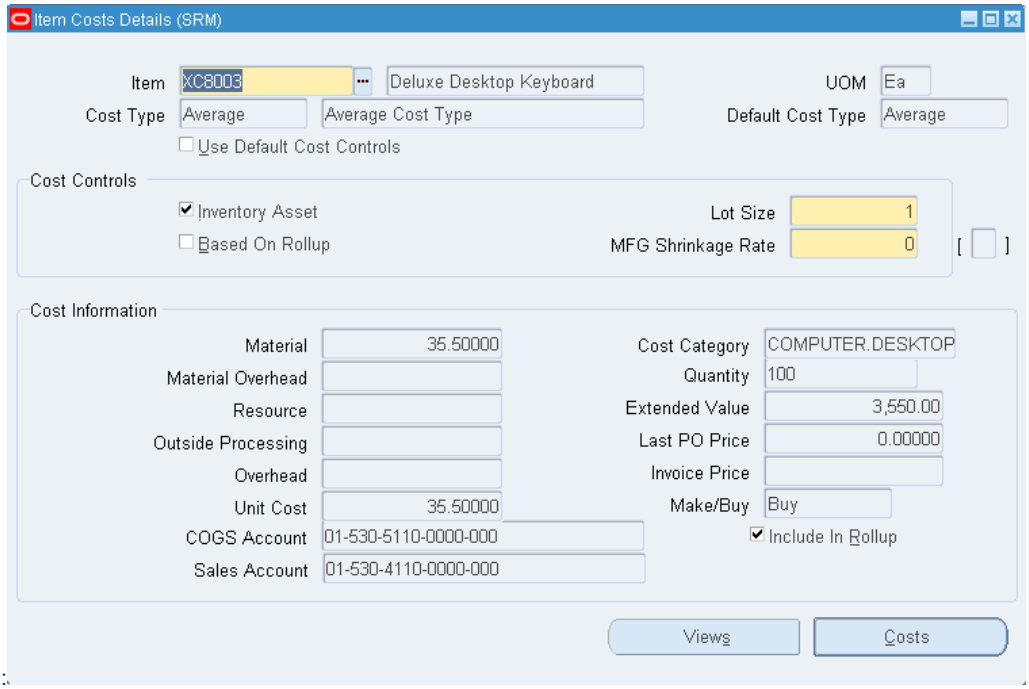
Using item cost, we review the cost of the item. It informs us of the cost and quantity of the particular item in the warehouse. It provides us with various views to review the item cost.

To view the item cost, navigate to **Cost** | **Item Costs**.



Filter the cost by item and category. This enables us to view the cost of item in the organization.

The following screenshot shows the details of the cost of a particular item. We can also see the **Unit Cost** of the item, the total cost **Extended Value** of the item associated with Inventory **Material** account, and the **Last PO Price** for the item:



Summary

In this chapter, we have seen the following:

- The functionality of Oracle Inventory Management and why it is used
- The integration of Oracle Inventory Management with other modules of Oracle E-Business Suite
- How to set up the Oracle Inventory Management, as well as the end-to-end business process and document routing of Oracle Inventory Management

In the next chapter, we discover how the valuation takes place for Inventory Management, WIP, and Oracle Purchasing. We will also see how different cost methods can be efficiently used in the valuation of Inventory Management.

8
Overview of Oracle Cost Management

Oracle Cost Management is a very important part of Oracle E-Business Suite. Its main functionality is to manage perpetual and periodic costing for Inventory, Work in Process, Purchasing, and Order Management. It supports costing methods such as average, standard, and LIFO/FIFO. Using Oracle Cost Management, we can create multiple cost elements and sub-elements to capture our business scenarios. Examples of these cost elements include materials, material overheads, resources, outside processing, and so on. For these elements, we can also create sub-elements as per our requirements, so that it gives more details about cost.

Oracle Cost Management, like other modules of Oracle applications, works using periods. We need to have an open period in order to create any transaction. In Oracle Cost Management, we can have more than one open period at the same time, so that the reconciliation and transaction process can be carried out without hassle. Using Oracle Cost Management, accounting entries are transferred to the general ledger.

The key functionalities of Oracle Cost Management

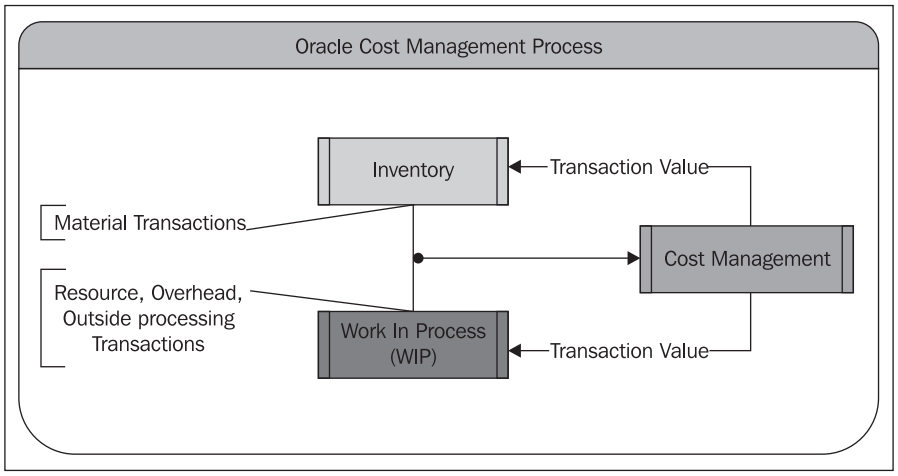
The following are the key functionalities of Oracle Cost Management:

- Creating the valuation of our Inventory, WIP, and Purchasing with Oracle Cost Management
- Creating various costing methods for inventory organization to capture day-to-day business
- Formulating our budgets and plans using Oracle Cost Management

- Creating and maintaining item cost in Oracle Cost Management
- Creating and maintaining periods for inventory organization and transferring the transitional entries to the general ledger
- Maintaining a historical cost for inventory and keeping track of cost changes over time
- Calculating and analyzing profitability using Oracle Cost Management
- Running reports such as the inventory valuation, gross margin, and gross revenue reports

Oracle Cost Management process

The Oracle Cost Management process normally initiates when an Oracle Inventory value material transaction is created due to different receiving, issuance, and transfers that take place against different transaction types. Secondly, Oracle Cost Management works in a similar manner when transactions related to Work in Process are valued, such as resources, material overheads, outside processing, and so on. Cost Manager is responsible for providing the value and creating the accounting entries for these transactions.



Costing method

Oracle Cost Management supports four different costing methods, which are perpetual in nature, and are as follows:

- Average
- Standard
- FIFO
- LIFO

An inventory organization can have only one costing method and we can have multiple inventory organizations with different costing methods.

Average costing method

In average cost, the cost of the item is the average of all the receipts, which are included in the inventory. The average costing method has two different types: moving average costing and periodic average costing.

Moving average costing method

In the moving average costing method, Oracle Cost Management values the transactions on the basis of the value of these transactions. The moving average cost actually shows the cumulative value of the transaction created and the quantity they have.

Periodic average costing method

In the periodic average costing method, Oracle Cost Management values the transactions periodically on the basis of the value, not on a transactional basis, as in the moving average costing. The main functionality of using periodic average costing is to make the costing consistent up to period level and the periodical cost of the product changes.

Standard costing method

The **Standard costing** method is also called the **frozen** or **fixed** cost method. In standard costing, the cost is fixed for a certain period of time. This costing method is majorly used to control the fluctuation in item cost and, if any transactional differences arise during the inter-organization transactions from standard to average and average to standard, the variances are created by the system.

FIFO/LIFO costing method

The **FIFO/LIFO** costing methods are layer costing methods based on the actual transactional cost.

The LIFO method is made on the concept that goods that are entered last in the inventory will be issued first, and so does the cost of the transaction. In the same manner, the FIFO system works in a way that the goods that are first entered in the system will be the first to come out from inventory, so does their value.

Integration of Oracle Cost Management with other modules

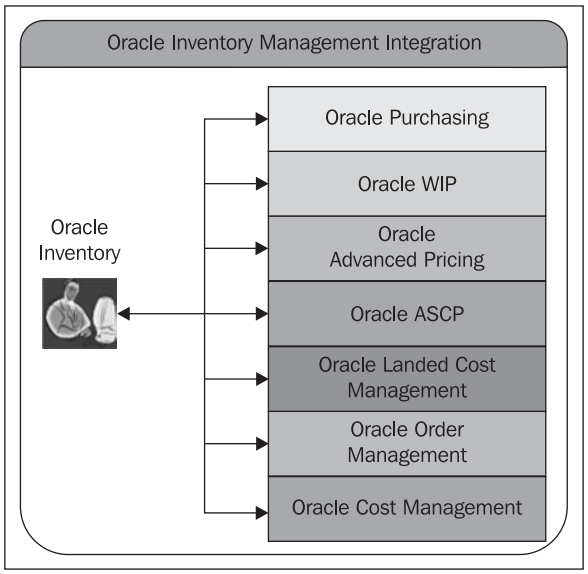
Oracle Cost Management is fully integrated with other Oracle E-Business Suite modules. The following are the modules that are integrated with Oracle Cost Management:

- **Oracle Purchasing**: Oracle Cost Management is fully integrated with Oracle Purchasing Suite. When a purchase order is received, the transaction updates the account and values accordingly. In the same way, Cost Management checks and verifies; if there is a difference in the purchase amount and the value which already exists in inventory, then the Cost Management will create a variance. This variance is only created in the case of standard costing. If we have an average cost or LIFO/FIFO costing organization, the item will be valued on the amount that was given on purchase order.
- **Oracle Work in Process**: Oracle Cost Management is also fully integrated with Oracle WIP. The goods that are issued to WIP for manufacturing are valued in Cost Management. These are charged to a component of WIP and Cost Management performs the valuation. The same procedure takes place for materials, overheads, outside processing, and resources. In the same way, when the goods are returned from a job or a batch, Oracle Cost Management values them and they arrive to the stores as finished goods.
- **Oracle Payables**: Oracle Cost Management is fully integrated with Oracle Payables Suite. When invoices against the purchase order arrive and enter in to Oracle Payables, these invoices are matched with receipts. Upon matching, Cost Management verifies whether the amounts for which goods are received are paid or not. If a difference exists, then it places a hold on such transactions and we are unable to validate the transaction.

- **Oracle General Ledger (GL)**: Oracle Cost Management is very tightly integrated with Oracle General Ledger. All the accounting entries of sub-ledgers such as Purchasing, Inventory, and WIP are eventually transferred to Oracle General Ledger, by Oracle Cost Management. After running the "create accounting" process in Cost Management, the accounting entries can be transferred to GL in the form of different batches so that they will be distinguished in GL with batch names as well as transaction type.

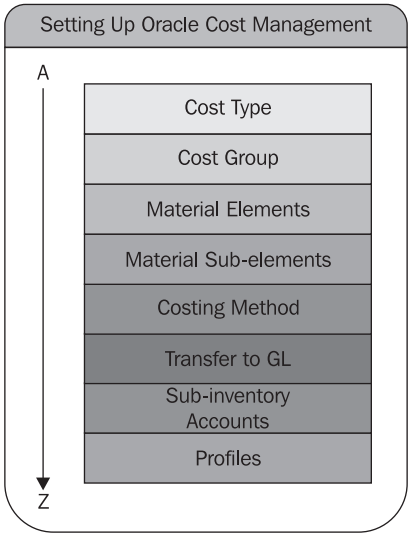
Other integrated modules are as follows:

- Oracle Order Management
- Oracle Bill of Material
- Oracle Receivables
- Oracle Inventory Management
- Oracle Master Scheduling/MRP
- Oracle Engineering
- Oracle Flow Manufacturing
- Oracle Project Manufacturing



Setting up Oracle Cost Management

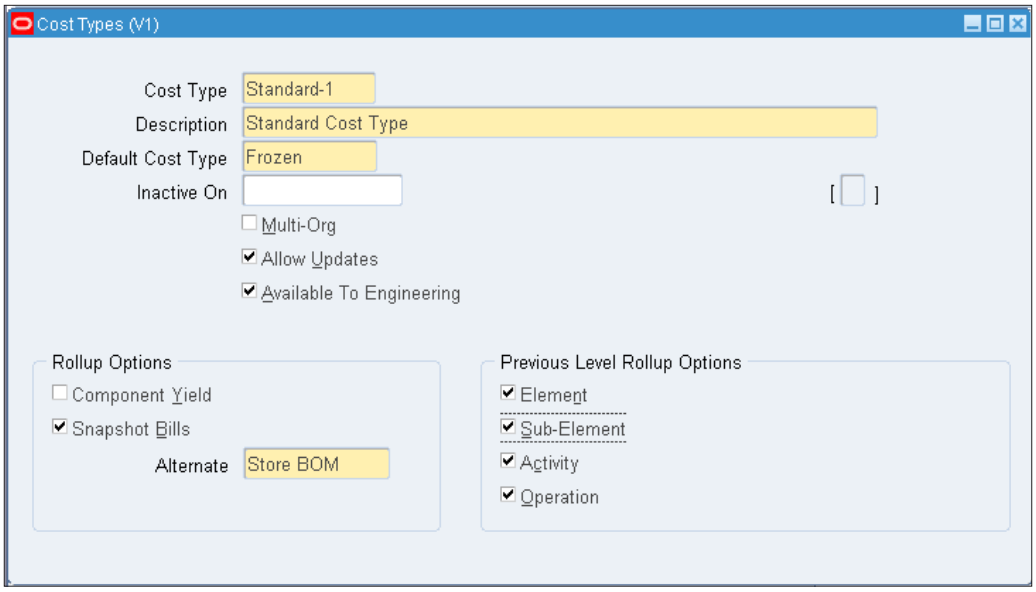
To set up Oracle Cost Management, the following steps are required, as shown in this figure:



Cost type

Oracle Cost Management provides three different default and predefined cost types—average for average costing, frozen for standard costing, and pending cost types. Cost types actually hold the cost of the item, resources, and overheads. Using Oracle Cost Management cost types, we can create as many sets of costs as we want by creating countless numbers of cost types.

To create a new cost type in Oracle Cost Management, we will navigate to **Setup** | **Cost Types**.



We will give a unique name to the newly created cost type and select a default cost type for it.

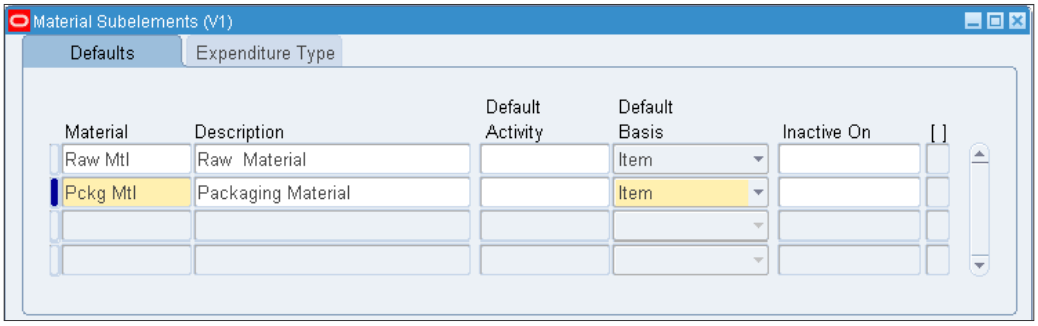
Material elements

Oracle Cost Management gives us many default cost elements for average costing and standard costing methods. The following are some of the default cost elements:

- **Material**: This is the cost of the product or items, which are in inventory.
- **Material overhead**: This is normally used to capture the variable or fixed cost of the element.
- **Resource**: Is an element that is used to capture cost incurred in labor, machinery, or other direct cost.
- **Resource overhead**: Is the element that carries the overhead cost of the resource.
- **Outsider Processing**: This carries the cost of work done by third-party resources.

Material sub-elements

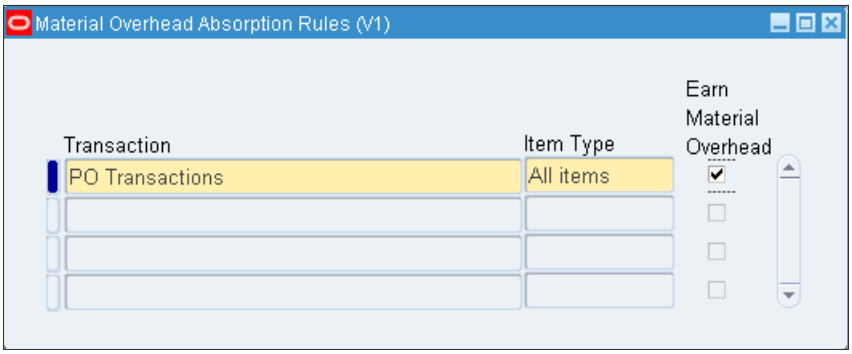
To define material sub-elements we will navigate to **Setup** | **Sub elements** | **Material**.



Sub-elements for materials are used to differentiate or classify the material into further sub-types. For example, in the previous screenshot we have used a basic **Raw Material** and **Packing Material**. This segregation is according to the nature and type of business requirements.

Overhead sub-elements

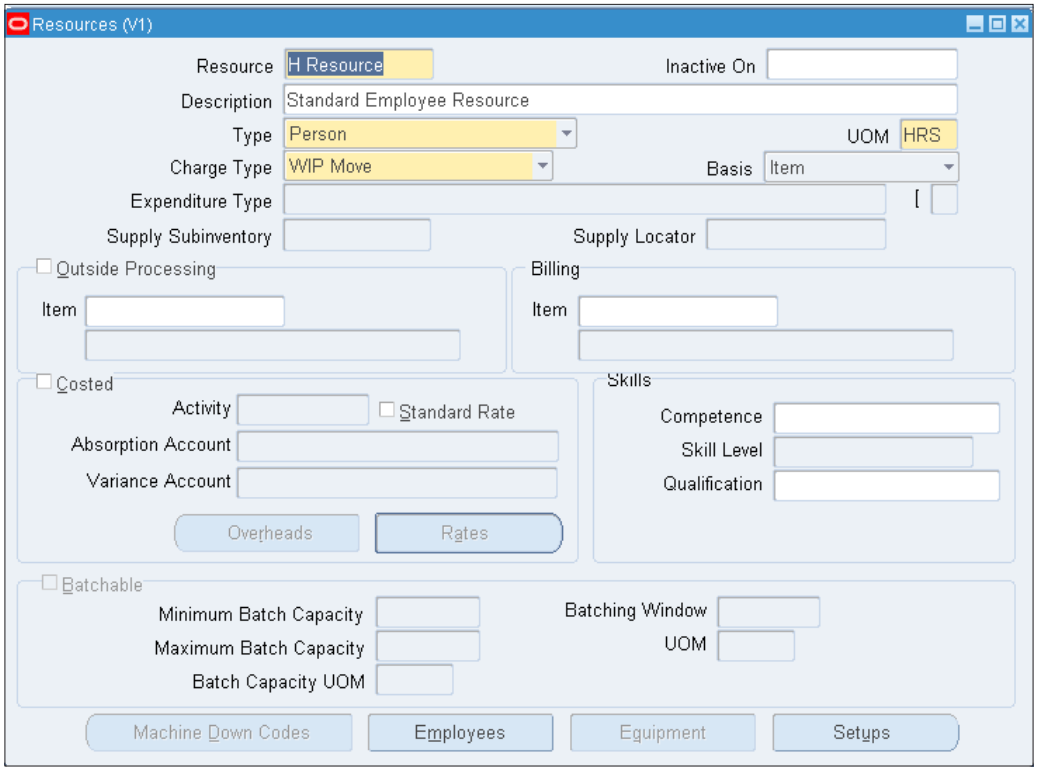
To define material overhead sub-elements we will navigate to **Setup** | **Subelements**.



Material overheads are generated due to the movement of items from one place to another. This can be in the form of inter-organization transfer, purchase order receipt, or goods received from WIP to stores. If our transaction earns the material overhead we can make this sub-element absorb the cost.

Resource sub-elements

To define resource sub-elements, we will navigate to **Setup** | **Subelements**.

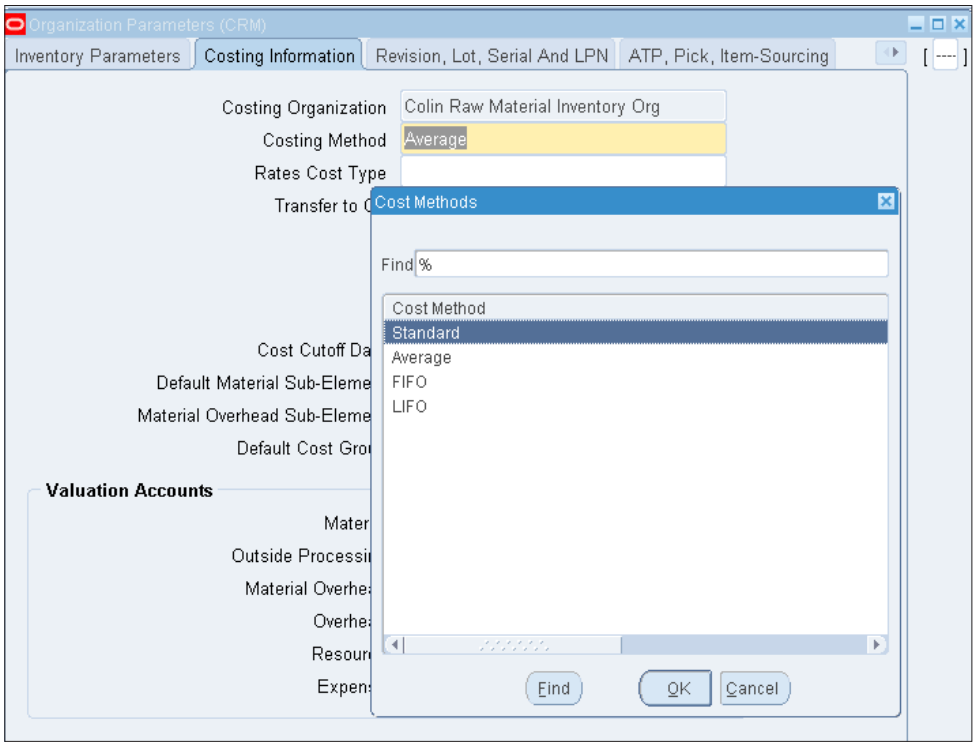


As we have already discussed, a resource is anything that we need to perform, such as employees, machines, physical space, and so on. For routing we require a scheduled resource. These resources are associated with departments, each department can have a list of resources that we can utilize.

Costing methods

Oracle Cost Management offers us with different costing methods that can be used to manage our business scenario. These costing methods are associated with the inventory organization. Each organization can have a different costing method within an operating unit.

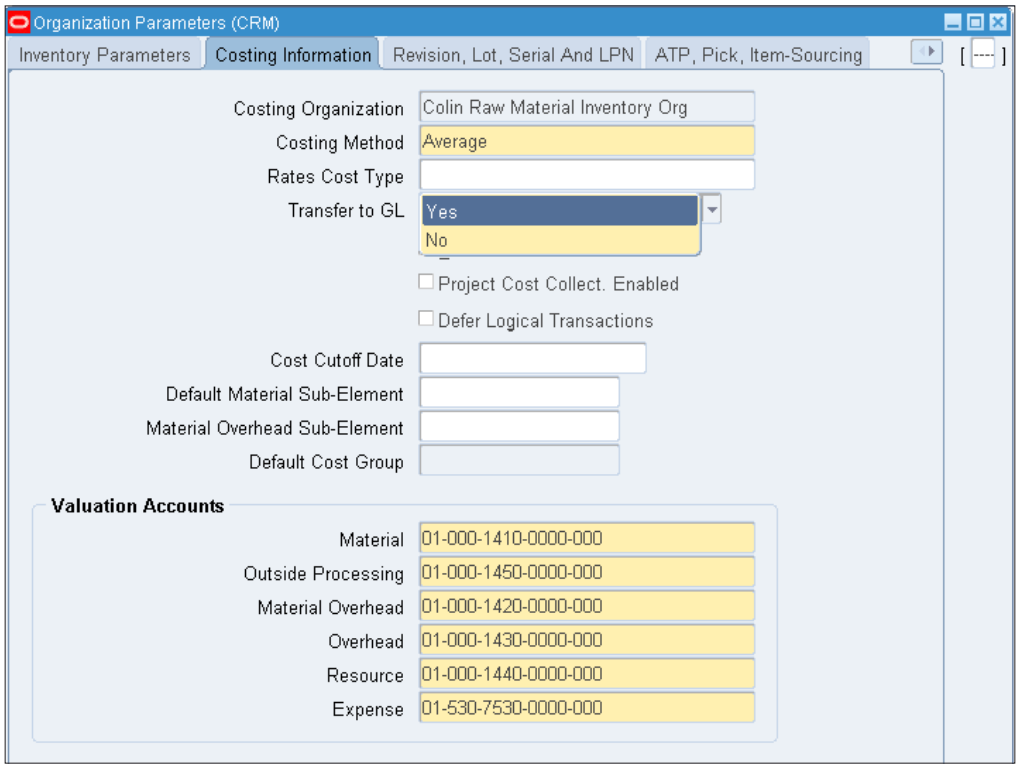
To define a costing method for inventory organization, we will navigate to **Setup** | **Organization** | **Organization Parameters**.



As shown in the previous screenshot, we will select the costing method that is feasible for our inventory organization. The accounting treatment and evaluation method of the inventory organization is also dependent on the costing method that we select here.

Transfer to GL

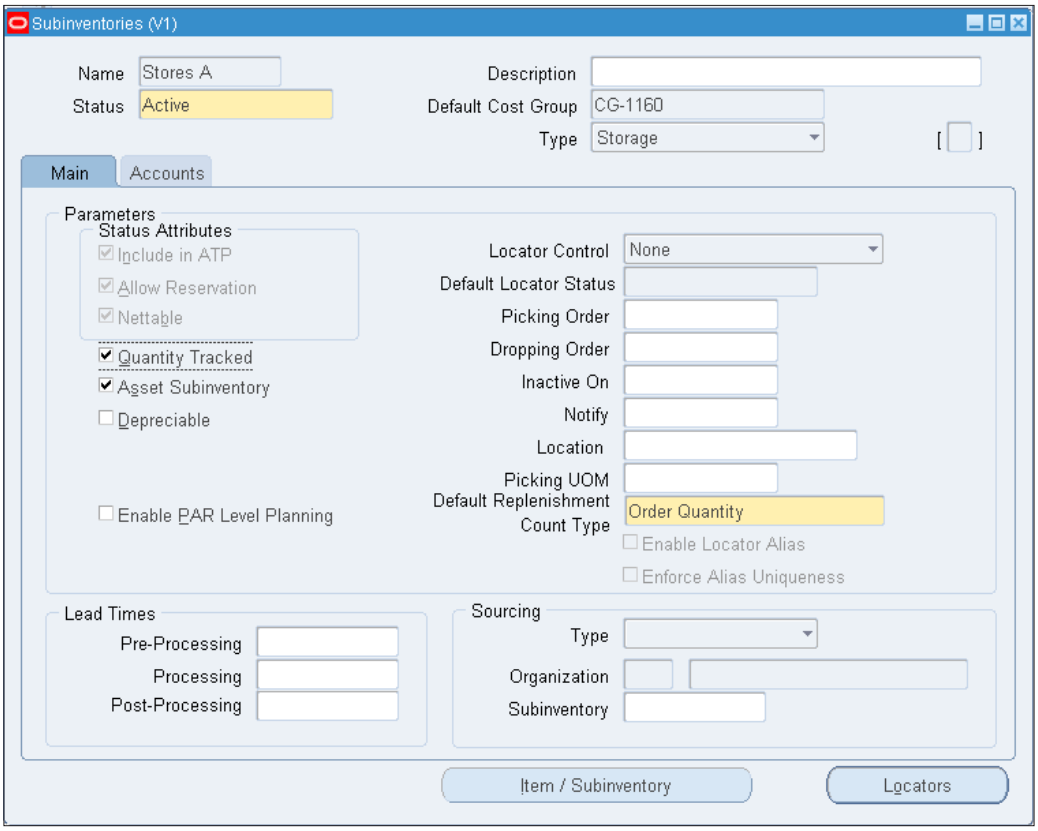
Transfer to GL is an important option which is available for each inventory organization. If we select **Transfer to GL** as **Yes**, then the accounting transactions that are created in this particular inventory organization are transferable to GL. If we select this option as **No**, then we will not be able to transfer the accounting entries to GL for financial reporting, as shown in the following screenshot:



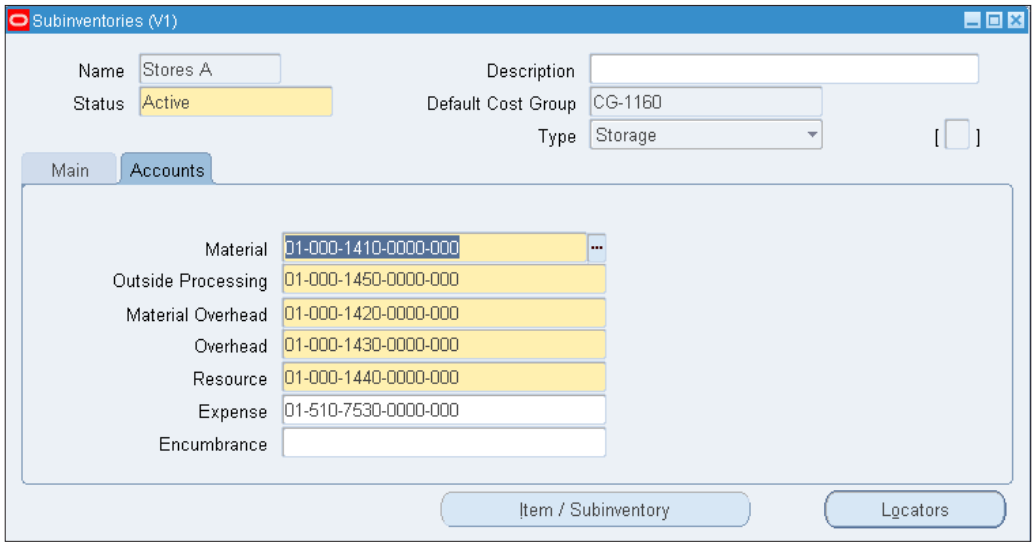
Sub-inventory accounts

As we have already discussed, sub-inventories are the logical and physical inventories. Sub-inventories physically hold the materials that are in an inventory organization. For an inventory organization, we have to capture our business process as much as we can.

To create a sub-inventory and its account, navigate to **Setup** | **Organization** | **Subinventories**.



Now select the **Accounts** tab for an inventory organization that has standard costing. We can maintain different accounts at sub-inventory level. For an average costing organization, we cannot change the accounts at sub-inventory level. Accounts will be defaulted from inventory organization level. Only the expense account can be updated.



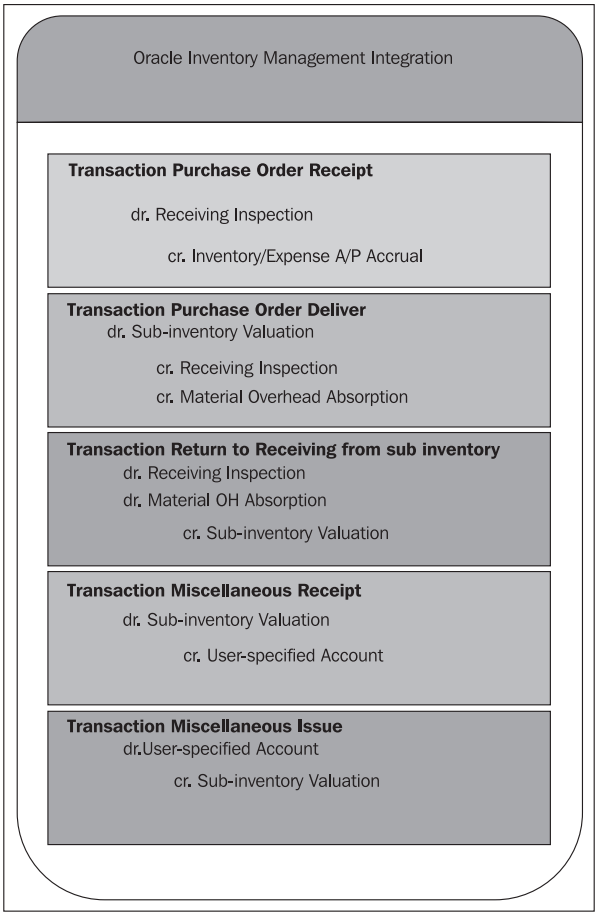
Under the **Accounts** tab, we can change the account according to our business requirements. In our scenario, we are using a frozen costing organization. Therefore, we can change and update the account.

Transactions in Oracle Cost Management

Oracle Cost Management manages the accounting transactions for WIP, Inventory Management, and Purchasing. Using Oracle Cost Management, we can transfer the account transaction to GL.

Inventory transaction in Cost Management

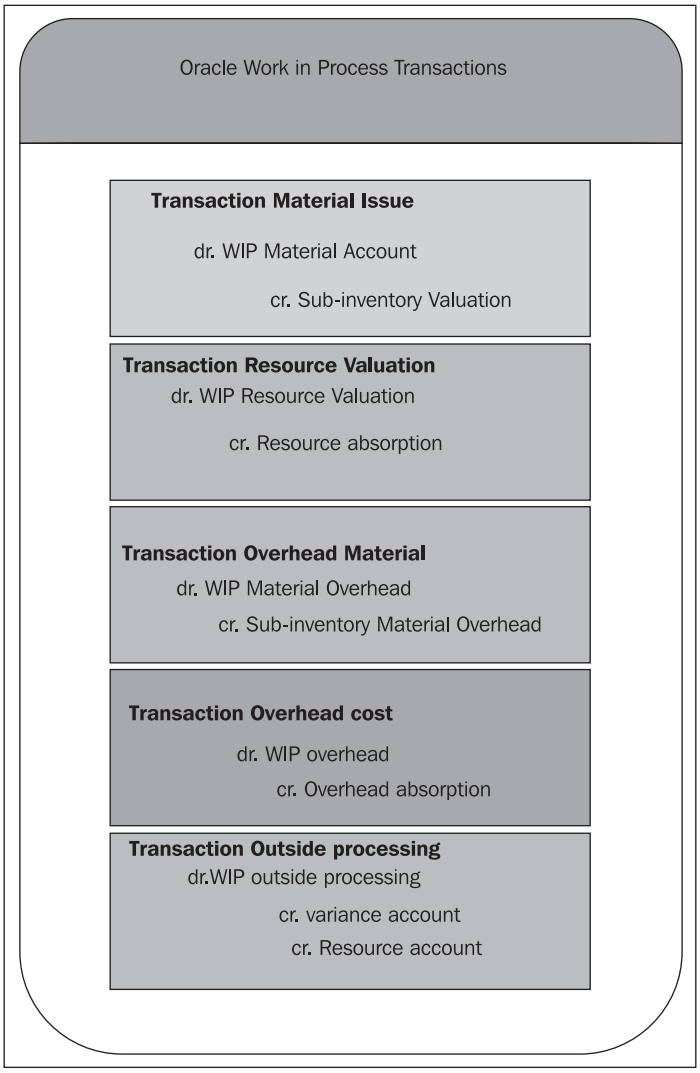
Oracle Inventory creates transactions at different levels, for example, when we receive/deliver goods against a purchase order. In the same manner, it also creates transactions when we transfer goods from one organization and sub-inventory to another, when we return to vendor, when we create miscellaneous receipts and issues, or when we move the order issue and transfers. These are the normal day-to-day transactions that we perform in Oracle Inventory. These transactions generate accounting entries.



These are a few accounting entries that are created in different stages of the Inventory Management process. In the previous example, the accounting entries are for a standard costing organization; that is why they contain accounts such as material overhead absorption. Otherwise, for an average costing organization, accounting, entries have some minor changes and are simpler in nature.

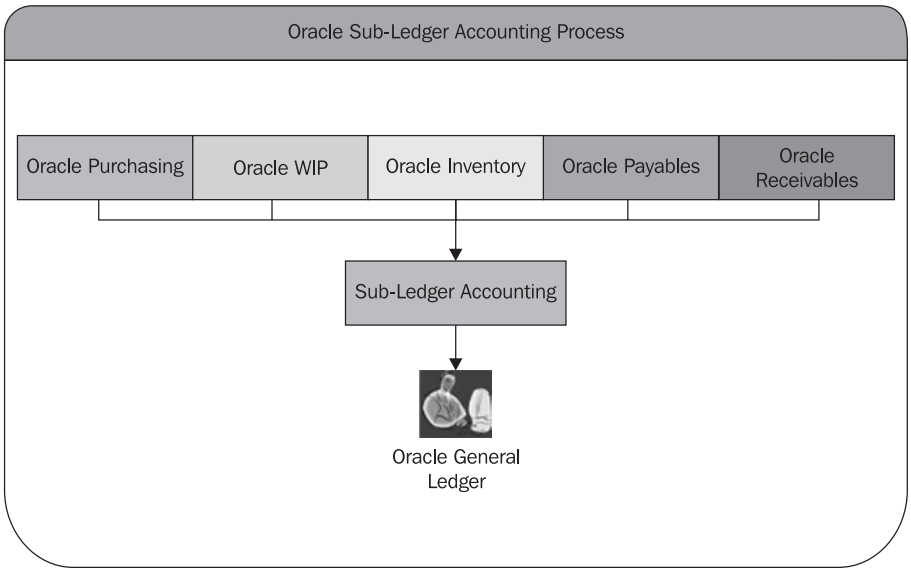
WIP transactions in Cost Management

Oracle WIP generates accounting transactions at different stages of the process. For example, when we receive/issue material for production or from production, and while processing other accounts such as resource, material overhead, and variances that are also associated with WIP, they are accounted for at different stages. In the following figure, we can see some of the accounting transactions that are generated at different stages by Oracle WIP, which are managed by Cost Management.



Sub-Ledger Accounting

Sub-Ledger Accounting (SLA) is a common application for all the sub-ledgers. This is a common application for all those modules in which accounting entries are created and then transferred to the general ledger. The modules can be part of the Financial Suite or modules such as Inventory and WIP. All the accounting entries are first collected in this centralized repository, from here they will be transferred to the general ledger for financial statements.

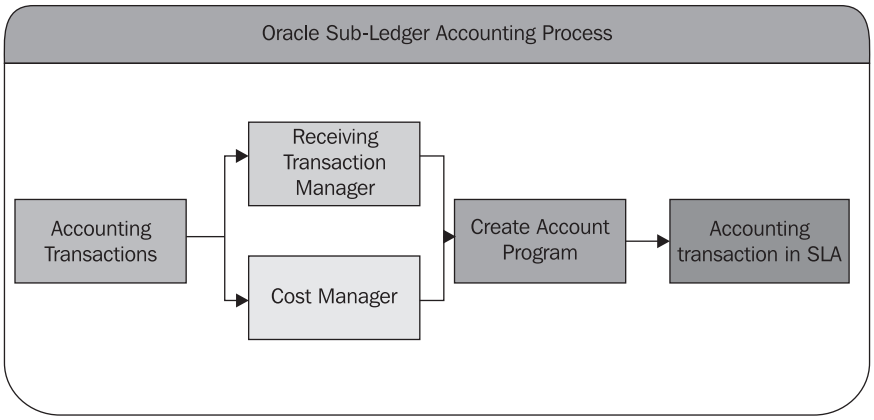


Cost Management accounting process using SLA

Transactional entries that are created in Work in Process and Oracle Inventory are stored in SLA, as it is a centralized repository for the accounting transactions. From the SLA these transactions are transferred to the general ledger. From Cost Management, SLA creates the account and transfers the transaction to GL programs.

In Cost Management, the SLA entries are transferred from Purchasing, Inventory, and WIP. These entries are then either accounted online, or in a concurrent processing mode using receiving transaction manager or cost manager. The create accounting program should be run for transaction types such as "receiving", and "inventory" so that the accounting entries will be available in SLA.

After they have been successfully created in SLA, we will run a transfer to general ledger so that the accounting entries can be transferred to the general ledger to create the financial statements, as shown in the following figure:



Summary

In this chapter, we have seen the functionality of Oracle Cost Management and why it is used. We have also seen how Cost Management is integrated with other modules of Oracle E-Business Suite. Moreover, we have seen how to set up the Oracle Cost Management, as well as the different costing methods that Oracle Cost Management offers us. Also, we have learnt how to define elements, sub-elements, create accounting in SLA, and transfer accounting entries to general ledger management.

In the next chapter, we will see the following:

- How Advanced Pricing is used in Oracle E-Business Suite
- The mechanism of the pricing engine
- How discounts and surcharges are efficiently handled using Oracle Advanced Pricing
- How qualifiers and modifiers work in Oracle Advanced Pricing

9
Overview of Oracle Advanced Pricing

Oracle Advanced Pricing is the pricing engine for the Oracle E-Business Suite. This pricing engine works using the following scenario:

- **What**: This talks about "what" the context of the product is that is finalized by product attribute—all items, item category, or item code.
- **Who**: This tells us "who" the qualifier is that tells us who will be charged. At this step, the qualifier decides which modifier will give the price.
- **How**: This shows "how" the modifiers will be applicable for the selected qualifier. These modifiers can be used to avail the discounts at sales, promotions, special duties, and charges for special customers of special locations, and so on.

After these three steps, prices for an item are finalized by the pricing engine.

The key functionalities of Oracle Advanced Pricing

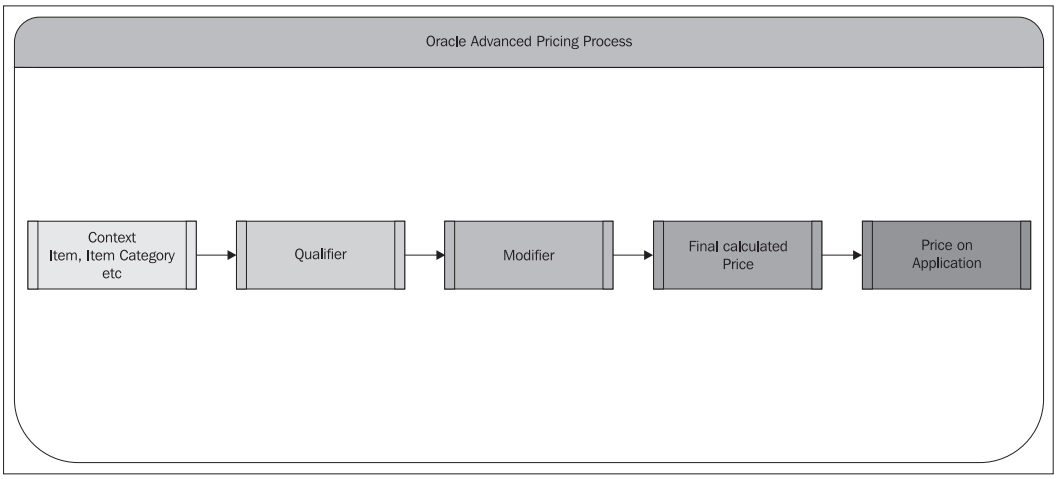
The key functionalities of Oracle Advanced Pricing include the following:

- Defining and assigning rules for pricing products.
- Applying different types of discounts and surcharges to pricing.
- Creating a price list for different pricing criteria.
- Creating formulas to calculate pricing.
- Creating conversion rates for the usage of multiple currencies.

- Integration with different EBS modules for optimized pricing
- Supporting TCA party hierarchy for price list.
- Using Oracle Advanced Pricing, with the efficient use of qualifiers, modifiers, and formulas, we can efficiently manage all business scenarios.
- Targeting the specific item definition with the help of the pricing attribute.
- Making our own rules using the qualifier. For example, if today is Saturday then there will be 15 percent discount on the product.
- Multi-level responsibility available, such as pricing administrator, manager, and pricing user.

Oracle Advanced Pricing process

The Oracle Advanced Pricing process normally initiates when a price for an item is created in the price list; the price for the item is called by the application. The qualifier and pricing attribute are used to select the eligible price or modifier. The price or the modified price adjustment, in the form of discount or surcharge, will be applied and final price is obtained. This final price is then applied against the item on the requested application.



Price list

The price list is the list of prices for different items and products. Each price list can have one or more price lines for an item. It contains the qualifier and pricing attributes. The prices of items in a price list can be constant values that can be picked up at the time of ordering. These prices can also be derived using formulas and percentages.

Qualifier

As we discussed earlier, qualifiers are rules that control who will be priced. Qualifiers contain the qualifier context and qualifier attribute that creates a logical grouping and explains who is eligible for these prices. Qualifier attributes can be order type, source type, order category, customer PO, and so on. In qualifiers we have operators that can create a condition such as equal to, between, not equal to, and so on.

Modifiers

Modifiers allow us to adjust the prices. Using a modifier, we can either increase or decrease the current price list for price adjustment surcharges, promotions, and discounts that are available to us these values are from list. Type code with a system access level.

Formulas

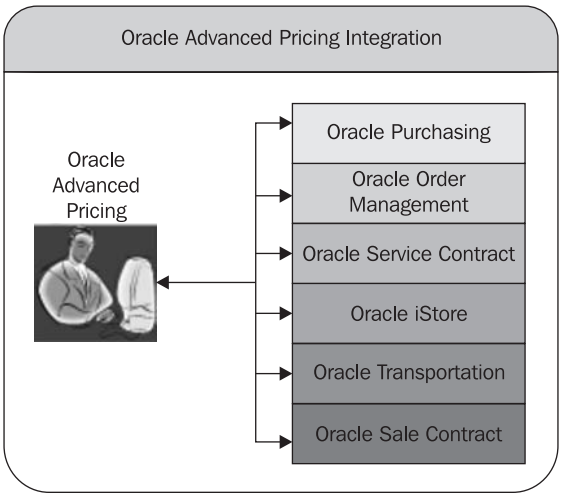
In Oracle Advanced Pricing, formulas are used to price items. These formulas actually contain the arithmetic and mathematical expressions used by the pricing process. Using these formulas, arithmetic equations provide us with the final price of items. If a formula is associated with any price list then we cannot use the constant and absolute values for that particular item.

Integration of Oracle Advanced Pricing with other modules

Oracle Advanced Pricing is fully integrated with other Oracle E-Business Suite modules. The following are the modules that are integrated with Oracle Advanced Pricing:

- Oracle Purchasing
- Oracle Order Management
- Oracle Service Contract

- Oracle Sales Contract
- Oracle iStore
- Oracle Transportation



Pricing concept of Oracle Advanced Pricing

There are four major concepts of pricing that should be understood in order to achieve the proper pricing. This gives us an understanding of the limitations and flexibilities of the product, and how certain business scenarios should be catered to when using Oracle Advanced Pricing.

Pricing rules

Pricing rules show us who is eligible and to whom this price will be applied. Using this pricing rule, we can get the final price of the item including discounts and surcharges. Mostly, the pricing rules we create are according to the customers in Oracle Advanced Pricing. We can also create a pricing rule for a group of customers. Using the pricing rules, discounts and surcharges are also catered for. We can create numerous modifiers to which we can give different types of sales promotions, discounts, and surcharges.

Pricing action

Pricing action refers to the function that is performed in response to the request from the application. It consists of pricing that is applied to the transaction to be processed. Pricing actions can be the selection of the price list and further use of the formula and modifier, from which accurate and conditional pricing will take place against the business scenarios. The adjustment in the price according to discounts, offers, or additional surcharges applied on the price will take place using the modifiers.

Pricing control

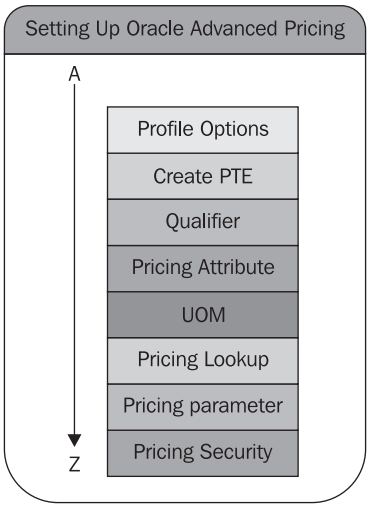
Pricing control is another very important part of the pricing process. At the pricing control level, the controls on the pricing actions are determined and applied. Pricing control gives the control to validate and verify events, against which pricing action takes place. A common pricing control is the validity date. If an offer contains a discount, which is available for the product within a specific date range, pricing control will take care of that.

Price extensibility

Oracle Advanced Pricing facilitates us with extensibility features so that we can properly map our business scenarios in Oracle. Price extensibility empowers us with various features such as APIs and attribute mapping.

Setting up Oracle Advanced Pricing

The steps required to set up Oracle Advanced Pricing are shown in the following figure:

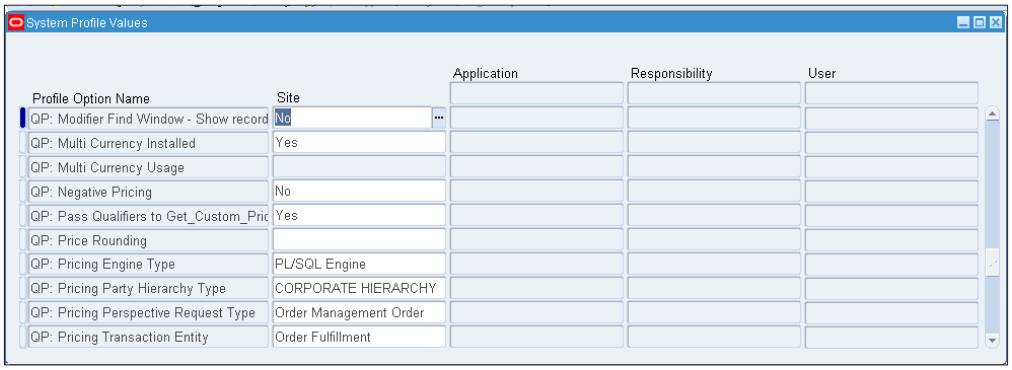


Profile options

In order to set up Oracle Advanced Pricing, there are many profile options that are required to enable the product to work properly. An important profile is **QP: Multi Currency Installed**. When this profile is enabled we can use a price list in multiple currency rather than online in functional currency.

QP: Multi Currency Usage, which elaborates the application that calls the pricelist, can also have multiple currencies available in it.

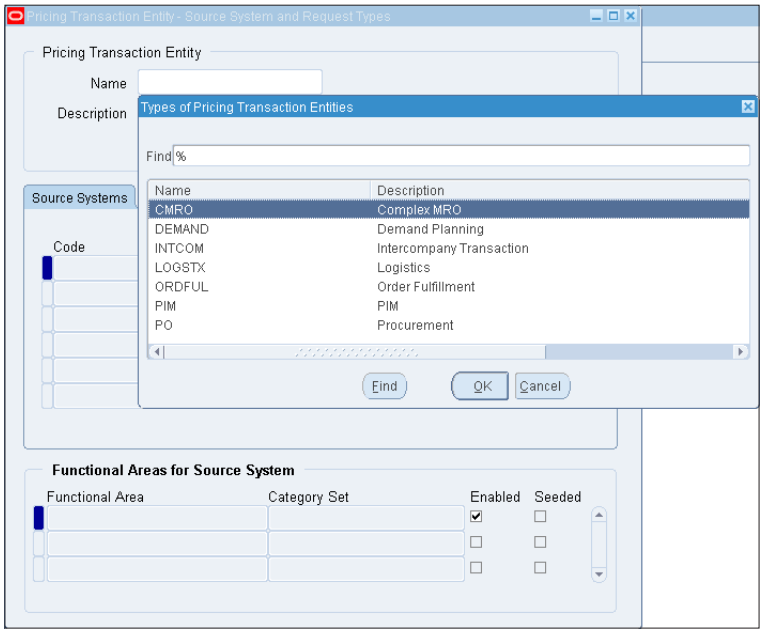
To set up the profile options, navigate to **System Administration** | **Profile** | **System**.



We can also use other profile options such as "allow duplicate modifiers", "size of bulk import", and so on. There are many other profile options that are available in the system in order to give a better solution for our business scenarios.

Price Transaction Entity (PTE)

PTE stands for **Price Transaction Entity**. PTE is the required setup for Oracle Advanced Pricing. However, there is a default available for order fulfillment, logistics, procurement, and so on. PTE is the combination of a request type and source system. To query the PTE, navigate to **Setup** | **Attribute Management** | **Price Transaction Entity**.

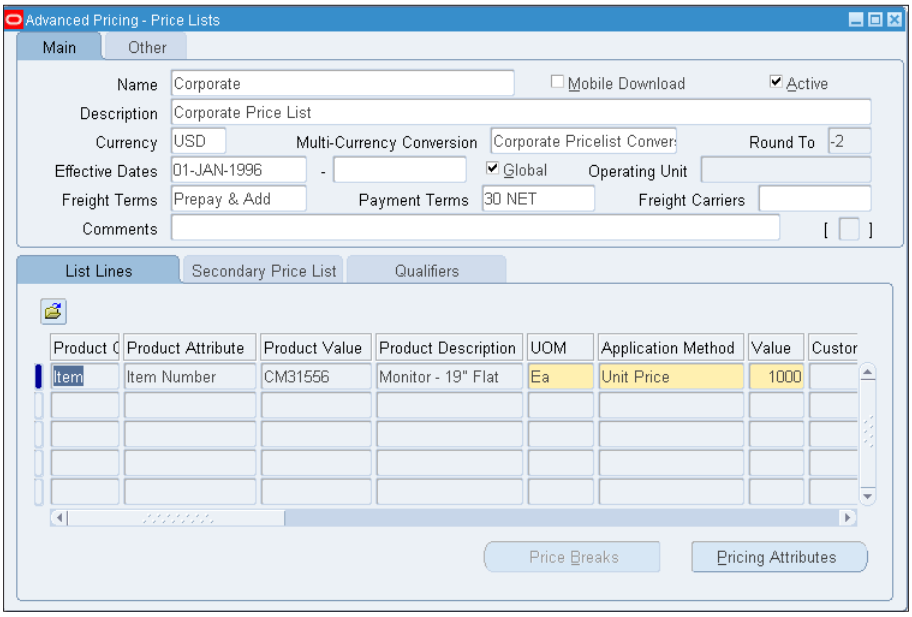


If we select **Order Fulfillment** PTE in the **Source System**, there are default codes such as **AMS**, **QP**, **OKS**, and so on; against them we have **Request Types** that detail the header and line structure.

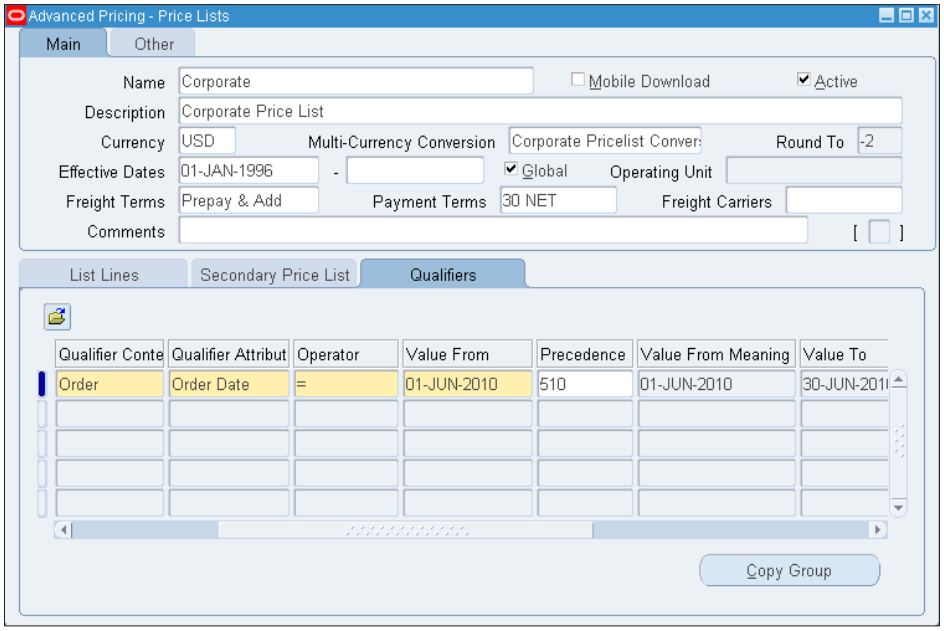
In the same manner, we have **Functional Areas for Source System**. For example, in the previous screenshot, the Advanced Pricing functional areas are highlighted along with the **Category Set** associated with them.

Qualifier

As we have already defined, qualifiers are the set of rules and conditions that actually help us analyze the eligibility of the price list that should be applied, and the modifier to be selected. We can select a different qualifier context such as order, customer, and so on. The qualifier attribute is dependent on the qualifier context. Therefore, we will be only offered relevant information. To create a qualifier for a specific product context and product attribute, we need to navigate to **Price List | Price List Setup**.

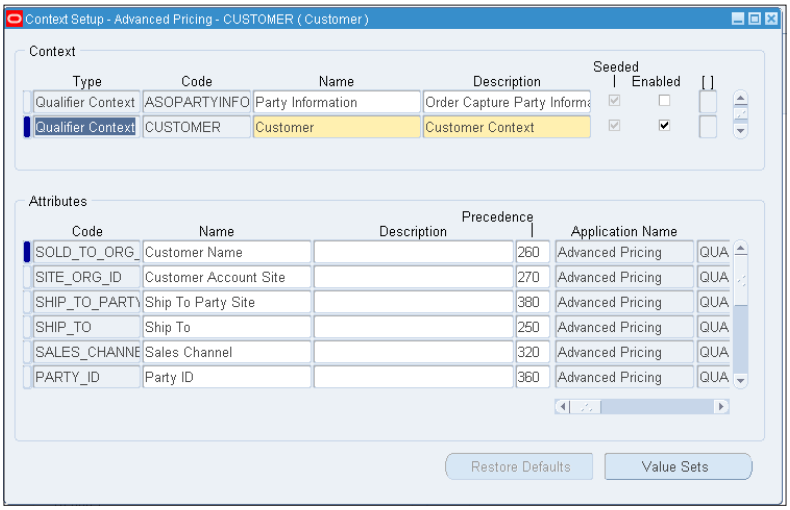


Now we will query the price at which we need to apply the qualifier. We will navigate to the **Qualifiers** tab and select the **Qualifier Context** and **Qualifier Attribute** as per our requirement. We can select **Customer**, **Territories**, and other values at the qualifier context.

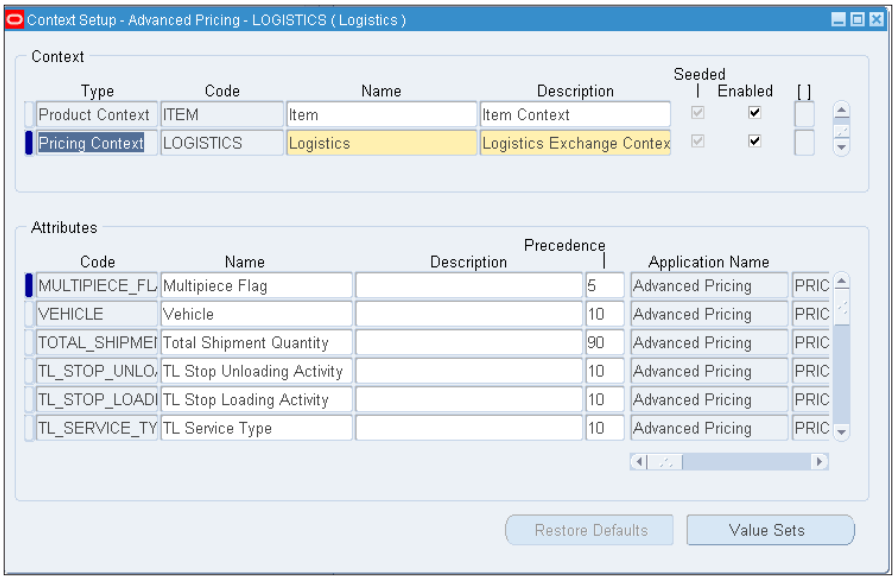


Pricing, product, and qualifier attributes

To define the attributes, we need to navigate to **Setup** | **Attribute Management** | **Context & Attribute**

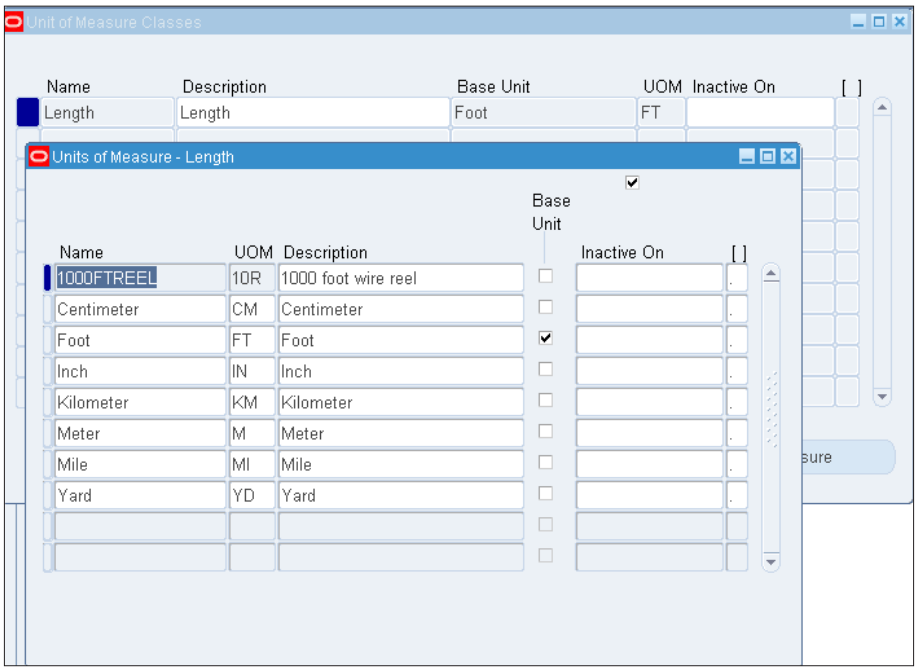


In **Context & Attribute**, we can create context for the qualifier, product, and price. They should have a unique code and description to distinguish them from the other contexts. Each context has its attributes. These attributes can be altered but if they are attached to a price list or modifier, they cannot be altered or deleted.



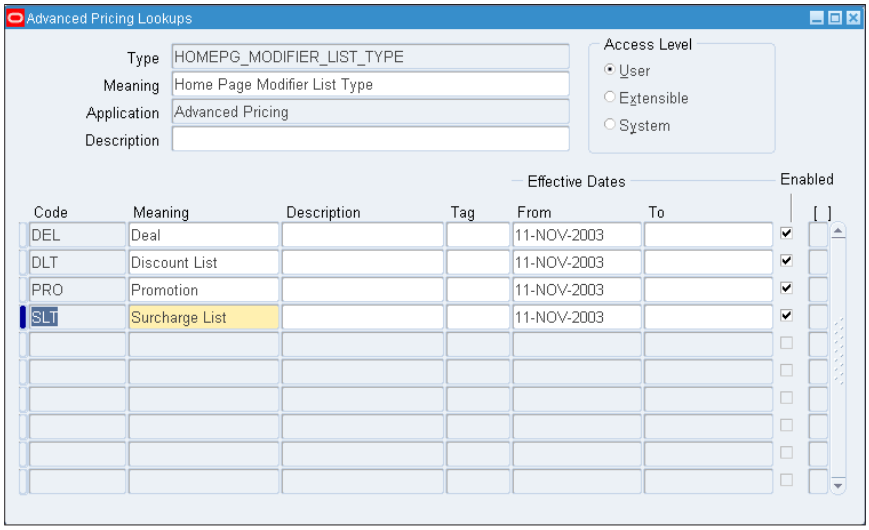
Unit of Measure (UOM)

Unit of Measure (UOM) is a shared application setup. If Oracle Inventory is already set up, we do not need to perform this setup again. UOMs are used in Oracle Advanced Pricing for the calculation and pricing unit. Navigate to **Setup | Unit of Measure | Unit of Measure Classes**.

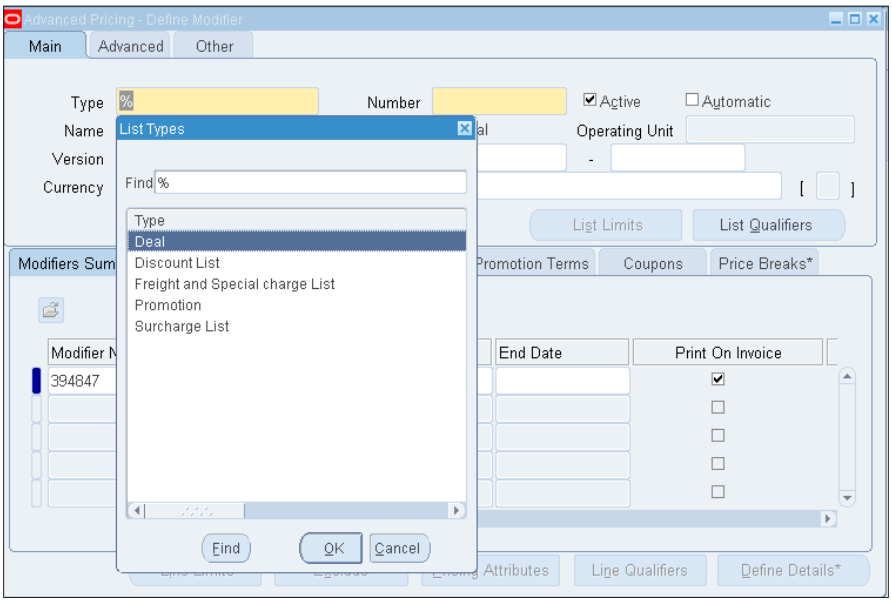


Advanced Pricing lookups

Like other modules, Oracle Advanced Pricing also uses lookup codes. We can use and create these lookup codes as per our business needs and requirements. To create a lookup, navigate to **Setup** | **Lookups**.

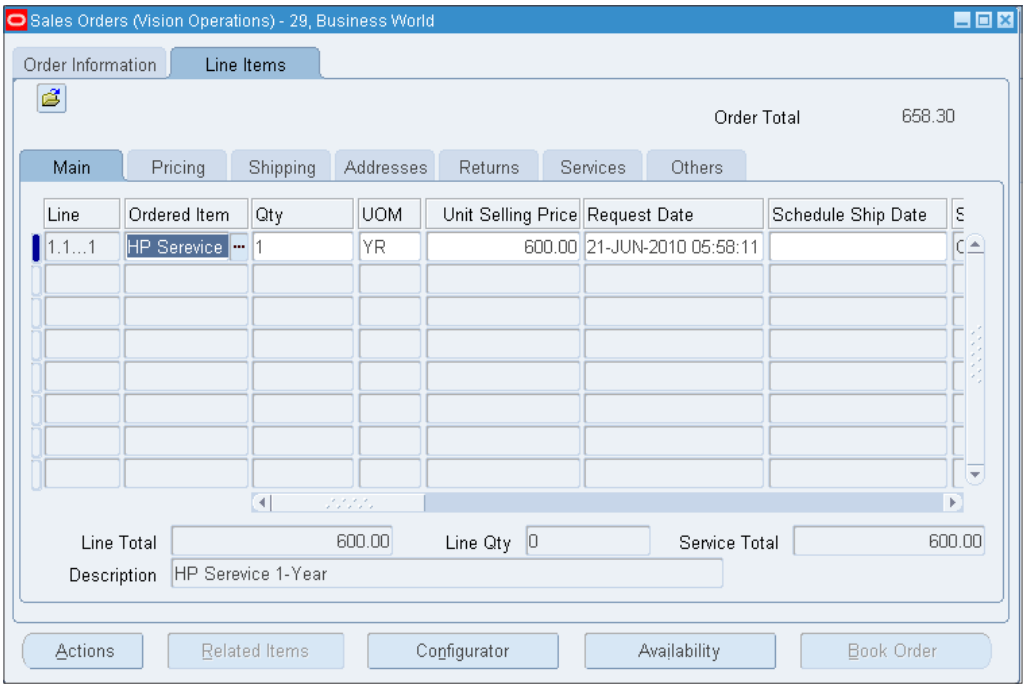


For example, here we can create a modifier list type, which we can use to create the price adjustments and amendments.



Oracle Advanced Pricing in sales order entry process

Oracle Advanced Pricing intervenes in the sales order entry process. At the time of order booking, the price for the item is required. At the time of booking the order, the list price of the item is picked by order entry from Advanced Pricing. When the order entry calls the price, the pricing engine calculates the price according to the pricing setup of the qualifier and modifier, and gives the final price of the item for the booking order, as in the following screenshot. We can see the unit selling price of **1** quantity that has been picked from the predefined pricelist.



Summary

In this chapter, we have seen the functionality of Oracle Advanced Pricing and why it is used. We have also seen how to set up the Oracle Advanced Pricing, and have learnt the different terminologies, capabilities, and limitations of the product. Moreover, we have seen how to use Qualifiers, Attributes, Contexts, UOMs, lookups, and PTE, and how they work. We have also seen how an item is priced for sales orders from a predefined price list.

10
Oracle E-Business Implementation at Sarmixa Telecom

Sarmixa Telecom has been set up to become the leading service provider based on quality, reliability, and affordability in the communication and media sector. Sarmixa is committed to bring next-generation telecommunication services for everyone.

Now our goal is to understand the business structure and supply chain process of Sarmixa Telecom and propose a proper solution using Oracle E-Business Suite, which becomes an excellent package fit for their organization and helps them achieve their targets and business goals in short and long terms.

In this chapter, we will go through following topics and steps that will lead us towards a successful Oracle E-Business Suite implementation:

- Structure of Sarmixa Telecom
- Duties and responsibilities of different departments
- Line of business at Sarmixa Telecom
- Detailed review of **Applications Implementation Methodology** (**AIM**)
- Implementation phases of AIM
- Implementation at Sarmixa Telecom
- RD-10, BP-90, and BR-100 business documents

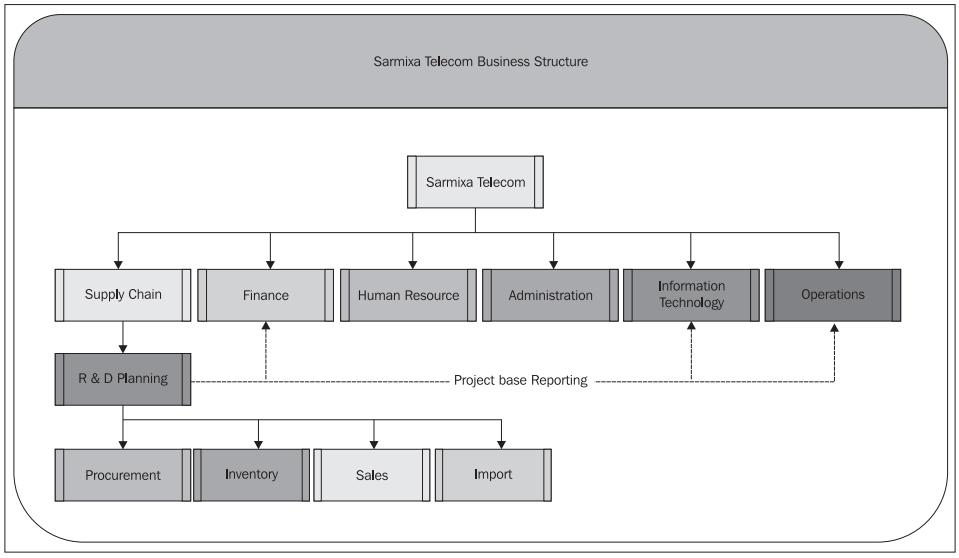
The business structure of Sarmixa Telecom

Let's have a look at various departments and their roles within Sarmixa Telecom. The business structure of Sarmixa Telecom is as follows:

- **Inventory department**: Sarmixa Telecom has an Inventory department, which is responsible for managing products that are procured and held in inventory. They perform monthly audit of their inventory accuracy and quality. The Inventory department also performs operations such as issuance of goods for internal organization usage as well as keeping track of and managing the goods that are sold to their customers.
- **Procurement department**: The Procurement department of Sarmixa Telecom's primary responsibility is to purchase goods and services as per the requirement indicated from different user departments in the organization. These requirements are received in the Procurement department using a proper requisition process. This is initiated by the key user, and the final approved requisition from the user department head is received in the Procurement department. Another important task of the Procurement department is to manage the suppliers, keeping proper track of performance, timely delivery of goods and services, and communication of proper invoicing on timely basis.
- **Finance department**: The Finance department of Sarmixa Telecom is responsible for keeping a track of the financial records of the company. Some operations that the Finance department performs are: invoicing and payment to their suppliers, keeping track of their customers, invoicing customers, and managing the assets of the organization. Also, operations such as bank reconciliations and preparation of financial statements are performed. They are also responsible for costing and valuation of stock and giving financial figures in the decision-making process on organization's long-term and short-term goals.
- **Sales Operations department**: The Sales Operations department of Sarmixa Telecom looks after the sales done by the company. They also perform customer management and keep track of the prices of the items. The sales department also manages the seasonal and occasional discounts and surcharges in coordination with the Finance and Marketing departments to achieve the best from the market and to give better services and packages to its customers.

- **R&D Planning department**: In Sarmixa telecom, the Procurement, Inventory, Finance, Marketing, and Sales departments are facilitated by the R&D Planning department, which performs planning, budgeting, and forecasting of the targets that need to be achieved. The Planning department requires critical information in the form of reports from each department to see the progress and standing of these departments and for comparison among the plans to see what was required and what is achieved. The R&D and Planning department gives a monthly report on the status of the data collected from these departments. Upon receiving this report from Planning, all the departments amend their work accordingly.
- **Human Resource department**: In Sarmixa Telecom, there is a well set-up Human Resource department, which facilitates the company and its employees. Human Resource is also responsible for the recruitment, selection, hiring, and firing process of the organization. This department holds the complete data of each employee, their area of expertise, training programs, appraisal, compensation, and benefits.

The following figure helps us understand the structure of the Sarmixa Telecom in a better way:



Sarmixa Telecom line of business

Sarmixa Telecom deals in the following businesses. Each **Line of Business** (**LOB**) performs separately and is responsible for its business task. The departments that we have mentioned previously take care of all the operations of each LOB.

S-VSAT

Sarmixa S-VSAT networks feature a very flexible and powerful architecture that can concurrently support a combination of VSAT applications and networks. The company is focused towards providing networks that are cost-effective, easy-to-use, and flexible. Although their types of services and network sizes have varied widely, the Sarmixa S-VSAT customers share one thing in common: the need to provide reliable telecommunication services to their subscribers and end users in areas that terrestrial systems could not adequately reach. Sarmixa S-VSAT specializes in VSAT products and solutions in support of the following main applications:

- Carrier Class Telephony Networks
- Broadband, Internet, and Multimedia access
- Corporate Enterprise Private Networks, including Banking
- Rural Telephony Public Network Extensions

S-WiMAX

Sarmixa Telecom is among the first few companies in the world to roll out a WiMAX network at a country-wide scale. WiMAX is a standards-based technology enabling the delivery of last mile wireless broadband access as an alternative to wired broadband such as cable and DSL with globally renowned partners. Sarmixa WiMAX provides the following services:

- Broadband internet with up to 4Mbps dedicated speed
- Telephony with over 50 value-added features
- Fully secure, high-speed data networks

S-HFC

Sarmixa Telecom has started its roll out of HFC network in Karachi for offering triple play services to the residents. **HFC** (**Hybrid Fiber Coaxial**) is a telecommunication industry term that incorporates both optical fibers along with coaxial cable to create broadband network. It has been successfully deployed by cable operators since 1990. The fiber optic network extends from the main head end out from a virtual hub and finally to a fiber optic node. Each node will be able to service houses without amplifiers to provide that optimal output quality. Its network topology ensures quality and optimal signal output strength through the S-HFC cable service. Sarmixa will be offering multiple local and international in-house channels.

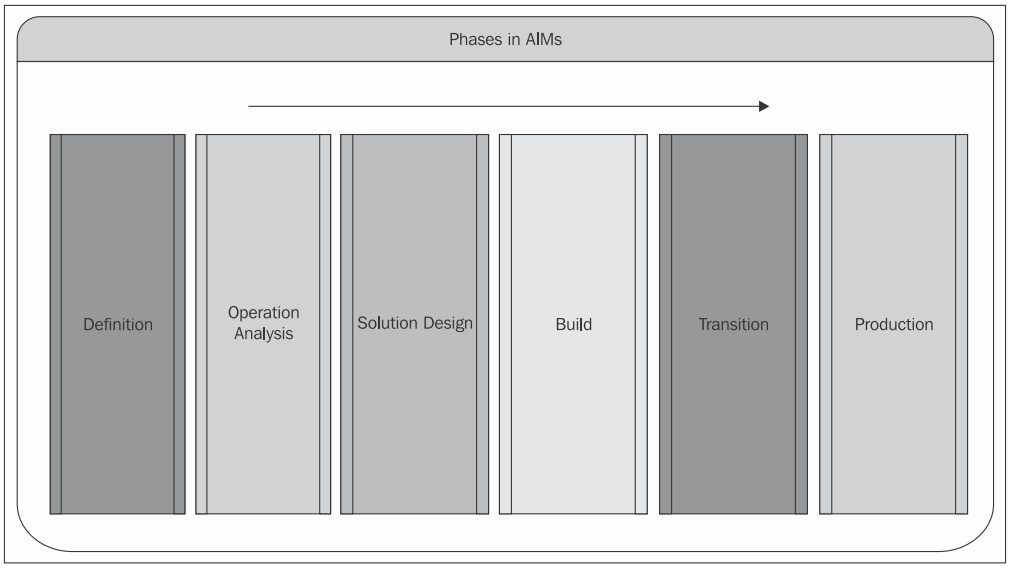
Oracle E-Business implementation using AIM

Oracle AIM stands for Oracle Application Implementation Methodology. AIM is used for the implementation of Oracle Applications. It consists of the processes that guide and control the Oracle E-Business implementation. It supports the following operations that can be performed during the project:

- Planning
- Requirement
- Business process re-engineering
- Integration data conversion

AIM Processes and Phases

As already discussed AIM's processes are in different phases; each of these phases consists of a set of documents that are essential for proper and controlled implementation of Oracle applications. The process flow of AIM is as shown in the following figure:



Definition phase

In the definition phase of Oracle AIM, we will extract the information regarding the business processes and identification of the organization's business goals. In the design phase, we will review the existing business processes, which are already in process in the organization and we will align them with requirement and capabilities of oracle applications.

Our goal is to design and re-engineer existing processes into a new business process that totally maps with the Oracle application. In this phase, if some of the business scenarios are not fully mapped with the standard process, then we need to find a workaround for that in order to cover the business process.

The following documents are prerequisites for AIM:

- Organogram
- Organization **BPR**(**Business Process Re-engineering**)
- Legacy process data
- **SOP** (**Standard Operating Procedures**) of the Organization
- Existing and newly required reports
- **SOW** (**Scope of Work**)
- Project plan
- Implementation team
- A list of the documents that will be delivered on each phase

Operation analysis phase

In the operation analysis phase of Oracle AIM, we will define the operation requirements of the Oracle application. Detailed design of the high-level process was already identified at the definition phase. In this phase, we will also conduct gap analysis. Gap analysis means finding the areas that cannot be covered due to any reason in Oracle application. In this phase, we will also propose the solution to fill these gaps either in the form of other application components, redefining the business process, or suggesting a work-around for them. A test instance will be configured for testing the proposed solution in the test environment. All the identified business processes and scenarios will be tested on this test instance; therefore, there will be a confirmation of the proposed solution.

The following are the prerequisites of this process:

- Business data mapped
- Gap analysis

- Report tracking list
- Proposed business solutions
- Testing of the proposed business scenarios
- Application knowledge sharing boot camp for users

Solution design phase

In the Solution design phase of Oracle AIM, the information that was extracted and documented during the definition and operation analysis phases will be set up on the Oracle application. The core objective of this phase is to successfully implement the extracted information from the previous two phases into systems, so that the users can validate their business scenarios in the Oracle application. Different testing plans will be made in order to check whether the systems are working according to the proposed business solution, or their behavior is different from the proposed solution in the Oracle application. Each and every proposed solution is validated in this phase. If some changes are raised from the user, then these requirements are also catered for in this phase.

The prerequisites for this phase are:

- Cleaned data from legacy systems
- Proper test scripts of each scenario
- Training material and **UPKs** (**User Productivity Kits**) are provided
- Process tracking list with list of new and existing business requirements
- Availability of people and resources
- Application setup documents
- Change request list

Build phase

In the Build phase of Oracle AIM, the servers' databases, networks, and the architecture are finalized and tested for the go-live. Build phase is oriented towards the technical testing and soundness of the system. Therefore, in this phase each and every technical evaluation of the system will be performed. If any change is required then that should be carried out at this level and should be corrected and finalized in this phase. In this phase, system-specific documents will be published such as a "system user manual" and "technical reference manual".

Transition phase

In the Transition phase of Oracle AIM, the system is prepared. It contains all the information that was studied in the previous phases and the requirements that were received from the users.

In the transition phase, the data that was in legacy systems is collected in the form of opening balances and customers are migrated to the new instance. All the master data including employees, suppliers, customers, items, and other shared entities are transferred to the newly prepared Oracle instance and are fully functional. In the transition phase, the data entry in the production instance starts. In the same manner, support for the application will also be given from respective consultants and super-users.

The following are the prerequisites of the transition phase:

- Data from legacy is cleaned and migrated into the instance
- Setup completed; profile and all the necessary setup requirements are done
- Setup document is communicated to the client
- Oracle application is fully functional
- All the backup and restore policies and procedures are defined
- All the newly defined SOP and procedures should be available as per recommendation

Production Phase

In the production phase of Oracle AIM, the system is working as per the requirements and work done in all the previous phases. The work that was agreed on the documents of the previous phases is fully available and the proper user training and support was conducted so there would be no hassle for the users to learn the new system. All the business requirements and reporting requirements are complete and the system is fully functioning to perform the routine tasks. In the production phase, all the entries are done on the Oracle application due to the routine work being completely done on the Oracle application.

Oracle E-Business Suite implementation at Sarmixa Telecom

Now we will see how we can implement an Oracle application using the Oracle AIM. Here at Sarmixa Telecom we will be following the Oracle AIM. We will follow the phases and documents that are used at different phases during AIM. AIM contains a list of different documents that are used from definition phase to production phase. Here we will take the example of few a documents to see how we can implement using AIM.

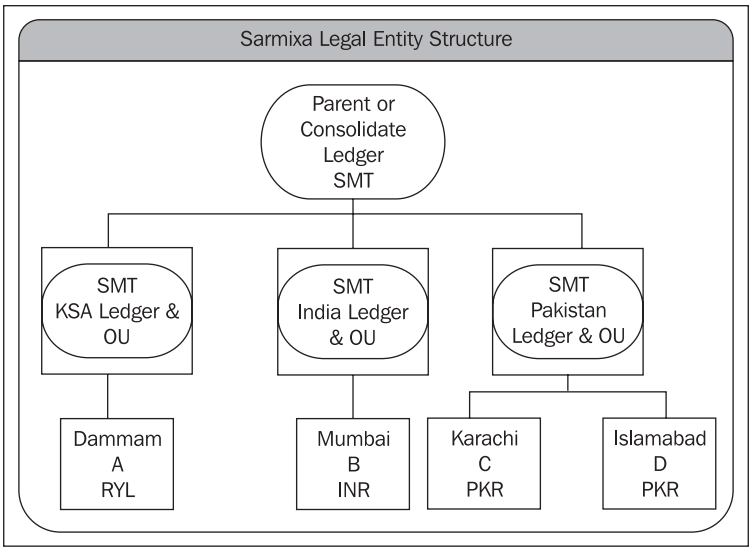
RD-10: Identify current financial and operating structure

Using the RD 10 document, we will gather all the information related to the financial and operating structure of Sarmixa Telecom. For gathering this information we need to refer to the description provided to us, initially regarding the operating structure, that is how different departments are integrated, what are the approval and designated authorities, and how the information will flow from one department to another. In the same manner, financial structure is also extracted. For example, chart of account, business calendar, and other financial reporting requirements will be identified.
Using the RD-10 document, we will fill the entire requirement, which is related to the following:

- Organization and legal entity structure
- Business organization listings and overview
- Financial operating environment
- Financial reporting environment

Organization and legal entity structure

In the organization and legal entity structure, we will finalize what the structure of the organization is, and how accounting will be balanced in the organization. Here we will also find how we will structure the legal entities in the future as well as how the operating units will be structured to work efficiently.



Business Organization Structure

In the business organization structure, we will extract the identified organizations, we will give each a unique code, and identify its location and type. Here we will also mention what is the primary functionality of the organization and some related description about the organization. This business structuring will give us a clear picture as to how the organizations are structured, so that we can easily refer to these documents for setups.

Organization	Abbreviation or Code	Location	Organization Type	Primary Functions	Description/ Comments
SMT HO	SMT	220A 5th Floor Orem Business City Clifton Karachi	Head Office	Corporate Finance & SCM	Corporate Headquarters
SMT Islamabad	SMI	223D HTC blue area Islamabad	Regional Office	SCM & Distribution	Reqional Office
SMT Mumbai	SMM	11D Andheri East Mumbai	Regional Office	SCM & Distribution	Reqional Office

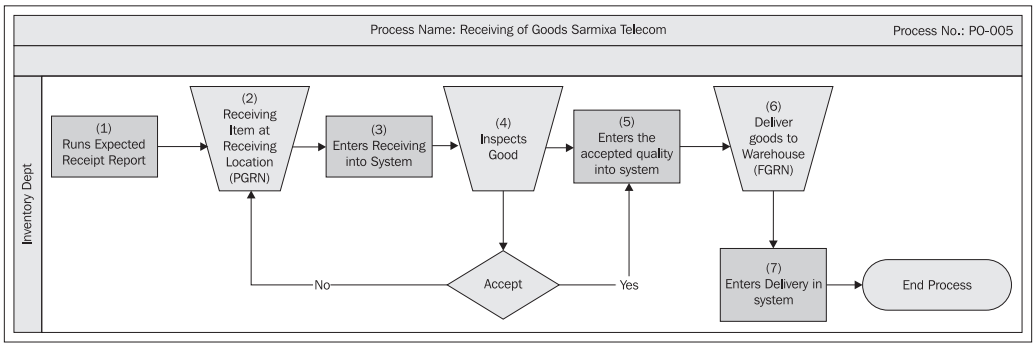
BP-80: Future process model

Using the BP-80 document, we will create the future business process model in the form of integrated process flow. This process is engineered according to the compatibility with the Oracle E-Business Suite as to how this process will take place after Oracle E-Business Suite becomes fully functional.

In this phase, the deliverables are in process flow diagrams and events that are separated by department and process.

Using the BP-80 business process documents all the suggested solution design processes will be aligned and assigned according to the BP-80 model.

The following figure depicts a very simple example of how goods of inventory nature will be received at Sarmixa Telecom:



BR-100: Document business procedures

BR-100 is used as the core setup document in which all the setup-related activities are captured. This document explains the mapping of the business that was done in setup. BR-100 explains the process and business area from which this setup is done. It also elaborates on which department will own this process. Here we have an example where financial options for Oracle Purchasing are defined. The following table identifies the list of accounts that are used to hold the accounting information.

The following table explains the financial options set up for all the operating units. Therefore, this table will be used for all the three operating units, which are all in the given table and are differentiated by the first segment.

Navigate to **Purchasing** | **Setup** | **Organizations** | **Financial Options**.

Process:	**Business Area:**	**Date:**
Sarmixa Procurement	Purchasing	25-Aug-2010
Control Number:	**Priority (H, M, L):**	**Process Owner:**
PO-011	H	Supply Chain

Operating Unit	01-Sarmixa Telecom HO. / 02 Sarmixa Islamabad /03 Sarmixa Mumbai/.04-Sarmixa Dammam Note: All the Operating Units have same Financial Options but Balancing segment is changing respectively 01-02-03-04
Future Period Limit	1
GL Supply Chain: Liability	01-0000-00-000000-00000-00000-295030522-00-0000-0000
GL Accounts: Prepayment	01-0000-00-000000-00000-00000-195040299-00-0000-0000
GL Accounts: Bills Payable	01-0000-00-000000-00000-00000-195200397-00-0000-0000
GL Accounts: Discount Taken	01-0000-00-000000-00000-00000-595010302-00-0000-0000
GL Accounts: Rate Variance Gain	01-0000-00-000000-00000-00000-498010198-00-0000-0000
GL Accounts: Rate Variance Loss	01-0000-00-000000-00000-00000-498010198-00-0000-0000

Summary

In this chapter we have seen an example of an imaginary telecommunication service provider, which has different lines of business using which it generates its revenue. We have seen how Sarmixa Telecom is structured and what are the responsibilities and duties of the different departments associated with Sarmixa Telecom. On the other hand, we have also seen how the implementation process takes place using the Application Implementation Methodology, different documents that are made at different levels in order to proceed in the implementation, and how documents flow from definition to implementation phase. Now, as the case study hints and leads are provided, it is encouraged that you should explore and prepare the list of implementation steps and requirements that are not highlighted in this chapter.

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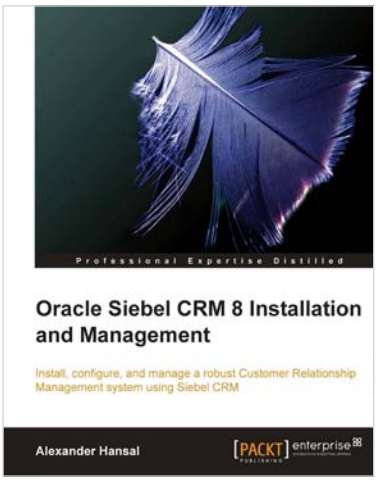

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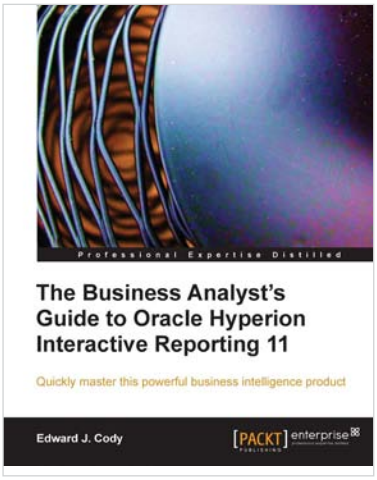

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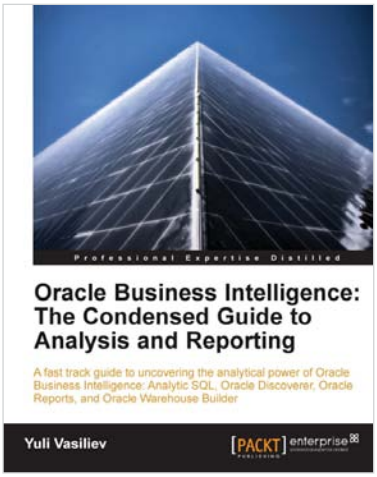

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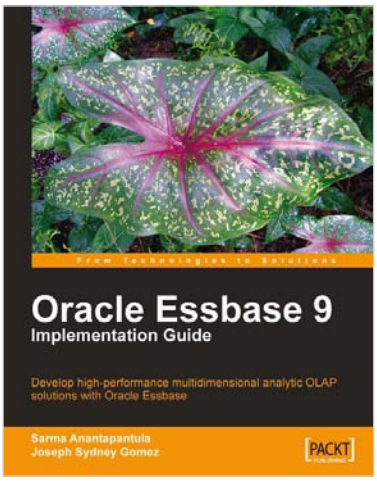

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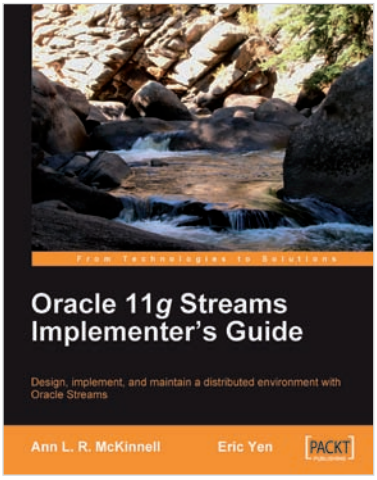

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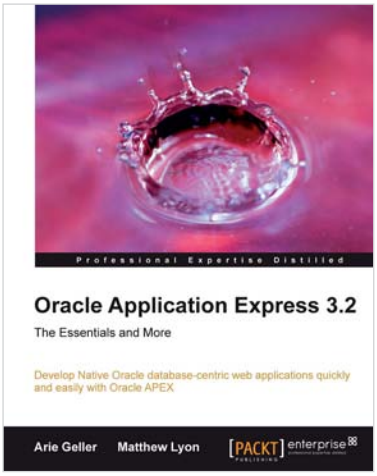

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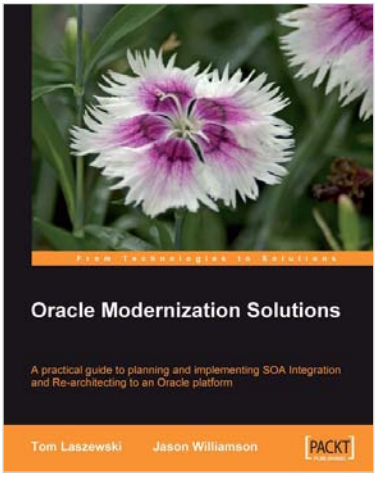

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