11*i* Install, Patch and Maintain Oracle Applications

Student Guide

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Preface

Profile

Before You Begin This Course

Before you begin this course, you should have the following qualifications:

- Knowledge of ERP software systems and the Internet recommended

Prerequisites

- There are no prerequisites for this course

How This Course Is Organized

Install, Patch and Maintain Oracle Applications is an instructor-led course featuring lecture and exercises. Quizzes and discussion sessions reinforce the concepts and skills introduced.

Related Publications

Oracle Publications

Title	Part Number
Oracle Applications Concepts	*A90380-01*
Upgrading Oracle Applications	*A90308-01*
Installing Oracle Applications	*A90307-01*
Maintaining Oracle Applications	*A90130-01*

Additional Publications

- System release bulletins

- Installation and user's guides

- readme files

- Oracle Magazine

Typographic Conventions

Typographic Conventions in Text

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

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

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

Typographic Conventions in Code

Convention	Element	Example
Caps and lowercase	Oracle Forms triggers	`When-Validate-Item`
Lowercase	Column names, table names	`SELECT last_name` `FROM s_emp;`
	Passwords	`DROP USER scott` `IDENTIFIED BY tiger;`

	PL/SQL objects	`OG_ACTIVATE_LAYER`
		`   (OG_GET_LAYER`
		`('prod_pie_layer'))`

Lowercase italic	Syntax variables	`CREATE ROLE` *`role`*
Uppercase	SQL commands and functions	`SELECT userid` `FROM emp;`

Typographic Conventions in Navigation Paths

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

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

This simplified path translates to the following:

1. (N) From the Navigator window, select Invoice > Entry > Invoice Batches Summary.

2. (M) From the menu, select Query > Find.

3. (B) Click the Approve button.

Notations :

(N) = Navigator

(M) = Menu

(T) = Tab

(I) = Icon

(H) = Hyperlink

(B) = Button

Typographical Conventions in Help System Paths

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

The following help navigation path, for example—

> (Help) General Ledger > Journals > Enter Journals

—represents the following sequence of actions:

1. In the navigation frame of the help system window, expand the General Ledger entry.

2. Under the General Ledger entry, expand Journals.

3. Under Journals, select Enter Journals.

4. Review the Enter Journals topic that appears in the document frame of the help system window.

Getting Help

Oracle Applications provides you with a complete online help facility.

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

To display help for a current window:

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

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

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

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

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

Searching for Help

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

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

Oracle Applications Overview

Chapter 1

11*i* Oracle Applications Architecture

Oracle Applications Architecture is an instructor-led course featuring lecture and written practice sessions.

This course takes a platform-generic approach. When appropriate, NT or UNIX specific information is presented. Many environment variables such as APPL_TOP are stated as such. For a Unix environment assume that APPL_TOP is $APPL_TOP and for NT %APPL_TOP%.

Course Modules

- **Oracle Applications Overview**
- **Internet Computing**
- **Oracle Applications Database**
- **Oracle Applications File System**
- **Oracle Applications Environment Files and Languages**

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Course Modules

This course contains five modules:

- Oracle Applications Overview
- Internet Computing
- Oracle Applications Database
- Oracle Applications File System
- Oracle Applications Environment Files and Languages

Module 1

Module 1

Oracle Applications Overview

11*i* Oracle Applications Architecture

Module Overview

- **Personal Homepage**
- **Self Service Web Applications**
- **Professional interface**
- **Concurrent Processing**
- **System overview**
- **Database components**
- **File system components**
- **Oracle Applications and the Applications Technology Stack**
- **Product families**
- **Product dependencies**
- **Vision Demo database**

Overview

This module provides an introduction to the different programs and components that comprise Oracle Applications Release 11*i*. It describes the components that are stored and processed in the Oracle Applications database as well as the components stored in the Oracle Applications file system. It also explains the various product families and how dependencies exist between them. A brief introduction of the Vision Demo database is also provided.

Many of the components and processes introduced in this module are described in further detail in subsequent modules.

Oracle Applications

Suite of eBusiness applications

Applications Technology	**CRM**
Financials	**Supply Chain**
HRMS	**Manufacturing**
Projects	**Public Sector**

Stored in an ORACLE Database and a File System

Business

Data

Product

Files

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Oracle Applications

Oracle Applications is a suite of integrated software applications that provides a complete solution to the business needs of Oracle customers. Each product application provides services and processing in a particular business area such as Inventory or Accounts Receivable.

Oracle eBusiness Applications includes product families such as:

- Applications Technology
- Customer Relationship Management (CRM)
- Financials
- Supply Chain
- Human Resource Management Systems (HRMS)
- Manufacturing
- Projects
- Public Sector

Personal Homepage

Personal Homepage

When a user logs into Oracle Applications, the first page the user sees is the Personal Homepage. The Personal Homepage is the starting point to access both the Self-Service Web Applications and the professional clerical Applications, and provides seamless navigation to all parts of the system.

The Personal Homepage provides a consistent look and feel to Oracle Applications and personal preferences are retained when navigating through the system.

Self-Service Goals

- **Provide cheaper, faster and more accurate information.**
- **Eliminate paperwork.**
- **Reduce administrative costs.**
- **Increase organizational responsiveness.**
- **Provide simple, approachable interface.**
- **Reach out to all employees and partners.**

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Self Service Goals

The Oracle Self-Service Web Applications, including Self-Service Expenses, Self-Service Human Resources, Internet Procurement, Internet Receivables, Self-Service Time, Web Suppliers, *i*Store, *i*Payment, *i*Support, *i*Marketing, and *e*Travel, extend the functionality of Oracle Applications by adding a browser–based, walk up and use functionality that supplements Oracle Applications.

The Oracle Self-Service Web Applications can be either inquiry or transactional. Inquiry modules read but do not update the Oracle Applications database, whereas transactional modules update the database.

The Self-Service Web Applications are easy to use and require very little user training.

Self-Service Interface

Self-Service Interface

Self-Service Interface

The Self-Service Web Applications architecture consists of the following components:

- A Web browser
- The Oracle HTTP server, powered by Apache
- HTML documents
- Java Server Pages, JavaBeans and Servlets
- Oracle 8*i* database including PL/SQL program units

Professional Interface Goals

- **Offer a flexible, powerful system for professional administrative users.**

- **Provide a responsive interface optimized for high-volume use.**

- **Optimize production reporting.**

Professional Interface Goals

Release 11*i* includes two principal product suites: Enterprise Resource Planning (ERP) products and Customer Relationship Management (CRM) products.

Most of the products within these two suites utilize the professional clerical interface. This flexible user interface allows for ease of performing complex transactions and inputting high volumes of data.

Professional Interface

Professional Interface

Professional Interface

The application tier software used in most ERP and CRM products is the Forms server. The Forms server mediates between the Forms client, a Java applet running on the desktop, and the Oracle8*i* database server on the back end, or database tier.

Concurrent Processing

Concurrent programs:

- **Report and update data.**

- **Are long–running, data–intensive tasks.**

- **Run simultaneously with other concurrent programs.**

- **Run simultaneously with online operations.**

- **Run on the Concurrent Processing server.**

Concurrent Processing

A concurrent program is an executable program which runs in the background. It runs simultaneously with other concurrent programs and with online operations, fully utilizing your hardware capacity. Typically, a concurrent program is a long–running, data–intensive task, such as posting a journal or generating a report.

These programs are run on the Concurrent Processing server. Some reports that are run using concurrent processing utilize Oracle Reports 6*i*. Reports are translated and available in all languages supported by Oracle Applications.

Report Review Agent

The Report Review Agent allows:
- **Online viewing of report log and output files.**
- **Viewing of reports one page at a time.**
- **Storage of report output on the concurrent processing node.**

Report Review Agent

Oracle Applications uses a tool called the Report Review Agent to view concurrent request log and output files online. These files are stored on the node containing the Concurrent Processing server.

Using the Report Review Agent, you can copy an entire report or log file to your PC, subject to restrictions set by the System Administrator. You can view reports one page at a time.

System Overview

System Overview

Desktop   **Application**   **Database**

Web Server

Forms Server

Concurrent Processing Server

Reports Server

Admin Server

Browser

Data Server

System Overview

Oracle Applications utilizes a three-tier architecture. These tiers are the desktop tier, the application tier, and the database tier.

The desktop tier comprises the Web browser with Oracle JInitiator.

The application (or middle) tier includes the Web server, Forms server, Concurrent Processing server, the Reports server, the Admin server, and optionally, the Discoverer server.

The database tier is the home to the ORACLE data server.

Oracle Applications

An Oracle Applications system physically consists of
- **A file system containing**
  - **Forms**
  - **Reports**
  - **Concurrent programs**
  - **Programs and scripts**
  - **HTML and Java**
- **An Oracle8*i* database containing**
  - **Data objects**
  - **Code objects**

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Oracle Applications

An Oracle Applications system physically consists of
- A file system containing:
  - Forms that allow interactive entry and updating of data.
  - Reports that allow formatted documentation and display of data.
  - Concurrent programs that provide high-volume, non-interactive update of data.
  - Programs and SQL scripts for maintaining the system.
  - HTML and Java that perform certain user interface and business functions.
- An Oracle8*i* database containing:
  - Data objects, such as tables and indexes used to store customer data.
  - Code objects, such as PL/SQL stored procedures and triggers for performing database processing, views, grants and synonyms.

Oracle Applications and the Applications Technology Stack

Oracle Applications

CRM	Financials	HRMS	Manufacturing

Oracle Applications Technology Layer

Applications Technology Stack

Forms Server	Reports Server	Web Server

Data Server

Oracle8*i*

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Oracle Applications and the Applications Technology Stack

Oracle Applications Release 11*i* works in conjunction with the Oracle8*i* Server and associated Oracle Tools products. Oracle Applications gathers and processes customer data, and stores it in Oracle8*i* database tables. The Oracle Tools products, such as Oracle Forms Developer, provide multi-tier, distributed processing capability.

Oracle Developer 6*i* requires its own Oracle8 code tree. This is known as a split configuration where the ORACLE data server version is different from the ORACLE version of the Oracle Applications technology stack.

The Oracle Applications technology layer lies between the Oracle Applications technology stack and the Oracle Applications product-specific modules. It provides features common to all Oracle Applications products.

Oracle8*i* and Oracle Tools
Version Requirements

Product	Version
Oracle8*i* (Enterprise Edition)	**8.1.7**
Oracle Developer Server 6*i*	**6.0.8**
Oracle HTTP Server powered by Apache	**1.3.***x*

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Oracle8*i* and Oracle Tools Version Requirements

This slide lists the version requirements for the Oracle8*i* server and the components of the Oracle Applications technology stack.

- The Oracle 8*i* server for Oracle Applications is 8.1.7.
- The Oracle Developer server version 6.0.8 includes the Forms server, Reports server, and Graphics.
- The Oracle HTTP server is the Apache Web server packaged with the Oracle mod_plsql component. The Apache version used for Oracle Applications is 1.3.9. For NT, the version is 1.3.12.

Always refer to the Certify site to verify that the combination of platform and components that you plan to use are properly certified by Oracle Applications:

http://metalink.oracle.com/metalink/plsql/certify.welcome

Oracle Applications Product Families

Applications Technology	Customer Relationship Management
Manufacturing/ Distribution	Public Sector
Financials	Human Resources Management
Process Manufacturing	Projects

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Oracle Applications Product Families

The product applications that make up Oracle Applications are grouped into product families by broad functionality. Some product families are shown on this slide.

Each product family may contain many applications. For example, Oracle Payables, Oracle Receivables and Oracle General Ledger are three of the many members of the Financials product family.

Appendix C provides a list of all product members for each product family in Release 11*i*.

Standard Product Abbreviations

ID	Short name	Full Name
0	FND	Application Object Library
101	GL	Oracle General Ledger
222	AR	Oracle Receivables
401	INV	Oracle Inventory

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Standard Product Abbreviations

Each product has multiple identifiers:

- ID is Applications ID.
  It is used when identifying setup data for the product.
- Short name is the product short name.
  It appears in the file system path and names of files as well as the standard prefix for all database objects.
- Full name is the name of the Oracle Applications product.
  It is displayed in pick lists.

These identifiers are used throughout Oracle Applications and are commonly used when referring to Oracle Applications products. Some example identifiers are shown on the slide.

See *Appendix C* for a complete list of products.

Product Dependencies

Product Dependencies

The products that make up Oracle Applications are tightly integrated. Some products depend on components from other products, called dependent or shared products, for full functionality.

The slide shows a simplified example of product dependencies:

- Oracle General Ledger (GL) depends on the Application Object Library (FND) and Oracle Receivables (AR).
- Oracle Inventory (INV) depends on FND and GL.
- Oracle Receivables (AR) depends on the FND, INV, and GL.

To simplify maintenance, the database objects and file system components for all Oracle Applications products are installed or upgraded. This includes any Globalizations.

When you install Oracle Applications, you can use Rapid Install screens to license the products you intend to implement. Dependent products are automatically marked as shared license status.

After you have installed or upgraded Oracle Applications, you can use the License Manager to license any additional products you wish to implement.

Note: You cannot de-license an existing fully licensed product.

Vision Demo Database

Vision Demo Database

The Vision Demonstration database provides a sample set of transaction data for a fictitious company which uses most Oracle Applications Release 11*i* products. The Vision Demo is installed with Rapid Install.

The Vision Demo simulates a real production configuration. As such, it can be upgraded and maintained using regular Oracle Applications utilities.

You can use the Vision Demo as a testing and training environment. You can also use it to learn about new products to help decide whether you want to expand the number of Oracle Applications products you currently have implemented.

Module Summary

In this module, we introduced the following:
- **Personal Homepage**
- **Self Service Web Applications**
- **Professional interface**
- **Concurrent Processing**
- **Database components**
- **File system components**
- **Oracle Applications and the Applications Technology Stack**
- **Product families**
- **Product dependencies**
- **Vision Demo database.**

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Oracle Applications Overview

Internet Computing

Chapter 2

Module 2

Internet Computing

11*i* Oracle Applications Architecture

Objectives

At the end of this module, you should be able to do the following:

- **Describe how Oracle Applications utilizes the Internet computing architecture.**

- **Identify the components that make up the desktop, application and database tiers.**

- **Identify the Applications Technology layer products.**

Module Overview

This module comprises the following topics:
- **Benefits of the Internet computing architecture**
- **How Oracle Applications uses the Internet computing architecture**
- **Components of the desktop tier**
- **Components of the database tier**
- **Components of the application tier**
- **Features of the application tier components**
- **Products that comprise the Application Technology layer**
- **The Application Object Library**
- **Oracle Enterprise Manager (OEM) integration in Oracle Applications Management (OAM) pack**

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Overview

In this module, we:

- Explain the benefits of the Internet computing architecture.
- Explain how Oracle Applications uses the Internet computing architecture.
- Describe the components of the desktop tier.
- Describe the components of the database tier.
- Introduce the components that comprise the application tier.
- Describe the functionality of each server in the application tier.
- Describe the products that comprise the Application technology layer.
- Describe the Application Object Library.
- List the Application Object Library features provided to end users, developers, and administrators.
- Introduce the integration of the Oracle Applications Management (OAM) pack with the Oracle Enterprise Manager (OEM)

This module is important because an understanding of the different tiers and components of Oracle Applications Release 11*i* that reside on each tier is fundamental to fully understanding how Oracle Applications operates.

Multi-Tier Architecture

Desktop	Application	Database
	Web Server	
	Forms Server	**Data Server**
Browser	**Concurrent Processing Server**	
	Reports Server	
	Admin Server	

Multi-tier Architecture

The multi-tier architecture implemented in Release 11*i* of Oracle Applications is similar to the architecture of Release 10.7 NCA (Network Computing Architecture) and Release 11.0. It is, however, quite different from the client-server architecture used in pre-10.7 NCA releases.

In the multi-tier computing model, various functions of the Oracle Applications architecture are distributed among multiple levels, or tiers. Although many physical machines may be used in a configuration, scalability is derived from processing capabilities on three separate levels: the desktop client tier, the application (middle) tier, and the database tier.

Note: The tiers referred to here are virtual tiers and do not represent physical nodes or machines. Each tier can be comprised of one or more nodes and each node can accommodate more than one tier. For instance, the data server can reside on the same node as one or more of the servers in the application tier.

Internet Computing

Desktop   **Application**   **Database**

Web Server

Forms Server

Concurrent Processing Server

Reports Server

Admin Server

Browser

netscape

Internet Explorer

Data Server

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Internet Computing

The Internet computing architecture provides Oracle Applications with a framework for multi-tier, distributed computing. The Internet computing architecture shifts software administration from the desktop onto the middle, or application tier, thus reducing client-side maintenance and lowering administration costs.

Desktop Tier

Desktop

Desktop Tier

The client interface is provided through HTML and a Java applet using a Java-enabled Web browser. The desktop client with Oracle JInitiator downloads the applet on demand and the applet is cached locally for future use.

The components required on the desktop tier are the Forms Client Applet and Oracle JInitiator.

Forms Client Applet

The Forms client applet:
- **Displays Oracle Applications screens.**
- **Is packaged as Java archive files.**
- **Is cached on the desktop.**
- **Is downloaded on demand.**

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Forms Client Applet

The Forms client applet is a general-purpose presentation applet that supports all Oracle Applications products, including those with customizations and extensions. The Forms client applet is packaged as Java archive (JAR) files. The JAR files contain all Java classes typically required to run Oracle Applications forms.

The Forms client applet displays Oracle Applications screens and supports field-level validation, multiple coordinated windows, and data entry aids like lists of values. The Forms client applet sends user requests to the Forms server and handles responses from the Forms server such as screen updates and pop-up lists.

The required and commonly used JAR files are downloaded from the Web server at the beginning of the client's first session. Afterwards the JAR files remain in the browser's local disk cache, ready for future sessions until updated versions are released. All updates are installed on the application tier and downloaded to the client automatically through the use of the JInitiator-enabled Web browser. Other less commonly used JAR files are downloaded on demand, or as needed.

Note: JAR files are digitally signed and should not be opened or expanded at the customer site.

Oracle JInitiator

Oracle JInitiator:
- **Allows embeding certified JVM in Netscape or MSIE.**
- **Provides required Java support for Oracle Applications.**
- **Is based on Sun's Java plug-in technology.**

Oracle JInitiator

The Forms client applet must run within a Java Virtual Machine (JVM) on the desktop. For Oracle Applications the JVM is supplied by Oracle JInitiator. Oracle JInitiator works in conjunction with the Web browser.

Oracle JInitiator is implemented on the desktop client as a plug-in (Netscape Communicator) or ActiveX component (Microsoft Internet Explorer).

When an end user enters the desired Oracle Applications signon URL within the Web browser, Oracle JInitiator is executed. If Oracle JInitiator has not been installed, the Web browser prompts you to download the necessary installation executable to the desktop client.

Once installed, Oracle JInitiator runs the Forms client applet and starts an Oracle Applications session.

Note: The download of JInitiator may have a one-time impact on network performance, as the file size is 10MB.

Database Tier

Database Tier

The database tier contains the data server and holds all the data stored and maintained by the Oracle Applications system. It also contains some processing code that is stored in the database to optimize performance. In Release 11*i* the database also includes the Oracle Applications help information.

More specifically, the database tier contains Oracle8*i* Server files and an Oracle Applications database which physically stores the tables, indexes, and other database objects for your system.

By definition the data server does not communicate directly with the desktop clients, but rather with the servers on the application tier which mediate these communications.

Split Configuration

- **Oracle8 ORACLE_HOME:**
  - **Contains Oracle Developer 6*i* tools built with Oracle8 database libraries.**
  - **Is shared by the Oracle Developer products.**
- **Oracle8*i* ORACLE_HOME:**
  - **Is used by the 8*i* database for optimal scalability and functionality.**

Split Configuration

Split configuration (also known as server partitioning) refers to the configuration where the ORACLE_HOME of the data server is different from the ORACLE_HOME of the middle tier Applications technology stack. Split configuration allows Applications to use the Oracle Developer 6*i* tools built technology stack with the Oracle8 database libraries, and to use the advanced features of the Oracle8*i* database.

Application Tier

Application Tier

The application tier hosts the servers that provide the business logic and code processing. This tier is also referred to as the middle tier. Six servers comprise the application tier for Oracle Applications:

- Web server
- Forms server
- Concurrent Processing server
- Reports server
- Discoverer server (optional)
- Admin server

The application tier provides the communication between the desktop tier and the database tier.

Load Balancing

- **Add servers to support additional users**
- **Load automatically balanced between servers**
- **Works with *any* CGI-enabled Web server**

Load Balancing

The application tier supports load balancing among many of the servers to provide higher availability, fault tolerance, reliability and optimal scalability.

Load balancing occurs when there are multiple installations of:

- Web server
- Forms server
- Reports server
- Concurrent Processing server

Web Server

Web Server

Web Server

The Oracle HTTP server is the Web server. It processes the requests received over the network from the desktop clients. The Oracle HTTP server is powered by the Apache server and includes additional components such as the PL/SQL Gateway.

The Web listener component of the Oracle HTTP server accepts incoming HTTP requests (URLs) from desktop clients (browsers). If possible, the Web server services the request itself, for example, by returning an HTML web page.

If the page referenced by the URL needs advanced processing, for example PL/SQL or Java, the listener passes the request on to the PL/SQL Gateway or the Apache servlet engine respectively. These components contact the data server as needed.

Self-Service Web Applications

Self-Service Web Applications

The Oracle Self-Service Web Applications:

- Do not use Oracle Forms for the interface.
- Are designed in pure HTML and JavaScript.
- Dynamically generate HTML pages by executing PL/SQL and Java code.
- Use the Web Applications Dictionary for flexible layout.
- Operate by direct connection to the Web server.

Stored procedures that execute through either the PL/SQL Gateway or the Java servlet engine control the processing logic. The mod_plsql package integrated with the Oracle HTTP server defines the PL/SQL Gateway, while the Apache JServ module provides the Java servlet engine.

For the Self-Service Web Applications, the Web server communicates with the database using JDBC (Java Database Connectivity).

PL/SQL Access with Self-Service Web Applications

PL/SQL Access with Self-Service Web Applications

PL/SQL Access with Self-Service Web Applications

When using PL/SQL Gateway access, a Self-Service Web Application module uses the following access path:

- The user clicks the hyperlink of a function from a browser.
- The browser makes a URL request to the Web listener.
- The request references the PL/SQL Gateway.
- The PL/SQL Gateway runs a stored procedure within the data server.
- The stored procedure queries data from the Oracle Applications tables and information from the Web Applications Dictionary to construct the content and presentation of an HTML page.
- The resulting HTML page is passed back through the Web server to the browser.

Java Servlet Access with Self-Service Web Applications

Client	Web Server	Data Server
Browser	Listener	
	Servlet Engine / JSP	Web Applications Dictionary
		Data

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Java Servlet Access with Self-Service Web Applications

When using a Java Server Page (JSP), the Self-Service module uses the following access path:

- The user clicks the hyperlink of a function from a browser.

- The browser makes a URL request to the Web listener.

- The Web listener contacts the Servlet engine where it runs a JSP.

- The JSP obtains the content from the Applications tables and uses information from the Web Applications Dictionary to construct the presentation of the HTML page.

- The resulting HTML page is passed back to the browser, by way of the Web server.

Professional Interface

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Professional Interface

The Forms server hosts the Oracle Applications forms and the forms runtime engine. The Forms server is the workhorse for the Oracle Applications professional interface. The Forms server is an Oracle Developer 6*i* component which mediates the communication between the desktop client and the Oracle8*i* data server, by displaying client screens and initiating changes in the database records based on user actions.

The Forms server caches data and provides it to the client as needed, such as when scrolling through multiple order lines, which exceed the limitations of a single screen.

The Forms server communicates with the desktop client by using these protocols:

- Secure HTTPS network connection
- Standard HTTP network connection
- TCP/IP connection

HTTP and HTTPS support enables operation over a firewall. The Forms server communicates with the Oracle8*i* data server using Net8.

Forms Server Architecture

Forms Server Architecture

The Forms server architecture is essentially a three-tier architecture.

The Java client exists on the desktop. The user uses the interface to type in a field, click a button, or pass information to the application tier.

When a user initiates an action, the middle tier user interface logic decides what to do based on this action. The action may open a new window, run a query, or any number of other actions.

The database tier hosts the database and contains data intensive logic.

In this configuration with all logic on the servers, all software updates can be performed in one data center and have it automatically accessible to users in a LAN, WAN, and even through a dial-up connection.

Low Network Traffic

Minimizing Applet Downloading:

- **Java applet is cached on the client.**

- **Java applet is downloaded automatically the first time.**

- **JInitiator enabled browser automatically retrieves new jar file if it changes on the Forms server.**

Low Network Traffic

To keep network traffic low, the Forms client applet is downloaded automatically the first time a user accesses Oracle Applications. The applet is stored on the desktop and does not need to be downloaded with each subsequent connection to Oracle Applications.

Low Network Traffic

Efficient Runtime Network Usage:

- **Many operations are performed without contacting the Forms server at all.**

- **Only one round trip per field when tabbing through fields.**

- **Compact messages communicate user events and corresponding screen updates.**

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Low Network Traffic

Once a connection has been made, many operations can be performed on the client without going back to the Forms server, or with minimal interaction with the server.

For instance, if a user is entering data for specific field items, there is no need to update an entire screen when only a few fields are updated. In this scenario, only the changed fields are updated with the new value(s). Consequently, this is much more efficient than a full screen painting application.

Load Balancing Among Forms Servers

Load Balancing Among Forms Servers

Load Balancing Among Forms Servers

Automatic load balancing among multiple Forms servers is achievable. In a load-balancing configuration, all Forms server requests have a single point of coordination.

- The Oracle HTTP server accepts incoming HTTP requests from desktop clients.
- The client requests a forms session and the request is sent to the load balancer (Metrics server).
- The load balancer determines the least loaded Forms server.
- The load balancer returns the name of the least-loaded host for the client to connect to in the form of an HTML page.
- The client can now access the least loaded Forms server directly and conduct transactions with the data server.
- From this point on, all communication is between the client desktop and the designated Forms server. The Forms server also communicates with the Oracle8*i* database.

Concurrent Processing Server

Concurrent Processing Server

Most user interactions with Oracle Applications data are conducted through the Self-Service Web Applications and the Professional interface. However, there are reporting programs and data updating programs that periodically, or on an ad hoc basis, need to be run. These programs operate in the background while users continue to work on other tasks. These programs may contain a very large number of computations. To ensure that they do not interfere with interactive operations, they are run on the Concurrent Processing server.

Processes that run on the Concurrent Processing server are called concurrent requests. You submit a request to run concurrent programs through Oracle Applications forms. The request inserts a row into a database table specifying the program to be run. Concurrent managers read the applicable requests in the table and start the concurrent programs. Log and output files are generated on the Concurrent Processing server.

Accessing Concurrent Processing Output

Accessing Concurrent Processing Output

The Concurrent Processing server communicates with the data server using Net8. The resultant log or output file from a concurrent request are passed back to the Report Review Agent, also known as the Web Review Agent. The Report Review Agent passes a file containing the entire report to the Forms server. The Forms server passes the report back to the user's browser one page at time. You can use profile options to control the size of the files and pages passed through the system.

Internet Computing

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Reports Server

- **Produces reports for business intelligence and other products.**
- **Installed on the same node as the Concurrent Processing server.**
- **Reports generated by the Reports server are monitored and administered separately from concurrent processing reports.**
- **Sets language for report at runtime.**

Reports Server

The Reports server resides on the application tier with the Concurrent Processing server. The Reports server is used primarily to produce reports for Business Intelligence System products (BIS). There are other Oracle Applications products that utilize the Reports server as well, such as Inventory and Purchasing.

The Reports server is automatically installed on the same node as the Concurrent Processing server and its reports are contained in the same directory with the regular concurrent processing reports. However, reports generated by the Reports server are monitored and administered separately from concurrent processing reports.

The Reports server can also be used in conjunction with the Discoverer server, a querying and analysis tool, to create ad hoc BIS reports. The Discoverer server is an optional component and must be installed separately.

The Reports server dynamically selects language at runtime and users see each report in
the preferred language.

Reports Server Architecture

Reports Server Architecture

Reports Server Architecture

The request for a graphical HTML-based report is similar to the flow of the Self-Service Web Applications request:

- The user clicks the hyperlink of a function from a browser.

- The browser makes a URL request to a Web listener.

- The Web listener contacts the Reports server through the reports Web CGI. The reports Web CGI allows the desktop client to run reports and see the output through the Web browser.

- The Reports server starts the reports runtime engine.

- The reports runtime engine locates the necessary reports and connects to the database to query the requested information.

- The queried information is presented to the user in the form of an HTML page.

Clustering and Load Management

- **Configurable Reports cluster**
- **Master server manages load**

Clustering and Load Management

When there are a large number of BIS users, it may be beneficial to have multiple Reports servers.

In this configuration, one of the Reports servers is designated as the master server. The master Reports server gets the initial request and distributes it to one of the other Reports servers depending on the load they can handle. The master Reports server is capable of determining how many runtime engines each of the Reports servers can support.

Release 11*i* supports multiple languages on a single Reports server. It is no longer necessary to have a separate Reports server for every combination of language and date format.

Discoverer Server

Discoverer Server

The Discoverer server compliments the Reports server as a tool to perform ad hoc queries and analysis of the resultant query output. It also allows users to perform projections as various business and strategic factors are changed.

End User Layer

End User Layer

Ease of Use

Database

```
cl_addr1||','||
cl_addr2||','||
cl_addr3||','||
cl_twn||','||
cl_zipcode

sum(nvl(qty*
unit_price,0))
```

User

- Customer
  - Name
    - Smith
    - Jones
  - Client
  - Revenue
    - SUM
  - Eastern Region

Hides the Complexity of the Underlying Database

End User Layer

The End User Layer is the key to providing ease of use. The End User Layer is a layer of metadata which sits in the Oracle Applications database but on top of the Oracle Applications data.

Oracle Discoverer hides the complexity of the database and converts it to an easy to understand interface for users. It maps the unfamiliar terms in the database such as tables and columns to familiar terms that a user may understand. Therefore, an analyst or manager with no database syntax familiarity can easily access key information through easy to understand, familiar terms such as customer, name, and revenue.

Discoverer 4*i*

- **Workbooks use same EUL**
- **Central software administration**

Authorized folders Workbooks

Discoverer Server

End User Layer

Workbooks saved to database

Application Data

Database Server

Discoverer Client Applet

Administrator Edition

Discoverer 4*i*

The End User Layer is one of the key components of the Discoverer process. It is in the database but is separate from the Oracle Applications data.

There are two important software that access the End User Layer. They are the:

- Administrator Edition: which allows creation of the End User Layer and manages the administration of responsibilities and roles.
- User Edition: which is used by the end user to create workbooks (saved queries) and view information about the business. Oracle provides pre-defined workbooks you can use as a basis for ad hoc queries.

In Release 11.0, the User Edition was located on the client. For Release 11*i*, it is located in the Discoverer server. This allows for central administration of software.

Web Navigation Model

- **Navigation to Intelligence products from Personal Home Page**
- **Navigation between reports**
- **Drill across from reports to Discoverer workbooks**

Web Navigation Model

The natural Web navigation model allows users to easily navigate from one report to another and from a report to a Discoverer workbook by simply clicking on a link.

Admin Server

Admin Server

The Admin server is located on the node where you maintain the data model and data in your Oracle Applications database. You carry out the following operations from this server:

- **Upgrading Oracle Applications**

  This process is conducted only when you are upgrading to a new release. You use the AutoUpgrade utility (adaimgr) to upgrade Oracle Applications.

- **Applying database patches to Oracle Applications**

  Most patches consist of files and scripts that update the file system and/or database objects. You use the AutoPatch utility (adpatch) to perform these updates. AutoPatch may also be used to apply cumulative patches such as mini-packs (11*i*.GL.C) and maintenance packs (11.5.4).

- **Maintaining the Oracle Applications data**

  Some features such as Multiple Reporting Currencies require regular maintenance to ensure updates are propagated to the additional tables and schemas used by this feature. The AD Administration utility (adadmin) allows you to do this as well as other file system and database maintenance tasks.

Applications Technology Layer

Oracle Applications

CRM	Financials	HRMS	Manufacturing	...

Applications Technology Layer

Oracle Applications Technology Layer

The Oracle Applications technology layer is a collection of products whose functionality is applicable to all Oracle Applications modules. The products in the Oracle Applications technology layer include:

- Applications DBA (AD)
- Application Object Library (AOL/ FND)
- Applications Utilities (AU)
- Common Modules (AK)
- Workflow
- Alert (ALR)

Oracle Applications DBA (AD)

Oracle Applications DBA (AD):
- **Provides a set of tools that help in the administration of the Oracle Applications file system and database.**
- **Provides tools for installing, upgrading, maintaining, and patching the Oracle Applications system.**

Oracle Applications DBA (AD)

The Applications DBA product provides a set of tools that help in the administration of the Oracle Applications file system and database. AD provides tools for installing, upgrading, maintaining, and patching the Oracle Applications system. The AD utilities include:

- AutoUpgrade
- AutoPatch
- AD Merge Patch
- AD Administration
- License Manager
- Rapid Install

Oracle Applications Utilities (AU)

Oracle Applications Utilities (AU):
- **Is used to maintain the Oracle Applications system.**
- **Includes form source files and libraries to allow onsite compilation at the customer site.**
- **Includes reports invoked by the Reports server.**
- **Includes shared PL/SQL product libraries.**
- **Stores Applications Java files in AU_TOP.**

ORACLE

Oracle Applications Utilities (AU)

The Applications Utilities product is used to maintain the Oracle Applications system.

AU hosts a collection of files copied from other products. This allows generating onsite classes of files such as forms and reports or running reports invoked by the Reports server from a standard, shared location. Generating forms or reports may require access to shared PL/SQL libraries, so these files are copied to AU_TOP as well.

The Oracle Applications Java files are stored in AU_TOP, as well as in JAVA_TOP and <PROD>_TOP. A collection of all Java files in Oracle Applications is stored in a file called apps.zip. This file is maintained under AU_TOP and copied to JAVA_TOP for runtime operation.

Note: Applications Java files are covered in a subsequent topic.

Oracle Common Modules (AK)

Enables you to:
- **Define Oracle Applications components for the Self-Service Web Applications and generate many of the Applications' characteristics at runtime.**
- **Develop inquiry Applications for the Self-Service Web Applications without programming.**
- **Store language translated labels for all the attributes on a transaction page, thus providing Multiple Language Support.**

ORACLE

Oracle Common Modules (AK)

The Common Modules is an active data dictionary which enables you to define Oracle Applications components for the Self-Service Web Applications and generate many of the Oracle Applications' characteristics at runtime.

AK is heavily used to develop inquiry applications for the Self-Service Web Applications without programming. AK allows storing language translated labels for all the attributes on a transaction page, thus providing Multiple Language Support.

For example, the AK Runtime Dictionary may be used to define an attribute, or reusable component, such as the customer name attribute, which can be reused anytime a customer name field is displayed on an HTML page.

Oracle Workflow

Oracle Workflow:
- **Allows for communication of data between products.**
- **Accomplishes three important business requirements:**
  - **define rules**
  - **route information**
  - **deliver electronic notifications**
- **Is capable of delivering electronic notifications via email to any Oracle Applications or Internet user.**

Oracle Workflow

Oracle Workflow allows for communication of data between products and accomplishes these important business requirements:

- Route information
- Define rules
- Is capable of delivering electronic notifications

Self-Service Web Expenses utilizes Workflow in its approval process. This process can be tailored for each site.

By use of Workflow, electronic notifications can be delivered via email to any Oracle Applications or Internet user.

Oracle Workflow is also available as a standalone product outside of Oracle Applications.

Oracle Workflow Builder is an optional product that lets you graphically define the rules of your process, which are expressed as automated activities using PL/SQL.

Oracle Alert (ALR)

Allows you to
- **Electronically mail system notifications to users when an exception or event occurs.**
- **Notify users about specified database exceptions as they occur.**
- **Perform routine tasks automatically according to a schedule that you define.**

Oracle Alert (ALR)

Oracle Alert allows you to electronically mail system notifications to users when an exception or event has occurred. Some products are delivered with predefined alerts, which allow you to notify users about specified database exceptions as they occur and perform routine tasks automatically according to a schedule you define.

For example, you can configure Oracle Alert to send an email to key database administrators when a tablespace in the Oracle Applications database does not have adequate free space.

Oracle Application Object Library (AOL/FND)

Receivables	General Ledger	Fixed Assets	Inventory

Application Object Library

Oracle Application Object Library (AOL/FND)

The Application Object Library is a large component of the Applications technology layer. The Application Object Library is a collection of reusable code, programs, and database objects that provides common functionality across all products.

Using the Application Object Library ensures that the processing of flexfields or the procedure for report submission, for instance, does not vary from one product to another.

The Application Object Library also provides capabilities for developers to extend the operation of Oracle Applications by creating custom programs that interact with the base modules.

AOL provides many features to make system administration of Oracle Applications easier such as security setup and maintenance, and management of concurrent processing.

AOL End User Features

- **Standard user interface**
- **Shared flexfield value sets**
- **Standard Report Submission**
- **Applications Online Help**
- **Process Navigator**
- **User profiles**

AOL End User Features

- **Standard user interface**
  The Application Object Library supports the integration of Oracle Applications by providing standardized functionality and capabilities across all products so that the look and feel do not vary from product to product.

- **Shared flexfield value sets**
  Flexfields allow the entry of certain important information to be standardized across all products. One example is the Accounting Flexfield, which is used by Financials products and Manufacturing products.

- **Standard Report Submission (SRS)**
  The procedure to submit a background report to the concurrent manager using SRS is the same regardless of the product that owns the report. SRS takes advantage of shared flexfield value sets.

- **Applications Online Help**
  The presentation of Applications Online Help is also standardized across all products and is accessed through a browser.

AOL End User Features

- **Standard user interface**
- **Shared flexfield value sets**
- **Standard Report Submission**
- **Applications Online Help**
- **Process Navigator**
- **User profiles**

AOL End User Features (cont.)

- **Process Navigator**
  The Process Navigator provides you with diagrams of each of your business processes as a whole and of the individual steps within each process. The Process Navigator also provides direct access to the form associated with each step in a process. The Process Navigator utilizes Oracle Workflow to depict each of your business processes with a workflow diagram.

- **Profile options**
  AOL allows you to easily configure Oracle Applications by setting certain profile options.

AOL Developer Features

- **GUI standards**
- **Coding standards**
- **Standard Report Submission**
- **Flexfield development**
- **Custom menus and responsibilities**
- **FNDLOAD generic seed data loader**

AOL Developer Features

Application Object Library provides many features for developers creating custom forms, reports or programs that interface with Oracle Applications.

- **GUI and coding standards**
  The same coding and Graphical User Interface (GUI) standards used by Oracle Applications developers are available to custom developers.

- **Standard Report Submission**
  Custom reports can be integrated into Standard Report Submission so that they can be submitted and monitored using the same procedures as other Oracle Applications reports. Set up certain menus and responsibilities to access custom reports or standard objects.

- **Flexfield development**
  Flexfields used on custom forms can take advantage of existing flexfield capabilities such as value sets, validation, and security rules.

- **Custom menus and responsibilities**
  Custom menus and responsibilities can be seamlessly integrated with Oracle Applications.

AOL Developer Features

- **GUI standards**
- **Coding standards**
- **Standard Report Submission**
- **Flexfield development**
- **Custom menus and responsibilities**
- **FNDLOAD generic seed data loader**

AOL Developer Features (cont.)

- **FNDLOAD**
  AOL makes available a generic seed data loader program, FNDLOAD, so
  you can define and load custom data into the database. For example, define
  a custom menu on a Test system, then extract it and read it into the
  Production system after it has been quality assured.

Detailed information on custom developers' features is documented in the
Oracle Applications Developers' Guide.

AOL Features for System Administrators

- **Set up new users**
- **Manage and control security**
- **Audit user activity**
- **Set user and system profiles**
- **Manage concurrent processing**

ORACLE

AOL Features for System Administrators

The Application Object Library provides many features to make administration of Oracle Applications easier. The Oracle Applications system administrator can:

- **Set up new users:** Register new Oracle Applications users and give them access to only those forms, functions, and reports they need to do their jobs.

- **Manage and control security:** Decide which users have access to each product, and within a product, which forms, functions, and reports a user can access.

- **Audit user activity:** Monitor what users are doing and when they do it. Choose who to audit and what type of data to audit.

- **Set user and system profiles:** A profile is a set of changeable options that affects the way Oracle Applications looks and behaves. A system administrator can set profile values at the site, application, responsibility, and user levels.

- **Manage concurrent processing:** Concurrent processing is an Oracle Applications facility that lets long-running, data-intensive tasks run simultaneously with online operations, taking full advantage of multi-tasking and parallel processing. A system administrator can monitor and control concurrent processing using a few simple interfaces, including forms and Oracle Enterprise Manager (OEM).

Application Object Library Security

Responsibility

Application Object Library Security

Application Object Library controls access to the data in Oracle Applications through user signons and responsibilities. Each user must have a user name and password to gain access to Oracle Applications.

A responsibility is a level of authority in Oracle Applications that lets Applications users access only those functions and data appropriate to their roles in the organization. Responsibilities allow access to a specific product, operating unit, set of books and a restricted list of windows, functions, reports, and groups of products, or data groups.

Note that the forms available from the navigation menus vary by responsibility. For example, the Purchasing User navigation menu does not include all the forms that are available to the Purchasing Super User navigation menu.

When you install Oracle Applications, a standard Applications user called SYSADMIN is created for you. Several default responsibilities are also created. Since the SYSADMIN signon is automatically assigned the System Administration responsibility, you can use SYSADMIN to create new user signons and assign them to responsibilities. You can also create any custom responsibilities you need.

System Administration and OEM Integration

System Administration and OEM Integration

For Release 11*i*, the Oracle Enterprise Manager (OEM) and the Oracle Applications Management Pack (OAM) can be used in conjunction with Oracle Applications.

OAM is an add-on component to OEM that allows administrators to monitor and administer Oracle Applications. From the OAM interface the administrator can monitor Oracle Applications performance and memory usage. The administrator can also start and shutdown server processes.

Module Summary

In this module, you should have learned how to do the following:

- **Describe Oracle Applications and its suite of products.**

- **Describe how Oracle Applications utilizes Internet computing.**

- **Identify the components that make up the desktop, application and database tiers.**

- **Identify the Oracle Applications technology layer products.**

ORACLE

Internet Computing

Module Discussion

- **What is the basic architecture of Internet computing?**
- **What are some of the servers used in the application tier? Describe their purpose.**
- **Briefly explain the concept of load balancing.**
- **What are some key features of the Oracle Applications technology layer?**

Module Practice

**Stop and start the Forms server listener process
using the Rapid Install created scripts.**

Internet Computing

Oracle Applications Database

Chapter 3

Oracle Applications Database

Module 3

Oracle Applications Database

11*i* Oracle Applications Architecture

Objectives

**At the end of this module, you should be able
to do the following:**

- **Describe the type of objects and schemas that
  exist in the Oracle Applications database.**

- **Explain the features of Multiple Organizations
  Architecture (Multi-Org) and Multiple Reporting
  Currencies (MRC).**

- **Describe the Oracle 8*i* features utilized by Oracle
  Applications Release 11*i* and the benefits they
  provide.**

Module Overview

This module comprises the following topics:
- **Oracle Applications database objects**
- **The APPS universal schema**
- **Oracle Applications product schemas**
- **Multiple Organization Architecture**
- **Multiple Reporting Currencies**

Overview

Within its multi-tier architecture, Oracle Applications stores business data in Oracle8*i* database tables. Additional database objects such as indexes and views are used when processing these tables. Oracle Applications code modules in the form of stored procedures are also contained in the database.

This module discusses:

- The database objects used by Oracle Applications
- Oracle Applications' use of schemas to control access
- The APPS universal schema
- Oracle Applications product schemas
- Multiple Organization Architecture
- Multiple Reporting Currencies

Oracle Applications Database

Module Overview

This module comprises the following topics:

- **Oracle8i features:**
  - **Advanced Queuing**
  - **Temporary Tables**
  - **Index-organized Tables**
  - **Partitioned Tables**
  - **Materialized Views**
  - **Invoker Rights**

Overview (cont.)

This module also describes some of the Oracle8*i* features utilized by Oracle Applications 11*i*. The features include:

- Advanced Queuing
- Temporary Tables
- Index-organized Tables
- Partitioned Tables
- Materialized Views
- Invoker Rights

For in depth information regarding these features, see the Oracle8*i* documentation.

Oracle Applications Database Objects

Data Objects

Tables

Indexes

Sequences

Hybrid Objects

Materialized Views

Code Objects

Views

Triggers

Packages

Synonyms

ORACLE

Oracle Applications Database Objects

Oracle Applications uses an Oracle8*i* database to store its database objects. These objects store both business data as well as some of the code modules. In general, each Oracle Applications product has its own set of database objects and may share some or all of these objects with other products.

Database objects are broadly defined into these categories:

- **Data objects** are used for storing and accessing business data. These objects include tables, indexes, sequences, and index-organized tables .

- **Code objects** are used to process the data. Code objects are stored in the database and used for optimizing Oracle Applications processing. Code objects include triggers, PL/SQL packages, Java stored procedures, synonyms and views.

- **Hybrid objects** are used to store and process data. Materialized views is an example of a hybrid object.

Schemas

Schemas

APPS   INV

Schemas

A schema is a named collection of database objects. The schema is the "owner" of its objects and controls access to the objects. A schema can allow another schema to use its objects by granting the second schema access.

With Oracle Applications the concept of a database schema is directly tied to the concept of a database user. That is, a schema in an Oracle Applications database has a one-to-one relationship with a database user. The database user and the schema have the same name. The example above shows the database user and the schema on the left as APPS and on the right as INV (Inventory).

An Oracle Applications product's database objects are divided between the product schema and the APPS schema. The product schemas contain only their own data objects (tables, sequences, and indexes). All code objects for all products (triggers, views, packages, synonyms, et al) reside in the APPS schema.

Oracle Applications Product Schemas

GL Schema

AR Schema

GL_PERIODS

AR_DISPUTE_HISTORY

GL_JE_LINES

AR_BATCHES_ALL

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Oracle Applications Product Schemas

In general, for each product there is a corresponding schema that stores that product's data objects. The default Oracle schema name and password for a product are usually the same as the product's short name. For example:

- Oracle General Ledger data objects are in the schema GL.
- Oracle Receivables data objects are in the schema AR.

APPS Universal Schema

APPS Schema

APPS Universal Schema

Oracle Applications is tightly integrated. A package or view owned by one product may access data or other packages or views owned by other products. The package or view needs access to all referenced objects. Maintaining the access rights between all product schemas can be time-consuming and error prone. Using an APPS universal schema solves this issue.

Each product's schema grants full privileges to the APPS universal schema. The APPS universal schema has synonyms to all base product tables and sequences. Hence, APPS has "universal" access to Applications.

Runtime usage of Oracle Applications is through the APPS universal schema - users do not connect directly to product schemas such as INV.

Additional Schemas

HR   **APPLSYSPUB**   **APPLSYS**

PAY

PER

APPS

AD

FND

Additional Schemas

The data objects for some products are combined within a single schema. For example, data objects for the Human Resources products (Human Resources - PER, Payroll - PAY, et al.) are combined under the HR schema; data objects for the Applications technology layer products (FND, AD, et al) are combined under the APPLSYS schema.

There is an additional (public) schema, APPLSYSPUB, that is used only during the signon process and has no data objects, only synonyms to APPS.

The APPS_MRC schema is used if you install the Multiple Reporting Currencies option. (APPS_ refers to the name of your Oracle Applications APPS schema).

Schemas Used During Signon

APPLSYSPUB

Connect

APPS

Connect

APPS

FND

FND GL INV ...

Schemas Used During Signon

When you sign on to Oracle Applications, you initially connect to a public schema with a known user id and password. The user id is APPLSYSPUB. APPLSYSPUB is owned by the Application Object Library and its function is to validate the AOL user name and password that you enter.

Once your user name and password are verified, you can select a responsibility. Oracle Applications validates your responsibility through Applications security in the APPLSYS schema and then connects you to the APPS schema.

Once connected to the APPS schema, you can use the professional or the Self-Service Web Applications interface to access data that resides in a product schema.

Multiple Organization Architecture Views

SO_Headers_All Table

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Multiple Organization Architecture (Multi-Org)

You can support multiple organizations within a single installation of Oracle Applications. These different organizations can reflect different sets of books, different business groups, legal entities, operating units or inventory organizations. Organizations that share the same functional currency, Accounting Flexfield, and calendar can post to the same set of books.

When you run any Oracle Applications product, you first choose an organization either implicitly by choosing a responsibility or explicitly in a Choose Organization window. After you have chosen a particular organization, all forms and reports display information for that organization only.

Multiple Organization Architecture is a virtual partitioning solution which secures information by operating unit using views within the APPS schema. These view definitions use the values in the ORG_ID column to guarantee that only the information appropriate for that organization is returned to the user.

Multi-Org requires the use of the AD Administration utility during implementation. See the *Multiple Organizations in Oracle Applications* manual for implementation details.

Oracle Applications Database

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Multi-Org Features

- **Multiple Organizations in a Single Installation**
- **Secure Access**
- **Sell And Ship Products from Different Legal Entities**
- **Purchase and Receive Products between Organizations**
- **Automatic Accounting for Internal Requisitions**
- **Multiple Organizations Reporting**

Multi-Org Features

Multiple Organizations in a Single Installation: Define multiple organizations and the relationships among them in a single installation of Oracle Applications.

Secure Access: Assign users to particular organizations to ensure accurate transactions in the correct operating unit.

Sell and Ship Products from Different Legal Entities: Sell from one legal entity and ship from another, posting to each organization's set of books.

Purchase and Receive Products between Organizations: Purchase orders and assign for receipt any inventory organization that uses the same set of books.

Automatic Accounting for Internal Requisitions: Create an internal requisition (sales order) in one organization, then ship from another organization, with correct intercompany invoicing.

Multiple Organizations Reporting: Allows reporting across operating units by setting up the top reporting level.

Multiple Reporting Currencies

Primary Set of Books

Currency:

USD

Reporting Set of Books

Currency:

BEF

Primary Responsibility

| STANDARD Data |
| Group |

Reporting Responsibility

| MRC Data |
| Group |

APPS Schema

APPS_MRC Schema

ORACLE

Multiple Reporting Currencies

Multiple Reporting Currencies (MRC) is a set of unique features embedded in Oracle Applications that permits an organization to report and maintain accounting records at the transaction level in more than one functional currency.

You do this by defining one or more reporting sets of books in addition to your primary set of books. In your reporting sets of books you maintain records in a functional currency other than your primary functional currency. The data for the reporting set of books is stored in its own schema having its own views.

Your primary functional currency is the currency you use to record your business transactions and accounting data within Oracle Applications. The primary functional currency is defined within your primary set of books. A reporting functional currency is a functional currency defined in a reporting set of books. You can use any defined functional currency to support financial reporting.

Because MRC uses an adjunct APPS schema, that is APPS_MRC is based upon APPS, the AD Administration "Maintain MRC" task must be run after applying any database patch that changes the APPS schema structure.

MRC requires the use of the AD Administration utility during implementation. See the *Multiple Reporting Currencies in Oracle Applications* manual for implementation details.

Multiple Reporting Currencies

Consider using MRC if:
- **You operate in a country that is part of the European Monetary Union and you choose to maintain records for both the euro and your national currency.**
- **You operate in a country whose unstable currency requires you to manage your business in a more stable currency while retaining the ability to report in the unstable local currency.**
- **Your company is multinational and you need to report in a common functional currency other than your primary functional currency.**

Multiple Reporting Currencies

MRC is intended for use by organizations that must regularly and routinely support statutory and legal reporting of both transactions and General Ledger account balances in multiple currencies, other than the primary functional currency.

Consider using MRC when any of the following conditions exist:

- You operate in a country that is part of the European Monetary Union (EMU) and you choose to account for and report both the euro and your National Currency Unit (NCU).

- You operate in a country whose unstable currency makes it unsuitable for managing your business. As a consequence, you need to manage your business in a more stable currency while retaining the ability to report in the unstable local currency.

- Your company is multinational and you need to report in a common functional currency other than the transaction currency or your primary functional currency.

Note: When converting to both MRC and Multi-Org, we recommend converting to Multi-Org first, then convert to MRC. The reason is converting to MRC creates a new schema with objects and synonyms based upon the APPS schema. The convert to Multi-Org task updates the objects in the APPS schema. Therefore, if you should convert to Multi-Org after converting to MRC, your MRC schema will be out of sync with the APPS schema until you perform some MRC maintenance tasks.

MRC Supported Products

- **General Ledger**
- **Assets**
- **Cash Management**
- **Cost Management**
- **Global Accounting Engine**
- **Payables**
- **Projects**
- **Purchasing**
- **Receivables**

ORACLE

MRC Supported Products

MRC is supported for the following products:

- General Ledger
- Assets
- Cash Management
- Cost Management
- Global Accounting Engine
- Payables
- Projects
- Purchasing
- Receivables

Oracle 8*i*

- **Multilingual operation**
- **High availability**
- **Extreme scalability**
- **High performance**

Oracle8*i*

The Oracle8*i* database provides features that support multilingual operation and particularly, support of the UTF-8 character set.

The parallel server option can be utilized to provide scalability, high availability and distribution of load for optimal performance.

Oracle Applications Database

Oracle 8*i*

High performance

- **CBO**
- **Partitioned Tables**
- **Materialized Views**
- **Index Organized Tables**
- **Resource Manager**

Oracle8*i*

Oracle Applications Release 11*i* utilizes Cost-based optimization (CBO). Cost-based optimization dynamically determines the most efficient access paths and join methods for query execution by taking into account statistics such as the size of each table and the selectivity of each query condition.

A transition to CBO improves performance and enables other database features that depend on cost-based optimization such as Partitioned Tables, Materialized Views, Index-Organized tables, and Resource Manager.

The Resource Manager is a tool that allows administrators to manage how resources are used.

Oracle 8*i* Features

Oracle 8*i* Features

The Oracle8*i* features utilized by Oracle Applications 11*i* include:

- Advanced Queuing
- Temporary Tables
- Index-organized Tables
- Partitioned Tables
- Materialized Views
- Invoker Rights

The Oracle8*i* documentation contains in-depth information on each of these features.

Oracle Applications Database

Advanced Queuing

- **Integrates a message queuing system with the Oracle database.**
- **Allows you to store messages into queues for deferred retrieval and processing by the Oracle 8*i* Server.**

Used by
- **Workflow**

Advanced Queuing

Oracle Advanced Queuing (Oracle AQ) integrates a message queuing system with the Oracle database. This allows you to store messages into queues for deferred retrieval and processing by the Oracle 8*i* Server.

Benefits of Advanced Queuing

- **Implementation in heterogeneous environments**
- **Improved efficiency**
- **Callouts to external systems**
- **Extended mail interfaces**

Benefits of Advanced Queuing

Oracle Workflow utilizes Advanced Queuing to provide multi-protocol, multi-platform support for implementation in heterogeneous environments. This allows Workflow to enable cross-application integration throughout an organization while maintaining reliable and scalable performance.

Improved efficiency: The Workflow background engine was redesigned as queue processors utilizing Advanced Queues. The background engine runs activities, which require a large amount of processing resource or time to complete, as background tasks. The Workflow engine defers these activities to the background engine so it can continue processing activities.

Callouts to external systems: By creating an easy-to-use interface between Oracle Workflow and Advanced Queues, Oracle Applications can be easily integrated with a host of diverse applications. These may include, but are not limited to, applications external to the database, distributed databases and different protocol systems.

Extended mail interfaces: The redesigned Mailer utilizes queues, which allows interfacing with other mail systems. Prior versions of Workflow used Workflow tables for the Mailer.

Temporary Tables

- **Store session-specific or transaction-specific data.**
- **Are empty when the session or transaction begins, and the data are discarded at the end of the session or transaction.**
- **Are useful for saving intermediate results that can be merged back into another table.**

Used by

- **General Ledger - MassAllocation and MassBudgeting.**

Temporary Tables

A temporary table is a table with session-specific or transaction-specific data. It is empty when the session or transaction begins, and the data are discarded at the end of the session or transaction. Temporary tables are useful for saving intermediate results that can be merged back into another table.

Oracle Applications Database

Benefits of Temporary Tables

- **Eliminates the need to create and drop tables to store intermediate data.**
- **Improves performance of data transactions.**

Benefits of Temporary Tables

In prior Oracle Applications releases, a new table was created to store intermediate data and the table was dropped when the transaction completed. With temporary tables, creating and dropping of tables is no longer necessary, thus improving performance of the process.

As Temporary tables use temporary segments, access performance is increased significantly.

Index-Organized Tables

- **Data for the table is held in its associated index.**
- **Table data changes result in index updates.**

Used by
- **AOL**

Index-Organized Tables

An index-organized table differs from an ordinary table in that the data for the table is held in its associated index. Changes to the table data, such as adding new rows, updating rows, or deleting rows, result in updating only the index.

Benefits of Index-Organized Tables

- **Index-organized tables provide faster key-based access to table data for queries that involve exact match or range search or both.**
- **The storage requirements are reduced because key columns are not duplicated as they are in an ordinary table and its index.**

Benefits of Index-Organized Tables

Because data rows are stored in the index, index-organized tables provide faster key-based access to table data for queries that involve exact matches or range searches or both. The storage requirements are reduced because key columns are not duplicated as they are in an ordinary table and its index.

Partitioned Tables

- **Allow your data to be broken down into smaller, more manageable pieces.**
- **Are customizable to the specific needs of individual customers.**

Used by

- **Concurrent Manager**

Partitioned Tables

Partitioned tables allow your data to be broken down into smaller, more manageable pieces called partitions, or even subpartitions. Partitioned tables are customizable to the specific needs of individual customers.

Note: Contact Oracle Support before partitioning any Oracle Applications table.

Benefits of Partitioned Tables

- **Allows each partition to be managed individually.**
- **Allows each partition to be used independently of other partitions.**
- **Provides a structure that can be better tuned for availability and performance.**

Benefits of Partitioned Tables

Each partition can be managed individually, and can be used independently of the other partitions, thus providing a structure that can be better tuned for availability and performance.

Materialized Views

Materialized views are:

- **Schema objects that can be used to summarize, precompute, replicate, and distribute data.**
- **Suitable for various computing environments such as data warehousing, decision support, and distributed or mobile computing.**

Used by

- **Oracle Master Scheduling (MRP)**

ORACLE

Materialized Views

Materialized views are schema objects that can be used to summarize, precompute, replicate, and distribute data. They are suitable for various computing environments such as data warehousing, decision support, and distributed or mobile computing.

For Oracle Applications, materialized views are created and owned by the APPS schema. The associated objects are stored in the respective product tablespace.

Benefits of Materialized Views

- **Utilized by the cost-based optimizer to improve query performance.**
- **Used to replicate data at distributed sites and synchronize updates done at several sites with conflict resolution methods.**

Benefits of Materialized Views

Cost-based optimization makes use of materialized views to improve query performance by automatically recognizing when a materialized view can and should be used to satisfy a SQL request. The optimizer transparently rewrites the request to use the materialized view. Queries are then directed to the materialized view and not to the underlying detail tables or views.

In distributed environments, materialized views are used to replicate data at distributed sites and synchronize updates done at several sites with conflict resolution methods. The replicated materialized views provide local access to data which otherwise would have to be accessed from remote sites.

Technical note: If a materialized view becomes "stale", then the optimizer does not use it to satisfy additional queries. Materialized views in the same database as their master tables can be refreshed whenever a transaction commits its changes to the master tables.

Oracle Applications Database

Invoker Rights

- **Invoker Rights allow PL/SQL packages to be executed with the privileges of the calling user (invoking schema).**
- **An invoker-rights package executes with all of the invoker's privileges.**
- **Prior releases used a definer rights model.**

Used by
- **Multiple Reporting Currencies (MRC)**

ORACLE

Invoker Rights

The Invoker Rights model, introduced in Release 11*i*, allows PL/SQL packages to be executed with the privileges of the calling user. Prior releases used a definer rights model wherein PL/SQL packages execute with the privileges of the creating user (defining schema).

An invoker-rights package executes with all of the invoker's privileges. Roles are enabled unless the invoker-rights procedure was called directly or indirectly by a definer-rights procedure.

Benefits of Invoker Rights

- **Eliminates the need to duplicate packages in other APPS schemas (for example, APPS_MRC).**
- **Provides quicker, less complicated, and less expensive maintenance of Multiple Reporting Currencies.**

Benefits of Invoker Rights

Invoker Rights eliminates the need to duplicate packages in other APPS schemas (for example, APPS_MRC). Therefore, maintenance of Multiple Reporting Currencies (MRC) is much quicker, less complicated, and less expensive.

Module Summary

**In this module, you should have learned how
to do the following:**

- **Describe the type of objects and schemas that
exist in the Oracle Applications database.**

- **Explain the features of Multiple Organizations
Architecture and Multiple Reporting Currencies.**

- **Describe some of the Oracle8*i* features utilized by
Oracle Applications release 11*i* and the benefits
they provide.**

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Oracle Applications Database

Module Discussion

- **What benefit does using the APPS schema provide?**
- **How does Oracle Applications use views to implement Multi-Org processing?**
- **In what situations would you use MRC?**
- **Oracle Applications Release 11*i* utilizes many Oracle8*i* features, name two of these.**
- **Describe the benefits of using the Oracle8*i* features.**

Oracle Applications Database

Module Practice

Stop and start the database using the Rapid Install created scripts.

Oracle Applications File System

Chapter 4

Oracle Applications File System

Module 4

Oracle Applications File System

11*i* Oracle Applications Architecture

Oracle Applications File System

Chapter 4 - Page 2

Objectives

**At the end of this module, you should be able
to do the following:**

- **Describe the Oracle Applications file system.**
- **Identify the APPL_TOP, COMN_TOP, ORA_TOP,
  and DATA_TOP directories.**
- **Describe the file types available on the file system.**
- **Describe the product subdirectory structure.**

ORACLE

Oracle Applications File System

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Module Overview

This module comprises the following topics:

- **Oracle Applications file system**
- **APPL_TOP directory**
- **Globalizations**
- **Distributing files**
- **Structure of product directories**
- **Contents of product directories**
- **Important APPL_TOP subdirectories**
- **Common components directory (COMMON_TOP)**
- **COMMON_TOP and Java files**
- **Technology stack directories (ORA_TOP)**
- **Oracle Applications database files directory (DATA_TOP)**

ORACLE

Overview

This module describes the file system used to store the files belonging to Oracle Applications. The module details the structure and introduces the contents of the following key directories:

- APPL_TOP
- COMMON_TOP
- ORA_TOP
- DATA_TOP
- <PROD>_TOP

Oracle Applications File System

Oracle Applications File System

The Oracle Applications 11*i* system uses components from many Oracle products. It stores these product files within several different top level directories:

<system name>APPL or APPL_TOP: contains the product directories and files for Oracle Applications.

<system name>COMN or COMN_TOP: Contains directories and files used across products. <system name>COMN is also known as COMMON_TOP.

<system name>ORA or ORA_TOP: Contains ORACLE_HOMEs for the technology stack components.

<system name>DATA or DATA_TOP: Contains the Oracle Applications database files.

Note: <system name> is the name of your system determined through Rapid Install at the time of installation. For example, PROD.

Oracle Applications File System

<system name>APPL

<db name>.env   **admin**   **au**   **fnd**   **inv**

11.5.0   **11.5.0**   **11.5.0**

Administrative Files   **Product Files**

ORACLE

Oracle Applications File System

The Oracle Applications file system contains the product directories for Oracle Applications. The Oracle Applications file system contains:

- The Oracle Applications environment files. The default name of the main Applications environment file is <db name>.env, where <db name> is the name of the database.
- A directory for each of the products, licensed or not, that has been installed under the <system name>APPL, or APPL_TOP directory. Product directories use the standard product abbreviations.
- Additional directories for administration and maintenance, such as the admin and au directories. AU is a product and is used for the maintenance of Oracle Applications.

Note: For Release 11*i*, all Oracle Applications products, regardless of license status, are installed in the database AND the file system. Do not attempt to manually remove files for unlicensed products.

APPL_TOP Directory

<system name>APPL

<db name>.env **admin** **au** **fnd** **inv**

11.5.0 **11.5.0** **11.5.0**

APPL_TOP= <system name>APPL

ORACLE

APPL_TOP Directory

The Oracle Applications top level directory path is defined in the environment variable APPL_TOP.

For both an installation and upgrade of Oracle Applications, Rapid Install creates the new APPL_TOP, or top Applications directory and defaults the APPL_TOP directory value to <system name>APPL.

This variable is used in subsequent directory definitions, and is also used as a term to refer to a particular Oracle Applications file system.

Technical note: The <db name>.env file is a very important file containing parameters defining the Oracle Applications environment. Typically, Rapid Install creates the <db name>.env file during the installation. Many of the parameters located in the <db name>.env file define important directories within the Oracle Applications file structure. For example, the APPL_TOP directory is identified in the environment parameter APPL_TOP. Additional parameters point to product top directories. These and other parameters are discussed in a later topic.

Oracle Applications Product Directories

Oracle Applications Product Directories

Each product has its own subdirectory under APPL_TOP and the Oracle Applications base release is typically reflected in the subdirectory name. For Release 11*i*, the base release is 11.5.0. Keep in mind that multiple releases and product versions must not exist in a single APPL_TOP directory.

The product subdirectory name is defined in an environment variable <PROD>_TOP, where < PROD> is the product short name.

For example, the slide shows three product directories. The paths to these directories would be defined in the following declarations in the <db name>.env file:

- APPL_TOP=/d01/prodappl
- AU_TOP= /d01/prodappl /au/11.5.0
- FND_TOP = /d01/prodappl /fnd/11.5.0
- INV_TOP= /d01/prodappl /inv/11.5.0

Globalizations

Globalizations

With Release 11*i* all Globalizations products (known as Localizations in releases prior to 11*i*) are installed in both the file system and the database. They have subdirectories under APPL_TOP similar to other Oracle Applications products.

Globalizations are Oracle Applications components that provide additional features for processing in a particular country or region. For example, Oracle Applications may extend the payment processing features of Oracle Payables to provide a feature needed for banks in France. Or Globalizations may be created to meet specific government requirements.

A Globalizations product may require additional:

- Forms
- Reports
- Seed data in the base product tables
- Database tables or other database objects

If you require the use of additional Globalizations products after the initial installation or upgrade, they can be licensed through the License Manager.

Distributing Files Across Multiple Disks

/d01/<system name>appl   **/d02/<system name>appl**

<db name>.env   **gl**   **ap**

$APPL_TOP = /d01/prodappl

$GL_TOP = /d01/prodappl /gl/11.5.0   **11.5.0**   **11.5.0**

$AP_TOP /d01/prodappl /ap/11.5.0

Distributing Files Across Multiple Disks

Oracle Applications files require a significant amount of space. All files may not fit on a single disk. You can distribute product directories across several disks if space is an issue.

When you install Oracle Applications, you can choose to put product files on disks other than the main disk. Rapid Install allows you to distribute the APPL_TOP across four mount points. If a product's directory is not located on the same disk, Rapid Install defines the full path to the directory in the <PROD>_TOP parameter in the <db name>.env file.

Technical note: Use Optimal Flexible Architecture (OFA) compliant mount point designations. OFA is a set of file naming and placement guidelines for Oracle software and databases. OFA helps users avoid problems by optimizing Oracle's relationship with its host operating system. One OFA rule is to name mount points using the format /x..xn..n, where x..x is a character string and n..n is a number (use zeros to pad fixed length numbers). The slide shows examples of this naming convention.

See Appendix A of the *Oracle8i Administrator's Reference Guide* for detailed information on Optimal Flexible Architecture.

Product Directories

Product Directories

\<PROD\>_TOP

admin   help   java   media   patch   resource

bin   html   lib   mesg   plsql   sql

forms   include   log   out   reports

Product Directories

The Oracle Applications product directories contain many subdirectories that group the different files for a given product. A typical product directory has the subdirectories shown, however, there may be differences based upon configuration.

Note: Some products do not have all of the subdirectories you see on this slide.

Admin Directory

<PROD>_TOP

admin   help   java   media   patch   resource

bin   html   lib   mesg   plsql   sql

forms   include   log   out   reports

driver   import   odf   sql

Admin Directory

The admin subdirectory contains files used by AutoUpgrade to upgrade products to the current release.

The admin subdirectory has several subdirectories of its own:

driver: Contains the upgrade driver files (.drv). The upgrade process is divided into phases. Phase driver files specify processing by phase.

Example files are:

- glseq.drv creates sequences for the General Ledger (GL) product during the sequence phase.
- glfile.drv lists the GL files needed to run the product.
- gldep.drv specifies dependencies between GL and other products so that upgrade jobs between products are processed in the correct order.

import: Contains the import files used to upgrade seed data.

odf: Contains the object description files used to create and maintain tables, indexes, sequences, and views.

sql: Contains SQL scripts and PL/SQL scripts used to upgrade data and PL/SQL package creation scripts.

Bin Directory

<PROD>_TOP

admin help java media patch resource

bin html lib mesg plsql sql

forms include log out reports

Bin Directory

The concurrent programs, other C language programs and operating system shell scripts for each product are stored in its respective bin directory. Of particular importance to Oracle Applications are the FND_TOP/bin and AD_TOP/bin directories. Some of the important programs in these directories include:

f60webmx: the Applications Forms processor (in FND_TOP/bin)

FNDLIBR: the concurrent manager (in FND_TOP/bin)

startmgr: a Unix shell script to start the concurrent manager (in FND_TOP/bin)

fdfcmp: the flexfield compiler (in FND_TOP/bin)

FNDMDGEN: a message file generator (in FND_TOP/bin)

adadmin: the AD Administration utility (in AD_TOP/bin)

adaimgr: the AutoUpgrade utility (in AD_TOP/bin)

adpatch: the AutoPatch utility (in AD_TOP/bin)

Note: The FND_TOP/bin and AD_TOP/bin directories are included in the PATH variable. This allows FND and AD executables to be accessed from any location.

Oracle Applications File System

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Forms Directory

<PROD>_TOP

admin help java media patch resource

bin html lib mesg plsql sql

forms include log out reports

US

Forms Directory

Oracle Forms files include portable source files (.fmb files) and generated runtime files (.fmx files). Forms files are generated by converting the .fmb source file to .fmx runtime files. The forms directory contains Oracle Forms runtime files. The source files are stored in AU_TOP/forms so that runtime files can be generated more easily.

A subdirectory exists for the language(s) installed. This subdirectory is named according to the language, for example, US for American English forms, D for German forms, F for French forms.

Help Directory

<PROD>_TOP

admin   *help*   java   media   patch   resource

US

bin   html   lib   mesg   plsql   sql

forms   include   log   out   reports

Help Directory

The help directory contains online help source files. These files are imported into the database to optimize the performance of online help. Fresh installations of Oracle Applications have help preinstalled. Upgrade customers must install the help files during post-upgrade tasks.

Under the help directory, there is a language directory to store the help files for each language in which your are running Oracle Applications.

HTML Directory

<PROD>_TOP

| admin | help | java | media | patch | resource |

| bin | html | lib | mesg | plsql | sql |

| forms | US include | log | out | reports |

HTML Directory

The html subdirectory contains HTML, Javascript, and Java Server Page files used by various products. These files are used primarily by products that have a Self-Service interface. The Javascript (.js) and Java Server Page (.jsp) files are kept in the main html directory. HTML and related files that require translation are stored in their own language-specific directory under the html directory.

Include Directory

<PROD>_TOP

admin   help   java   media   patch   resource

bin   html   lib   mesg   plsql   sql

forms   *include*   log   out   reports

Include Directory

The include directory contains header (.h) files for custom development.

Note: Not all products have an include directory.

Oracle Applications File System

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Java Directory

<PROD>_TOP

admin   help   media   patch   resource

bin   html   lib   mesg

forms   include   log   out   plsql   sql

reports

java

make   *jar*

*.jar

ORACLE

Java Directory

This directory is used to store Java files. During the installation or the upgrade, the files are copied to the directories identified in the JAVA_TOP environment variable (these directories are defined in the environment file created during the installation process). This is done to optimize processing.

For each product that uses Java, there is one or more Java archive (JAR) files under the jar directory. There is also a product specific Java dependency (.dep) file under the make directory that lists the components of the JAR files.

Lib Directory

<PROD>_TOP

admin · help · java · media · patch · resource

bin · html · *lib* · mesg · plsql · sql

forms · include · log · out · reports

Lib Directory

At some time, you may need to relink Oracle Applications programs, for example if you upgrade the Oracle8i server. The lib subdirectory contains files pertinent to the process of relinking Oracle Applications programs:

object files (.o files): There is one for each C program to relink.

library file (.a file): Is the compiled C code common to that product's programs.

makefile (.mk file): Specifies how to relink the .o files with the .a file to create each C executable program in the product's bin directory.

For example, the GL_TOP/lib directory contains:

- glpmai.o (object module for the GLPPOS program)
- glcmai.o (object module for the GLCCON program)
- other .o files
- libgl.a (the GL library file)
- gl.mk (the makefile for all GL programs)

Note: Oracle Applications programs are relinked using the AD Administration utility. They should not be relinked manually.

Log and Out Directories

<PROD>_TOP

admin   help   java   media   patch   resource

bin   html   lib   mesg   plsql   sql

forms   include   *log*   *out*   reports

Log and Out Directories

When the concurrent managers run Oracle Applications reports or data update programs, they write output files as well as diagnostic log files and temporary files to directories defined during the installation process. There are two methods for storing log and output files:

- In each product's log and out directories.
- In common log and output directories.

The log directory holds concurrent log files from each concurrent request. The concurrent manager log files are stored in FND_TOP/log.

The out directory holds the concurrent report output files.

You can consolidate all product log and out files into one directory by defining the APPLCSF environment variable in the <db name>.env environment file. The APPLCSF parameter identifies common directories to hold all log and output files.

Note: The log and out directories should be monitored for disk space usage and purged periodically.

Media Directory

<PROD>_TOP

admin   help   java   *media*   patch   resource

bin   html   lib   mesg   plsql   sql

forms   include   log   out   reports

Media Directory

The Oracle Applications Forms client applets display text and graphics in the form of .gif files. The media directory contains all product specific .gif files.

Mesg Directory

<PROD>_TOP

admin   help   java   media   patch   resource

bin   html   lib   out   plsql   sql

forms   include   log   reports

mesg

US.msb

Mesg Directory

Oracle Applications forms display messages at the bottom of the screen and in pop-up boxes. Oracle Applications concurrent programs also print messages in their log and output files. Messages may be translated into different languages. Translated messages are stored in message files separate from forms and programs.

Each product's mesg directory contains one or more files for the language-specific messages that the product uses:

- .msb files contain the binary messages used at runtime.
- A standard American English installation contains a US.msb file.
- An equivalent Japanese message file is titled JA.msb.

Patch Directory

<PROD>_TOP

admin help java media out plsql resource reports

bin html lib mesg patch sql

forms include log 115

driver sql odf import

Patch Directory

Any updates to Oracle Applications data or data model use a directory named patch to store the patch files. Patch files are grouped by release within the following subdirectories:

- **driver**: contains the driver files (.drv). Typically named d<patchnum>.drv, where <patchnum> is the patch number.
- **sql**: contains sql (.sql) and PL/SQL (.pls) scripts used to patch the database.
- **odf**: contains object description files (.odf) to patch the data model.
- **import**: contains lct, ldt and slt files to update the seed data through loaders such as FNDLOAD and AKLOAD.

Note: This directory should not be used as a staging area to unzip patches. The patch process uses this directory when applying patches.

PL/SQL and Resource Directories

<PROD>_TOP

admin   help   java   media   patch   *resource*

    US

bin   html   lib   mesg   *plsql*   sql

forms   include   log   out   reports

PL/SQL and Resource Directories

These directories are used for unloading PL/SQL libraries used by Oracle Applications reports and forms.

- The files in the plsql subdirectory (.pll files) are used by Oracle Reports.
- The files in the resource subdirectory (.pll and .plx files) are used by Oracle Forms.

Resource libraries that require language translation are stored in their own language-specific directory under the resource directory.

After these files are unloaded, they are copied to equivalent subdirectories under the AU_TOP directory.

Note that not all products have PL/SQL libraries.

Reports Directory

\<PROD\>_TOP

admin   help   java   media   patch   resource

bin   html   lib   mesg   plsql   sql

forms   include   log   out   *reports*

US

Reports Directory

This directory contains the reports files for this product. For each report there is a portable binary .rdf file.

The AD Administration utility is used to regenerate reports. Generation of reports is usually recommended so the PL/SQL is optimally compiled for the platform.

Reports are stored in their own language-specific directory under the reports directory.

Sql Directory

<PROD>_TOP

admin   help   java   media   patch   resource

bin   html   lib   mesg   plsql   *sql*

forms   include   log   out   reports

ORACLE

Sql Directory

There are many SQL scripts used by Oracle Applications for concurrent processing. These scripts typically produce reports or perform concurrent processing and are stored as .sql files in this subdirectory.

File Types and Extensions

Extension	Description
.a	Library files C code
.c	C source
.ctl	DataMerge control
.dat	DataMerge import/export
.drv	Driver
.env	UNIX environment
.exp	DataMerge export
.fmb	Binary forms

ORACLE

File Types and Extensions

These tables describe some of the file types and file extensions in the Oracle Applications file system:

- **.a**: library files
- **.c**: C source files
- **.ctl**: DataMerge control files
- **.dat**: DataMerge import/export files
- **.drv**: driver files (for AutoUpgrade and AutoPatch)
- **.env**: environment files
- **.exp**: DataMerge export files
- **.fmb**: binary Forms files

File Types and Extensions

Extension	Description
.fmx	Executable forms
.h	C header
.jar	Java archive
.lc	C source to be archived
.lct	Data loader control
.ldt	Data loader datafile
.log	Concurrent request log
.lpc	PRO*C source to be archived

File Types and Extensions (cont.)

- **.fmx**: Forms executable files
- **.h**: C header files
- **.jar**: Java Archive files
- **.lc**: C source tobe archived
- **.lct**: Data loader control files
- **.ldt**: Data loader datafiles
- **.log**: Concurrent request log files
- **.lpc**: Pro*C source to be archived

File Types and Extensions

Extension	Description
.msb	Binary message
.msg	Readable message
.o	C object module
.odf	Object description
.out	Concurrent request output
.plb	PL/SQL package body
.pll	PL/SQL shared library (reports)
.pls	PL/SQL package specs

ORACLE

File Types and Extensions (cont.)

- **.msb**: binary message files
- **.msg**: readable message files
- **.o**: C object module
- **.odf**: object description files
- **.out**: Concurrent request output files
- **.plb**: PL/SQL package body files
- **.pll**: PL/SQL shared library files (for reports)
- **.pls**: PL/SQL package specification files

Oracle Applications File System

File Types and Extensions

Extension	Description
.rdf	Oracle Reports
.req	Log of concurrent request
.rex	Oracle Reports exec.
.sql	SQL*Plus scripts

File Types and Extensions (cont.)

- **.rdf**: Oracle Reports files
- **.req**: concurrent request log files
- **.rex**: Oracle Reports executable files
- **.sql**: SQL*Plus scripts

Oracle Applications File System

APPL_TOP/admin Directory

```
                              admin
        ┌────┬────┬────┬───┬───┬────┬────┬───────┐
  adovars.env       preupg   restart
                              <SID>
     adconfig.txt      log
                          out      ┌────┬────┐
                                  log  out  restart
        applprod.txt
        applora.txt

              adrelink.sh
```

APPL_TOP/admin Directory

The APPL_TOP/admin directory contains files and scripts used by the AD utilities during the upgrade and maintenance processes. These include:

- A custom environment file defining certain file and directory locations (adovars.env).
- Text files read by AutoUpgrade.
- Scripts run during the upgrade.
- A preupg directory containing product-specific pre-upgrade scripts.
- Log and out directories for upgrade log and output files.
- A restart directory where AD programs create restart files.

Most AD utilities put their log, out and restart files in a separate <SID> subdirectory. The value for <SID> comes from the TWO_TASK or ORACLE_SID parameter. The upgrade, patch and administration utilities obtain this value and store their log, out and restart files in the <SID> subdirectory.

Some programs, when run from the command line, cannot access the <SID> value and therefore store their log, out, and restart files in the log, out and restart directories directly under the APPL_TOP/admin directory.

APPL_TOP/admin Directory Text Files

```
                              admin

   adconfig.txt          preupg        restart
   adlinkbk.txt                 log          <SID>

      applprod.txt                   out
      applcust.txt

          applora.txt                    log   out   restart
          applterr.txt

                  adrelink
```

Admin Directory Text Files

There are many text files stored under the admin directory. These files are used by many different utilities. Some of the files include:

- adconfig.txt: contains system configuration variable values.
- adlinkbk.txt: lists files the adrelink utility should backup rather than delete.
- applcust.txt: lists registered customizations.
- applora.txt: contains minimum or required settings for database initialization parameters.
- applprod.txt: lists products available in this release.
- applterr.txt: contains territory descriptions for globalizations.
- appl<LANG>.txt (e.g., applUS.txt): contains language translations of product names.

AD Directory

< system name >APPL

<db name>.env   **admin**   **au**   **ad**

11.5.0

admin bin lib

AD Directory

AD stands for Applications DBA. The Applications DBA is a set of tools used for installing, upgrading, and administering the Oracle Applications system. The AD directory contains utilities such as AutoUpgrade (adaimgr), AutoPatch (adpatch), AD Administration (adadmin), and License Manager.

AU Directory

< system name >APPL

<db name>.env   **admin**   **au**   **ad**

11.5.0

admin *forms* *plsql* *resource* *java* *reports*

AU Directory

AU stands for Application Utilities. The AU_TOP directory contains product files that are consolidated in a single location for optimal processing. These files include:

- PL/SQL libraries used by Oracle Reports, in the plsql subdirectory.
- PL/SQL libraries used by Oracle Forms, in the resource subdirectory.
- Oracle Forms source files, in the forms subdirectory.
- A copy of all Java files used by JInitiator when regenerating the desktop client jar files, in the java subdirectory.
- Certain reports needed by Discoverer or BIS, in the reports subdirectory.

Note: The public copy of all Java files are stored in JAVA_TOP.

Common Components Directory

\<system name\>COMN

portal   java   html   Admin*   util

oracle   apps.zip

*.zip

apps

US WebTools

jinitiator jre

mrp   gl   fnd   icx

jar   jar   jar   html

(unzipped into)

fndewt.jar
fndswing.jar

icxcabo.zip

*contains Rapid Install scripts

ORACLE

Common Components Directory - COMMON_TOP

The \<system name\>COMN directory contains directories and files that are used across products or are used in conjunction with other third-party products.

This directory also contains the default consolidated log and output directories used by concurrent processing. The directories are COMMON_TOP/admin/log and COMMON_TOP/admin/out.

Unlike previous releases, Release 11*i* supports the placement of the Java directory (JAVA_TOP) and the HTML directory (OAH_TOP) anywhere in your file system. The default location for these directories is under COMMON_TOP.

Note: COMMON_TOP is not a defined environment variable.

Copying Java Files: Product Files

Copying Java Files: Product Files

Oracle Applications Release 11*i* makes extensive use of Java. Many Oracle Applications products use Java on the front end for forms and on the back end for data processing.

Java files are installed into Oracle Applications product directories and then copied to directories under the common components directory to facilitate optimal processing.

Copying Java Files: apps.zip

```
<system name>APPL              <system name>COMN

                                          java

          au                     apps.zip    oracle

        11.5.0                                apps

          java                        ar        gl

        ( apps.zip )                   jar       jar
```

Copying Java Files: apps.zip

apps.zip is a patchable archive of all Java class files required by Oracle Applications. Individual Java class files are usually not present on the file system.

apps.zip is located in AU_TOP/java and a public copy is stored under JAVA_TOP. The public copy is the one utilized in a Web server environment, as the Web server can see the JAVA_TOP stored apps.zip but, for security reasons, does not access the AU_TOP/java apps.zip directly.

Oracle Applications File System

Technology Stack Directory

<system name>ORA

8.0.6   *i*AS (8.1.6)

forms60   **bin   lib**
                     (HTTP)

graphics60

reports60

Technology Stack Directory - ORA_TOP

To take advantage of the technology stack components' latest features, there are multiple ORACLE_HOME directories under the technology stack directory. This slide shows which technology stack components are located in each directory:

- **8.0.6:** Contains the ORACLE_HOME for the Developer products.
- **iAS (8.1.6):** Contains the ORACLE_HOME for the Oracle HTTP server.

Technology Stack Directory

\<system name\>DB

8.1.7

bin   lib
(Oracle8i)

Technology Stack Directory

The 8.1.7 ORACLE_HOME is located in its own directory structure. It is the ORACLE_HOME for the data server.

Note: Oracle Applications releases prior to 11.5.4 were packaged with the 8.1.6 version of the data server.

Oracle Applications Database Files Directory

Disk 1

cntrl01
log01a
log02a
rbs01

Disk 2

cntrl02
log01b
log02b
system01
ctxd01

Disk 4

temp01
product
index

Disk 3

cntrl03
product
data

ORACLE

Oracle Applications Database Files Directory - DATA_TOP

The <system name>DATA file system contains the database files (*.dbf) that comprise the Oracle Applications database itself. The Rapid Install utility installs all the files necessary including system, data, and index database files. You can specify mount points and directory names during the installation.

Module Summary

**In this module, you should have learned how
to do the following:**

- **Describe the Oracle Applications file system.**
- **Describe the product subdirectory structure.**
- **Describe the file types available on the file system.**
- **Identify the APPL_TOP, COMN_TOP, ORA_TOP,
  and DATA_TOP directories.**

ORACLE

Oracle Applications File System

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Module Discussion

- **What is the purpose of the APPL_TOP directory?**
- **Identify and describe the other top level directories.**
- **What is apps.zip?**

ORACLE

Module Practice

**Navigate through the file system and review the
contents of key Oracle Applications directories.**

Oracle Applications File System

Oracle Applications Environment Files and Languages

Chapter 5

Module 5

Environment Files and Languages

11*i* Oracle Applications Architecture

ORACLE

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Objectives

At the end of this module, you should be able to do the following:

- Describe the Oracle Applications main environment file and its key parameters.

- Identify other important environment files.

- Identify the languages supported by Release 11*i*.

- Describe the process to install an additional language.

Topic Overview

This module comprises the following topics:
- **Consolidated environment file**
- **Main Oracle Applications environment file**
- **Key parameters in <db name>.env**
- **Other environment files:**
  - **adovars.env**
  - **adconfig.txt.**
  - **fndenv.env.**
  - **devenv.env.**
- **Alternate languages**
- **File character sets**
- **Translated language items**

ORACLE

Overview

There are several files used to control the setup and processing of your Oracle Applications environment. This module is important because it explains the Oracle Applications environment files and the information contained in them.

This module also describes the language related components of Oracle Applications Release 11*i*. It explains how character sets are used to support the various languages and also how language components are stored within the file system.

Environment Files

Filename:	For environment:	Located in:
`<db name>.env` or `<db name>.cmd`	**Oracle8*i* Enterprise Edition**	**8.1.7** `ORACLE_HOME`
`<db name>.env` or `<db name>.cmd`	**HTTP server**	***i*AS** `ORACLE_HOME`
`<db name>.env` or `<db name>.cmd`	**Oracle8-based technology stack**	**8.0.6** `ORACLE_HOME`
`<db name>.env` or `<db name>.cmd`	**Applications**	`APPL_TOP`
`APPSORA.env` or `APPSORA.cmd`	**Consolidated setup file**	`APPL_TOP`

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Environment Files

Rapid Install creates four different environment setup files which set up the Oracle8*i*, the Oracle8-based technology stack, the Oracle HTTP server, and the Oracle Applications environments. The environment setup files are called <db name>.env in UNIX or <db name>.cmd in NT, where <db name> is the name of your database. These files are located in the different directories you see on the right side of the slide.

For convenience, Oracle Applications provides a consolidated environment file APPSORA.env in UNIX or APPSORA.cmd in NT that sets up both the Oracle Applications and Oracle8-based technology stack environments.

Main Applications Environment File

<db name>.env

APPLLOG=

APPL_TOP=   NLS_LANG=

FND_TOP=

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Oracle Applications Environment Files

The main Oracle Applications environment file is a script that sets the environment for running Oracle Applications.

When you install or upgrade Oracle Applications, Rapid Install creates this script in your APPL_TOP directory. Some of the variables can be changed during the install process.

The file name depends on the platform you are running:

- On Unix, the default file name is <db name>.env, where <db name> is the name of your ORACLE_SID or TWO_TASK.
- On Windows NT, the default name is <db name>.cmd. The file name information is stored in the Windows Registry.

Key Parameters in <db name>.env

- **APPLFENV: the name of the main environment file, <db name>.env.**
- **PLATFORM: the execution platform.**
- **APPL_TOP: the top level Oracle Applications directory.**
- **FNDNAM: the name of the ORACLE schema to which the System Administration responsibility connects.**
- **GWYUID: the public ORACLE username and password that grants access to the Oracle Applications initial signon form.**

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Key Parameters in <db name>.env

These are some of the key parameters in the Oracle Applications main environment file:

APPLFENV is the name of this environment file, <db name>.env. If you rename the environment file, change this parameter.

PLATFORM is the execution platform. The value should match the value in APPL_TOP/admin/adpltfrm.txt.

APPL_TOP is the top level directory for this Oracle Applications installation.

FNDNAM is the name of the ORACLE schema to which the System Administration responsibility connects. The default is APPS.

GWYUID is the public ORACLE username and password that grants access to the Oracle Applications initial signon form. The default is APPLSYSPUB/PUB.

Key Parameters in <db name>.env

- **FND_TOP: the path to the Application Object Library directory.**
- **AU_TOP: the path to the Application Utilities directory.**
- **<PROD>_TOP: the path to a product's top directory.**
- **PATH: sets the directory search path.**
- **APPLDCP: specifies whether distributed concurrent processing is being used.**

Key Parameters in <db name>.env (cont.)

FND_TOP is the path to the Application Object Library directory.

AU_TOP is the path to the Applications Utilities directory.

<PROD>_TOP is the path to a product's top directory. There is one entry for each Oracle Applications product.

PATH sets the directory search path, primarily FND_TOP and AD_TOP.

APPLDCP specifies whether distributed concurrent processing is being used. Distributed concurrent processing distributes processing load across multiple concurrent processors. The options are "OFF" or "ON".

Key Parameters in <db name>.env

- **APPCPNAM: indicates whether the Concurrent Manager log and output files follow the 8.3 file name conventions.**
- **APPLCSF: identifies the common directory for concurrent manager log and output files.**
- **APPLLOG: the subdirectory for Concurrent Manager log files.**
- **APPLOUT: the subdirectory for Concurrent Manager output files.**

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Key Parameters in <db name>.env (cont.)

APPCPNAM indicates whether the format of the concurrent manager log and output files follow 8.3 file name conventions (maximum of 8 characters to the left of the dot and 3 to the right, for example, alogfile.log). If this parameter is set to "REQID", the concurrent manager uses file names that meet 8.3 naming requirements.

APPLCSF identifies the top level directory for concurrent manager log and output files if they are consolidated into a single directory across all products. For example, if the path is <COMN_TOP>/admin, all log and output files are placed in a subdirectory under this defined directory.

APPLLOG the subdirectory for concurrent manager log files. The default is "log".

APPLOUT the subdirectory for concurrent manager output files. The default is "out".

Key Parameters in <db name>.env

- **APPLTMP: identifies the directory for Oracle Applications temporary files.**
- **APPLPTMP: identifies the directory for temporary PL/SQL output files.**
- **NLS_LANG: the language, territory and character set installed in the database.**
- **NLS_DATE_FORMAT: the National Language Support date format.**
- **NLS_NUMERIC_CHARACTERS: the National Language Support numeric separators.**

Key Parameters in <db name>.env (cont.)

APPLTMP identifies the directory for Oracle Applications temporary files. The default is "usr/tmp" for UNIX and "C:\temp" for NT.

APPLPTMP identifies the directory for temporary PL/SQL output files. The possible directory options must be listed in the init.ora parameter "utl_file_dir".

NLS_LANG is the language, territory and character set installed in the database. The default for a fresh install is "AMERICAN_AMERICA.US7ASCII".

NLS_DATE_FORMAT is the National Language Support date format. The default is "DD-MON-RR".

NLS_NUMERIC_CHARACTERS is the National Language Support numeric separators. The default is ".,".

Key Parameters in <db name>.env

- **FORMS60_MAPPING: specifies the Web server host and port.**
- **REPORTS60_TMP: the directory for temporary files used by Oracle Reports.**
- **GRAPHICS60_PATH: specifies the path to the Oracle Graphics files.**

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Key Parameters in <db name>.env (cont.)

FORMS60_MAPPING specifies the Oracle Applications forms Web server host name and the port on which it is running. For example, "http://ap9000sun.oracle.com:8000/OA_TEMP".

REPORTS60_TMP is the directory for temporary files used by Oracle Reports. For example, "/tmp".

GRAPHICS60_PATH specifies the path to the Oracle Graphics files. For example, "$AU_TOP/graphs".

The adovars.env File

- **Sets environment variables for other products like Java.**
- **Called from <db name>.env file.**
- **Stores additional custom variables.**

adovars.env

The adovars.env file specifies the location of various files such as Java files, HTML files, and JRE (Java Runtime Environment) files. The adovars.env file contains:

- **JAVA_TOP**: this variable indicates the top-level directory where all Java files are copied.
- **OA_JRE_TOP**: this variable indicates the location where you have installed JRE.
- **OAH_TOP**: this variable defines the location to which HTML files are copied.
- **OAD_TOP**: this variable defines the locations to which context-sensitive documentation files are copied.
- **LD_LIBRARY_PATH**: this variable is used on some platforms to list the directories scanned for dynamic library files needed at runtime.
- **CLASSPATH**: this variable lists the directories and zip files scanned for Java class files needed at runtime.

The adovars.env file is self-documenting and provides comments on what each variable does and how it should be configured. You can manually edit most of the variables in this file. Any additional custom variables should be stored here and not in the main environment file, so you do not have to reapply the custom variables if you have to recreate your main environment file.

The adconfig.txt File

- **Stores Applications configuration information**
- **Created during installation**
- **Used when running AD utilities**

adconfig.txt

AD utility programs perform a variety of database and file management tasks. These utilities need to know certain configuration information to run successfully. This configuration information is specified when Oracle Applications is installed and subsequently stored in a configuration file. The configuration file is named adconfig.txt and is located in the APPL_TOP/admin directory.

Once created, this file is used by other Oracle Applications utilities.

Note: This file is not the same as the configuration file created by Rapid Install (config.txt). The adconfig.txt file is created during the creation of the APPL_TOP file system.

The fndenv.env File

- **Specifies additional variables used by Oracle Applications.**
- **Contains default values applicable for all sites.**

fndenv.env

The fndenv.env file sets additional environment variables used by Oracle Applications Application Object Library, for example APPLBIN for the name of the subdirectory where product executable programs and shell scripts are stored ("bin").

This file should not be modified. The default values should be applicable for all customers. The file is located in the FND_TOP directory.

The devenv.env File

- **Used to identify and describe third-party and custom applications linked with Oracle Applications.**
- **Automatically called by fndenv.env.**

devenv.env

The devenv.env file sets variables that let you link third-party software and your own custom-developed applications with Oracle Applications. This script is located in FND_TOP and is automatically called by fndenv.env so that you can compile and link custom Oracle Forms and Reports user exits and concurrent programs with Oracle Applications.

See the *Oracle Applications Developers Guide* for detailed information on customizing the devenv.env file.

Oracle Applications Languages

Oracle Applications Languages

Oracle Applications can be run in languages other than American English (referred to as National Language Support or NLS), or it can be run in multiple languages simultaneously (referred to as Multi-Lingual Support or MLS). For Release 11*i*, 29 language versions are available.

Oracle Applications Languages

Language	Directory Code
Arabic	AR
Czech	CS
German	D
Danish	DK
European Spanish	E
Greek	EL
Latin American Spanish	ESA
European French	F
Canadian French	FRC
Hungarian	HU

ORACLE

Oracle Applications Languages

The lists on the following three slides present the languages available for Release 11*i*. Each language has a short name, or directory code, which is used as the directory name where language specific files are stored.

Oracle Applications Languages

Language	Directory Code
Italian	I
Hebrew	IW
Japanese	JA
Korean	KO
Norwegian	N
Dutch	NL
Polish	PL
European Portuguese	PT
Brazilian Portuguese	PTB
Romanian	RO

ORACLE

Oracle Applications Languages (cont.)

Oracle Applications Environment Files and Languages
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Oracle Applications Languages

Language	Directory Code
Russian	RU
Swedish	S
Finnish	SF
Slovak	SK
Thai	TH
Turkish	TR
American English	US
Simplified Chinese	ZHS
Traditional Chinese	ZHT

ORACLE

Oracle Applications Languages (cont.)

File Character Set

US7ASCII	**=**	**US 7-bit ASCII**
WE8ISO8859P1	**=**	**Western European 8-bit**
EE8ISO8859P2	**=**	**Eastern European 8-bit**
AR8ISO8859P6	**=**	**Arabic 8-bit**
JA16EUC	**=**	**Japanese 16-bit**
ZHT32EUC	**=**	**Traditional Chinese 32-bit**
UTF8	**=**	**Unicode multi-byte**

ORACLE

File Character Set

Character sets are sets of encoded binary values that represents the letters, numerals, and punctuation marks of a language, or of a group of languages that use similar written symbols. For example, the WE8ISO8859P1 character set can be used by English and many other languages that use a Latin-based alphabet and Arabic numerals. Terminals and printers handle text data by converting these encoded values to characters. A character set may also be called a codeset. A character set supports one or more languages.

In Release 11*i*, support for the Unicode UTF8 character set removes the limitation on the number of supported languages that can be run in a single instance. The Unicode character set supports all characters in common use in all of the world's modern languages.

Installing Multiple Languages

- **Select target language(s) during install.**
- **Rapid Install sets parameters in init.ora and the Oracle Applications environment file.**
- **Rapid Install installs English language files.**
- **Rapid Install enables additional language(s).**
- **Use AutoPatch to install the files and seed data for additional language(s).**
- **Use character set conversion utilities to convert file system and database character set, if needed.**

ORACLE

Installing Multiple Languages

During the installation, the Rapid Install utility prompts you to select the language(s) in which you wish to run Oracle Applications. Based on the languages you select, the utility appropriately sets parameters in the database initialization file (init.ora) and the Oracle Applications environment files. Rapid Install also determines an appropriate character set that can support all the languages selected.

Rapid Install installs the English language version automatically. It also marks the other selected languages as available. You then install the translated files and seed data using the AutoPatch utility.

If you are adding languages to an existing installation, you may need to use character set conversion utilities to convert the file system and database character set.

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Translation Patches

A translation patch contains only components that require translation and are applied on top of the base patch. There are two types of translation patches:

- **Partial translation patches, which are available immediately after the release of the base patch.**
- **Fully translated patches, which are available several days after the release of the base patch.**

Translation Patches

All Oracle Applications patches are translation aware. The AutoPatch utility reads information in a base language patch (American English) and based upon the configuration of the system knows if you need to apply a translation patch.

A translation patch contains only components that require translation and are applied on top of the base patch. There are two types of translation patches:

- Partial translation patches, which are available immediately after the release of the base patch.
- Fully translated patches, which are available several days after the release of the base patch.

Translated Language Items

- **Messages**
- **Navigation items**
- **Seed data**
- **Forms (.fmb files)**
- **Reports (.rdf files)**
- **Online help files**
- **External documents**

Translated Language Items

The files installed by AutoPatch contain the Oracle Applications components that have been translated. Translated components include:

- Messages
- Navigation items
- Seed data (for example, list of values entries)
- Forms files (.fmb files)
- Reports files (.rdf files)
- Online help files
- External documents (Documents pertaining to products, such as user guides. These are not installed by AutoPatch)

Loader files used to add language seed data to the database may also be translated.

Additional Language Subdirectories

```
                              $GL_TOP


       forms      html       mesg      reports    resource


        US   AR   US   AR    US.msb    US   AR    US   AR
                            AR.msb


            GLXSSBNR.fmx           GLXDBA.rdf


     GLXSSBNR.fmx              GLXDBA.rdf
```

Additional Language Subdirectories

Translated forms and reports files, and installation scripts are stored in their own language specific directories. These directories are identified by a language short name, or directory code. For example, all forms files located under the US directory are in American English while all forms files located under the AR directory are in Arabic.

Message files are not stored in language specific directories. Message files are named according to the language of the messages they contain. For example AR.msb is a file containing messages translated to Arabic.

Multiple Languages in the Database

There are Multi-Lingual Support specific objects in the database:
- **_TL tables store translated information.**
- **_VL views retrieve data in the correct language.**

ORACLE

Multiple Languages in the Database

When using Multi-Lingual Support, translated data are stored in translation tables. These tables are appended with "_TL". For example the FND_APPLICATION table stores information about all of the applications registered with Oracle Application Object Library. There is an FND_APPLICATION_TL table that stores translated information about all the applications registered with Oracle Application Object Library.

There are also views that are appended with "_VL" that use the LANGUAGE column of the _TL tables and the user's session language setting to retrieve data in the correct language.

Module Summary

In this module, you should have learned how to do the following:

- **Describe the Oracle Applications main environment file and its key parameters.**

- **Identify other important environment files.**

- **Identify the languages supported by Release 11*i*.**

- **Describe the process to install an additional language.**

ORACLE

Oracle Applications Environment Files and Languages

Module Discussion

- **Name two variables stored in the <db name>.env file. Explain each variable's purpose.**
- **What is the distinction between NLS and MLS?**
- **Describe the process to install multiple languages.**

ORACLE

Module Practice

Open and review the contents of the Oracle Applications main environment file.

Appendix A: Quizzes

Chapter 6

Module 1 Quiz

1. The Oracle Applications file system contains:
   a) Forms, reports, and code objects
   b) Forms, SQL scripts, and reports
   c) Concurrent programs, triggers, and reports
   d) Concurrent programs, triggers, and ASP files

2. Which of the following servers are components of the Oracle Developer server? (select all that apply)
   a) Forms server
   b) Graphics
   c) HTTP server
   d) Reports server
   e) None of the above

3. The Vision Demo database simulates a real production installation configuration.
   True or False.

Module 2 Quiz

1. Internet computing can be described as a:
   a) Bi-level structure.
   b) Multi-tier framework.
   c) Client-server model.

2. Which of the following provides the Java Virtual Machine (JVM) on the desktop client?
   a) Jinitiator.
   b) Forms client applet.
   c) Forms server.
   d) HTTP server.

3. Which component(s) is found on the database tier? (select all that apply)
   a) Oracle8*i* Server files.
   b) Oracle Applications tables and indexes.
   c) Concurrent Processing server.
   d) Oracle Applications database instance.

4. Which server(s) resides on the application tier? (select all that apply)
   a) Concurrent processing server.
   b) HTTP server.
   c) Reports server.
   d) Data server.
   e) Forms server.
   f) Admin server.

5. The Admin server is used when maintaining Applications database objects.
      True or False.

6. Oracle Self-Service Web Applications use the Forms server to interface with the desktop.
      True or False.

Module 2 Quiz

7. The Applications DBA product provides tools that help in the administration and security of the Oracle Applications file system and database.

   True or False.

8. Which AOL end user features takes advantage of shared flexfield value sets?
   a) Concurrent Job Processor
   b) Process Navigator
   c) Standard Report Submission
   d) Standard user interface

9. In addition to setting and managing system profiles, system administrators can monitor and control concurrent processing using a few simple interfaces.

   True or False.

Module 3 Quiz

1. The two broad categories of database objects used in Oracle8*i* are:
   a) Tables and views.
   b) Data and code.
   c) Data and packages.
   d) Tables and triggers.

2. Which statement about schemas is correct?
   a) A schema is a named collection of database objects.
   b) An Oracle Applications database schema has a one-to-one relationship with a database user.
   c) A schema can allow another schema access to its objects.
   d) All of the above.
   e) None of the above.

3. When you sign on to Oracle Applications, you first connect to the APPS schema.
       True or False.

4. The Global Accounting Engine is used to implement Multiple Organizations.
       True or False.

5. With Multiple Organizations architecture, when you log in to Oracle Applications and you implicitly choose an organization by selecting a responsibility, information from all organizations will be displayed.
       True or False.

6. The Multiple Reporting Currencies (MRC) feature:
   a) Stores the multiple currency data in the primary set of books.
   b) Is not supported in Oracle Projects.
   c) Allows you to maintain accounting records in a functional currency other than your primary functional currency.

Module 3 Quiz

7. Advanced Queuing allows Workflow to enable cross-application integration throughout an organization.

   True or False.

8. Which statement(s) about partitioned tables is correct?

   a) Data are broken down into smaller, more manageable pieces.

   b) Data are not grouped together for better performance.

   c) Are customizable.

9. The Invoker Rights model allows PL/SQL packages to be executed with the privileges of the _____ user.

   a) Creating

   b) Calling

Module 4 Quiz

1. What is the primary purpose of the APPL_TOP directory?

   a) To store HTTP server administration and maintenance files.

   b) To identify the top level directory for the Applications installation.

   c) To store Metrics server process scripts.

   d) All of the above

2. All Oracle Applications products are installed under the APPL_TOP directory.

   True or False.

3. Localizations provide extra Oracle Applications components for use with a particular country or region. Which of these extra components might be required by a localization?

   a) Additional Oracle8*i* server files.

   b) Additional reports.

   c) Additional seed data in the base product tables.

   d) Both b and c.

   e) Both a and c.

4. What is located in the AD directory?

   a) Product files consolidated in a single location for optimal processing.

   b) Log and out directories for upgrade log and output files.

   c) Administrative and maintenance utilities.

5. The applprod.txt and applcust.txt files can be found in the APPL_TOP/admin directory.

   True or False.

6. Oracle Applications Java files exist in three locations. Select the choice with two correct locations.

   a) JAVA_TOP and ORACLE_HOME.

   b) AU_TOP/java and the <PROD>_TOP/java.

   c) AU_TOP/java and DATA_TOP.

Module 4 Quiz

7. The bin subdirectory of a <PROD>_TOP directory may contain:
   a) Concurrent programs.
   b) C language executables.
   c) Shell scripts.
   d) All of the above.
   e) None of the above.

8. There are 4 directories that contain language specific sub directories, name two of them.
   a) Forms and lib.
   b) Help and media.
   c) Forms and reports.
   d) Lib and media.

9. Every product has an "include" directory, which contains header (.h) files.
      True or False.

Module 5 Quiz

1. The variables of the <db name>.env file cannot be changed during installation.

   True or False.

2. The filename of <db name>.env may be different depending on the platform you are running.

   True or False.

3. Which of these variables of the <db name>.env file is valid. The name and purpose of the file should be correct.

   a) AU_TOP: the path to the admin directory.

   b) APPLCSF: the common directory for concurrent manager log and output files.

   c) APPLOUT: the subdirectory for concurrent manager log files.

4. The purpose of the adovars.env file is to specify the location of Java files.

   True or False.

5. What is the name of the file where you specify information about any third-party or custom applications to use them with Oracle Applications?

   a) fndenv.env.

   b) adconfig.txt.

   c) devenv.env.

6. The fndenv.env default values need to be modified for each site.

   True or False.

Module 5 Quiz

7. National Language Support (NLS) is a feature of Oracle Applications that allows Oracle Applications to support a language other than American English.

True or False.

8. Which Oracle Applications components are translated?

a) Reports and HTML files.

b) Messages and menu prompts.

c) Forms and import files.

d) All of the above.

e) None of the above.

9. During the installation process you select the language for Oracle Applications. Rapid install then installs and enables that language version automatically.

True or False.

Appendix B: Quiz Solutions and Practices

Chapter 7

Module 1 Quiz Solutions

1. The Oracle Applications file system contains:

a) Forms, reports, and code objects - Incorrect. Code objects are stored in the database.

b) Forms, SQL scripts, and reports - Correct. All three of these are stored in the file system.

c) Concurrent programs, triggers, and reports - Incorrect. Triggers are stored in the database.

d) Concurrent programs, triggers, and ASP files - Incorrect. Triggers are stored in the database and ASP (active server pages) do not exist in the Applications file system.

2. Which of the following servers are components of the Oracle Developer server? (select all that apply)

a) Forms server - Correct. The Forms server is a component of Oracle Developer.

b) Graphics - Correct. Oracle Graphics is a component of Oracle Developer.

c) HTTP server -Incorrect. The HTTP server is not a component of Oracle Developer.

d) Reports server - Correct. The Reports server is a component of Oracle Developer.

e) None of the above. - Incorrect. Some of these are components of Oracle Developer.

3. The Vision Demo database simulates a real production installation configuration.

True - Correct. The Vision database simulates a real production installation configuration and it can be used for product demonstrations as well as training.

False -Incorrect.

Module 2 Quiz Solutions

1. Internet computing can be described as a:

a) Bi-level structure - Incorrect. Internet computing can be described as a multi-tier framework not a bi-level structure.

b) Multi-tier framework - Correct. Internet computing can be described as a multi-tier framework, that includes the desktop, application and database tiers.

c) Client-server model- Incorrect. Internet computing is structured differently than the client-server model.

2. Which of the following provides the Java Virtual Machine (JVM) on the desktop client?

a) JInitiator - Correct. JInitiator is Oracle's Java Virtual Machine.

b) Forms Client Applet - Incorrect.

c) Forms server - Incorrect.

d) HTTP server - Incorrect.

3. Which component(s) is found on the database tier? (select all that apply)

a) Oracle8i Server files - Correct. Oracle8i Server files are found on the database tier.

b) Oracle Applications tables and indexes - Correct. Oracle Applications tables and indexes are found in the database.

c) Concurrent Processing server - Incorrect. The Concurrent Processing Server is found on the Applications tier not the database tier.

d) Oracle Applications database instance - Correct. An Oracle Applications database instance is found on the database tier.

Module 2 Quiz Solutions

4. Which server(s) resides on the application tier? (select all that apply)

a) Concurrent processing server - Correct. The concurrent processing server resides on the application tier.

b) HTTP server - Correct. The HTTP server resides on the application tier.

c) Reports server - Correct. The Reports server resides on the application tier.

d) Data server - Incorrect. The Data server resides on the database tier.

e) Forms server - Correct. The Forms server resides on the application tier.

f) Admin server - Correct. The Admin server resides on the application tier.

5. The Admin server is used when maintaining Applications database objects.

True - Correct. Some features such as Multi-lingual Support and Multiple Reporting Currencies require regular maintenance. Maintenance ensures that updates are propagated to the additional schemas that the features use. The AD Administration program (adadmin) allows you to perform file system and database maintenance.

False - Incorrect.

6. Oracle Self-Service Web Applications use the Forms server to interface with the desktop.

True - Incorrect.

False - Correct. Oracle Self-Service Web Applications do not use the Forms server to interface with the desktop because they are designed in pure HTML and JavaScript and operate by direct connection to the Web server.

Module 2 Quiz Solutions

7. The Applications DBA product provides tools that help in the administration and security of the Oracle Applications file system and database.

 True - Incorrect.

 False - Correct. The Applications DBA product provides tools that help in the administration of the Oracle Applications file system and database. AOL functionality provides security for Oracle Applications.

8. Which AOL end user features takes advantage of shared flexfield value sets?

a) Concurrent Job Processor - Incorrect. Concurrent Job Processor is not an AOL end user feature.

b) Process Navigator - Incorrect. The Process Navigator utilizes Oracle Workflow to depict each of your business processes with a workflow diagram.

c) Standard Report Submission - Correct. Standard Report Submission takes advantage of shared flexfield value sets.

d) Standard user interface - Incorrect. Standard user interface provides standardized functionality across all Oracle Applications products.

9. In addition to setting and managing system profiles, system administrators can monitor and control concurrent processing using a few simple interfaces.

True - Correct. By using AOL features, the system administrator can manage system profiles and monitor and control concurrent processing by using a few simple interfaces.

False - Incorrect.

Module 3 Quiz Solutions

1. The two broad categories of database objects used in Oracle8*i* are:

a) Tables and views - Incorrect. Tables are an example of a data object and views are an example of a code object.

b) Data and code - Correct. Data objects and code objects are the two broad categories of database objects used in Oracle8*i*.

c) Data and packages - Incorrect. Data objects are a type of database object but packages are an example of a code object.

d) Tables and triggers - Incorrect. Tables are an example of a data object and triggers are an example of a code object.

2. Which statement about schemas is correct?

a) A schema is a named collection of database objects. - Correct. A schema is a named collection of database objects.

b) An Oracle Applications database schema has a one-to-one relationship with a database user. - Correct. Oracle database schemas have a one-to-one relationship with a database user.

c) A schema can allow another schema access to its objects. - Correct. A schema can allow another schema to access its objects.

d) All of the above - Correct. All of the statements are correct.

e) None of the above - Incorrect.

3. When you sign on to Oracle Applications, you first connect to the APPS schema.

True - Incorrect.

False - Correct. You first connect to the APPLSYSPUB schema for user/password validation then you select a responsibility. Once you select a responsibility you are connected to the APPS schema.

Module 3 Quiz Solutions

4. The Global Accounting Engine is used to implement Multiple Organizations.

True - Incorrect.

False – Correct. The AD Administration utility is used to implement Multiple Organizations.

5. With Multiple Organizations architecture, when you log in to Oracle Applications and you implicitly choose an organization by selecting a responsibility, information from all organizations will be displayed.

True - Incorrect.

False – Correct. When an organization is chosen, either implicitly or explicitly, only information specific to that organization is displayed.

6. The Multiple Reporting Currencies (MRC) feature:

a) Stores the multiple currency data in the primary set of books - Incorrect. The MRC stores multiple currency data in a secondary (or reporting) set of books.

b) Is not supported in Oracle Projects - Incorrect. MRC is supported for Oracle Projects.

c) Allows you to maintain accounting records in a functional currency other than your primary functional currency - Correct. MRC allows you to maintain records in a functional currency other than your primary functional currency.

Module 3 Quiz Solutions

7. Advanced Queuing allows Workflow to enable cross-application integration throughout an organization.

True - Correct. Advanced Queuing allows Workflow to enable cross-application integration throughout an organization while maintaining reliable and scalable performance.

False - Incorrect.

8. Which statement(s) about partitioned tables is correct? (select all that apply)

a) Data are broken down into smaller, more manageable pieces. -Correct. Data in partitioned tables are broken down into smaller, more manageable pieces.

b) Data are not grouped together for better performance. - Incorrect. Data are grouped together in partitioned tables providing better availability and performance.

c) Are customizable. - Correct. Partitioned tables are customizable.

9. The Invoker Rights model allows PL/SQL packages to be executed with the privileges of the ____ user.

a) Creating - Incorrect.

b) Calling - Correct. Invoker Rights allows programs to be executed with the privileges of the calling user.

Module 4 Quiz Solutions

1. What is the primary purpose of the APPL_TOP directory?

a) To store HTTP server administration and maintenance files. - Incorrect. HTTP server administration and maintenance files are stored in the iAS_TOP directory.

b) To identify the top-level directory for the Applications installation. - Correct.

c) To store server process scripts. - Incorrect. Server process scripts are not stored under APPL_TOP. They are stored in COMN_TOP.

d) All of the above - Incorrect.

2. All Oracle Applications products are installed under the APPL_TOP directory.

True - Correct. All Oracle Applications products, licensed or not, are installed under the APPL_TOP directory.

False - Incorrect.

3. Globalizations provide extra Oracle Applications components for use with a particular country or region. Which of these extra components might be required by a Globalization product?

a) Additional Oracle8*i* server files - Incorrect. Additional Oracle8i server files are not provided with Globalizations.

b) Additional reports - Incorrect. Although additional reports may be required, there are other components also may be required.

c) Additional seed data in the base product tables. - Incorrect. Although additional seed data in the base product tables may be required, there are other components that may be required.

d) Both b and c - Correct. Additional reports and seed data in the base product tables are two of the four components that might be required by a Globalizations product.

e) Both a and c - Incorrect. Additional Oracle8*i* server files are not provided with Globalizations.

Module 4 Quiz Solutions

4. What is located in the AD directory?

a) Product files consolidated in a single location for optimal processing - Incorrect. The au directory contains product files consolidated in a single location for optimal processing

b) Log and out directories for upgrade log and output files - Incorrect. These files are stored in the admin/<SID> directory.

c) Administrative and maintenance utilities - Correct. The AD directory contains utilities such as AutoUpgrade, AutoPatch and AD Administration.

5. The applprod.txt and applcust.txt files can be found in the APPL_TOP/admin directory.

True - Correct. The applprod.txt file describes products available in this release and the applcust.txt file describes registered customizations and they are located in the admin directory.

False - Incorrect.

6. Oracle Applications Java files exist in three locations. Select the choice with two correct locations.

a) JAVA_TOP and ORACLE_HOME - Incorrect. Oracle Applications Java files are not stored directly under ORACLE_HOME.

b) AU_TOP/java and the <PROD>_TOP/java - Correct. The AU_TOP/java and the /java product subdirectory both store Java files

c) AU_TOP/java and DATA_TOP - Incorrect. The DATA_TOP directory does not store java files.

Module 4 Quiz Solutions

7. The bin subdirectory of a <PROD>_TOP directory may contain:

a) Concurrent programs - Incorrect. Although concurrent programs are stored in the bin directory, there are other files stored in it as well

b) C language executables - Incorrect. Although C language executables are stored in the bin directory, there are other files stored in it as well

c) Shell scripts - Incorrect. Although shell scripts are stored in the bin directory, there are other files stored in it as well

d) All of the above - Correct. All of the above programs and scripts are stored in the bin directory

e) None of the above - Incorrect. All of the above programs and scripts are stored in the bin directory

8. There are 4 directories that contain language specific sub directories, name two of them.

a) Forms and lib - Incorrect. The lib directory does not contain a language specific subdirectory

b) Help and media - Incorrect. The media directory does not contain a language specific subdirectory

c) Forms and reports - Correct. Both the forms and reports directories contain language specific subdirectories.

d) Lib and media - Incorrect. Neither the lib nor media directories contain a language specific subdirectory

9. Every product has an "include" directory, which contains header (.h) files.

True - Incorrect.

False - Correct. Some products do not have an include directory which contains header (.h) files.

Module 5 Quiz Solutions

1. The variables of the <db name>.env file cannot be changed during installation.

True - Incorrect.

False - Correct. Some of the variables can be changed during the installation process.

2. The filename of <db name>.env may be different depending on the platform you are running.

True - Correct. On Unix, the default file name is <db name>.env and on NT, <db name>.cmd, where <db name> is the name of your database.

False - Incorrect.

3. Which of these variables of the <db name>.env file is valid. The name and purpose of the file should be correct.

a) AU_TOP: the path to the admin directory - Incorrect. The AU_TOP is the path to the Applications Utilities directory.

b) APPLCSF: identifies the common directory for concurrent manager log and output files. - Correct. APPLCSF identifies the common directory for concurrent manager log and output files.

c) APPLOUT: the subdirectory for concurrent manager log files. - Incorrect. APPLOUT is the subdirectory for concurrent manger output files.

Module 5 Quiz Solutions

4. The purpose of the adovars.env file is to specify the location of Java files.

True - Correct. The adovars.env file specifies the location of Java files, as well as HTML files.

False - Incorrect.

5. What is the name of the file where you specify information about any third-party or custom applications to use them with Oracle Applications?

a) fndenv.env - Incorrect. The fndenv.env sets additional environment variables used by Oracle Applications Application Object Library.

b) adconfig.txt - Incorrect. The adconfig.txt stores certain configuration information used to run a variety of database and file management tasks.

c) devenv.env - Correct. The devenv.env is used to identify and describe third-party and custom applications linked with Oracle Applications.

6. The fndenv.env default values need to be modified for each site.

True - Incorrect.

False - Correct. The fndenv.env file sets additional environment variables used by Oracle Applications and the default values should not be modified.

Module 5 Quiz Solutions

7. National Language Support (NLS) is a feature of Oracle Applications that allows Oracle Applications to support a language other than American English.

True - Correct. National Language Support (NLS) allows Oracle Applications to be run in a language other than American English. 29 languages are currently available.

False - Incorrect.

8. Which Oracle Applications components are translated?

a) Reports and HTML files - Incorrect. These are both translated, however, there are other possible combinations of translated files.

b) Messages and menu prompts - Incorrect. Both messages and menu prompts are translated, however, there are other possible combinations of translated files.

c) Forms and import files - Incorrect. The forms .fmb files are translated as are some loader import files. However, there are other possible combinations of translated files.

d) All of the above. Correct. All of the files listed above may be translated.

e) None of the above. Incorrect.

9. During the installation process you select the language for Oracle Applications. Rapid install then installs and enables that language version automatically.

True - Incorrect.

False - Correct. Rapid install installs the English language version first then enables other languages. You then use the AutoPatch utility to install the selected language.

Module 2 Practice

Module 2 Practice: Starting and Stopping Server Processes

When Rapid Install installs Oracle Applications, it configures and starts all
server processes. In this practice, you start and stop server processes
manually.

INSTRUCTIONS:

- Login as the default Applications user (applmgr).
  Ask your instructor for the default Applications user id for the pre-staged
  system.

- Run the consolidated Applications environment file.
  This file is located in the APPL_TOP and is called APPSORA.env.

  For UNIX users:

  ```
  $ cd $APPL_TOP
  $. APPSORA.env
  ```

  For NT users:

  Run APPSORA.cmd (in %APPL_TOP%). Verify that APPL_CONFIG is
  set to the name of the product group registry subkey:

  ```
  $ echo %APPL_CONFIG% e APPL_TOP directory.
  ```

  Note: Ask your instructor for the absolute path to APPL_TOP of the pre-
  staged system.

- Navigate to the COMMON_TOP/admin/scripts directory.

  COMMON_TOP is not a defined environment variable. As the direct path
  to COMMON_TOP for the pre-staged system may vary from class to
  class, ask your instructor for this directory path.

- List the files in this directory.

  Use the "ls" command to see the files in this directory. Each server
  process for the application (middle) tier is owned by the default
  Applications user and has a server process script. The scripts are:

Module 2 Practice

Module 2 Practice: Starting and Stopping Server Processes (cont.)

Server Process	UNIX Script	NT Script	Owner
Forms Server Listener	adfrmctl.sh	adfrmctl.cmd	applmgr
Forms Metrics Server	adfmsctl.sh	adfmsctl.cmd	applmgr
Forms Metrics Client	adfmcctl.sh	adfmcctl.cmd	applmgr
Report Review Agent	adalnctl.sh	adalnctl.cmd	applmgr
Reports Server	adrepctl.sh	adrepctl.cmd	applmgr
TCF SocketServer	adtcfctl.sh	adtcfctl.cmd	applmgr
Concurrent Managers	adcmctl.sh	adcmctl.cmd	applmgr
HTTP Server	adapcctl.sh	adapcctl.cmd	applmgr

- Stop the Forms server listener.

  The file header for each script contains instructions on how to run the script. Use the following command to stop the Forms server listener:

  For UNIX:

  ```
  $ adfrmctl.sh stop
  ```

  For NT:

  ```
  C:\> adfrmctl.cmd stop
  ```

- Restart the Forms server listener.

  Use the following command to start the Forms server listener:

  For UNIX:

  ```
  $ adfrmctl.sh start
  ```

  For NT:

  ```
  C:\> adfrmctl.cmd start
  ```

- Examine the formats of the other server process scripts and, if time permits, use them to stop and start the various server processes listed in the table above.

Module 3 Practice

Module 3 Practice: Starting and Stopping the Database

When Rapid Install installs Oracle Applications, it configures and starts the database. In this practice, you start and stop the database using the Rapid Install provided scripts.

INSTRUCTIONS:

- Login as the default database user (oracle).
  In most classroom systems the default database user is the same as the default Applications user.
- Run the 8.1.7 ORACLE_HOME environment file.
  This file is located in the database ORACLE_HOME and is called <db name>.env.
- Navigate to the database ORACLE_HOME/appsutil/scripts directory.
- List the files in this directory.
  Use the "ls" command to see the files in this directory. The scripts are:

Script	UNIX Script	NT Script	Owner
Net8 Listener for Oracle8*i*	addlnctl.sh	addlnctl.cmd	oracle
Oracle 8*i* database server	addbctl.sh	addbctl.cmd	oracle

The addlnctl.sh script starts and stops the Net8 listener and the addbctl.sh script starts and stops the database.

- Stop the database.
  The file header for each script contains instructions on how to run the script. Use the following command to stop the database:
  For UNIX:
  `$ addbctl.sh stop normal`
  For NT:
  `C:\> addbctl.cmd stop normal`
- Restart the database.
  Use the following command to start the database:
  For UNIX:
  `$ addbctl.sh start`
  For NT:
  `C:\> addbctl.cmd start`
- Examine the format of the Net8 listener process script and, if time permits, use it to stop and start the listener process.

Module 4 Practice

Module 4 Practice: Navigate the File System

In this practice, you navigate throughout the file system created by Rapid Install to review the file system configuration of Oracle Applications Release 11*i*.

INSTRUCTIONS:

- Login as the default Applications user.
- Run the consolidated Applications environment file.
  This file is located in the APPL_TOP and is called APPSORA.env.

  For UNIX users:

  ```
  $ cd $APPL_TOP
  $. APPSORA.env
  ```

  For NT users:

  Run APPSORA.cmd (in %APPL_TOP%). Verify that APPL_CONFIG is set to the name of the product group registry subkey:

  ```
  $ echo %APPL_CONFIG% e APPL_TOP directory.
  ```

- List the directories and files in this directory.

  Use the "ls" command to see the directories and files in this directory. There is a <PROD>_TOP for each product available with Oracle Applications.

- Review the directory structure for a product.
  All Oracle Applications products share virtually the same directory structure. Go to the AD_TOP directory to review the directory structure for the AD product.

  For UNIX users:

  ```
  $ cd $AD_TOP
  ```

  For NT users:

  ```
  C:\> cd %AD_TOP%
  ```

- Review the AD utilities in AD_TOP/bin.
  The use of many of the AD utilities will be covered in later sections of this course.

- Navigate to COMMON_TOP.
  As mentioned previously, COMMON_TOP is not a defined environment variable. As the direct path to COMMON_TOP for the pre-staged system may vary from class to class, ask your instructor for this directory path. If the file system configuration is that of a standard Oracle Applications installation, you can navigate to OA_HTML then up one level to find COMMON_TOP.

Module 4 Practice

Module 4 Practice: Navigate the File System (cont.)

For UNIX users:

```
$ cd $OA_HTML
$ cd ..
```

For NT users:

```
C:\> cd %OA_HTML%
C:\> cd ..
```

- Review the contents of COMMON_TOP.
- Navigate to JAVA_TOP and review the contents.
  For UNIX users:

```
$ cd $JAVA_TOP
```

  For NT users:

```
C:\> cd %JAVA_TOP%
```

- Navigate to the tools ORACLE_HOME.
  This is the 8.0.6 ORACLE_HOME for the Oracle Developer products.
  For UNIX users:

```
$ cd $ORACLE_HOME
```

  For NT users:

```
C:\> cd %ORACLE_HOME%
```

Module 5 Practice

Module 5 Practice: Review the Environment File

In this practice, you review the contents of the Applications environment file.

INSTRUCTIONS:

- Login as the default Applications user.
- Run the consolidated Applications environment file.
  This file is located in the APPL_TOP and is called APPSORA.env.

  For UNIX users:

  ```
  $ cd $APPL_TOP
  $. APPSORA.env
  ```

  For NT users:

  Run APPSORA.cmd (in %APPL_TOP%). Verify that APPL_CONFIG is
  set to the name of the product group registry subkey:

  ```
  $ echo %APPL_CONFIG% e APPL_TOP directory.
  ```

- Open the main Applications environment file and view the contents.

  The main Applications environment file is called <db name>.env and is
  located directly under APPL_TOP. <db name> is the name of your
  system's database.

- Determine the NLS parameters.
  The main Applications environment file contains parameters specific to
  NLS. These are located in the section titled "National Language Support
  environment variables".

- View adovars.env.
  adovars.env is located in APPL_TOP/admin. Review this environment file
  and its contents.

Appendix C: Products Available for Release 11i

Chapter 8

Appendix C: Products Available for Release 11i

Products Available for Release 11*i*

The following table lists the products available for Release 11*i*, the product abbreviation, and the product family in which it belongs.

Product Family	Abbreviation	Product Name
Applications Technology	AD	Applications DBA
	AK	Oracle Common Modules
	ALR	Oracle Alert
AD, AU, FND, SHT are in the APPLSYS schema (Sizing is stated in AD)	AU	Applications Utilities
	AZ	Application Implementation Wizard
AD, AU, FND, SHT are in the APPLSYS schema (Sizing is stated in AD)	FND	Application Object Library
	ICX	Self-Service Web Applications
AD, AU, FND, SHT are in the APPLSYS schema (Sizing is stated in AD)	SHT	Shared Technology
CRM	AMS	Marketing
	AMV	Marketing Encyclopedia System
in the OSM schema	AS	Oracle Sales and Marketing
	ASF	Field Sales
	ASG	Gateway for Mobile Devices
	ASL	Mobile Field Sales Laptop
	ASO	Order Capture
	AST	TeleSales
	BIC	Customer Intelligence
	BIL	Sales Intelligence
	BIM	Marketing Intelligence
	BIX	Call Center Intelligence
	CCT	Telephony Manager
	CN	Oracle Sales Compensation
	CS	Oracle Service
	CSC	Customer Care
	CSD	Depot Repair
	CSF	Field Service

Product Family	Abbreviation	Product Name
	CSP	Spares Management
	CSR	Scheduler
	CSS	Support
	CUA	CRL Financials - Assets
	CUF	CRL Financials
	CUI	CRL SupplyChain - Inventory
	CUN	CRL SupplyChain - NATS
	CUP	CRL SupplyChain - Purchasing
	CUS	CRL SupplyChain
	FPT	TeleBusiness for Financial Services
	IBA	iMarketing
	IBE	iStore
	IBP	iBill and Pay
	IBU	iSupport
	IBY	iPayment
	IEB	Interaction Blending
	IEM	eMail Center
	IEO	Call Center Technology
	IES	Scripting
	IEU	Universal Work Queue
	IEX	Collections
	IPA	CRL Financials - Projects
	JTF	CRM Foundation
	ME	Maintenance, Repair, and Overhaul
	MWA	Mobile Applications
	OKC	Contracts Core
	OKS	Contracts Service Module
	OKX	Contracts Integration
	OZF	Funds & Budgets
	OZP	Trade Planning

Product Family	Abbreviation	Product Name
	OZS	iClaims
	PV	Oracle Partner Relationship Management
	XDP	SDP Provisioning
	XNC	Sales for Communications
	XNM	Marketing for Communications
	XNP	SDP Number Portability
	XNS	Service for Communications
Financials	ABM	Activity-based Management
	AP	Oracle Accounts Payable
	AR	Oracle Accounts Receivable
	AX	Global Accounting Engine
	BSC	Balanced Scorecard
	CE	Oracle Cash Management
	EAA	SEM Exchange
	EVM	Value-based Management
	FA	Oracle Assets
	FEM	Strategic Enterprise Management
	FII	Financial Intelligence
	FRM	Report Manager
	FV	Federal Financials
	GL/RG	Oracle General Ledger
	PA	Oracle Projects
	PN	Property Manager
	RG	Report Generator
	XLA	Common Accounting Modules
	XTR	Treasury
Human Resources	BEN	Benefits
	DT	DateTrack (in HR schema)
	FF	FastFormula (in HR schema)
	GHR	Government Human Resources (in HR schema)
	HRI	Human Resources Intelligence

Product Family	Abbreviation	Product Name
	HXC	Time Capture
	HXT	Time Management
	OTA	Human Resources (Training)
DT, FF, GHR, PAY, PER, PQH, PQP in HR schema	PAY (default=HR)	Human Resources (Payroll) (in HR schema)
	PER (default=HR)	Oracle Human Resources (Personnel) (in HR schema)
	PQH	Public Sector HR (in HR schema)
	PQP	Public Sector Payroll (in HR schema)
	SSP	Oracle Statutory Sick Pay
Localizations	JA	Financials for Asia/Pacific
	JE	Financials for Europe
	JG	Regional Financials
	JL	Oracle Financials for Latin America
Manufacturing / Distribution	BIS	Business Intelligence System
	BOM	Oracle Bills of Material
in the PO schema	CHV	Oracle Supplier Scheduling
	CRP	Oracle Capacity
in BOM schema	CST	Oracle Cost Management
	CZ	Oracle Product Configurator
	EC	Oracle e-Commerce Gateway
	ECX	Oracle XML Gateway
	ENG	Oracle Engineering
	FLM	Flow Manufacturing
	INV	Oracle Inventory
	ISC	Supply Chain Intelligence
	MFG	Manufacturing Menu
	MRP	Master Scheduling
	MSC	Supply Chain Planning
	MSD	Demand Planning
	MSO	Constraint Based Optimization
	OE	Order Entry

Product Family	Abbreviation	Product Name
	OKE	Contracts for Projects
	ONT	Order Management
	OPI	Operations Intelligence
	PJM	Project Manufacturing
	PO	Oracle Purchasing
	POA	Purchasing Intelligence
	POM	Exchange
	QA	Quality
	QP	Advanced Pricing
	RHX	Advanced Planning Foundation
	RLA	Release Management
	RLM	Release Management
	VEA	Automotive
	VEH	Automotive
	WIP	Work in Process
	WMS	Warehouse Management Systems
	WPS	Manufacturing Scheduling
	WSH	Shipping Execution (Common)
	WSM	Shop Floor Management
Process Manufacturing	GMA	Process Manufacturing Systems
	GMD	Processing Manufacturing Product Development
	GME	Process Manufacturing Process Execution
	GMF	Process Manufacturing Financials
	GMI	Process manufacturing Inventory
	GML	Process Manufacturing Logistics
	GMP	Process Manufacturing Process Planning
	GR	Process Regulatory Management
	PMI	Process Manufacturing Intelligence
Public Sector	GMS	Grants Management
	IGC	Commitment Administration
	IGF	Student Systems Financial Aid

Product Family	Abbreviation	Product Name
	IGS	Oracle Student Systems
	IGW	Grants Proposal
	PSA	Public Sector Applications
	PSB	Public Sector Budgeting
	PSP	Labor Distribution

Appendix D: Glossary

Chapter 9

Appendix D: Glossary

-B-

background process
A non-interactive process that runs in an operating system environment and performs a task.

bitmap
Definition of a physical bit image on a coordinate plane. A bitmap has a height, width, and vertical and horizontal resolution.

-C-

character mode
An interface in which users access screen fields and regions through menus or keystrokes. Contrast *GUI*.

character set
A set of encoded binary values that represent the letters, numerals, and punctuation marks of a language, or of a group of languages that use similar written symbols. For example, the WE8ISO8859P1 character set can be used by English and many other languages that use a Latin-based alphabet and Arabic numerals. Terminals and printers handle text data by converting these encoded values to characters. A character set may also be called a *codeset*.

client
A general term for a computer that requires the services, data, or processing of another computer. See *client/server architecture*.

client/server architecture
A computing arrangement in which one or several servers perform database processing for applications that are run on clients. Contrast *multi-tier architecture*.

command
An instruction or request for the system to perform a particular action. An entire command can consist of the command name, parameters, and qualifiers.

concurrency
The simultaneous access of the same data by multiple users.

concurrent manager
A process manager on the Applications database server that coordinates the concurrent processes generated by users' concurrent requests. See also *concurrent processing facility*.

concurrent process
A task run by a concurrent manager. A concurrent process runs simultaneously with interactive functions and other concurrent processes.

concurrent processing facility
An Oracle Applications facility that runs time-consuming, non-interactive tasks in the background.

concurrent processing server
A machine on which concurrent processing facilities are run.

concurrent queue

A list of concurrent requests awaiting completion. Each concurrent manager has its own queue of pending requests.

concurrent request
A request issued to the concurrent processing facility when you submit a non-interactive task, such as running a report.

customization
The process of tailoring an Oracle Applications system to the needs of a specific user community.

-D-
data dictionary
A set of tables and views that contains administrative information about users, data storage, and privileges. It is created and maintained automatically.

database
A set of operating system files in which an Oracle Server stores a set of data dictionary tables and user tables.

database instance
A running ORACLE system. There is always a one-to-one correspondence between an ORACLE instance and a system global area (SGA).

database object
A logical entity created and stored in a database. Tables, views, synonyms, indexes, sequences, and stored procedures are all examples of database objects.

DBA
A database administrator responsible for the maintenance of the Oracle Server and the database objects of Oracle Applications.

demonstration product group
A product group that includes predefined transaction data for Oracle Applications products. It is used primarily for system testing and user training. See also *product group*.

desktop client
A machine on a user's desktop that sends requests for data and then displays the results. In Release11i, the desktop client runs the Oracle Forms client Java applet using a Java-enabled web browser or appletviewer, which sends user requests to the forms server and handles its responses. JInitiator is another option.

-E-
environment variable
A variable maintained by the UNIX shell that can be referenced by any program running within the shell. Environment variables hold values used by many Oracle programs and utilities.

extension
The second part of the full file specification used to indicate the type or purpose of the file. For example, the extension ".sql" indicates a SQL script. See also *filename*.

-F-

Appendix D: Glossary

filename
The name component of a file specification. A filename is assigned by either the user or the system when the file is created. See also *extension*.

form
A logical collection of fields, regions, and zones that appears on a single screen. Oracle Applications forms resemble paper forms used to run a business. You enter data by typing information into the form.

Forms Cartridge Handler
An Oracle Web Application Server cartridge that parses a dynamic initial HTML file used for launching the Oracle Forms client Java applet. When a user invokes the initial HTML page from a web browser or appletviewer, the Forms Cartridge Handler reads in the HTML file and substitutes values for items that may differ among users. For example, it can choose the least-loaded forms server to run the Applications forms. The results of parsing the HTML file are then sent to the requesting user's web browser or appletviewer.

Forms Server listener
A process that continuously runs on a forms server that handles requests to display Oracle Forms form files. These requests are sent from the Oracle Forms client Java applet running on a desktop client.

forms server
A specific type of application server that hosts the Oracle Forms Server engine. This server processes end-user requests by sending messages directly back to the client or by making requests for data to the Applications database server. Data is, in turn, cached on the forms server and provided to the client as needed.

-G-
GUI
Graphical User Interface (Also known as a *bit-mapped interfac*e). An interface used with personal computers and workstations that allows the user to access fields and regions of the screen with a pointing device, typically a mouse. Contrast *character mod*e.

-H-
HTTP
hyper-text transfer protocol is a protocol used to access different types of resources on the internet.

HTTPS
An encrypted version of HTTP implemented through the Secure Socket Layer, SSL, standard. The encrypted secure connection is created by running an ordinary HTTP connection on top of an encrypted SSL connection. Except for this, HTTPS is like HTTP.

hypertext
A document format that contains links leading to other information or other documents. Also see *World Wide Web*.

-J-
Java Archive (JAR) file
A platform-independent file format that allows you to bundle a Java applet and its requisite components (.class files, images and sounds) into a single file

Java applet

A program, typically small in size, written in the Java programming language that is downloaded and run by a web browser or appletviewer.

JDBC (Java Data Base Connectivity)
Java Database Connectivity is a standard SQL database access interface, providing uniform access to a wide range of relational databases. It also provides a common base on which higher level tools and interfaces can be built.

Java Release Infrastructure (JRI) - an environment utilized by Oracle Applications for the purpose of developing, releasing, patching and maintaining Oracle Applications Java code.

-L-
LAN
Local Area Network. A limited-distance, high-speed, data communications network that allows various data processing resources to be connected and shared. Contrast *WAN*.

LOCAL
For Windows platforms, this parameter specifies the SQL*Net database alias to use when no communications driver is specified upon loading an Oracle tool.

log in (verb)
To perform a sequence of actions that establishes communication with the operating system and sets up default characteristics for the session. Also called *signing on*.

-M-
Megabyte (MB)
A unit of memory or disk space equal to 1,048,576 bytes (1024 x 1024). Often rounded to one million bytes.

multiple sets of books
See *set of books*.

Multiple Organization Architecture (Multi-Org)
A single installation of any Oracle Applications product to support any number of organizations or different sets of books. The data contained in product schemas is for all organizations, and is partitioned by the ORG_ID column in tables.

multi-tier architecture
The underlying architecture of Release 11i. The architecture consists of desktop clients requesting information from application servers (including forms servers) that mediate connections to the Applications database server. Contrast *client/server architecture*.

-N-
Net8
Net8 is the follow-on networking product to SQL*Net version 2. Net8 facilitates and manages communication sessions between a client application and a remote database.

node - Used to describe a physical machine in the Applications environment. Previously used names include host and machine.

-O-

operating system
The computer software that performs basic tasks such as allocating memory and allowing computer components to communicate.

ORACLE
An Oracle Server database. This generally refers to a database and the objects it contains, not to the Oracle Server executable files.

Oracle Applications System Administrator
The person responsible for administering Oracle Applications security and tailoring system operation.

Oracle Installer
The program previously used to install most Oracle products. Oracle Applications Release 11i and Oracle 8i uses the Universal Installer. See *Universal Installer*.

Oracle Server
The database management system sold by Oracle Corporation. The term refers in general to the product executable files and/or the ORACLE databases created through those files.

ORACLE_SID
An environment variable that identifies an ORACLE database.

-P-

parameter
An object of a command. A parameter can be a file specification, a symbol value passed to a command procedure, or a word defined by the operating system.

password
An identification word associated with a username. A user must supply a password to access an ORACLE database or an Oracle Applications system.

patch driver
A file read by AutoPatch that lists the actions required to apply a patch or release update. Examples of actions include copying a file, generating a form, or running a SQL script.

platform
Any individual operating system. Although most Oracle Applications procedures are the same across platforms, some procedures vary. The latter procedures are called *platform-specifi*c.

PL/SQL
A procedural extension of SQL that provides programming constructs such as blocks, conditionals, and procedures.

Product Family - Represents a group of related products. Examples of Product families are Financials, Manufacturing, Human Resources.

product group
A set of Oracle Applications products that uses a single installation of Oracle Application Object Library tables. Each product group can contain any number of Applications products.

Product Installation group - Refers to Multiple set of books architecture.

prompt

Words presented on the terminal screen to assist a user's data entry.

-Q-

queue
A line of items waiting to be processed.

-R-

report
An organized display of Oracle Applications information. A report can be viewed online or sent to a printer. The content of a report can range from a summary to a complete listing of values.

-S-

server - Used to describe the components of the Technology Stack: Administration server, Forms server, eb server, and Concurrent Manager (node) server.

set of books
An organization or group of organizations within Oracle Applications that shares a common Accounting Flexfield structure, calendar, and functional currency. You must define at least one set of books for each business location.

SGA
System Global Area. Memory that provides communication between all database users and the ORACLE background processes.

short name
An abbreviation for an Oracle Applications product (such as *gl* for Oracle General Ledger) or an Oracle Applications language (such as *brapor* for Brazilian Portuguese).

shut down (verb)
The process of stopping a running instance to make a database unavailable, including closing and dismounting a database if one has been mounted and opened.

SmartClient
Client Server architecture environment of Release 10SC.

spawned process
A background process initiated by a running program. These include programs run by concurrent managers and SQL*Net listeners.

SQL
Structured Query Language. An internationally standard language used to access data in a relational database. The acronym is pronounced "sequel."

SQL*Loader
An Oracle Server tool used to load data from operating system files into Oracle Server database tables.

SQL script
A file containing SQL statements that can be run through SQL*Plus to perform queries or database administration and installation tasks.

Standard Request Submission
A standard interface in Oracle Applications that lets you run and monitor concurrent requests.

subdirectory
A directory that is contained within another directory.

synonym
An alias for a table, view, sequence, or program unit that masks the real name and owner of the object, provides public access to the object, and simplifies SQL statements for database users.

syntax
The orderly system by which commands, qualifiers, and parameters are arranged together to form valid command strings.

SYS schema
One of two standard DBA usernames automatically created with each database (the other is SYSTEM). SYS owns the base data dictionary tables and views.

system administrator
See *Oracle Applications system administrato*r.

SYSTEM schema
One of two standard usernames automatically created with each database (the other is SYS). The SYSTEM username is the preferred username to use when performing database maintenance.

SYSTEM.DUAL table
A necessary table that contains exactly one row. It is used as a "dummy" table to guarantee a known result, such as "true."

-T-

table

The basic unit of storage in a relational database management system. A table represents entities and relationships, and consists of one or more units of information (rows), each of which contains the same kinds of values (columns).

tablespace

A logical portion of an Oracle Server database used to allocate storage for data and to group related logical structures. For example, one tablespace may group all of an application's database objects.

TCP/IP

TCP/IP is a layered set of protocols. The main ones being the file transfer protocol (FTP) and the internet protocol (IP). TCP is a network protocol that allows a user on any computer to get files from another computer, or to send files to another computer. IP is a protocol that provides the basic service of getting "data" to their destination

temporary tablespace

A tablespace used when a SQL statement requires the creation of temporary segments (for example, the creation of an index).

tier - Used to describe the three layers of the Internet Computing Architecture: Database tier, Applications tier, and Desktop Client tier.

transaction processing option

An Oracle Server option for handling a large volume of transactions with a high amount of concurrency.

-U-

URL

Uniform Resource Locator. An address used to uniquely identify a document on the World Wide Web. An example of a URL is **http://www.oracle.co**m.

user exit

A program related to a form. Users invoke it to perform tasks outside the scope of the form.

username

A name that grants access to an Oracle Server database schema and defines which database objects the user can manipulate. Every username is associated with a password.

-V-

view

A custom-tailored presentation of the data in one or more tables. A view can be thought of as a "stored query."

virtual directory

Part of a URL that indicates the location of a document on a web server. The web server translates the virtual directory, entered by the user, to a physical location on the machine's file system.

-W-
WAN
Wide Area Network. A long-distance, low-speed (typically 128 Kbps or slower), data communications network that allows various data processing resources to be connected and shared. Contrast *LA*N.

web browser
A program used to retrieve and display documents on the World Wide Web. Netscape Navigator and Microsoft Internet Explorer are the most common web browsers.

web client
A machine on which a user is running a web browser or appletviewer. See also *desktop client.*

web listener
The main component of a web server program that runs as a background process, accepting incoming requests and returning the requested data or document.

web server
A program that accepts requests to retrieve and display documents on the World Wide Web. The requests are typically sent by a web browser, and may be processed by additional programs before being passed to the web listener. The term "web server" may be used to denote either this program *or* the actual machine on which the software is running.

World Wide Web (WWW)
A network of machines running web servers that provide access to hypertext documents. The network may consist of machines on the Internet, a corporate *intrane*t, or a combination of both. Also called simply *"the We*b."

Preparing for Installation

Chapter 10

11*i* Oracle Applications Install

Before you begin this course, you should have the following qualifications:

- Knowledge of Internet Computing Architecture
- Completion of 11*i* Oracle Applications Architecture is highly recommended

How this course is organized:

Oracle Applications Install is an instructor-led course featuring lecture, written practice sessions and hands-on exercises.

This course takes a platform-generic approach. When appropriate, NT or UNIX specific information is presented. Many environment variables such as APPL_TOP are stated as such. For a UNIX environment assume that it is $APPL_TOP and for NT %APPL_TOP%.

The *Installing Oracle Applications* manual is a highly recommended companion to this course.

Course Modules

- **Preparing for Installation**
- **Single-Node Installation**
- **Multi-Node Installation**
- **Post-Installation Steps**

Module 1

Preparing for Installation

11*i* Oracle Applications Install

ORACLE

Objectives

At the end of this module, you should be able to do the following:

- **Identify the benefits provided by Rapid Install**
- **Outline the Rapid Install installation process**
- **Describe the Release 11*i* default environment**

Preparing for Installation

Module Overview

This module comprises the following topics:
- **Rapid Install**
- **Applications components**
- **Installation environments**
- **Technology stack**
- **ORACLE_HOME directories**
- **Single-node installation**
- **Multi-node installation**

ORACLE

Overview

In this first module we discuss the Rapid Install and its role in the installation of Oracle Applications Release 11*i*. The subjects in this module are:

- Rapid Install
- Oracle Applications components
- Installation environments
- Technology stack
- ORACLE_HOMEs

We also cover the differences between the single-node and the multi-node installations and review the steps necessary to perform these installations.

Technical note: In Release 11*i*, additional tools are required to maintain Oracle Applications on Windows NT. The following software must be installed at the customer site:

- Microsoft Visual C++ version 6.0 + Service Pack 3 or higher (http://www.microsoft.com)
- MKS Toolkit version 6.1a or higher (http://www.mks.com)
- gnu make (shareware) version 3.77 or higher (http://www.gnu.org)

Rapid Install

The Rapid Install utility:
- **Automates many of the steps required for installing Oracle Applications, Release 11*i***
- **Simplifies both single-node and multi-node installations**
- **Creates, installs, and configures all of the components needed for your environment**
- **Reduces the number of certification issues**

ORACLE

Rapid Install

For Release 11, we introduced the One-hour Install. This utility significantly simplified and shortened the time required to perform an Oracle Applications installation. The natural evolution of this utility has resulted in the Rapid Install.

Rapid Install is the only supported method of installing Oracle Applications for Release 11*i*. The Rapid Install utility:

- Automates many of the steps required for installing Oracle Applications, Release 11*i*.
- Simplifies both single-node and multi-node installations.
- Creates, installs, and configures all of the components needed for your environment.
- Minimizes installation time for Oracle Applications Release 11*i* by installing all Oracle Applications products along with the latest maintenance packs.
- Allows you to select languages and corresponding character sets.
- Reduces the number of certification issues.

In prior releases you had to verify certification among all of the individual components. For Release 11*i* the only certification that you need to verify is between the operating system and Oracle Applications.

Rapid Install

Rapid Install

Rapid Install lays down each of the components you see here in this slide. It lays down the

- Oracle 8*i* database with all necessary dbfs, or database files
- Technology stack, which is comprised of JRI (the Java Release Infrastructure), The Oracle Developer 6*i* products (including the Forms server, the Reports server and Graphics) and the Oracle HTTP server.
- Oracle Applications file system

System Types

Prod. Tech. stack → **Production file system**   **Production database**

Test Tech. stack → **Test file system**   **Test database**

Vision Tech. stack → **Vision Demonstration file system**   **Vision Demo database**

System Types

There are three possible system types that Rapid Install will install.

- Production
- Test
- Vision Demo

The production and test systems are identical in every way. The only difference is the default name assigned to the systems. The Vision Demo system is a different breed entirely. Features such as Multiple Reporting Currencies (MRC) and Multi-Org are enabled. These are optional features in the Production and Test systems and must be implemented separately. We will cover optional installation features in more detail later in this course. The Vision Demo system is ideal for testing and evaluating the functionalities of all Oracle Applications products.

All three systems share the same technology stack configuration. All systems utilize the Oracle Developer 6*i* products, JRI and the Oracle HTTP server.

Heterogeneous Environment

Database Server on Solaris

Oracle 8i Database

Middle Tier Components on Windows NT

Desktop Clients

Desktop Clients

Heterogeneous Environments

Oracle Applications Release 11*i* supports heterogeneous environments. You may choose to utilize different platforms for different nodes within your environment. For example, you may choose to run the database server on a node running Sun Solaris and the middle tier components on a node running Windows NT.

Release 11i Platforms

- **Intel NT**
- **Sun Solaris**
- **HP-UX 11.0**
- **Compaq UNIX**
- **IBM AIX**
- **Linux**

Release 11*i* Platforms

The following platforms are supported for Oracle Applications Release 11*i*:

- Intel NT
- Sun Solaris
- HP-UX 11.0
- Compaq UNIX
- IBM AIX
- Linux

In a multi-node installation, Rapid Install can be used to install Oracle Applications with any combination of these platforms.

**Oracle Applications, Release 11*i*:
Technology Stack**

Java Release Infrastructure			
Oracle Forms Server 6*i*	Oracle Graphics 6*i*	Oracle Reports Server 6*i*	HTTP Server
Oracle 8*i*			

Technology Stack

As mentioned earlier in this module, Rapid Install creates, installs, and configures all of the components for your environment. The technology stack constitutes the middle tier of Oracle Applications' three tier architecture. The other tiers are the database tier and the client, or desktop tier.

The technology stack is comprised of the Oracle Developer products, the Oracle HTTP server, and JRI, or Java Release Infrastructure.

The key components of Oracle Developer required by Release 11*i* are the Forms server version 6*i*, Reports server 6*i*, and components of Oracle Graphics 6*i*.

For Release 11.5.2 and later, Oracle Applications utilizes a single listener process, the Oracle HTTP server. This is a departure from the three listener configuration utilized in Release 11.5.1. In 11.5.1, Oracle Applications required the WebDB2.5, WebDB2.2 and the Apache 1.3.9 listener processes. We have simplified this considerably by reconfiguring the Apache server and repackaging it as the Oracle HTTP server.

Java Release Infrastructure

The Java Release Infrastructure (JRI) is both a collection of tools and a methodology. JRI:
- **Develops, packages, and patches Java code**
- **Has invisible functionality**
- **Is used by the AutoPatch and AD Administration utilities**

ORACLE

Java Release Infrastructure

JRI or the Java Release Infrastructure is a collection of tools and a methodology that was created to develop, package, and patch Java code.

Although used extensively by Oracle Development, much of the functionality of JRI is invisible to the user. In fact the only direct interaction you may have is during the Java patching process and the maintenance process of regenerating JAR, or Java archive files.

The utilities you would use for the Java patching process is AutoPatch and for the regeneration of JAR files, you would use the AD Administration utility.

ORACLE_HOME Directories

`ORACLE_HOME` **Directories**

8.1.7	8.1.6	8.0.6
Oracle8*i*	HTTP Server (*i*AS)	Oracle Forms Server Oracle Reports Server Oracle Graphics

ORACLE_HOME Directories

For Release 11*i*, there are three ORACLE_HOME directories:

- 8.1.7 ORACLE_HOME for the Oracle 8*i* database.
- 8.1.6 ORACLE_HOME for the Oracle HTTP server.
- 8.0.6 ORACLE_HOME for the Oracle Developer products.

All three of these ORACLE_HOME are laid down for you by Rapid Install.

Note: Releases prior to 11.5.4 used version 8.1.6 of the Oracle 8*i* database.

Single-Node and Multi-Node Installations

Single-Node Installation   **Multi-Node Installation**

Technology Stack   **Technology Stack**

Admin   **Admin**

Concurrent Processing   **Technology Stack**

Web   **Concurrent**
                        Processing   **Web**

Reports   **Forms**

Forms   **Reports**

ORACLE

Single-Node and Multi-Node Installations

Rapid Install has the capability of installing Oracle Applications in a single-node configuration or a multi-node configuration. The primary difference between the single-node and the multi-node installation is the number of nodes on which Oracle Applications components are installed. For a single-node installation, all components are installed on one node or machine and for a multi-node all components are installed on more than one node. For a multi-node installation, you may use as many nodes as necessary to configure your optimal environment.

When using Rapid Install, there are three potential Installation options: a single-node, a two-node, and a multi-node installation. The two-node installation is the simplest form of multi-node installation. When selecting the two-node installation, Rapid Install installs the Web and Forms servers on one node and the Concurrent Processing server, the database and the Admin server, or file system on the second node.

**Performing Single-Node and
Multi-Node Installations**

Single-Node Installation   **Multi-Node Installation**

Performing Single-Node and Multi-Node Installations

When performing a single-node installation, you can configure your
environment by use of the Rapid Install screens and run the installation directly
on the node that you wish to install Oracle Applications.

A multi-node installation requires several additional steps. When you configure
your desired environment, Rapid Install stores this information in a
configuration file. For a multi-node installation, this configuration file must be
copied to each of the additional nodes and Rapid Install must read this
configuration file when it is run on each subsequent node.

When you run the Rapid Install utility against each of the additional nodes,
Rapid Install installs only the components appropriate for that node.

Performing a Single-Node Installation

- **Create a single user for both the technology stack and Oracle Applications accounts (UNIX).**
- **Create mount points.**
- **Unload the Rapid Install files.**
- **Use Rapid Install to set up the Oracle Applications configuration.**
- **Run Rapid Install to install all components.**
- **Perform post-installation tasks.**

ORACLE

Performing a Single-Node Installation

These are the steps to perform a single-node installation:

- Create a single user for both the technology stack and Oracle Applications accounts (UNIX).
  This is the simplest method in a UNIX environment. Alternatively, if you want the Oracle database to run under a separate Unix account to Applications, then create an account for each and run the installation as the root user. For an NT environment, create a single user with system administrator privileges.

 You will then

- Create mount points.
- Unload the Rapid Install files.
- Use Rapid Install to set up the Oracle Applications configuration.
- Run Rapid Install to install all components.
- Perform post-installation tasks.

Preparing for Installation

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Performing a Multi-Node Installation

- **Install the components on the initial node.**
- **Create user(s) for both the technology stack and the Oracle Applications accounts on additional nodes (UNIX).**
- **Copy the previously created configuration file to the additional nodes.**
- **Run Rapid Install for all nodes.**
- **Perform post-installation tasks.**

Performing a Multi-Node Installation

When performing a multi-node installation, perform these steps:

- Install the components on the initial node, as we did in the previous slide for a single-node installation.
- Create users on the additional nodes.
- Create mount points on the additional nodes.
- Copy the previously created configuration file to the additional nodes.
- Run Rapid Install for all nodes.
- Perform post-installation tasks

Note: The database node must be installed first.

Module Summary

**In this module, you should have learned how
to do the following:**
- **Identify the benefits provided by Rapid Install.**
- **Outline the Rapid Install installation process.**
- **Describe the Release 11*i* default environment.**

Module Discussion

- **Name the components that Rapid Install installs.**
- **How many ORACLE_HOMEs are required for Release 11*i*? Describe the contents of these.**
- **Other than the Oracle 8*i* server, what are the other components of the technology stack required by Oracle Applications?**
- **Briefly describe the differences between the single-node and the multi-node installs.**

Single-Node Installation

Chapter 11

Single-Node Installation

Module 2

Single-Node Installation

11*i* Oracle Applications Install

ORACLE

Objectives

At the end of this module, you should be able to do the following:
- **Identify preliminary installation tasks.**
- **Outline the steps involved in performing a single-node installation.**
- **Perform a single-node installation using Rapid Install.**

ORACLE

Importance of this Module

This module describes the steps involved in performing a single-node installation.

A single-node installation creates and locates all components for your Oracle Applications system on a single node or machine, therefore, it is the easiest installation to perform. There are two parts to the installation:

- Create and save a configuration file by accepting the default values or supplying your own configuration values.
- Once your configuration file has been created, the installation process uses that information to:
    - Create the technology stack components.
    - Install all Oracle Applications product files.
    - License the products you choose to use.
    - Create the Oracle Applications database.
    - Create and configure the additional required services such as the Forms and Web servers.

Module Overview

This module comprises the following topics:
- **Single-node installation**
- **Preliminary installation steps**
- **Selecting the installation type**
- **Specifying the database identifier**
- **Specifying the database type**
- **Licensing products**
- **Specifying territories**

Overview

In this module we cover the preliminary installation steps that you need to perform before using Rapid Install to install Oracle Applications and review the contents of a single-node installation. We then navigate the screens to perform a single-node installation. In the Rapid Install screens we:

- Select the installation type
- Specify the database identifier
- Specify the database type
- License products
- Specify territories

Module Overview

This module comprises the following topics:
- **Licensing languages**
- **Selecting the character set**
- **Specifying the base locations**
- **Specifying the port numbers**
- **Saving the configuration file**

ORACLE

Overview (cont.)
- License languages
- Select the character set
- Specify base locations
- Specify directory paths
- Specify port numbers
- Save the configuration file

Single-Node Installation

Oracle8i Enterprise Edition	**Admin Server**
Oracle Reports Server	**Concurrent Processing Server**
Oracle Forms Server	**HTTP Server**
Oracle Graphics	**Java Release Infrastructure**

Rapid Install

All Oracle Applications and Technology Stack Components

Single-node Installation

For a single-node installation, everything is installed on one node. As you can see from this slide, all Oracle Applications components, technology stack components, and the database are installed on the single machine.

It's a rather seamless installation in that all components are pre-certified.

This environment is suitable for situations where a large volume of transactions is not expected, such as a development or training environment.

A large production environment with heavy transaction volume is more likely to require a multi-node installation. If you wish to use a multi-node configuration, use the multi-node install procedure discussed in the next module to distribute processing across several machines.

Single-Node Installation Procedure

- **Perform preliminary installation steps.**
- **Modify default configuration values as needed.**
- **Run Rapid Install.**
- **Perform post-installation tasks.**

Single-node Installation Procedure

The standard procedure to perform a single-node installation are as follows:

- Perform the preliminary installation steps.
- Modify the default configuration values as needed.
- Run Rapid Install.
- Perform post-installation tasks

Preliminary Installation Steps

- **Verify system resources.**
- **Unload Rapid Install product files.**
- **Create a staging area (optional).**
- **Create an owning account.**
- **Create database mount points.**

Preliminary Installation Steps

The following preliminary installation steps are very important:

- Verify system resources.
  A standard installation of Release 11*i* will require approximately 30 GB of disk space and a little over 32 GB for an installation of the Vision Demo database.

- Unload Rapid Install product files and create a staging area.
  Although the installation can be run directly from the CDs, we recommend staging the installation. To stage all necessary CDs, you need approximately 650 MB of free space per CD. The number of CDs may vary depending on the operating system you are using.

- Create an owning account.
  You need to create a user for the Applications account and one for the Oracle account if you are installing in an UNIX environment; or you may choose to install with a single user. If you are using NT, you can use a single user that has the system administrator privileges.

- Create your database mount points

CPU Requirements

The CPU requirements for running Oracle Applications depend on the:

- **Number of concurrent users and their usage profiles**
- **Number of concurrent manager processes and the types of jobs that they are running**
- **Load on the node for activities other than Oracle Applications**
- **Size of your database**
- **Number and types of tools (for example, Oracle Forms and Oracle Reports)**
- **Desired response time**

CPU Requirements

Because there are different product combinations, different user profiles, and different configurations, there is no one sizing answer for all hardware platforms.

The most reliable method to ensure that your hardware is sized appropriately is to install a test environment, and then set a benchmark with a configuration, product mix, and user load that simulates your own. This benchmark uses real world conditions to verify performance before you install a production environment.

If a benchmark is not feasible, find another Oracle Applications installation running a product mix and user profile similar to yours on your target platform. Oracle Consulting Services and your hardware vendor can help you in this search. Some hardware vendors have sizing worksheets that model the CPU and memory requirements of Oracle Applications on their hardware.

Because CPU speed on shared servers benefits all users, you should use the fastest available processors on the Forms server node. You can expect to support approximately 70 users per CPU.

Memory Requirements

To calculate the memory requirements on your database tier, you should take into consideration the following:

- **Oracle8*i* server overhead**
- **Size of system global areas (SGA)**
- **Number of concurrent users**

Memory Requirements

As with CPU requirements, the most reliable method to determine memory requirements is to install a test environment, and then set a benchmark with a configuration, product mix, and user load that simulates your own.

You can estimate the Oracle Applications requirements for the node where you install the Forms server using a guideline of 8 MB per user.

Platform-specific system resource requirements are documented in the Installation Update Notes for your specific platform.

Stage Area Install

Stage Area Install

You can decrease the time required for your installation, and eliminate the need for user access to the CD-ROM drive during the installation, by running your installation from a stage area. In this type of installation, you copy the CDs to a file system and run the installation from there.

For a stage area install, each server must be able to access the same area. This means you must either create the same stage area on each server, or you must create the stage area on one server and make it available to the other servers through NFS-mounting or mapping network drives.

The Rapid Install CDs in the Release 11*i* software bundle are labeled Red CD, APPL_TOP, 8*i*, Tools, and Databases. The number of CDs for a label is different for each platform, so we use the letter *x* in this slide to refer to the disk number on the CD.

Note: The directory names are case sensitive.

Preliminary Installation Steps

- **Verify that the oraInventory directory exists and that you have the appropriate permissions.**
- **When rerunning Rapid Install to install on the same mount points, clear the oraInventory directory.**
- **If you plan to install more than one system on a node, use a separate oraInventory for each system.**

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Preliminary Installation Steps

In addition to the basic preliminary installation steps, there are some precautions to be aware of for a trouble-free installation:

- Verify that the oraInventory directory exists and that you have the appropriate permissions. The Oracle Universal Installer writes information to the oraInventory directory during the installation and must have the ability to write to this directory.

- When rerunning Rapid Install to install on the same mount points, clear the oraInventory directory. If you have run Rapid Install once and for one reason or another decide to rerun Rapid Install on the same node and the same mount points as the prior installation, the oraInventory must be cleared. Otherwise, Rapid Install will read the information stored in the oraInventory and assume that the installation already exists and abort the installation process.

- If you plan to install more than one system on a node, use a separate oraInventory for each system.

Preliminary Installation Steps (UNIX)

- **Verify that your DISPLAY variable is set (UNIX).**
- **Verify that the oracle user and the applmgr user are in the same group (UNIX).**

Preliminary Installation Steps (UNIX)

Here are some precautions to be aware of for a trouble-free installation on the UNIX platform:

- Verify that your DISPLAY variable is set (UNIX).

- For an installation in the UNIX operating system, Verify that the oracle user and the Applications user are in the same group for the purpose of the installation. The Applications user can be removed from the dba group after the installation, if you are concerned about security.

- Make sure Rapid Install has write access to the location of the oraInst.loc file (/var/opt/oracle on Solaris).

- Make sure that the xhost process is running

Note: For UNIX platforms Rapid Install needs to be run from an X-Windows console or an X-Windows terminal emulation package such as Exceed or Reflection-X.

Beginning the Installation

Beginning the Installation

To begin the installation, go to the directory where you staged the red CD and start the Rapid Install executable.

In the next series of slides we learn about the Rapid Install screens and how to use these to configure your Oracle Applications installation.

Selecting the Type of Session

Selecting the Type of Session

Start Rapid Install by running the rapidwiz executable in UNIX or the rapidwiz.cmd executable in NT. The executable is located in the rapidwiz directory of the red CD.

The first selection screen you see is the one to select the type of session you would like to perform. The available options are:

- Install Oracle Applications
- Create Upgrade file system
- Configure existing Applications Instance

The upgrade and configure options are used when upgrading to Release 11*i* from either Release 10.7 or 11.0. For an installation of Oracle Applications, select the Install Oracle Applications option, then click on the Next button at the bottom of the screen.

Selecting the Type of Installation

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Selecting the Type of Installation

The next screen is the Installation type screen. The types of configurations available are

- Single-node, where all components are installed on a single-node or machine
- Two-node, where the Forms and Web servers are installed on one node and the Concurrent Processing server, the Admin server, and the database server are installed on the other node.
- Multi-node installation. The multi-node installation is fully configurable to any environment that you plan to install.

The Read configuration from file option is used when Rapid Install is run for additional nodes on a multi-node installation. We will cover this further in the module on multi-node installations.

Once you select your installation type, click Next.

Specifying the Database Identifier

Specifying the Database Identifier

The database selection screen allows you to select a name for your database. The default names are presented in the database name fields.

- PROD for the production instance
- TEST for the test instance
- VIS for the Vision instance

Specifying the Database Type

Specifying the Database Type

The database type drop down list lists the available database types. They are

- Fresh install database
- Vision demo database
- Do not install a database

The fresh install database option installs a fresh version of the Release 11*i* Oracle Applications database on ORACLE Enterprise Edition 8.1.7.

The Vision demo database option installs the Vision Demonstration database

The do not install a database option installs Oracle Applications without the database. This allows you to point Oracle Applications to the database name that you provide on this screen. Oracle Applications will not work until an Oracle Applications database for Release 11*i* is associated with this database name.

Note: You can install a demo and test environment on the same node. However, we strongly recommend that you do not install any other environments on the same node where you install your production environment.

Licensing Product Families

Licensing Product Families

After specifying the database type, as we did in the prior screen, we are presented with the licensing products by families screen.

This screen allows you to license products by product families. A product family is comprised of a group of inter-working products. As you can see from this screen, we have selected the Marketing Online, Marketing Intelligence and *i*Store product families.

To license products individually, click on the Prod. Detail button in the upper right portion of this screen.

Note: Licensing a product family, individual products, or country specific functionalities does not determine which products are installed. It determines the license status of a product, product family, or country specific functionality. For Release 11*i*, all products and country specific functionalities are installed in the database and in the file system, regardless of license status.

Licensing Individual Products

Licensing Individual Products

The individual product licensing screen looks like this. The products that belong to the product families that we have licensed are checked in this screen. You can check additional individual products to license.

When you have selected your products, click OK to bring focus back to the license products by product families screen.

Click next in the license products by product families screen when you have selected all products you want to license.

Note: If you select multiple product families and then deselect one of the previously selected families unclick all checkboxes and start again. If you deselect one family and not the other, shared products in the individual product list may not be accurate.

Specifying Country Specific Functionalities

Specifying Country Specific Functionalities

If your installation uses country specific functionalities (also known as Globalizations and in prior releases Localizations), you can install all of the country specific functionalities in one Oracle Applications environment. You don't need to use multiple instances in order to meet the various statutory and legislative requirements. Your selection on this screen determines what country specific functionalities are licensed.

In this screen we have licensed functionalities specific to Australia, Canada, and China.

Click Next to move on to the next screen.

Specifying Languages & Character Sets

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Specifying Languages and Character Sets

This next screen allows you to specify the languages you plan to use, define the base language, the default territory, and select the character set for both the database and the APPL_TOP.

The values you see on this screen are the default values for a fresh install database:

- US American English as the selected language
- US American English as the base language
- America as the default territory
- US7ASCII as both the database and APPL_TOP character set

To add other languages click on the Select Languages button.

With Release 11*i* you can use multiple languages and currencies in a single database instance because the UTF8 Unicode character set supports all Oracle Applications languages. If you need to install additional languages select them by clicking the Select Languages button.

Note: You might need to select a different character set for the APPL_TOP if you have installed your system on multiple machines with different operating systems. For example, you might be running your database on Unix but running your Forms server on Windows NT. This could necessitate the use of different character sets.

Selecting Additional Languages

Selecting Additional Languages

Clicking on the Select Languages button produces the Select Languages screen. This screen displays the 29 languages in which Oracle Applications Release 11*i* can run. You can license additional languages by highlighting the language in the pane on the left and clicking the right arrow button. To remove a selected language, highlight it in the right pane and click the left arrow button. When finished selecting additional languages, click the OK button.

In this example, we have selected and added the Canadian French language to our list of installed languages by highlighting Canadian French and clicking on the right arrow button.

By doing so, the new language now appears on the installed languages list on the right hand side. Keep in mind that this merely licenses the language for use. You need to install all the language specific files by using AutoPatch after the installation.

Click OK to close this screen.

Single-Node Installation

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Selecting Additional Languages

Selecting Additional Languages

After clicking the OK button in the Select Languages screen, you are returned to the Specifying Languages and Character Sets screen. Depending on the combination of languages selected, the character set value may have changed. Rapid Install ensures an appropriate character set for the languages chosen.

As you can see in this screen, Canadian French now appears in the selected languages box.

At this point you can select your base language and your default territory from the drop down lists. Notice that the base language list box now shows multiple languages as installed and the database character set and APPL_TOP character set have defaulted to a character set that can be used by all licensed languages.

Selecting the Character Set

Selecting the Character Set

If you want to change the database and APPL_TOP character set from the defaults shown, select it from the list box. Both the database and APPL_TOP character set drop down lists show only the supported character sets for the languages you have selected.

Click Next to move on.

Additional Information: For complete information about character sets, see the *National Language Support Guide*

Instructors note: If customers plan to use multiple languages which span multiple character sets some time in the future, we recommend installing with UTF8 now rather than converting to UTF8 later.

**Oracle Applications 11*i*
System Directories**

APPL_TOP

COMMON_TOP

ORA_TOP

DATA_TOP

**(to Log/Out,
Java, and
HTML files)**

**(to Oracle
Applications
database files)**

**(to Oracle
Applications
product
directories)**

8.1.7   8.1.6   8.0.6

**(Oracle8*i* Server and
technology stack products)**

Oracle Applications 11*i* System Directories

For Release 11*i*, there are four high level mount points or directories. They are

- APPL_TOP, which is the Oracle Applications product directories.
- COMMON_TOP, which contain files common to all of the Oracle Applications products, such as Java and HTML files.
- ORA_TOP, which contains the three ORACLE_HOME directories
  - 8.1.7 for the database.
  - 8.1.6 for the Oracle HTTP server.
  - 8.0.6 for the Developer products, which includes the Forms server the Reports server and Graphics.
- DATA_TOP, which contains the Oracle Applications database files.

Specifying Default Mount Points

Specifying Default Mount Points

This screen allows you to supply base values for all the top-level directories and user accounts in your Oracle Applications system. The values you define here are carried over to later screens where you define lower level directories. You can accept the default values or enter new values based upon your prepared mount points.

Here we identify the mount points for the four high level directories:

- APPL_TOP
- COMMON_TOP
- ORA_TOP
- DATA_TOP

Notice that DATA_TOP is divided into sys, logs and base:

- sys is for the data dictionary for the Oracle 8*i* database.
- logs is for the redo log files used by Oracle 8*i*.
- data is for the Oracle Applications product datafiles.

Specifying Default Mount Points

Specifying Default Mount Points

In addition to the four base directories, this screen allows you to enter the name of the NT user, the password for this NT user and the DNS Domain name.

If you were running Rapid Install in an UNIX environment there would also be fields for the:

- Apps OS, or Operating System user (for example, applmgr)
- Apps OS group
- Oracle OS user (for example, oracle)
- Oracle OS group
- DBA group name

By clicking Next, we move on to the node specific details screen.

Specifying Directory Paths

Specifying Directory Paths

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Specifying Directory Paths

This next screen allows us to further define the mount points for various directories. It allows us to distribute the APPL_TOP into four different locations.

- APPL_TOP mount point
- APPL_TOP aux 1
- APPL_TOP aux 2
- APPL_TOP aux 3

When distributing the APPL_TOP to multiple mount points, Rapid Install automatically configures the distribution for optimal performance.

We see the default APPL_TOP character set, which we selected in the earlier and the COMMON_TOP.

The ORA_TOP is now divided into the three ORACLE_HOMEs:

- 8.1.7 ORACLE_HOME
- 8.0.6 ORACLE_HOME
- iAS or HTTP server ORACLE_HOME

Specifying Directory Paths

Specifying Directory Paths

We also see the 3 DATA_TOPs from the previous screen and an additional one, the DATA_TOP (index), which is the location for the Oracle Applications product index tablespaces.

There is a deeper level assignment for the COMMON_TOP components:

- JAVA_TOP: Contains the Java files used by all Oracle Applications products.
- PORTAL_TOP: Contains the HTML used to review and complete the installation after Rapid Install.
- JRE_TOP: Contains the Java Runtime Engine used by all Oracle Applications products.

Specifying Directory Paths

Specifying Directory Paths

There is also a directory for the temp directory, the NT user name and password as well as the DNS domain name from the previous screen. There are two additional NT specific fields: the location of the MKS Toolkit and Microsoft Visual C++.

If you are running Rapid Install in an UNIX environment there will also be fields for the:

- Apps OS, or Operating System user (the owner of the Oracle Applications file system and technology stack)
- Apps OS group
- Oracle OS user (the owner of the Oracle8i file system)
- Oracle OS group
- DBA group name
- X DISPLAY - This value is used by the Reports server, Forms server, and the Concurrent Manager. This display must always be accessible during runtime. It should be set to an active and authorized X Windows display, and should point to a machine that is always available to the Oracle Applications instance.
- External JDK - Points to location of the JDK installation. Required by Apache to successfully start the JSERV engine. Must be the same as the location where you downloaded JDK.

We click Next to move on to the Port specification screen.

Specifying Port Numbers

Specifying Port Numbers

The Port specification screen shows us the following:

- Oracle SID
- Name of the database
- Database character set
- Default territory

These are all carried over from the prior screens.

The defaults to the ports are populated automatically based on your configuration. Verify these default values for accuracy.

- Database port: Oracle8*i* Net8 listener port that receives requests from the various servers for processing on the Oracle8*i* database.
- RPC port: The port on the concurrent processing server node that receives incoming Report Review Agent requests.
- Web port: The port on the HTTP server that receives incoming requests from browsers or other servers.
- Forms port: The port on the Forms server that receives incoming requests from browsers or other servers.

Specifying Port Numbers

Specifying Port Numbers (cont.)

- Reports port: The port on the Reports server that receives incoming requests from browsers or other servers.

- Apache servlet port: The port on the HTTP server that browsers connect to when invoking Java servlets.

- TCF server port: The port on any Forms server that receives requests for the TCF server. The TCF server is a Java process that accepts incoming requests from clients and executes Java programs.

- Metrics server data port: The port on which the Metrics Server receives load data from Metrics Clients running on other machines.

- Metrics server request port: The port on which the Metrics Server receives the "least-loaded host" requests from Forms clients.

Rapid Install uses the values you specify on this screen to configure your services such as the Forms and Web Servers as well as your listener services/processes. Rapid Install creates the scripts necessary to startup all services based on the values you enter here.

Click on Next on you have verified all values.

Saving the Configuration File

Saving the Configuration File

You have now completed all the information Rapid Install needs to install your Oracle Applications products. This configuration information is stored in the configuration file. This screen allows you to choose the location to save your configuration file.

If you are performing a multi-node install, you must copy this configuration file onto all machines on which you are installing, before running Rapid Install again on those machines. See the multi-node module for more information on copying the configuration file.

Once you have selected the location to save the configuration file, click Next

Validating the Configuration

System Check Status

The Rapid Install Wizard is performing system checks.

Port Availability Check

Database Port available: Port Value = 1521

Forms Listener Port available: Port Value = 9000

Metrics Server Port available: Port Value = 9010

Metrics Client Port available: Port Value = 9020

TCF Socket Port available: Port Value = 15000

Report Listener Port available: Port Value = 7000

RPC Port available: Port Value = 1526

Web Listener Port available: Port Value = 8000

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Validating the Configuration

Once you click Next to save the configuration file, Rapid Install validates the configuration. A status box like the one pictured here appears as Rapid Install checks the configuration status.

Validating the Configuration

Validating the Configuration

When the validation completes, this status screen shows you the results of the pre-install check. If the configuration is accurate, check marks appear next to the specific item. If the configuration is not valid, an X appears next to the item that is not configured properly.

In situations where a configuration may need additional review, you will see an exclamation mark. By clicking on the exclamation mark, you can see the items that need review.

Note: Rapid Install checks to see if you have sufficient disk space in each directory, however the checks are not cumulative. For example, if you map two directories to the same disk, Rapid Install does not add the disk requirement for the two directories. The reason is it is not possible to perform cumulative checks with symbolic links.

Installing All Products on this Server

Installing All Products on this Server

By clicking Next in the Configuration Validation screen, an installation summary screen appears. This screen displays the configuration file for your installation and summarizes the installation actions.

Click Next to begin the installation.

Installing All Products on this Server

Installing All Products on this Server

An alert message appears asking you to verify that you want to start the Installation.

Click Yes to continue with the installation or No to abort the installation.

Installing All Products on this Server

Installing All Products on this Server

If you installed Rapid Install so that it runs from a stage area, you are not prompted to mount CDs during the installation. However, if you are running your installation directly from the CDs, you will be prompted to mount the Release 11*i* Rapid Install CDs at various points during your installation.

Rapid Install displays a screen that indicates the label of the disk it needs, and a prompt for the location of the disk. In this example, the path is c:\.

Enter the complete path to the disk requested. Rapid Install accesses the disk and then continues processing.

Install Status Screens

Install Status Screen

During the install process there are several screens like the one pictured above to notify you of the status of Rapid Install. This screen is the Oracle Universal Installer status screen.

Completing the Installation

Completing the Installation

Once your installation is complete, Rapid Install performs a post-installation check.

It automatically validates all components of the installed Oracle Applications systems. It tests the system for correctly configured environment files, running Oracle Applications listeners, and database availability.

Click Next to continue.

Completing the Installation

Completing the Installation

Rapid Install then informs you of the steps that were completed during the installation process.

Click Finish to exit Rapid Install.

Once Rapid Install finishes, you have a complete Oracle Applications system. You then need to perform the post-installation steps described in the Finishing your Installation module before rebooting your system and logging onto Oracle Applications.

Note: If you decide to rerun Rapid Install from the beginning, you must remove the aborted installation and clear the contents of your oraInventory directory.

Rapid Install Portal

Rapid Install Portal

The Rapid Install Portal provides information and utilities to make it easy to administer and deploy Oracle Applications. It is a web site created automatically during the Rapid Install process, customized to suit your environment.

After you have finished running Rapid Install, and you have rebooted your system, you can access the Rapid Install Portal with a standard browser using the following URL:

http://<SERVER>.<domain>:<HTTP port>

For example, if you have configured Rapid Install to install the Forms server on a machine with a node name of R11iFORM in the domain MYCOMPANY.COM and the HTTP server uses port 8000, use the following URL to connect to the Rapid Install Portal:

http://R11iFORM.MYCOMPANY.COM:8000

The current version of the Rapid Install Portal includes links such as the Rapid Install Setup, Oracle Applications logon, 11*i* documentation, and server administration.

Module Summary

In this module, you should have learned how to do the following:

- **Identify preliminary installation tasks.**
- **Outline the steps involved in performing a single-node installation.**
- **Perform a single-node installation using Rapid Install.**

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Module Discussion

- **The lesson mentions several preliminary tasks to perform before running Rapid Install. Name these tasks.**
- **What is the advantage and disadvantage of running Rapid Install from a staging area?**
- **Rapid Install provides three types of installations. What are these?**

Module Practice

Module Practice

- **Perform Rapid Install preliminary tasks.**
- **Run Rapid Install for a single-node installation.**

See Appendix B for solutions.

Multi-Node Installation

Chapter 12

Multi-Node Installation

Module 3

Multi-Node Installation

11*i* Oracle Applications Install

Objectives

**At the end of this module, you should be able
to do the following:**

- **Describe the differences between the single-node
  and multi-node installation processes.**
- **Determine the situations in which a multi-node
  installation is appropriate.**
- **Use Rapid Install to perform a multi-node
  installation.**

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Multi-Node Installation

Module Overview

This module comprises the following topics:
- **Two-node and multi-node installations**
- **Benefits of multi-node installation**
- **Configuration files**
- **Selecting the installation type**
- **Specifying the database identifier**
- **Specifying the database type**
- **Licensing products**
- **Specifying the territory**

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Overview

The multi-node installation allows for a wide variety of possible configurations; from the pre-configured two-node installation option to the fully configurable multi-node installation option. In this module we cover the multi-node installation, discuss some of the benefits of the multi-node configuration, and introduce the format of the configuration file. We then navigate the screens to perform a two-node installation. In the Rapid Install screens we:

- Select the installation type
- Specify the database identifier and type
- License products
- Specify territories

Module Overview

This module comprises the following topics:
- **Licensing languages**
- **Selecting the character set**
- **Specifying the machine name and platform**
- **Specifying the base locations**
- **Specifying the port numbers**
- **Saving the configuration file**

Overview (cont.)

- License languages
- Select the character set
- Specify the machine name and platform
- Specify base locations and port numbers
- Save the configuration file

As most of the screens in this module are identical to the screens we saw in the single-node installation module, we cover the screen details at a high level. Where there is a difference between the single-node and multi-node installations, we spend more time with the details.

Two-Node Installation

Rapid Install

Web Server

Oracle8*i* Database Server

Admin Server

Forms Server

Concurrent Processing Server

Two-node Installation

The simplest form of the multi-node installation is the two-node installation. The two-node installation is pre-configured as you see in this slide. This installation option installs the Web and Forms server on one node and the database, Admin and Concurrent Processing servers on the other node.

Multi-Node Installation

Rapid Install

Oracle8*i* Database Server

Web Server   **Admin Server**   **Forms Server**

Concurrent Processing Server

Forms Server   **Reports Server**

Multi-node Installation

With the multi-node installation option, the configuration possibilities are endless. Any server can be placed on any node. You can also use this option to install multiple Forms servers to balance the load of forms usage

Benefits of Multi-Node Installation

- **Increases scalability**
- **Allows load balancing across nodes and servers**
- **Permits installation of Oracle Applications across a combination of heterogeneous operating systems and platforms**

Benefits of a Multi-node Installation

The multi-node installation provides many benefits. Some of these include:

- Increased scalability
- Ability to load balance across nodes and servers
- Option of installing Oracle Applications across a combination of heterogeneous operating systems and platforms

Therefore, if you decide to have your Forms servers in an NT environment and your database servers in a UNIX environment, Rapid Install helps you to configure this multi-platform environment.

Note: If you install multiple Forms servers, they must be configured identically (including the operating system) otherwise load balancing with the Metrics Server will not function properly.

Multi-Node Installation Procedure

- **Create a configuration file specifying the information for all server and node combinations.**
- **Install the components on the first node.**
- **Create owner(s) for both the technology stack and the Applications accounts on the second node (UNIX).**
- **Copy the configuration file to the second node.**
- **Run Rapid Install on the second node.**
- **Repeat the above three steps on the remaining nodes.**
- **Perform post-installation tasks.**

Multi-node Installation Procedure

The procedure for a multi-node installation is similar to that of the single-node. The only difference is the repetition of the process you performed on the first node for each additional node.

Here are the general steps:

- Create a configuration file specifying the information for all server and node combinations.
- Install the components on the first node.
  This completes the installation on the first node.
- Create owner(s) for both the technology stack and the Applications accounts on the second node if you are in a UNIX environment. If you are in NT, a single System Administrator user can be used.
- Copy the configuration file from the first machine to the second node.
- Run Rapid Install on the second node using the configuration file.
- Repeat the above three steps on the remaining nodes.
- Perform post-installation tasks.

Note: In a multi-node installation, the database node must be installed first.

Types of Configuration Files

Single-Node Configuration File

Machine information

Database

Admin

Concurrent

Forms

Web

Multi-Node Configuration File

Machine information

Database

Admin

Concurrent

Machine information

Form

Web

ORACLE

Types of Configuration Files

The configuration file is in the format that you see on the left side of this slide. This file contains every configuration detail that you entered on the Rapid Install screens. It lists all of the components to be installed and the location where they will be installed.

The configuration file for a multi-node installation contains the same type of information as the configuration file for a single-node installation. However, as you see on the right side of this slide, the information is separated by node. Therefore, if you plan to install Oracle Applications on two nodes, there will be two sections in the configuration file, one following the other. If you are installing on four nodes, there will be four sections and so on.

Selecting the Type of Session

Selecting the Type of Session

The first selection screen you see is the one to select the type of session you are about to perform. The available options are

- Install Oracle Applications
- Create Upgrade file system
- Configure existing Applications instance

As with the single-node installation, we have selected the Install Oracle Applications option.

The second and third options are used during an upgrade. You initially use the second option to create the new Oracle Applications directories and unload the new product files. You use the last option to configure your new system after you have upgraded your existing database.

Selecting the Type of Installation

Selecting the Type of Installation

In the Installation type screen. The types of configurations available are

- Single-node
- Two-node
- Multi-node

In this example we have selected the two-node installation, which is the simplest form of multi-node installation.

Once you select the installation type, click Next.

Specifying the Database Identifier

Specifying the Database Identifier

The database selection screen allows you to select a name for your database. The default names are:

- PROD for the production instance
- TEST for the test instance
- VIS for the Vision Demo instance

Specifying the Database Type

Specifying the Database Type

Specifying the Database Type

The database type drop down list lists the available database types. They are

- Fresh install database - a fresh version of the Release 11*i* Oracle Applications on an Oracle 8*i* database version 8.1.7.
- Vision demonstration database - the Vision Demonstration database for Oracle Applications 11*i* on Oracle 8*i* version 8.1.7.
- Do not install a database - no database is installed, but the configuration files are pointed to an existing database using the database name that is supplied. Oracle Applications will not work until an Oracle Applications database for Release 11*i* is associated with this database name.

After specifying the database type, click the Next button to begin licensing products.

Note: You can install a demo and test environment on the same node. However, we strongly recommend that you do not install any other environments on the same node where you install your production environment.

Licensing Product Families

Licensing Product Families

This is the license products by product families screen. For this example, we have selected the Service Online and the Contracts product families.

You can license products individually in the individual product licensing screen. Click on the Prod. Detail button to access this screen.

Licensing Individual Products

Licensing Individual Products

This is the individual product licensing screen. The products that belong to the product families that we've licensed in the product families screen are checked in this screen. You can check additional individual products to license as well.

Click OK to close this screen and click Next in the license products by product families screen to move on.

Specifying Country Specific Functionalities

Specifying Country Specific Functionalities

This screen is used to license country specific functionalities. If your installation uses country specific functionalities (Localizations), you can install all of the country specific functionalities in one Oracle Applications system. You don't need to use multiple instances in order to meet the various statutory and legislative requirements. Your selection on this screen determines what country specific functionalities are licensed.

For this example, we have licensed functionalities specific to Argentina, Brazil, Bolivia, and Chile.

Specifying Languages & Character Sets

Specifying Languages and Character Sets

This screen allows you to select the languages you will use, define the base language, select the default territory, and select the character set for both the database and the APPL_TOP.

The values you see on this screen are the default values for a fresh install database:

- US American English as the selected language
- US American English as the base language
- America as the default territory
- US7ASCII as both the database and APPL_TOP character set

Click on the Select Languages button to add other languages.

Note: Installing a language through Rapid Install only registers the language selection. You must run AutoPatch after your installation to actually install the language-specific files from the language-specific CDs.

Selecting Additional Languages

Selecting Additional Languages

Selecting Additional Languages

Clicking on the Select Languages button opens the Select Languages screen. This screen displays the 29 languages in which Oracle Applications Release 11*i* can run. You can license additional languages by highlighting the language in the pane on the left and clicking the right arrow button. To remove a selected language, highlight it in the right pane and click the left arrow button. When finished selecting additional languages, click the OK button.

In this example, we have selected and added Latin American Spanish and Brazilian Portuguese by highlighting the language and clicking on the right arrow button.

The new languages now appear on the installed languages list on the right hand side. Again, this merely licenses the language for use.

Click OK to close this screen.

Selecting Additional Languages

Selecting Additional Languages

After clicking the OK button in the Select Languages screen, you are returned to the previous screen. Depending on the combination of languages selected, the character set value may have changed. Rapid Install ensures an appropriate character set for the languages chosen.

As you can see in this screen, Latin American Spanish and Brazilian Portuguese now appear in the selected language box.

At this point you can select your base language and your default territory from the drop down lists. Notice that the base language list box now shows multiple languages as installed and the database character set and APPL_TOP character set have defaulted to a character set that can be used by all licensed languages.

Selecting the Character Set

Selecting the Character Set

If you want to change the database and APPL_TOP character sets from the defaults shown, select it from the list box. Both the database and APPL_TOP character set drop down lists show only the supported character sets for the languages you have selected.

Click Next to move on.

Additional Information: For complete information about character sets, see the *National Language Support Guide.*

Specifying the Machine Name and Platform

Specifying the Machine Name and Platform

This is our first truly multi-node related screen.

As this is a two-node installation, you see the fields for the two nodes. One for the database, Admin, and Concurrent Processing servers and another for the Forms and Web servers. In this example we have set the first node installation to a machine called ap148pc running in a Windows NT platform. The other node is called ap900sun and is running Sun Solaris.

Specifying the Machine Name and Platform

Specifying the Machine Name and Platform

The operating system drop down list shows all of the supported operating systems. The operating systems are Microsoft Windows NT and the following flavors of UNIX: Sun SPARC Solaris, HP-UX, IBM AIX, Compaq Tru64, and Linux.

Specifying the Machine Name and Platform

Specifying the Machine Name and Platform

If you had selected the standard multi-node installation option and not the two-node option, the machine name and platform specification screen would look like this. In this screen, you can select an independent node and operating system for each server.

Specifying Default Mount Points-NT

Specifying Default Mount Points-NT

In this screen, we identify the mount points for the four high level directories,

- APPL_TOP
- COMMON_TOP
- ORA_TOP
- DATA_TOP

This screen is for the NT node. As you can see the directory structure represents that of an NT environment.

Specifying Default Mount Points-NT

Specifying Default Mount Points-NT

In addition to the four base level directories, you also have the:

- Name of the NT user
- Password for the NT user
- DNS Domain name

You need to create a user with the name that you enter on this screen on your other node and run the installation as this user.

Specifying Default Mount Points-UNIX

Specifying Default Mount Points-UNIX

By clicking on the tab at the top for the second node, we see the screen for our second node.

As you can see the second node is a UNIX environment and the directory structure represents this.

In this screen, we identify the mount points for the components on the second node. This could includes the following:

- APPL_TOP
- COMMON_TOP
- ORA_TOP
- DATA_TOP

Specifying Default Mount Points-UNIX

Specifying Default Mount Points-UNIX

Specifying Default Mount Points-UNIX

In addition to the base level mount points, you have the following fields:

- Apps OS, or Operating System user
- Apps OS group
- Oracle OS user
- Oracle OS group
- DBA group name
- DNS Domain name

By clicking next, we move on to the node specific details screen

Specifying Directory Paths-NT

Specifying Directory Paths-NT

This screen allows us to further define the mount points for the high level directories. Again we see the first node is in the NT platform.

We can distribute the APPL_TOP into the 4 different locations you see here. You can place each of the three ORACLE_HOMEs in a separate directory.

There is also a lower level assignment for the COMMON_TOP components:

- JAVA_TOP
- PORTAL_TOP
- JRE_TOP

Specifying Directory Paths-UNIX

Specifying Directory Paths-UNIX

By clicking on the ap900sun tab or the tab for the second node, we see the same lower level directory options for the second node.

There are two additional fields in the UNIX screen and they are:

- X DISPLAY - This value is used by the Reports server, Forms server, and the Concurrent Manager. This display must always be accessible during runtime. It should be set to an active and authorized X Windows display, and should point to a machine that is always available to the Oracle Applications instance.
- External JDK - Points to location of the JDK installation. Required by Apache to successfully start the JSERV engine. Must be the same as the location where you downloaded JDK.

We can click next to move on to the Port specification screen.

Note: The External JDK value is not required for Sun Solaris. The default for the other UNIX platforms are:

HP-UX = /opt/java1.2

AIX = /usr/java_dev2

Linux = /usr/lib/jdk1.2.2

All other supported UNIX platforms = /usr/opt/java122

Specifying Port Numbers

Specifying Port Numbers

The Port specification screen shows us the following:

- Oracle SID
- Name of the database
- Database character set
- Default territory

These are all carried over from the prior screens.

The defaults to the all of the ports are populated automatically based on your configuration. You should verify these default values for accuracy.

The port values defined on this screen are not node dependent, so you define these parameters only once. Rapid Install creates all the scripts necessary to startup your Web and Form servers, listeners and other services based on the values you enter here.

Click on Next to continue.

Saving the Configuration File

Saving the Configuration File

You have now completed all the information Rapid Install needs to install your Oracle Applications products. This configuration information is stored in the configuration file. This screen allows you to choose the location to save your configuration file.

You must copy this configuration file onto all machines on which you will be installing before running Rapid Install on those nodes.

Once you select this location, click Next

Validating the Configuration

Validating the Configuration

Once you click next to save the configuration file, Rapid Install validates the configuration and presents a status box like the one pictured as Rapid Install checks the configuration status.

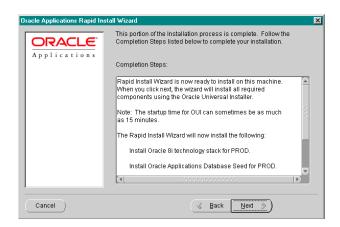# Validating the Configuration

Validating the Configuration

When the validation completes, this status screen shows you the results of the pre-install check. If the configuration is accurate, check marks appear next to the specific item. If the configuration is not valid, an X appears next to the item that is not configured properly.

In situations where a configuration may need additional review, you will see an exclamation mark. By clicking on the exclamation mark, you can see the items that need review.

Installing All Products on this Server

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Installing All Products on this Server

By clicking next in the Configuration Validation screen, an installation summary screen appears. This screen displays the configuration file for your installation and summarizes the installation actions.

Click Next to begin the installation.

Installing All Products on this Server

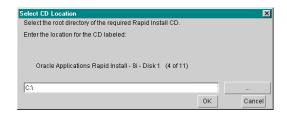## Installing All Products on this Server

An alert message appears asking you to verify that you want to start the installation.

Click Yes to continue with the installation or No to abort the installation.

Installing All Products on this Server

Oracle Applications Rapid Install - Tools - Disk 1   (11 of 11)

Installing All Products on this Server

If you installed Rapid Install so that it runs from a stage area, it does not prompt you to mount CDs during the installation. However, if you are running your installation directly from the CDs, Rapid Install prompts you to mount the Release 11*i* Rapid Install CDs at various points during your installation.

Rapid Install displays a screen that indicates the label of the disk it needs, and a prompt for the location of the disk. In this example, the path is d:\.

Enter the complete path to the disk requested. Rapid Install will access the disk and continue processing.
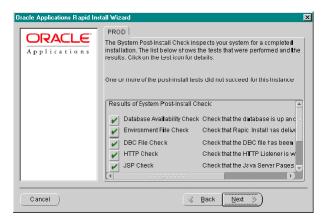
Install Status Screens

Install Status Screen

During the install process there are several screens like the one pictured above to notify you of the status of Rapid Install. This screen is the Oracle Universal Installer status screen.

Completing the Installation

Completing the Installation

Once Rapid Install completes the installation on the first node, you need to follow these steps to complete the multi-node installation:

- Exit Rapid install on the first node.
- Sign on as the root user (in UNIX) or as a user with system administrator privileges (in NT) on the second node.
- Copy the configuration file from the first node to the second node.
- Identify the configuration file.
- Run Rapid Install on the second node.

When running Rapid Install on the second node, select Install Oracle Applications as the session type.

Running Rapid Install on the Second Node

In the second screen, select Read Configuration from file.

When you click Next, Rapid Install asks you for the location of the Configuration file.

Running Rapid Install on the Second Node

Running Rapid Install on the Second Node

Running Rapid Install on the Second Node

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Running Rapid Install on the Second Node

Enter the location where you copied the configuration file, then click Next.

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Multi-Node Installation

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Initiating the Installation Process

Initiating the Installation Process

Once Rapid Install locates the configuration file, it performs a check of the configuration. Then Rapid Install asks you once again whether you want to begin the installation on this node.

Click Yes to begin the installation.

Multi-Node Installation

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Completing the Installation

Completing the Installation

Once your installation is complete, Rapid Install performs a post-installation check.

It automatically validates all components of the installed Oracle Applications system. It tests the system for correctly configured environment files, running Oracle Applications listeners, and database availability.

Click Next to continue.

Completing the Installation

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Completing the Installation

Rapid Install then informs you of the steps that were completed during the installation process.

Click Finish to exit Rapid Install.

Once Rapid Install finishes, you have a complete Oracle Applications system. You need to perform the post installation steps described in the Finishing your Installation module before logging onto Oracle Applications.

Note: If you decide to rerun Rapid Install from the beginning, you must remove the aborted installation and clear the contents of your oraInventory directory.

Module Summary

**In this module, you should have learned how
to do the following:**

- **Describe the differences between the single-node
  and multi-node installation processes.**
- **Determine the situations in which a multi-node
  installation is appropriate.**
- **Use Rapid Install to perform a multi-node
  installation.**

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Multi-Node Installation

Module Discussion

- **How are the components separated in a two-node installation?**
- **In a multi-node installation, what node must be installed first?**
- **What is used to balance the load in a multiple Forms server environment?**
- **How many configuration files are required for a multi-node installation?**

Module Practice

- **Run Rapid Install to perform the configuration for a multi-node installation.**

See Appendix B for solutions.

Post-Installation Steps

Chapter 13

Module 4

Post-Installation Steps

11*i* Oracle Applications Install

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Objectives

At the end of this module, you should be able to do the following:

- **List general post-installation tasks**
- **Describe the JInitiator installation process**
- **List optional post-installation tasks**

Module Overview

This module comprises the following topics:
- **General Post-Installation Tasks**
  - **Execute the environment file**
  - **Review the installation log files**
  - **Review the server process control scripts**
  - **Change the database and Oracle Applications passwords**
  - **Back up Oracle Applications**
- **Configuring the client software**
- **Accessing Oracle Applications**

Overview

Just as the preliminary installation steps were crucial in having a successful installation, the post-installation steps are important in providing a fully configured Oracle Applications to your users.

Once Rapid Install completes the installation of Oracle Applications, there are a number of post-installation tasks that need to be completed. Some of these tasks are required and others are optional.

In this module we will cover the following:
- Execute the environment file
- Review the installation log files
- Review the server process control scripts
- Change the database and Oracle Applications passwords
- Back up Oracle Applications
- Configure the client software
- Logon to Oracle Applications

Module Overview

This module comprises the following topics:

- **Configuration-Specific Post-Installation Tasks**
  - **Resize the database**
  - **Set up National Language Support**
  - **Set up the Business Intelligence System**
  - **Convert to Multiple Organizations**
  - **Convert to Multiple Reporting Currencies**
  - **Implement product and country-specific functionality**

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Overview

Additionally, we cover the configuration specific post-installation tasks. These are tasks that are not required of all Oracle Applications installations. The steps include:

- Resize the database
- Set up National Language Support
- Set up the Business Intelligence System
- Convert to Multiple Organizations
- Convert to Multiple Reporting Currencies
- Implement product and country-specific functionality

Environment Files

Filename:	For environment:	Located in:
`<SID>.env` or `<SID>.cmd`	Oracle8*i* Enterprise Edition	8.1.7 `ORACLE_HOME`
`<SID>.env` or `<SID>.cmd`	HTTP server	*i*AS `ORACLE_HOME`
`<SID>.env` or `<SID>.cmd`	Oracle8-based technology stack	8.0.6 `ORACLE_HOME`
`<SID>.env` or `<SID>.cmd`	Applications	`APPL_TOP`
`APPSORA.env` or `APPSORA.cmd`	Consolidated setup file	`APPL_TOP`

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Environment Files

Rapid Install creates four different environment setup files which set up the Oracle8*i*, the Oracle8-based technology stack, the Oracle HTTP server, and the Oracle Applications environments. The environment setup files are called <SID>.env in UNIX or <SID>.cmd in NT, where SID is the name of your database. These files are located in the different directories you see on the right side of the slide.

For convenience, Oracle Applications provides a consolidated environment file APPSORA.env in UNIX or APPSORA.cmd in NT that sets up both the Oracle Applications and the Oracle8-based technology stack environments.

You should execute the APPSORA environment setup file before using any Oracle Applications utilities. You should also set your TWO_TASK environment variable to your ORACLE_SID value.

Review the Installation Log Files

- **Installation log files record:**
  - **The actions performed when configuring the installation**
  - **The actions performed when starting processes**
- **The log files can be found in the following directories:**
  - **COMMON_TOP/admin/install**
  - **8.1.7 ORACLE_HOME/appsutil/install**
  - **oraInventory/logs**
- **Review these files to verify that no errors exist.**

Review the Installation Log Files

Rapid Install creates several log files during the installation.

The actions performed when configuring the installation and starting server processes, are recorded in these log files with a .txt file extension.

The log files can be found in the following directories:

- COMMON_TOP/admin/install
- 8.1.7 ORACLE_HOME/appsutil/install
- oraInventory/logs

Review these files to verify that no errors exist. All errors must be addressed before continuing with the installation.

Review the Server Process Control Scripts

- **Rapid Install configures and starts all server processes.**
- **A script for each server process is stored in the admin/scripts subdirectory in the COMMON_TOP directory of your file system.**
- **Scripts for the database and the Net8 listener are in the 8.1.7 ORACLE_HOME/appsutil/scripts directory.**
- **You can use the scripts at any time after the installation to stop and start these processes manually.**

ORACLE

Review the Server Process Control Scripts

Rapid Install configures and starts all server processes during the installation. It also stores a script for each process in the admin/scripts subdirectory in the COMMON_TOP directory of your file system. There are also two scripts, one for the database and one for the Net8 listener, in the 8.1.7 ORACLE_HOME/appsutil/scripts directory. You can use these scripts any time after your installation to manually stop and start the server processes.

Change the Database Passwords

User	Default Password
SYS	change_on_install
SYSTEM	manager

Change the Database Passwords

The default passwords for the SYS account and the SYSTEM account for the Oracle Applications database are change_on_install and manager, respectively. To maintain database security and restrict access to these accounts, you must change these passwords.

Change the Oracle Applications Passwords

User	Default Password
APPS	APPS
AP	AP
INV	INV
PMI	PMI

Change the Oracle Applications Passwords

The default password for all Oracle Applications products is identical to the short name of the product. For example, on this slide you see that the default password for the APPS user is APPS and for the AP user the password is AP.

To maintain database security, you must change the default passwords for the Oracle Applications product accounts of the production and test databases using the System Administration responsibility. Changing Oracle Applications passwords is a two-part process and must be performed according to the instructions in the *Oracle Applications System Administrator's Guide*.

Note: There is an new utility, FNDCPASS, that simplifies the password changing process. See the *Oracle Applications System Administrator's Guide* for details.

Back Up Oracle Applications

**Oracle8*i*
database**

**Oracle Applications
file system**

Back up Oracle Applications

After a successful installation, your system administrator and database administrator should back up the Oracle Applications' product files, including the COMMON_TOP area, the Oracle Applications database files, and the Oracle8*i*, the Oracle 8.0.6, and the HTTP server file systems.

JInitiator

- **Is implemented as a plug-in (Netscape Communicator) or ActiveX component (Microsoft Internet Explorer)**
- **Runs the Oracle Forms Java applet and starts an Oracle Applications session**

JInitiator

Oracle JInitiator is Oracle's Java Virtual Machine, or JVM and takes the place of a browser's default Java Virtual Machine. The Oracle JVM contains components required to run Oracle Applications.

JInitiator is implemented as a:

- Plug-in in Netscape Communicator
- ActiveX component in Microsoft Internet Explorer

JInitiator also runs the Oracle Forms Java applet and allows users to start an Oracle Applications session.

Configuring the Client Software

To configure the client software, perform the following steps:
- **Create your digital certificate.**
- **Repackage JInitiator with your digital certificate.**
- **Install JInitiator.**
- **Restart your browser to load the new plug-in.**

Configuring the Client Software

To configure the client software, you will need to perform the following steps:
- Create your digital certificate.
- Repackage JInitiator with your digital certificate.
- Install JInitiator.
- Restart your browser to load the new plug-in.

Create a Digital Certificate

- **Sign on as the applmgr user on any Web server and execute the APPSORA environment file.**
- **Run the adjkey utility located in the AD_TOP/bin directory:**

```
$ adjkey -initialize
```
   or
```
C:\> adjkey -initialize
```

Create a Digital Certificate

To create a digital certificate, sign on as the applmgr, or default Applications user on any Web server and execute the APPSORA environment file.

Run the adjkey utility located in the AD_TOP/bin directory with the command that you see at the bottom of this slide.

adjkey prompts for the name of the entity and an organization. We recommend using the default values in all cases, as the digital signature generated with each incremental default is different.

Create a Digital Certificate

adjkey creates these files:
- **adcert.txt in the APPL_TOP/admin directory**
- **identitydb.obj in the Applications user's home directory**
- **adsign.txt in the APPL_TOP/admin directory**
- **appltop.cer in the APPL_TOP/admin directory**

If you have multiple Web servers, you must copy identitydb.obj and adsign.txt to each Web server.

ORACLE

Create a Digital Certificate

When adjkey completes, it creates these files:

- adcert.txt - the certificate directive file.

- identitydb.obj - an identity database.

- adsign.txt - the file used to pass arguments to the Java Release Infrastructure for signing JAR files.

- appltop.cer - the certificate that will be repackaged with JInitiator.

If you have multiple Web servers, you must copy the identity.obj and the adsign.txt files to each Web server in your environment.

Repackage JInitiator with Your Digital Certificate

Run the adjbuild.sh script located in the AD_TOP/bin directory, with these arguments:
- **The path to the jinitiator directory**
- **The full filename of the JInitiator self-extracting archive**

```
$ adjbuild.sh /d2/prodcomn/util/jinitiator \
/d2/prodcomn/util/jinitiator/jinit11727.exe
```
or
```
C:\> sh adjbuild.sh D:\prodcomn\util\jinitiator \
D:\prodcomn\util\jinitiator\jinit11727.exe
```

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Repackage JInitiator with your Digital Certificate

You need to modify JInitiator so that it recognizes your digital signature as a trusted entity. You must perform this step after you initially unload your Oracle Applications files, and again every time you get a new version of JInitiator.

To repackage JInitiator with your digital certificate, run the adjbuild.sh script located in the AD_TOP/bin directory with these arguments:

- The path to the JInitiator directory - COMMON_TOP/util/jinitiator.
- The full path and filename of the JInitiator self-extracting archive - COMMON_TOP/util/jinitiator/jinit<XXXX>.exe, where <XXXX> is the version number of JInitiator.

An example of these commands for both the UNIX and NT platforms are shown at the bottom of this slide.

If you have multiple systems with unique digital certificates (in other words you ran adjkey for each system, or instance), you need to repackage JInitiator with all appltop.cer files when running adjbuild. All appltop.cer files need to be placed in the primary APPL_TOP/admin directory before repackaging.

Repackage JInitiator with Your Digital Certificate

adjbuild.sh:
- **Repackages JInitiator using your digital signature**
- **Creates a new archive called oajinit.exe in the current working directory**
- **Copies oajinit.exe to the OA_HTML directory**

ORACLE

Repackage JInitiator with your Digital Certificate

The adjbuild.sh script will:

- Repackage JInitiator using your digital signature.
- Create a new archive called oajinit.exe in the current working directory.
- Copy oajinit.exe to the OA_HTML directory.

The oajinit.exe is a self-extracting archive of the repackaged JInitiator. This file must be copied to OA_HTML on all Web servers.

Install JInitiator

- **Start the Web browser and enter the following URL:**

  `http://<HTTP server host>.<domain name>:<HTTP port>/OA_HTML/<LANGUAGE CODE>/ICXINDEX.htm`

- **If you are using the Netscape browser:**
  - Click the plug-in icon (the puzzle piece) to download the JInitiator executable; save it to any location on the client machine.
  - Exit all your Web browser sessions, and double-click the executable to run it.
- **If you are using Internet Explorer, InstallShield installs Oracle JInitiator automatically.**

ORACLE

Install JInitiator

To install JInitiator on the client, start the Web browser and enter the URL you see in this slide.

If you are using the Netscape browser:

- A plug-in icon will appear. Click this icon that resembles a puzzle piece, to download the JInitiator executable and save it to any location on the client machine.
- You will then need to exit all your Web browser sessions, and double-click the executable to run it.

If you are using Internet Explorer, InstallShield will install Oracle JInitiator automatically.

Restart the Browser to Load
the New Plug-In

- **If you are using the Netscape browser, restart the browser to load the plug-in.**
- **If you are using Internet Explorer, restarting the browser is not necessary.**

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Restart the Browser to Load the New Plug-In

As briefly mentioned in the prior slide, if you are using the Netscape browser, you need to close the browser session and start a new browser to load the plug-in.

If you are using Internet Explorer, restarting the browser is not necessary.

Accessing Oracle Applications

Accessing Oracle Applications

Accessing Oracle Applications

Once you have completed all of the required post-installation steps, you can log into Oracle Applications from the screen you see here.

Start the web browser and log on to Oracle Applications with the following URL:

http://<HTTP server hostname>.<domain name>:<HTTP port>/OA_HTML \

/<LANGUAGE_CODE>/ICXINDEX.htm

For example:

http://ap900.mycompany.com:1234/OA_HTML/US/ICXINDEX.htm

Where ap900 is the HTTP hostname; mycompany.com is the domain name; 1234 is the HTTP port; and US is the language code.

Resize the Database

Resize the Database

After the installation, you may need to increase the size of your production database since Rapid Install does minimal sizing of all products. The increase in database size depends on the products you have licensed, the transaction volume and the additional features, such as multiple languages or multiple organizations, which you configure in your installation.

Set Up National Language Support

Set up National Language Support

Although the base product files are provided in American English, Oracle Applications is available in 29 different languages.

Running Oracle Applications in languages other than American English is referred to as National Language Support or NLS. You can also run Oracle Applications in multiple languages simultaneously, and this is referred to as Multi-Lingual Support or MLS.

If you are performing an NLS installation, your installation is not complete until you have installed the translated files for all active languages by using the AutoPatch utility.

Set Up the Business
Intelligence System

ORACLE *business intelligence is:*

- **A collection of enterprise business indicators**
- **Supported by a suite of analytical workbooks**
- **Integrated with an alert mechanism to proactively communicate operational performance to the management team**

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Set up the Business Intelligence System

The Oracle Business Intelligence System, or BIS is a collection of enterprise business indicators, supported by a suite of analytical workbooks, all integrated with an alert mechanism to proactively communicate operational performance to the management team.

To set up and begin using BIS, you need to perform the tasks outlined in the *BIS Implementation Guide*.

Convert to Multiple Organizations

SO_Headers_All Table

Eastern Region view

Western Region view

Org_Id column

Convert to Multiple Organizations

You can support multiple organizations running any Oracle Applications product with a single installation. These different organizations can reflect different sets of books, business groups, legal entities, operating units or inventory organizations.

The Multiple Organizations architecture, or Multi-Org is a virtual partitioning solution that secures information by operating unit by using views within the APPS schema. These view definitions use the values in the Org_Id column to guarantee that only the information appropriate for the chosen organization is returned to the user.

The Rapid Install Vision Demo database is enabled for Multi-Org. However, the production and test databases are not and will require extra post-installation steps to enable it.

The conversion process is documented in the *Multiple Organizations in Oracle Applications* manual.

Convert to Multiple Reporting Currencies

Primary Set of Books

Currency:

USD

Reporting Set of Books

Currency:

BEF

Primary Responsibility

STANDARD Data

Group

Reporting Responsibility

MRC Data

Group

APPS Schema

APPS_MRC Schema

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Convert to Multiple Reporting Currencies

The Multiple Reporting Currencies feature allows you to report and maintain accounting records at the transaction level in more than one functional currency. This is done by defining one or more reporting sets of books in addition to your primary set of books.

In your reporting sets of books, you maintain records in a functional currency other than your primary functional currency. The data for the reporting set of books is stored in its own schema having its own tables and views.

Like Multi-Org, MRC is enabled by Rapid Install in the Vision Demo database. The production and test databases will require additional post-installation steps to enable MRC.

The *Multiple Reporting Currencies in Oracle Applications* manual details the conversion process.

Implement New Functionality

- **Product functionality**
- **Country-specific functionality**

Implement New Functionality

Depending on the products and country-specific functionalities that you have licensed in your installation, you may need to perform additional implementation tasks before using Oracle Applications. Refer to the individual product or country-specific functionality implementation manuals for details.

Recommended Post-Installation Tasks

- **Review and if necessary perform the System Administration tasks.**
- **Review and if necessary perform the Oracle Applications maintenance tasks.**

Recommended Post-Installation Tasks

There may be additional System Administration and general maintenance tasks that you may need to perform for your freshly installed Oracle Applications. You should familiarize yourself with both the *Oracle Applications System Administrator's Guide* and the *Maintaining Oracle Applications* manual.

Module Summary
_____

Module Summary

In this module, you should have learned how to do the following:
- **List general post-installation tasks.**
- **Describe the JInitiator installation process.**
- **List optional post-installation tasks.**

ORACLE

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Module Discussion

- **There are seven general post-install tasks, name these.**
- **What is the consolidated environment file called?**
- **There are two recommended post installation tasks. Describe them.**

Module Practice

- **Create a digital certificate.**
- **Repackage JInitiator**
- **Install JInitiator.**

See Appendix B for solutions.

Appendix A: Quizzes

Chapter 14

Module 1 Quiz

1. Select a benefit of the Rapid Install utility:

   a Installs all three tiers of the architecture.

   b Reduces component certification issues.

   c Does not install country-specific functionalities.

2. The three possible default environments Rapid Install creates are: Vision, Test and Production.

   True or False.

3. The technology stack installed by Rapid Install is comprised of:

   a The database, the file system, and the Forms server.

   b The Forms server, the Developer products, JRI and JInitiator.

   c The Developer products, the Web server and JRI.

4. Rapid Install only creates one ORACLE_HOME directory.

   True or False

5. JRI (Java Release Infrastructure) is used by the following utilities:

   a Rapid Install and AutoPatch.

   b AD Administration and AutoPatch.

   c AutoPatch and Oracle 8i

6. What is/are the Web listener processes for Applications releases after 11.5.1?

   a Oracle HTTP Web server.

   b Oracle WebDB 2.5.

   c Oracle WebDB 2.2.

   d Oracle WebDB 2.5 and Oracle HTTP web server.

Module 1 Quiz

7. What is the simplest form of multi-node installation?:
   a Single-node.
   b Two-node.
   c Three-node.

8. The installation must be run by two separate users:
   True or False

9. For a multi-node install:
   a A new configuration file must be created for each node.
   b The configuration file must be copied to each node.
   c The configuration file is required only on the initial node.

Module 2 Quiz

1. There are four sections to a single-node installation. Please select the items that are required for a single-node install. (select all that apply).
   a Perform preliminary system setup steps.
   b Use Rapid Install to create a configuration file.
   c Use FTP to copy the configuration file to the other machines.
   d None of the above.
   e All of the above.

2. The Rapid Install program can be re-started to perform an initial install without any system preparation.
   True or False.

3. You can run Rapid Install and perform the installation without staging the CD's.
   True or False.

4. Select the item(s) that is a type of Rapid Install installation. (select all that apply).
   a Single-node
   b Two-node
   c Forms-node
   d Multi-node

5. Rapid Install will allow you to install multiple instances on a single node.
    True or False.

6. Select the names that are presented as default database identifiers. (select all that apply).
   a TEST
   b PROD
   c ORACLE
   d VIS
   e None of the above

7. US7ASCII is the default character set for the single-node Rapid Install installation of a fresh install database.

   True or False

8. If you license the Financials product family, which of the following products are installed? (select all that apply)

   a General Ledger

   b Order Management

   c Accounts Receivables

   d Accounts Payables

   e All of the above

   f None of the above

9. Localizations (Country-specific functionalities) must be installed separately.

   True or False.

10. You must accept the default values for your port numbers when using Rapid Install.

   True or False.

11. The four base level directories created by Rapid Install are:

   a APPS_TOP, DATA_TOP, COMMON_TOP and ORA_TOP.

   b ORA_TOP, APPL_TOP, COMMON_TOP and DATA_TOP.

   c APPS_TOP, JAVA_TOP, ORACLE_TOP, and HTML_TOP.

   d APPL_TOP, JAVA_TOP, ORA_TOP, and DATA_TOP.

   e None of the above.

12. The ORA_TOP directory contains the Oracle Applications database files.

   True or False.

Module 3 Quiz

1. Which is the simplest multi-node installation Rapid Install accommodates?

   a Concurrent Processing server.

   b Web server.

   c Single-node.

   d Two-node.

2. The configuration file can be re-used on all the nodes of a multi-node installation.

   True or False.

3. The default two-node configuration is:

   a Web, Forms and Admin servers on one node and the Concurrent Processing and database servers on the other node.

   b Web, Forms, Admin and the database servers on one node and the Admin and Concurrent Processing servers on the other node.

   c Web and Forms servers on one node and the Admin, Concurrent Processing and database servers on the other node.

   d Web, Forms, Admin and the Concurrent Processing servers on one node and the database server on the other node.

4. If you select the multi-node installation option, you must configure more than two nodes.

   True or False.

5. Oracle Applications Release 11*i* supports the use of the multi-byte UTF-8 character set.

   True or False.

6. When licensing multiple languages:

   a You must accept the default character set.

   b Rapid Install will install all required language files.

   c Select no more than two languages in addition to American English.

   d Select a character set from the list of supported character sets for the languages.

Module 3 Quiz

7. If you are running the Rapid Install immediately after setting all options, you do not need to save the configuration file.

    True or False.

8. Oracle Applications Rapid Install uses the Oracle Universal Installer to install the Oracle database

    True or False.

9. Select the operating system supported by Rapid Install.
  a NT
  b UNIX
  c NT and UNIX

Module 4 Quiz

1. APPSORA.env is the consolidated environment file.
     True or False.

2. Which server process does Rapid Install start?
   a Web server
   b Forms server
   c Database server
   d All of the above
   e None of the above

3. The System Administrator can change Oracle Applications schema passwords in the Oracle Applications forms.
     True or False.

4. You must create a new digital certificate for each Web server in your environment.
     True or False.

5. Adjbuild is used to
   a Build Java packages required by JInitiator.
   b Install the digital certificate on the web server.
   c Repackage JInitiator with the digital certificate.
   d Create JInitiator on the client.

6. The Netscape browser must be restarted to enable JInitiator.
     True or False.

---

7. Resizing the database is required.

    True or False.

8. What are the two recommended post install tasks?

    a Install Oracle8*i* server files and apply NLS.

    b Install Oracle Applications help files and .msb files.

    c Understand System Administration tasks and Oracle Applications
       Maintenance tasks.

    d Create an Oracle Applications database instance and import seed data.

9. MultiOrg or Multiple Organizations allows you to:

    a Support multiple organizations running any Oracle Applications product
       with a single installation.

    b Support multiple products for use in a single organization with a single
       installation of Oracle Applications.

    c Utilize additional APPS schemas to allow multiple product group
       installations.

    d Support the ability to seamlessly integrate data from an acquired company
       with the parent company's database.

Appendix B: Quiz Solutions and Practices

Chapter 15

Module 1 Quiz Solutions

1. Select a benefit of the Rapid Install utility:

   a Installs all three tiers of the architecture. - Incorrect. Rapid Install does not install JInitiator on the client tier

   b **Reduces component certification issues. - Correct. Previously certification had to be ensured between Oracle RDBMS, Forms, Reports, Operating System, Apps, etc. Now, it is required only between the Operating System and Applications as a whole.**

   c Does not install country-specific functionalities. - Incorrect. Rapid Install does install country-specific functionalities.

2. The three possible environments Rapid Install creates are: Vision, Test and Production.

   True - Correct. Rapid Install creates the Vision, Test and Production environments.

   False – Incorrect.

3. The technology stack installed by Rapid Install is comprised of:

   a The database, the file system, and the Forms server. - Incorrect. The file system works in conjunction with the tech stack.

   b The Forms server, the Developer products, JRI and JInitiator. - Incorrect. JInitiator is not installed by Rapid Install.

   c **The Developer products, the Web server and JRI. - Correct. The Developer products (Oracle Forms, Oracle Reports, Oracle Graphics), the HTTP web server and JRI comprise the technology stack.**

Module 1 Quiz Solutions

4. Rapid Install only creates one ORACLE_HOME directory.

   True - Incorrect.

   False - Correct. Rapid Install creates three ORACLE_HOME directories, 8.0.6, 8.1.7, and 8.1.6 iAS

5. JRI (Java Release Infrastructure) is used by the following utilities:

   a Rapid Install and AutoPatch - Incorrect. Not used by Rapid Install

   b **AD Administration and AutoPatch - Correct.**

   c AutoPatch and Oracle8*i* - Incorrect. Not used by Oracle 8*i*

6. What is/are the Web listener processes?

   a **Oracle HTTP Web server - Correct.**

   b Oracle WebDB 2.5 - Incorrect. WebDB 2.5 was used for Release 11.5.1, but not for subsequent releases.

   c Oracle WebDB 2.2 – Incorrect. WebDB 2.2 was used for Release 11.5.1, but not for subsequent releases.

   d Oracle WebDB 2.5 and Oracle HTTP web server - Incorrect. The Oracle HTTP web server is the web listener process. WebDB 2.5 was used for Release 11.5.1, but not for subsequent releases.

Module 1 Quiz Solutions

7. What is the simplest form of multi-node installation?

  a Single-node - Incorrect. Single-node is not the simplest form of a multi-node installation.

  b **Two-node - Correct. Two-node installations are the simplest form of multi-node installations.**

  c Three-node - Incorrect. Three-node is not the simplest form of a multi-node installation.

8. The installation must be run by two separate users:

  True - Incorrect. It can be run by a single user with the proper permissions.

  False - Correct. For NT users, a single user with System Administrator privileges and for UNIX users the root user can perform the installation.

9. For a multi-node install:

  a A new configuration file must be created for each node. - Incorrect. A new configuration file does not need to be created for each node.

  b **The configuration file must be copied to each node - Correct. The configuration file created by Rapid Install on the first node must be copied to each additional node before running Rapid Install on those nodes.**

  c The configuration file is required only on the initial node. - Incorrect. The configuration file is required on all nodes.

Module 2 Quiz Solutions

1. There are four sections to a single-node installation. Please select the items that are required for a single-node install. (select all that apply)

   a **Perform preliminary system setup steps. - Correct. This is the first section of a single-node installation.**

   b **Use Rapid Install to create a configuration file. - Correct. This is a section of a single-node installation.**

   c Use FTP to copy the configuration file to the other machines. - Incorrect. Moving the configuration file to other machines is not required during single-node installations.

   d None of the above - Incorrect. Two of the items listed are required for a single-node install.

   e All of the above - Incorrect. Only two of the items listed are required for a single-node install.

2. The Rapid Install program can be re-started to perform an initial install without any system preparation.

   True - Incorrect

   False - Correct. The system has to be "cleaned-up" prior to re-starting the Rapid Install program.

3. You can run Rapid Install and perform the installation without staging the CD's.

   True - Correct. You can run Rapid Install and perform the installation without staging the CD's.

   False - Incorrect

Module 2 Quiz Solutions

4. Select the item(s) that is a type of Rapid Install installation. (select all that apply)

   a **Single-node – Correct. Single-node is a type of Rapid Install installation**

   b **Two-node - Correct. Two-node is a type of Rapid Install installation**

   c Forms-node - Incorrect. This is not a type of Rapid Install installation.

   d **Multi-node - Correct. Multi-node is a type of Rapid Install installation.**

5. Rapid Install will allow you to install multiple instances on a single node.

   True - Correct.

   False - Incorrect. Rapid Install will allow you to install multiple instances on a single node.

6. Select the names that are presented as default database identifiers. (select all that apply)

   a **TEST - Correct. TEST is a default database identifier.**

   b **PROD - Correct. PROD is a default database identifier.**

   c ORACLE - Incorrect. ORACLE is not a default database identifier.

   d **VIS – Correct. VIS is a default database identifier.**

   e All of the above – Incorrect. One of the names listed is not presented as a default database identifier.

Module 2 Quiz Solutions

7. US7ASCII is the default character set for the single-node Rapid Install installation of a fresh install database.

>   **True - Correct. US7ASCII is the default character set and American English is the default language.**
>
>   False - Incorrect.

8. If you license the Financials product family, which of the following products are installed? (select all that apply)

>   a General Ledger – Incorrect. General Ledger will be installed.
>
>   b Order Management - Incorrect. Order Management will be installed.
>
>   c Accounts Receivables - Incorrect. Accounts Receivables will be installed.
>
>   d Accounts Payables – Incorrect. Accounts Payables will be installed.
>
>   e **All of the above - Correct. For Release 11*i*, all products are installed regardless of license status.**
>
>   f None of the above - Incorrect. For Release 11*i*, all products are installed regardless of license status.

9. Localizations (Country-specific functionalities) must be installed separately.

>   True - Incorrect.
>
>   **False - Correct. Unlike prior releases, Localizations are installed along with all other products in Release 11*i*.**

Module 2 Quiz Solutions

10. You must accept the default values for your port numbers when using Rapid Install.

   True – Incorrect.

   False - Correct. You may specify port numbers when using Rapid Install. Never accept the default values without verifying their accuracy.

11. The four base level directories created by Rapid Install are:

   a APPS_TOP, DATA_TOP, COMMON_TOP and ORA_TOP - Incorrect. APPS_TOP is not a base level directory created by Rapid Install.

   b **ORA_TOP, APPL_TOP, COMMON_TOP and DATA_TOP – Correct. These are the four base level directories created by Rapid Install.**

   c APPS_TOP, JAVA_TOP, ORACLE_TOP, and HTML_TOP - Incorrect. None of these are base level directories created by Rapid Install.

   d APPL_TOP, JAVA_TOP, ORA_TOP, and DATA_TOP – Incorrect. JAVA_TOP is not a base level directory created by Rapid Install.

   e None of the above – Incorrect. One of the answers names the four base level directories created by Rapid Install.

12. The ORA_TOP directory contains the Oracle Applications database files.

   True - Incorrect.

   False - Correct. The ORA_TOP contains the ORACLE_HOMEs. The Oracle Applications database files are located in DATA_TOP.

Module 3 Quiz Solutions

1. Which is the simplest multi-node installation Rapid Install accommodates?

   a Concurrent Processing server - Incorrect. Concurrent Processing server is not the simplest multi-node installation.

   b Web server - Incorrect. Web server is not the simplest multi-node installation.

   c Single-node - Incorrect. Single-node is not the simplest multi-node installation.

   d **Two-node - Correct. This is the simplest multi-node installation.**

2. The configuration file can be re-used on all the nodes of a multi-node installation.

   True - Correct. This is a requirement of multi-node installations.

   False - Incorrect.

3. The default two-node configuration is:

   a Web, Forms and Admin servers on one node and the Concurrent Processing and database servers on the other node. – Incorrect. Web, Forms and Admin servers are not configured on one node.

   b Web, Forms, Admin and the database servers on one node and the Admin and Concurrent Processing servers on the other node. - Incorrect. Web, Forms, Admin and the database servers are not configured on one node.

   c **Web and Forms servers on one node and the Admin, Concurrent Processing and database servers on the other node. - Correct. This is the correct two-node configuration.**

   d Web, Forms, admin and the Concurrent Processing servers on one node and the database server on the other node. - Incorrect. Web, Forms, Admin and Concurrent Processing servers are not configured on one node.

Module 3 Quiz Solutions

4. If you select the multi-node installation option, you must configure more than two nodes.

> True - Incorrect. You can configure just two nodes, however, it may be easier to select the two-node install option.

> **False - Correct. A two-node installation is the simplest form of a multi-node install.**

5. Oracle Applications Release 11*i* supports the use of the multi-byte UTF-8 character set.

> **True - Correct. The UTF-8 character set is supported in Oracle Applications Release 11*i*.**

> False - Incorrect.

6. When licensing multiple languages:

> a You must accept the default character set. - Incorrect. The default character set for a fresh install is US7ASCII and it will not support many of the languages supported by Oracle Applications.

> b Rapid Install will install all required language files. - Incorrect. Languages files must be installed with AutoPatch after Rapid Install completes

> c Select no more than two languages in addition to American English. - Incorrect. You may install any number of languages from the supported languages list in a single Applications instance.

> d **Select a character set from the list of supported character sets for the languages. - Correct. Once the languages are selected, Rapid Install lists the supported character sets for the languages selected.**

Module 3 Quiz Solutions

7. If you are running the Rapid Install immediately after setting all options, you do not need to save the configuration file.

   True - Incorrect.

   False - Correct. The configuration file must be saved. Rapid Install uses this file to determine the environment configuration on all nodes.

8. Oracle Applications Rapid Install uses the Oracle Universal Installer to install the Oracle database

   True - Correct. Rapid Install uses Oracle Universal Installer to install the database.

   False - Incorrect.

9. Select the operating system supported by Rapid Install.

   a NT - Incorrect. Rapid Install supports more than just the NT operating system.

   b UNIX - Incorrect. Rapid Install supports more than just the UNIX operating system.

   c **NT and UNIX - Correct. Rapid Install works on both NT and UNIX systems.**

Module 4 Quiz Solutions

1. APPSORA.env is the consolidated environment file.

    True - Correct. This file sets up both the Applications and Oracle 8-based technology stack environment.

    False - Incorrect.

2. Which server process does Rapid Install start?

    a Web server – Incorrect. In addition to Web server, Rapid Install also starts other server processes.

    b Forms server - Incorrect. In addition to Forms server, Rapid Install also starts other server processes.

    c Database server - Incorrect. In addition to Database server, Rapid Install also starts other server processes.

    d **All of the above - Correct. Rapid Install configures and starts all server processes.**

    e None of the above – Incorrect. Rapid Install configures and starts all server processes.

3. The System Administrator can change Oracle Applications schema passwords in the Oracle Applications forms.

    True - Incorrect.

    False - Correct. Changing schema passwords is a two step process. The password must be changed through the forms and through SQL*Plus.

Module 4 Quiz Solutions

4. You must create a new digital certificate for each web server in your environment.

   True - Incorrect.

   False - Correct. There should only be one digital certificate. If you have multiple Web servers in your environment, the initial digital certificate should be copied to each Web server.

5. Adjbuild is used to

   a Build Java packages required by JInitiator. – Incorrect. Adjbuild is not used to build Java packages.

   b Install the digital certificate on the Web server. - Incorrect. Adjbuild is not used to install the digital certificate on the Web server.

   c **Repackage JInitiator with the digital certificate. - Correct. The adjbuild script repackages JInitiator with your digital certificate and creates the archive called oajinit.exe, which will be downloaded to the client.**

   d Create JInitiator on the client - Incorrect. Adjbuild is not used to create JInitiator on the client.

6. The Netscape browser must be restarted to enable JInitiator.

   True - Correct. Netscape must be restarted for the plug-in to take effect, however, Internet Explorer does not need to be restarted after installing JInitiator.

   False – Incorrect.

Module 4 Quiz Solutions

7. Resizing the database is required.

   True - Incorrect.

   False - Correct. Resizing the database is not required. However, it may be necessary for most systems to accommodate site-specific data and transactions processing.

8. What are the two recommended post install tasks?

   a Install Oracle8*i* server files and apply NLS - Incorrect. Oracle8*i* server files have already been installed.

   b Install Oracle Applications help files and .msb files - Incorrect. Oracle Applications help files have been installed already.

   c **Understand System Administration tasks and Oracle Applications Maintenance tasks - Correct. These are very important post install tasks.**

   d Create an Oracle Applications database instance and import seed data - Incorrect. These are not post install tasks.

9. MultiOrg or Multiple Organizations allows you to:

   a **Support multiple organizations running any Oracle Applications product with a single installation. - Correct. Multiple Organization architecture is a virtual partitioning solution, which secures information by operating unit by using views within the APPS schema.**

   b Support multiple products for use in a single organization with a single installation of Oracle Applications. - Incorrect. This is a standard functionality of Oracle Applications

   c Utilize additional APPS schemas to allow multiple product group installations. - Incorrect. This is a feature of the Multiple Sets of Book architecture (MSOBA). MSOBA was utilized in releases prior to 11*i*.

   d Support the ability to seamlessly integrate data from an acquired company with the parent company's database. - Incorrect. Multiple Organization Architecture is a virtual partitioning solution, which secures information by operating unit by using views within the APPS schema.

Module 2 Practice

Practice 1: Performing Preliminary Installation Tasks

In this practice, you set up your environment for an installation of Oracle Applications, Release 11*i*.

INSTRUCTIONS:

1 Verify system resources.

Verify that you have at least 650 MB of temporary disk space so that you can stage the red CD onto your disk. Also, verify that you have sufficient disk space to perform the installation. You will need approximately 20GB of free space for a fresh installation.

2 Create accounts.

If you are installing on UNIX, create a single account that will own the Oracle technology stack files (Oracle8 and Oracle tools) and the Oracle Applications files. For the purpose of this practice, this can be any user. If you have root access, you can create an Applications user and an Oracle user and run the installation as the root user.

If you are installing on NT, perform the installation as any user with system administrator privileges. For the purpose of this practice, this can be any user.

The user may have already been created for you by your instructor.

3 Create mount points or base locations for the database to be installed.

Create mount points for the four high level directories. These directories are APPL_TOP, COMMON_TOP, ORA_TOP, and DATA_TOP.

4 Stage the Rapid Install product files.

a) Load Disk 1 (red CD) in the CD drive.

b) Stage the red CD to your environment.

Module 2 Practice

Practice 2: Performing a Single-Node Installation

In this practice, you use the Rapid Install screens to configure your Oracle Applications system for a single-node installation.

INSTRUCTIONS:

1 Change to the rapidwiz directory of the staged red CD and start the Rapid Install wizard by typing rapidwiz at the prompt.

> For UNIX:
>
> ```
> $ rapidwiz
> ```
>
> For NT:
>
> ```
> C:\> rapidwiz.cmd
> ```

Note: If the oraInventory does not exist on the system, Rapid Install prompts you for the location to create it.

2 Choose an installation process.

a) Run Rapid Install and choose Install Oracle Applications.

b) Click Next.

3 Choose the type of configuration.

a) Select the Single-node option to install all servers (database, Admin, Concurrent Processing, Forms, and Web) on a single node.

b) Click Next.

4 Choose environments. You can create a configuration file that installs up to three Oracle Applications instances: Production, Test, and Vision Demo.

a) Select the first check box.

b) Change the name of your database (optional).

c) Identify the type of database by selecting the appropriate entry from the drop-down list. Select the Fresh install database option.

d) Click Next.

5 Choose the products you want to install. Products can be licensed individually or by product families.

a) Select the desired product families.

b) Click the Prod. Detail button to view the Select Individual Products screen.

c) Select the desired individual products.

d) Click OK in the Select Individual Products screen.

e) Click Next.

Module 2 Practice

Practice 2: Performing a Single-Node Installation (cont.)

6 Select country-specific functionality.

a) Select the country-specific functionality that you would like to license.

b) Click Next.

7 Select the National Language Support settings. The default language, territory, and character sets are shown.

a) Click the Select Languages button.

b) Highlight the languages you would like to license in the Available Languages list and click the right arrow to move it into the Installed Languages list.

c) Click OK.

d) Select the base language.

e) Select the territory.

f) Select the database character set. The drop-down list shows the supported character sets for the languages you have selected.

g) Select the APPL_TOP character set.

h) Click Next.

8 Specify the base locations and user accounts. The values you define here are the top-level directories used to calculate the settings for each instance and are carried over to the subsequent screens where you define lower-level directories. You can change the default values for any of the following fields based on the configuration of your environment.

a) Verify the APPL_TOP base default directory mount setting.

b) Verify the COMMON_TOP base default directory mount setting.

c) Verify the ORA_TOP base default directory mount setting.

d) Verify the DATA_TOP (sys) base default directory mount setting.

e) Verify the DATA_TOP (sys) base default directory mount setting.

f) Verify the DATA_TOP (logs) base default directory mount setting.

g) Verify the DATA_TOP (data) base default directory mount setting.

h) For UNIX users: Enter a name in the Apps OS User field, a group name in the Apps OS Group field, a name in the Oracle OS User field, and a group name in the Oracle OS Group field.

Module 2 Practice

Practice 2: Performing a Single-Node Installation (cont.)

   i) For NT users: Enter the name and the password of the NT user.

   j) Verify the DNS domain name.

   k) Enter the DBA group name (UNIX).

   l) Click Next.

9 Specify the locations for node-specific details.

   a) Verify the APPL_TOP mount point. You can install all Oracle Applications files in this directory, or you can distribute the files on up to four different mount points or disks.

   b) Verify the APPL_TOP aux 1 mount point. This is an auxiliary (second) node in a distributed Oracle Applications installation.

   c) Verify the APPL_TOP aux 2 mount point. This is an auxiliary (third) node in a distributed Oracle Applications installation.

   d) Verify the APPL_TOP aux 3 mount point. This is an auxiliary (fourth) node in a distributed Oracle Applications installation.

   e) Verify the APPL_TOP character set.

   f) Reverify the COMMON_TOP directory.

   g) Verify the 8.1.7 ORACLE_HOME directory.

   h) Verify the 8.0.6 ORACLE_HOME directory.

   i) Verify the iAS ORACLE_HOME directory.

   j) Reverify the DATA_TOP (sys) base default directory mount setting.

   k) Reverify the DATA_TOP (logs) base default directory mount setting.

   l) Reverify the DATA_TOP (data) base default directory mount setting.

   m) Verify the DATA_TOP (index) base default directory mount setting.

   n) Verify the location of the JAVA_TOP directory. JAVA_TOP contains the Java files used by all Oracle Applications products.

   o) Verify the location of the PORTAL_TOP directory. PORTAL_TOP contains the HTML files that appear after Rapid Install finishes the installation.

   p) Verify the location of the JRE_TOP directory. JRE_TOP contains the Java Runtime Engine files used by all Oracle Applications products.

Module 2 Practice

Practice 2: Performing a Single-Node Installation (cont.)

q) Verify the location of the Temp directory. Temp contains directories for temporary files.

r) For UNIX users: Verify the name of the Apps OS user, the name of the Apps OS group, the name of the Oracle OS user, the name of the Oracle OS group, the value for X DISPLAY, and the External JDK directory.

s) For NT users: Verify the name and password of the NT user, and the locations for the MKS Toolkit and Microsoft Visual C++.

t) Verify the DNS domain name.

u) Verify the DBA group name (UNIX).

v) Click Next.

10 Review the instance settings. Rapid Install uses the values specified in this window to configure your services, such as the Forms and Web servers, as well as your listener services and processes.

a) Verify the SID.

b) Verify the name of the database.

c) Verify the database character set.

d) Verify the default territory.

e) Verify the database port.

f) Verify the RPC port. The RPC port is the TCP/IP port on the concurrent processing server node that listens for incoming Report Review Agent requests.

g) Verify the Web port. This is the HTTP port on the Apache HTTP server that listens for incoming requests from browsers or other servers.

h) Verify the Forms port. This is the TCP/IP port on the Forms server that listens for incoming requests from browsers or other servers.

i) Verify the Reports port. This is the TCP/IP port on the Reports server that listens for incoming requests from browsers or other servers.

j) Verify the Apache servlet port. This is the port on the Apache HTTP server that browsers connect to when invoking Java servlets.

k) Verify the TCF server port. This is the TCP/IP port on any HTTP server that picks up requests for the TCF server.

l) Verify the Metrics Server data port. This is the TCP/IP port on which the Metrics Server listens for load data from Metrics clients running on other machines.

Module 2 Practice

Practice 2: Performing a Single-Node Installation (cont.)

m) Verify the Metrics Server request port. This is the TCP/IP port on which the Metrics Server listens for the "least-loaded host" requests from Forms clients.

n) Click Next.

11 Save the configuration file.

a) Specify a directory for the configuration file.

b) Click Next.

12 Verify pre-install check.

a) Verify that the results of the system pre-install check are satisfactory (all check marks). If there are issues, correct them based upon the information in the screen.

b) Click Next.

13 Review the completion steps.

a) Review the steps Rapid Install will perform.

b) Click Next.

You have completed the configuration of your Oracle Applications environment for a single-node installation. At this time, Rapid Install displays an alert window and asks you to verify that you are ready to begin the installation. If you have performed all of the necessary preparation steps for a full installation, click Yes. If you have not performed all of the necessary preparation steps, click No.

Module 3 Practice

Practice 3: Configuring a Multi-Node Installation

In this practice, you use the Rapid Install screens to configure your Oracle Applications environment for a multi-node installation. For the purposes of this practice, you can perform the simplest type of multi-node installation, a two-node installation.

INSTRUCTIONS:

1 Choose an installation process.

a) Run Rapid Install and choose Install Oracle Applications.

b) Click Next.

2 Choose the type of configuration.

a) Select the Two Node option to install the database and concurrent manager server on one node and the Forms and Web servers on the other node.

b) Click Next.

3 Choose environments. You can create a configuration file that installs up to three Oracle Applications instances: Production, Test, and Vision Demo.

a) Select the first check box.

b) Change the name of your database (optional).

c) Identify the type of database by selecting the appropriate entry from the drop-down list. Select the Fresh install database option.

d) Click Next.

4 Choose the products you want to install. Products can be licensed individually or by product families.

a) Select the desired product families.

b) Click the Prod. Detail button to view the Select Individual Products window.

c) Select the desired individual products.

d) Click OK in the Select Individual Products window.

e) Click Next.

5 Select country-specific functionality.

a) Select the country-specific functionality that you would like to license.

b) Click Next.

Module 3 Practice

Practice 3: Configuring a Multi-Node Installation (cont.)

6 Select the National Language Support settings. The default language, territory, and character sets are shown.

a) Click on the Select Languages button.

b) Highlight the languages you would like to license in the Available Languages list and click the right arrow to move it into the Installed Languages list.

c) Click OK.

d) Select the base language.

e) Select the territory.

f) Select the database character set. The drop-down list shows the supported character sets for the languages you have selected.

g) Select the APPL_TOP character set.

h) Click Next.

7 Enter the host names for each node.

a) Enter a name for the DB/Conc. Proc. Node. This should be the network name for the node. For NT right-click on Network Neighborhood and select properties.

b) Select NT as the operating system.

c) Enter a name for the Forms/Web node (for example, ap999sun).

d) Select Solaris as the operating system.

8 Specify the base locations and user accounts for the DB/Conc. Proc. node. The values you define here are the top-level directories used to calculate the settings for each instance and are carried over to the subsequent windows where you define lower-level directories. You can change the default values for any of the following fields based on the configuration of your environment.

a) Verify the APPL_TOP base default directory mount setting.

b) Verify the COMMON_TOP base default directory mount setting.

c) Verify the ORA_TOP base default directory mount setting.

d) Verify the DATA_TOP (sys) base default directory mount setting.

e) Verify the DATA_TOP (sys) base default directory mount setting.

f) Verify the DATA_TOP (logs) base default directory mount setting.

g) Verify the DATA_TOP (data) base default directory mount setting.

h) For UNIX users: Enter a name in the Apps OS User field, a group name in the Apps OS Group field, a name in the Oracle OS User field, and a group name in the Oracle OS Group field.

Module 3 Practice

Practice 3: Configuring a Multi-Node Installation (cont.)

  i) For NT users: Enter the name and password of the NT user.

  j) Verify the DNS domain name.

  k) Enter the DBA group name (UNIX).

  l) Click Next.

9 Repeat step 8 for the Forms/Web node. To toggle between the two nodes, click the appropriate tab at the top of the window.

10 Specify the node-specific directory location details for the DB/Conc. Proc. node.

  a) Verify the APPL_TOP mount point. You can install all Oracle Applications files in this directory, or you can distribute the files on up to four different mount points or disks.

  b) Verify the APPL_TOP aux 1 mount point. This is an auxiliary (second) node in a distributed Oracle Applications installation.

  c) Verify the APPL_TOP aux 2 mount point. This is an auxiliary (third) node in a distributed Oracle Applications installation.

  d) Verify the APPL_TOP aux 3 mount point. This is an auxiliary (fourth) node in a distributed Oracle Applications installation.

  e) Verify the APPL_TOP character set.

  f) Reverify the COMMON_TOP directory.

  g) Verify the 8.1.7 ORACLE_HOME directory.

  h) Verify the 8.0.6 ORACLE_HOME directory.

  i) Verify the iAS ORACLE_HOME directory.

  j) Reverify the DATA_TOP (sys) base default directory mount setting.

  k) Reverify the DATA_TOP (logs) base default directory mount setting.

  l) Reverify the DATA_TOP (data) base default directory mount setting.

  m) Verify the DATA_TOP (index) base default directory mount setting.

  n) Verify the location of the JAVA_TOP directory. JAVA_TOP contains the Java files used by all Oracle Applications products.

  o) Verify the location of the PORTAL_TOP directory. PORTAL_TOP contains the HTML files that appear after Rapid Install finishes the installation.

Module 3 Practice

Practice 3: Configuring a Multi-Node Installation (cont.)

p) Verify the location of the JRE_TOP directory. JRE_TOP contains the Java Runtime Engine files used by all Oracle Applications products.

q) Verify the location of the Temp directory. Temp contains directories for temporary files.

r) For UNIX users: Verify the name of the Apps OS user, the name of the Apps OS group, the name of the Oracle OS user, and the name of the Oracle OS group, the value for X DISPLAY, and the External JDK directory.

s) For NT users: Verify the name and password of the NT user, and the locations for the MKS Toolkit and Microsoft Visual C++.

t) Verify the DNS domain name.

u) Verify the DBA group name (UNIX).

v) Click Next.

11 Repeat step 10 for the Forms/Web node.

12 Review the instance settings. Rapid Install uses the values specified in this window to configure your services, such as the Forms and Web servers, as well as your listener services and processes.

a) Verify the server ID.

b) Verify the name of the database.

c) Verify the database character set.

d) Verify the default territory.

e) Verify the database port.

f) Verify the RPC port. The RPC port is the TCP/IP port on the concurrent processing server node that listens for incoming Report Review Agent requests.

g) Verify the Web port. This is the HTTP port on the Apache HTTP server that listens for incoming requests from browsers or other servers.

h) Verify the Forms port. This is the TCP/IP port on the Forms server that listens for incoming requests from browsers or other servers.

i) Verify the Reports port. This is the TCP/IP port on the Reports server that listens for incoming requests from browsers or other servers.

j) Verify the Apache servlet port. This is the port on the Apache HTTP server that browsers connect to when invoking Java servlets.

Module 3 Practice

Practice 3: Configuring a Multi-Node Installation (cont.)

k) Verify the TCF server port. This is the TCP/IP port on any HTTP server that picks up requests for the TCF server.

l) Verify the Metrics Server data port. This is the TCP/IP port on which the Metrics Server listens for load data from Metrics clients running on other machines.

m) Verify the Metrics Server request port. This is the TCP/IP port on which the Metrics server listens for the "least-loaded host" requests from Forms clients.

n) Click Next.

13 Save the configuration file.

a) Specify a directory for the configuration file.

b) Click Next.

14 Verify pre-install check.

a) Verify that the results of the system pre-install check are satisfactory (all check marks). If there are issues, correct them based upon the information in the screen..

b) Click Next.

15 Review the completion steps.

a) Review the steps Rapid Install will perform.

b) Click Next.

You have completed the configuration of your Oracle Applications system for a two-node installation. At this time, Rapid Install displays an alert window and asks you to verify that you are ready to begin the installation. Click No and exit Rapid Install.

Module 4 Practice

Practice 4: Creating a Digital Certificate

In this practice, you use the adjkey utility to create a digital certificate. The digital certificate will be used to repackage JInitiator in the next practice.

INSTRUCTIONS:

1 Sign on to the HTTP (Web) server as the applmgr (default Applications) user, and execute APPSORA.env (for UNIX) or APPSORA.cmd (for NT) to set up your environment.

2 Run adjkey using the -initialize flag.

> For UNIX users:
>
> ```
> $AD_TOP/bin/adjkey -initialize
> ```
>
> For NT users:
>
> ```
> %AD_TOP%\bin\adjkey -initialize
> ```

The program asks you for the name of the entity and an organization. You may accept the default values.

3 Verify that the following four files have been created:

- APPL_TOP/admin/out/adcert.txt
- <applmgr's home directory>/identitydb.obj
- APPL_TOP/admin/adsign.txt
- APPL_TOP/admin/appltop.cer

Module 4 Practice

Practice 5: Repackaging JInitiator

In this practice, you use the adjbuild utility to repackage JInitiator with the digital certificate you created in the previous practice.

INSTRUCTIONS:

1 Sign on to the HTTP server as the applmgr (default Applications) user, and execute APPSORA.env (for UNIX) or APPSORA.cmd (for NT) to set up your environment, if you have not done so already.

2 Identify the parameters you need to pass to adjbuild.

a) First is the COMMON_TOP/util/jinitiator directory.

b) The second is the location of the JInitiator file. It is COMMON_TOP/util/jinitiator/jinit11727.exe.

3 Run adjbuild.

For example (UNIX users):

```
$ adjbuild.sh /d2/prodcomn/util/jinitiator \
/d2/prodcomn/util/jinitiator/jinit11727.exe
```

Repackages the version of JInitiator in /d2/prodcomn/util/jinitiator using your digital signature and creates a new archive called oajinit.exe in the current working directory.

For example (NT users):

Run adjbuild.sh in a DOS command window that has the appropriate environment set up. To prepare the environment, run envshell.cmd (located in the APPL_TOP), which will open another DOS command window with all the environment variables set correctly. Then, from this window, run adjbuild.sh as follows:

```
C:\> sh adjbuild.sh
D:\oracle\prodcomn\util\jinitiator \
D:\oracle\prodcomn\util\jinitiator\ \
jinit11727.exe
```

Repackages the version of JInitiator under D:\oracle\prodcomn\util\jinitiator using your digital signature and creates a new archive called oajinit.exe in the current working directory.

4 Copy oajinit.exe to OA_HTML on all HTTP servers.

Module 4 Practice

Practice 6: Installing JInitiator

In this practice, you install the repackaged JInitiator on the client machine.

INSTRUCTIONS:

1 Start the web browser and log on to Oracle Applications with the following URL:

http://<HTTP server hostname>.<domain name>:<HTTP port>/OA_HTML \

/<LANGUAGE_CODE>/ICXINDEX.htm

For example:

http://ap900.mycompany.com:1234/OA_HTML/US/ICXINDEX.htm

Where ap900 is the HTTP hostname; mycompany.com is the domain name; 1234 is the HTTP port; and US is the language code.

2 Install JInitiator.

If you are using Microsoft Internet Explorer, InstallShield will install JInitiator for you.

If you are using Netscape, perform the following steps:

a) You will see a plug-in icon shaped like a puzzle piece. Click on the icon.

b) In the Save As dialog box, designate the location on the client where the executable will be downloaded.

c) After the executable is saved, exit from all your web browser sessions. Go to the location where you downloaded the JInitiator executable and double-click the executable to run it. InstallShield will install Oracle JInitiator. When prompted, click Yes and follow the instructions. This loads the plug-in.

3 Start a new browser session and connect to Oracle Applications.

Database Administration Tasks

Chapter 16

11*i* Use Oracle Applications AD Utilities

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Course Modules

- **Database Administration Tasks**
- **File System Administration Tasks**
- **Special Utilities (Part A)**
- **Special Utilities (Part B)**
- **Cloning Oracle Applications**

Course Modules

This course contains five modules:

- Database Administration Tasks
- File System Administration Tasks
- Special Utilities (Part A)
- Special Utilities (Part B)
- Cloning Oracle Applications

Course Overview

**Oracle8*i*
Database**

**Oracle Applications
File System**

AD Utilities

Overview

The AD utilities are a set of tools used to install, upgrade, patch and maintain the Oracle Applications database and file system. This course introduces some of the key AD utilities:

- AD Administration
- AD Controller
- AD Configuration
- AD Splicer
- File Character Set Conversion
- ODF Comparison
- AD Relink
- DataMerge
- AD Run SQL
- AD Rebase
- License Manager
- AD cloning utility

We will cover some of these utilities in detail and others at a high level overview.

Module 1

Database Administration Tasks

11*i* Use Oracle Applications AD Utilities

Objectives

At the end of this module, you should be able to do the following:

- **Describe AD Administration.**
- **List database tasks you can perform with AD Administration.**
- **Validate and compile APPS schemas.**
- **Recreate grants and synonyms for APPS schemas.**
- **Compile flexfield data in AOL tables.**
- **Maintain multilingual tables.**
- **Maintain or convert to Multiple Reporting Currencies.**
- **Convert to Multiple Organizations.**
- **Clone Oracle Applications.**

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Database Administration Tasks

Module Overview

This module comprises the following topics:
- **Describe AD Administration**
- **Perform preliminary steps and**
- **Respond to prompts**
- **Validate APPS schema(s)**
- **Compile APPS schema(s)**
- **Recreate missing grants and synonyms for APPS schema(s)**
- **Compile flexfield data**
- **Check the SYS.DUAL table**

Overview

In this module we introduce one of the primary AD utilities, AD Administration. We

- Describe AD Administration
- Perform preliminary steps
- Respond to prompts

Then we cover the following tasks on the Maintain Applications Database Objects menu:

- Validate APPS schema(s)
- Compile APPS schema(s)
- Recreate missing grants and synonyms for APPS schema(s)
- Compile flexfield data
- Check the SYS.DUAL table
- Maintain Multi-lingual tables
- Maintain or convert to Multiple Reporting Currencies
- Convert to Multiple Organizations

Module Overview

This module comprises the following topics:
- **Maintain multi-lingual tables**
- **Maintain or convert to Multiple Reporting Currencies**
- **Convert to Multiple Organizations**

Overview (cont.)

- Maintain Multi-lingual tables
- Maintain or convert to Multiple Reporting Currencies
- Convert to Multiple Organizations

AD Administration

AD Administration is divided into two categories:
- **Database tasks**
- **File system tasks**

These tasks are performed by:
- **Database administrators**
- **System administrators**
- **Technical specialists**

AD Administration

AD Administration allows you to perform two categories of tasks:

- Database tasks
- File system tasks

The database tasks are performed on the Oracle Applications database. Some of these tasks are performed once such as converting to a Multiple Organization architecture. Other tasks can be performed periodically. Some tasks, such as compile APPS schemas should be run after application of maintenance packs. You may run others tasks, such as recreate grants and synonyms when trying to solve a problem.

The file system tasks are performed on the Oracle Applications file system. These include creating an Applications environment file, relinking programs and generating files.

The AD Administration tasks are usually performed by database administrators, system administrators and technical specialists within your enterprise.

Preliminary Tasks

AD Administration preliminary tasks include:

- **Logging on as `applmgr`**
- **Running the environment file (APPSORA.env)**
- **Verifying that `ORACLE_HOME` is set properly**
- **Verifying that `TWO_TASK` identifies the correct database**
- **Ensuring that `$ORACLE_HOME/bin` and `$AD_TOP/bin` are in your PATH**
- **Shutting down concurrent managers when relinking certain files or performing certain database tasks**
- **Ensuring sufficient temporary disk space**

Preliminary Tasks

There are some preparatory steps you need to perform before using AD Administration. They are shown on the slide.

Once these preliminary tasks are complete, you can start AD Administration at the operating system prompt by typing "adadmin".

The temporary directories APPLTMP, REPORT60_TMP, and the operating system temporary directory (/tmp, /usr/tmp, or C:\temp) must each have at least 50 MB of free space.

AD Administration Prompts

AD Administration asks you for:

- **The correct `APPL_TOP`**
- **The name of the log file**
- **Your preference on whether to notify you by e-mail if an error occurs**
- **The batchsize**
- **The correct Oracle Applications database**
- **The password for the `SYSTEM` schema**
- **The password for the `APPLSYS` schema**

AD Administration Prompts

Upon starting AD Administration, the utility prompts you for some key information. These are:

- The correct APPL_TOP
- The name of the log file
- Your preference on whether to notify you by e-mail if an error occurs during parallel worker execution
- The batchsize or default number of rows to process and commit during certain SQL operations
- The correct Oracle Applications database
- The password for the SYSTEM schema
- The password for the APPLSYS schema

Once you provide AD Administration with this information, it will verify the configuration of your file system and connect to the database. You will then see the AD Administration main menu.

AD Administration Main Menu

```
           AD Administration Main Menu

------------------------------------------------


  1.   Maintain Applications Database Objects menu

  2.   Maintain Applications Files menu

  3.   Exit AD Administration
```

AD Administration Main Menu

This is the AD Administration main menu. It has three options

1. Maintain Applications Database Objects menu

2. Maintain Applications Files menu

3. Exit AD Administration

We will cover each set of tasks in more detail in the following topics.

Maintain Database Objects

```
          Maintain Applications Database Objects

    ------------------------------------------------------

    1.   Validate APPS schema(s)

    2.   Compile APPS schema(s)

    3.   Recreate grants and synonyms for APPS schema(s)

    4.   Compile flexfield data in AOL tables

    5.   Maintain multi-lingual tables

    6.   Check DUAL table

    7.   Maintain Multiple Reporting Currencies schema(s)

    8.   Convert to MultiOrg

    9.   Return to Main Menu
```

ORACLE

Maintain Database Objects

This is the Maintain Database Objects menu and these are the available tasks. There are 8 available tasks in this menu. In this topic, we cover the first 3 tasks.

Before running any tasks to maintain database objects, AD Administration automatically verifies that certain database initialization parameters are set correctly. Warnings are generated for any potential problems.

Note: The database task options may vary depending upon the configuration of your system. For instance, if Multiple Reporting Currencies is not installed, option 7 would say Convert to Multiple Reporting Currencies instead of Maintain Multiple Reporting Currencies schema(s).

Validate APPS Schema(s)

```
        Maintain Applications Database Objects
------------------------------------------------------
1.   Validate APPS schema(s)

2.   Compile APPS schema(s)

3.   Recreate grants and synonyms for APPS schema(s)

4.   Compile flexfield data in AOL tables

5.   Maintain multi-lingual tables

6.   Check DUAL table

7.   Maintain Multiple Reporting Currencies schema(s)

8.   Convert to MultiOrg

9.   Return to Main Menu
```

ORACLE

Validate APPS Schema(s)

The first task in the Maintain Applications Database Objects menu is the
Validate APPS schemas task. By selection option 1, AD Administration runs the
sql script advrfapp.sql, which is located in the AD_TOP/admin/sql directory.

Database Administration Tasks

Validate APPS Schema(s)

- **An output file, <APPS schema name>.lst, is produced for each APPS schema, (e.g., APPS.lst, APPS_MRC.lst)**
- **The file is located in $APPL_TOP/admin/<SID>/out.**
- **Review the output file and fix everything reported to avoid potential problems while running or maintaining Applications.**
- **The output file contains information about how to fix each reported problem.**

ORACLE

Validate APPS Schema(s)

The Validate Apps schema task produces an output file called <APPS schema name>.lst, where <APPS schema name> is the name of your APPS schema. This file is located in $APPL_TOP/admin/<SID>/out.

You should review this output file and fix all errors reported in it to avoid potential problems while running or maintaining Oracle Applications. The output file contains information about how to fix each of the reported problems.

Issues this task may find include:

- Missing or invalid packages
- Missing or invalid synonyms
- Invalid objects in APPS

Validate APPS Schema(s)

This task is most effective if run:
- **Immediately after an upgrade or applying a maintenance pack.**
- **After a patch is applied (for multiple patches, run it once after you apply all the patches).**
- **Before converting to Multiple Organizations or Multiple Reporting Currencies (MRC).**
- **After performing an export/import (migration).**
- **When doing custom development in APPS schema(s).**
- **Whenever you receive a run-time error that suggests a problem is coming from the AD_DDL package.**

Validate APPS Schema(s)

You want to run this task in the following situations:

- Immediately after an upgrade or applying a maintenance pack
- After a patch is applied (for multiple patches, run it once after you apply all the patches)
- Before converting to Multiple Organizations or Multiple Reporting Currencies (MRC)
- After performing an export/import (migration)
- When doing custom development in APPS schema(s)
- Whenever you receive a run-time error that suggests a problem is coming from the AD_DDL package

Compile APPS Schema(s)

```
        Maintain Applications Database Objects

   ----------------------------------------------------

   1.   Validate APPS schema(s)

   2.   Compile APPS schema(s)

   3.   Recreate grants and synonyms for APPS schema(s)

   4.   Compile flexfield data in AOL tables

   5.   Maintain multi-lingual tables

   6.   Check DUAL table

   7.   Maintain Multiple Reporting Currencies schema(s)

   8.   Convert to MultiOrg

   9.   Return to Main Menu
```

ORACLE

Compile APPS Schema(s)

The second task in the Maintain Applications Database Objects menu is
Compile Apps schema(s). For one reason or another you may have invalid
objects within your APPS schema. When this occurs, running the Compile
APPS schema(s) task will assist you in resolving invalid objects. The output
from the Validate APPS schema(s) task mentioned earlier will provide you with
a list of invalid objects.

This task can be performed with multiple workers. The default is two workers
plus one worker for each CPU.

This task compiles uncompiled program units (PL/SQL and Java) in the APPS
schemas, so uncompiled objects in other schemas such as SYS and SYSTEM
are not necessarily compiled. Normally the database will "lazily" compile these
objects when accessed, but you can do this before users access them to:

  • Find truly invalid objects before users get a runtime error.
  • Increase runtime performance as all objects will be pre-compiled.

Database Administration Tasks

Chapter 16 - Page 17

Compile APPS Schema(s)

This task is most effective if run:

- **When custom packages are moved to the APPS schema and need to be compiled**
- **When a package is invalid and needs to be recompiled**
- **Immediately after an upgrade**
- **Immediately after applying a maintenance pack**
- **After patches that alter packages in the APPS schema are applied**

Compile APPS Schema(s)

This task is most effective when run in the situations listed on this slide.

Recreate Grants and Synonyms

```
        Maintain Applications Database Objects
-----------------------------------------------------
1.  Validate APPS schema(s)

2.  Compile APPS schema(s)

3.  Recreate grants and synonyms for APPS schema(s)

4.  Compile flexfield data in AOL tables

5.  Maintain multi-lingual tables

6.  Check DUAL table

7.  Maintain Multiple Reporting Currencies schema(s)

8.  Convert to MultiOrg

9.  Return to the Main menu
```

ORACLE

Recreate Grants and Synonyms

The third option in the Maintain Applications Database Objects menu is Recreate Grants and Synonyms for Apps schema(s).

This option recreates the grants and synonyms for the Oracle Applications public schema (APPLSYSPUB), recreates grants on some packages from SYSTEM to APPS, and then spawns parallel workers to recreate grants and synonyms linking sequences and tables in the base schemas to the APPS schemas.

Each product's data objects are created in its own schema (such as the GL schema) but the user accesses all data objects through the APPS schema, therefore the APPS schema must have the appropriate grants and synonyms for those objects. When grants or synonyms appear to be missing, this task recreates them for you.

Recreate Grants and Synonyms

Specifically, this task does the following:

- **Runs $FND_TOP/admin/sql/afpub.sql to set up grants and synonyms for the Applications Public Schema (APPLSYSPUB by default)**

- **Runs $AD_TOP/admin/sql/adappsgs.pls for every Oracle Applications base product schema**

Recreate Grants and Synonyms

The recreate grants and synonym task runs afpub.sql to set up grants and synonyms for the Applications Public Schema (or APPLSYSPUB by default) then runs adappsgs.pls for every Oracle Applications base product schema.

Recreate Grants and Synonyms

Run this task when grants or synonyms are missing from the database. This may occur as a result of:

- **Custom development**
- **Incomplete database migrations (exports/imports)**
- **Patch and administrative sessions that failed to run successfully to completion**
- **Installing or maintaining underlying database components or options**

* This task does not set up grants and synonyms for Multiple Reporting Currencies schemas. To do this, you must select the Maintain Multiple Reporting Currencies schema(s) task from the Database Objects menu.

Recreate Grants and Synonyms

The Recreate grants and synonyms task should be performed when grants or synonyms are missing. Missing grants and synonyms can occur due to:

- Custom development
- Incomplete database migrations (exports/imports)
- Patch and administrative sessions that failed to run successfully to completion
- Installing or maintaining underlying database components or options such as replication

If your environment utilizes Multiple Reporting Currencies, this task does not recreate grants and synonyms in the MRC schema. You need to perform the Maintain Multiple Reporting Currencies schema task to do so.

Compile Flexfield Data in AOL Tables

```
         Maintain Applications Database Objects
-----------------------------------------------------
1.   Validate APPS schema(s)

2.   Compile APPS schema(s)

3.   Recreate grants and synonyms for APPS schema(s)

4.   Compile flexfield data in AOL tables

5.   Maintain multi-lingual tables

6.   Check DUAL table

7.   Maintain Multiple Reporting Currencies schema(s)

8.   Convert to MultiOrg

9.   Return to Main Menu
```

ORACLE

Compile Flexfield Data in AOL Tables

Task number 4 on the Maintain Applications Database Objects menu is the
Compile flexfield data in AOL tables option. This task compiles flexfield data
structures in Applications Object Library (AOL) tables.

This task is not normally required as flexfields automatically compile the first
time they are accessed. However, you can run this task to avoid the one-time
minimal performance impact or to validate that flexfield data have no referential
integrity issues.

Compile Flexfield Data in AOL Tables

```
Enter your choice : 4

Reading init.ora information from applora.txt ...


Deleting existing compiled flexfield information.

Compiling all application flexfields.

/d01/appl/fnd/11.5.0/bin/fdfcmp  APPS/APPS 0 Y

Done.

Review the messages above, then press [Return] to
continue.
```

Compile Flexfield Data in AOL Tables

This is an example of what you will see when running this task.

It reads your database initialization file and the applora.txt files, then compiles all Oracle Applications flexfields.

Details of the task with a list of compilation status of every flexfield are written to a log file. The name of the log file is in the format <session #>.req. The main AD Administration log file will contain the exact name of this log file.

Compile Flexfield Data in AOL Tables

Run this task after you apply a set of patches that changes the setup of flexfields.

*Although not required, compiling flexfield data can alleviate a one-time run-time compilation cost.

ORACLE

Compile Flexfield Data in AOL Tables

You want to run this task after you apply a set of patches that changes the setup of flexfields.

The readme to the patch indicates when this step can be performed.

Maintain Multi-lingual Tables

```
        Maintain Applications Database Objects

     ----------------------------------------------------

     1.   Validate APPS schema(s)

     2.   Compile APPS schema(s)

     3.   Recreate grants and synonyms for APPS schema(s)

     4.   Compile flexfield data in AOL tables

     5.   Maintain multi-lingual tables

     6.   Check DUAL table

     7.   Maintain Multiple Reporting Currencies schema(s)

     8.   Convert to MultiOrg

     9.   Return to Main Menu
```

ORACLE

Maintain Multilingual Tables

As discussed in the Oracle Applications Architecture course, MLS or
multilingual support is Oracle Applications' ability to operate in multiple
languages simultaneously.

When running this task you can select the number of parallel workers.

Maintain Multi-lingual Tables

Maintain Multi-lingual tables:

- **Invokes PL/SQL routines to maintain multi-lingual tables by adding any missing, untranslated rows.**

- **Displays only on the Database Objects menu if you have multi-lingual functionality currently implemented.**

- **Generally needs to be run only when requested by Oracle Support Services.**

ORACLE

Maintain Multilingual Tables

The "Maintain Multi-lingual tables" task calls PL/SQL routines that maintain multi-lingual tables for Oracle Applications by adding any missing, untranslated rows. This task runs the <PROD>NLINS.sql script for every product.

You generally need to run this task only when instructed to do so by Oracle Support Services.

Check SYS.DUAL

```
        Maintain Applications Database Objects
   --------------------------------------------------
   1.   Validate APPS schema(s)

   2.   Compile APPS schema(s)

   3.   Recreate grants and synonyms for APPS schema(s)

   4.   Compile flexfield data in AOL tables

   5.   Maintain multi-lingual tables

   6.   Check DUAL table

   7.   Maintain Multiple Reporting Currencies schema(s)

   8.   Convert to MultiOrg

   9.   Return to Main Menu
```

ORACLE

Check SYS.DUAL

The 6th option in the Maintain Database objects menu is "Check Dual Table."

Database Administration Tasks

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Check `SYS.DUAL`

The `DUAL` table:

- **Is created automatically by ORACLE along with the data dictionary**
- **Is in the schema of the user `SYS`**
- **Has one column, `DUMMY`, defined to be `VARCHAR2(1)`, and contains one row with a value 'X'**
- **Is useful for computing a constant expression with the `SELECT` statement**

ORACLE

Check SYS.DUAL

The DUAL table is created automatically by Oracle along with the data dictionary and is in the schema of the user SYS.

This table has one column named DUMMY of type VARCHAR2, and contains one row with a value 'X'. It is useful for computing a constant expression with the SELECT statement such as SELECT 7/8 from DUAL;.

Check **SYS.DUAL**

```
Enter your choice : 6

Reading init.ora information from applora.txt ...


Connecting to SYSTEM.....Connected successfully


SYS.DUAL has the correct number of rows.
Granting privileges on SYS.DUAL...


Review the messages above, then press [Return] to
continue.
```

ORACLE

Check SYS.DUAL

This task looks for a DUAL table accessible by Oracle Applications and ensures the correct grants are set up. If no such table exists, or if an existing DUAL table has more than one row, AD Administration errors. If a DUAL table containing only one row exists, AD Administration completes successfully.

This slide shows a typical output for the Check DUAL table task. It connects to the database then verifies the DUAL table.

Maintain or Convert to Multiple Reporting Currencies Schemas

Maintain or Convert to Multiple Reporting Currencies Schemas

```
            Maintain Applications Database Objects
    ------------------------------------------------------
    1.   Validate APPS schema(s)

    2.   Compile APPS schema(s)

    3.   Recreate grants and synonyms for APPS schema(s)

    4.   Compile flexfield data in AOL tables

    5.   Maintain multi-lingual tables

    6.   Check DUAL table

    7.   Maintain Multiple Reporting Currencies schema(s)

    8.   Convert to MultiOrg

    9.   Return to Main Menu
```

Maintain or Convert to Multiple Reporting Currencies Schema

Task option #7 varies depending on whether you currently have Multiple Reporting Currencies (MRC) enabled or not. If you have MRC, the option looks like the screen here, and says Maintain Multiple Reporting Currencies schema(s). If MRC functionality is not implemented in your database, the option will read, Convert to Multiple Reporting Currencies schema.

Convert to Multiple Reporting Currencies

Primary Set of Books

Currency:

USD

Reporting Set of Books

Currency:

BEF

Primary Responsibility

STANDARD Data

Group

Reporting Responsibility

MRC Data

Group

APPS Schema

APPS_MRC Schema

ORACLE

Convert to Multiple Reporting Currencies

The Multiple Reporting Currencies feature allows you to:

- Report and maintain accounting records at the transaction level in more than one functional currency.
- Define one or more reporting sets of books in addition to your primary set of books.
- Store data for the reporting set of books in the standard product schemas.
- Access each reporting set of books data through the adjunct APPS_MRC schema.

Convert to Multiple Reporting Currencies

- **Creates a new ORACLE schema for MRC access.**
- **Grants access to standard product data.**
- **Registers the MRC schema with Oracle Applications.**
- **Creates views for MRC access.**
- **Create new data group(s) and a reporting responsibility.**
- **Invokes PL/SQL routines to create database objects in the MRC schema.**
- **Compiles invalid objects and recreates MRC triggers.**

Convert to Multiple Reporting Currencies

This task performs the series of steps listed in this slide.

Each MRC schema requires about 600 Megabytes of free space in your SYSTEM tablespace and takes from 6 to 18 hours to create.

Maintain Multiple Reporting Currencies Schema(s)

- **Invokes PL/SQL routines to maintain database objects in the MRC schema.**
- **Compiles invalid objects and recreates MRC triggers.**
- **Displays on the Database Objects menu if you have MRC functionality currently implemented.**

ORACLE

Maintain Multiple Reporting Currencies Schema(s)

This task invokes PL/SQL routines to maintain database objects in the Multiple Reporting Currencies (MRC) schema. It also provides the option of compiling invalid objects and recreating MRC triggers. This task only displays on the Maintain Applications Database Objects menu if you have MRC functionality currently implemented.

Choose this task after applying a set of database patches in order to synchronize the database objects in your MRC schemas with those that may have been created or updated in your APPS schemas.

Maintain Multiple Reporting Currencies Schema(s)

Maintain Multiple Reporting Currencies Schema(s)

```
Enter your choice : 7

Reading init.ora information from applora.txt ...

Updating MRC schema APPS_MRC...

Connecting to SYSTEM.....Connected successfully

Enter the number of workers [4] :

Update MRC schema itself (MRC schema objects are
always updated) [No] ?

Compile invalid objects after updating MRC schema
objects [No] ?

Recreate MRC triggers in the APPS schema(s) [No] ?

AD Administration is creating or updating the ORACLE
username APPS_MRC with password APPS for Multiple
Reporting Currencies tables.
```

ORACLE

Maintain Multiple Reporting Currencies Schema(s)

This screen shows the initial output to the Maintain MRC schema task.

This task prompts you on whether to:

- Update system privileges and grants to the existing MRC schema(s)
- Compile all invalid objects in the MRC schema(s)
- Recreate MRC triggers

An important item to note here is at the bottom of the output. It says, "AD Administration is creating or updating the ORACLE username APPS_MRC with password APPS for MRC." The APPS_MRC schema must always have the same password as the APPS schema. In this example, the APPS password is APPS therefore the APPS_MRC password must also be APPS.

Note: To avoid the possibility of data corruption, you must shut down all concurrent managers and ensure all users are logged off the system prior to and during this step.

Additional Information: *Multiple Reporting Currencies in Oracle Applications*

Database Administration Tasks

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Convert to Multiple Organizations

```
        Maintain Applications Database Objects
--------------------------------------------------
1.   Validate APPS schema(s)

2.   Compile APPS schema(s)

3.   Recreate grants and synonyms for APPS schema(s)

4.   Compile flexfield data in AOL tables

5.   Maintain multi-lingual tables

6.   Check DUAL table

7.   Maintain Multiple Reporting Currencies schema(s)

8.   Convert to MultiOrg

9.   Return to Main Menu
```

Convert to Multiple Organizations

The last option in the Maintain Applications Database Objects menu is the
Convert to Multiple Organizations or Multi-Org option. By selecting this option
you can enable the use of the Multi-Org architecture.

Convert to Multiple Organizations

Convert to Multiple Organizations

The Multi-Org Architecture:

- Can reflect different sets of books, business groups, legal entities, operating units, and inventory organizations.
- Stores data for all operating units in a base product table with _ALL suffix (for example, SO_HEADERS_ALL).
- Is a virtual partitioning solution that secures information by operating unit by using views within the APPS schema.
- Uses the values in the ORG_ID column to guarantee that only the information appropriate for the chosen organization is returned to the user.
- Is used even if no operating units are set up (this means a NULL ORG_ID is used).

Convert to Multiple Organizations

The Convert to Multi-Org task does the following:

- **Asks for the number of parallel workers**
- **Confirms that you want to run this task**
- **Creates scripts to disable and re-enable triggers in the APPS schema**
- **Disables all triggers in the APPS schema**
- **Converts seed data and transaction data to Multiple Organizations in parallel**
- **Re-enables all previously disabled triggers in the APPS schema**

Convert to Multi-Org

This task converts a standard product group (not Multiple Sets of Books Architecture and not Multi-Org) into a Multi-Org product group with one operating unit defined at the site level. Before running this step, you must define an Operating Unit and set the site-level AOL profile option "MO: Operating Unit" to use your new operating unit. This profile option tells AD Administration what operating unit it should use when converting your existing data. You can set up Multiple Organizations but all transaction data are converted to this default operating unit only.

The Convert to Multi-Org task may take anywhere from a few hours, for a newly implemented, fresh install database, to much longer for an existing production database with high transaction volumes. Part of the conversion process involves updating every row in every organization-sensitive table with the ORG_ID for the default operating unit. Parallelizing the conversion to MultiOrg helps minimize the duration in 11*i*.

Note: To avoid the possibility of data corruption, you must shut down all concurrent managers and ensure all users are logged off the system prior to and during this step.

Additional Information: *Multiple Organizations in Oracle Applications*

Module Summary

In this module, you should have learned how to do the following:

- **Describe AD Administration**
- **List database tasks you can perform with AD Administration**
- **Validate and compile APPS schemas**
- **Recreate grants and synonyms for APPS schemas**
- **Compile flexfield data in AOL tables**
- **Maintain multilingual tables**
- **Maintain or convert to Multiple Reporting Currencies**
- **Convert to Multiple Organizations**

ORACLE

Module Discussion

- **Name two database maintenance tasks you can perform with AD Administration and describe them.**
- **What are some Oracle Applications configurations that may change the task options in the Maintain Applications Database Objects menu?**
- **Describe the Multi-Org architecture.**

Database Administration Tasks

Chapter 16 - Page 39

Module Practice

Module Practice

- **Start AD Administration**
- **Validate APPS schemas**
- **Compile flexfield data in AOL tables**

File System Administration Tasks

Chapter 17

Module 2

File System Administration Tasks

11*i* Use Oracle Applications AD Utilities

ORACLE

Objectives

**At the end of this module, you should be able
to do the following:**

- **Create the main Applications environment file.**
- **Generate message, form, report, graphics, and
  product jar files.**
- **Identify the appropriate servers for file system
  administration tasks.**
- **View log files.**
- **Create a defaults file.**
- **Run AD Administration in non-interactive mode.**

Module Overview

This module comprises the following topics:
- **Create the Applications environment file**
- **Relink Applications programs**
- **Copy files to destinations**
- **Convert character set**
- **Verify files necessary for runtime**
- **Generate message files**
- **Generate form files**
- **Generate report files**
- **Generate graphics files**
- **Generate product jar files**

Overview

In this module, we cover the Oracle Applications file system tasks available through AD Administration. We will learn how to do the following:

- Create the Applications environment file
- Relink Applications programs
- Copy files to destinations
- Convert character set
- Verify files necessary for runtime
- Generate message files
- Generate form files
- Report files
- Graphics files
- Product jar files

Module Overview

This module comprises the following topics:

- **File System tasks and servers**
- **AD Administration log files**
- **Running AD Administration in non-interactive mode**
- **Creating the AD Administration defaults file**

Overview (cont.)

We also discuss the relationship between the file system tasks and the various servers in the Oracle Applications environment, the AD Administration log files, and the following tasks:

- Running AD Administration in non-interactive mode.
- Creating the AD Administration defaults file that is required to run AD Administration in non-interactive mode.

File System Administration Tasks

Maintain Applications Files

```
              Maintain Applications Files

    --------------------------------------------------

    1.   Create Applications environment file

    2.   Relink Applications programs

    3.   Copy files to destinations

    4.   Convert Character Set

    5.   Verify files necessary for runtime

    6.   Generate message files

    7.   Generate form files

    8.   Generate report files

    9.   Generate graphics files

    10.  Generate product jar files

    11.  Return to Main Menu
```

ORACLE

Maintain Applications Files

This is the Maintain Applications file menu and these are the available tasks. There are 10 available tasks in this menu.

Create the Applications Environment File

Select this task when you want to:

- **Create an environment file with settings that are different from your current environment file**

- **Recreate an environment file that is missing or corrupt**

Create the Applications Environment File

The first task is the Create Applications environment file. The environment file is used to set up your Oracle Applications environment. For our purpose, the Applications environment file sets up all of the environment variables necessary to run the AD utilities.

Select this task when you want to:

- Create an environment file with settings that are different from your current environment file

- Recreate an environment file that is missing or corrupt

**Create the Applications
Environment File**

```
Enter your choice : 1

Enter the name of your Oracle Applications
environment file below.
File name [PROD.env]:

How do you wish to enable Parallel Concurrent
Processing:
1. Not enabled
2. Enable generic parallel concurrent processing
3. Enable parallel concurrent processing with
operating system queue
...
The concurrent managers can put all the log and
report files in a common area where the client
machines can view them.

Enter the name of this common area below, or press
[Return]
```

ORACLE

Create the Applications Environment File

When creating a new environment file, AD Administration will prompt you for
some key information, such as the name of the environment file (as you see on
the third line), whether you want parallel concurrent processing enabled (the
seventh line), and whether you want to store the concurrent log and output files
to a central location (the sixth line from the bottom). Rapid Install configures a
central location by default. Be sure to specify the same location to continue
using the same configuration.

Relink Applications Programs

```
            Maintain Applications Files

    ----------------------------------------------------

    1.   Create Applications environment file

    2.   Relink Applications programs

    3.   Copy files to destinations

    4.   Convert Character Set

    5.   Verify files necessary for runtime

    6.   Generate message files

    7.   Generate form files

    8.   Generate report files

    9.   Generate graphics files

    10.  Generate product jar files

    11.  Return to Main Menu
```

ORACLE

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Relink Applications Programs

Option two is the Relink Applications programs option.

Relink Applications Programs

This task relinks all your Oracle Applications binary executables. Select this task after you:

- **Install a new version of the database or a technology stack component**
- **Install another underlying technology component that Oracle Applications relies on**
- **Apply a patch to the Applications technology stack**
- **Apply a patch to the Operating System**
- **Include new or changed third party or custom code into Applications programs**

ORACLE

Relinking Applications Programs

This task relinks all of your Oracle Applications binary executables. You can choose to relink all executables or individual executables. You should use this option to relink executables for any product except AD. To relink AD executables, you need to use the AD Relink utility.

You want to select the Relink Applications program option after you:

- Install a new version of the database or technology stack component
- Install another underlying technology component that Oracle Applications relies on
- Apply a patch to the Oracle Applications technology stack
- Apply a patch to the operating system
- Include new or changed third party or custom code into Oracle Applications programs

Relink Applications Programs

```
AD Administration uses your Oracle Applications
environment file
to set up the environment for relinking Applications.
...
Do you wish to proceed with the relink [Yes]:

Enter the name of your Oracle Applications
environment file below.
File Name [PROD.env]:

Reading product executable information ...


Enter list of products to link ('all' for all
products) [all]:


Generate specific executables for each selected
product [No]?
```

ORACLE

Relink Applications Programs

This is a sample output of the various prompts for this task. This output prompts for the name of the Applications environment file (in the center of the screen). Then it asks which products' executable you would like to relink. Enter "all" or a list of Oracle Applications short names separated by spaces such as "fnd gl ap" (without the quotes). If you choose to relink specific executables, AD Administration lists the candidates for you to choose from.

Note: Patching Forms or Reports usually requires only a few AOL executables to be relinked. However, if you are upgrading the Oracle Applications technology stack or operating system, all product executables should be relinked.

This task uses the AD Relink utility behind the scenes. As a command-line utility, AD Relink is superseded by this AD Administration utility menu option.

You should only use the AD Relink utility to relink AD executables directly if instructed by Oracle Support or if specified in the readme.txt file for a patch. The AD Relink utility is covered in a later topic.

Copy Files to Destinations

Copy Files to Destinations

```
              Maintain Applications Files

   --------------------------------------------------

   1.   Create Applications environment file

   2.   Relink Applications programs

   3.   Copy files to destinations

   4.   Convert Character Set

   5.   Verify files necessary for runtime

   6.   Generate message files

   7.   Generate form files

   8.   Generate report files

   9.   Generate graphics files

   10.  Generate product jar files

   11.  Return to Main Menu
```

ORACLE

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Copy Files to Destinations

The "Copy files to destinations" task copies files from each product area to central locations where they can be easily referenced by Oracle Applications.

Copy Files to Destinations

This task reads the product file driver files to determine the set of files to copy from the product tree to the common directories (such as AU_TOP or JAVA_TOP).

- **Java files are copied to $JAVA_TOP**
- **HTML files are copied to $OAH_TOP**
- **Media files are copied to $OAM_TOP**

* The directories for each of these variables are specified in the adovars.env file located in APPL_TOP/admin.

Copy Files to Destinations

This task reads each of the product file driver files to determine which files need to be copied from the product directories to the common directories. Generally, these are the files that get copied:

- Java files are copied to JAVA_TOP
- HTML files are copied to OAH_TOP
- Media files are copied to OAM_TOP

Convert Character Set

```
         Maintain Applications Files

--------------------------------------------------

1.   Create Applications environment file

2.   Relink Applications programs

3.   Copy files to destinations

4.   Convert Character Set

5.   Verify files necessary for runtime

6.   Generate message files

7.   Generate form files

8.   Generate report files

9.   Generate graphics files

10.  Generate product jar files

11.  Return to Main Menu
```

ORACLE

Convert Character Set

The fourth task on the Maintain Applications Files menu is the Convert
Character Set task. This task converts the character set of all translatable files in
the APPL_TOP. You should select this task when changing the base language
or adding additional languages to Oracle Applications, you may need to convert
the database character set and the file system character set to one that will
support the additional languages.

Convert Character Set

This task will prompt for:
- **Source (or current) character set**
- **Destination character set**

Convert Character Set

This task will prompt for:

- Source (or current) character set
- Destination character set

The original files in the source character set are backed up to the APPL_TOP/admin and <PROD>_TOP directories before the conversion begins. If there is a need to revert back to the source character set, you can unzip the archieved files. These files are in the format <prod>_s_<char_set>.zip, where <prod> is the product abbreviation and char_set> is the character set.

Upon completion of this task AD Administration creates zipped backups of the files with the destination character set. These files are placed in the APPL_TOP/admin and <PROD>_TOP directories and are in the format <prod>_d_<char_set>.zip.

Verify Files Necessary for Runtime

Verify Files Necessary for Runtime

```
              Maintain Applications Files

-----------------------------------------------------

    1.   Create Applications environment file

    2.   Relink Applications programs

    3.   Copy files to destinations

    4.   Convert Character Set

    5.   Verify files necessary for runtime

    6.   Generate message files

    7.   Generate form files

    8.   Generate report files

    9.   Generate graphics files

    10.  Generate product jar files

    11.  Return to Main Menu
```

ORACLE

Verify Files Necessary for Runtime

The fifth task on the Maintain Applications Files menu is the Verify files necessary for runtime task. This task verifies that all files needed to run Oracle Applications for the current configuration (such as a Forms server) are in the current APPL_TOP. You should select this task when you encounter a problem with a missing file at runtime.

Verify Files Necessary for Runtime

```
All needed files present.

Checking files needed in Oracle General Ledger...
All needed files present.

Checking files needed in Oracle Payables...
All needed files present.

Checking files needed in Oracle Receivables...
All needed files present.

Review the messages above, then press [Return] to
continue.

Backing up restart files, if any...Done.
```

ORACLE

Verify Files Necessary for Runtime

Here's a sample output from this task as it checks each product for the files needed to run Oracle Applications.

Generate Message Files

```
         Maintain Applications Files

-----------------------------------------------
  1.   Create Applications environment file

  2.   Relink Applications programs

  3.   Copy files to destinations

  4.   Convert Character Set

  5.   Verify files necessary for runtime

  6.   Generate message files

  7.   Generate form files

  8.   Generate report files

  9.   Generate graphics files

  10.  Generate product jar files

  11.  Return to Main Menu
```

ORACLE

Generate Message Files

The first file type we can generate are the message files. This is option 6 on the Maintain Applications Files menu.

Generate Message Files

- **This task generates message binary files (extension .msb) from Oracle Application Object Library tables.**
- **Oracle Applications uses the message binary files to display messages for users.**

Generate Message Files

This task generates message binary files (<LANG> .msb) in the <PROD>_TOP/mesg directory from Oracle Application Object Library tables. Oracle Applications uses the message binary files to display messages for users.

You generally perform this task only when instructed to do so in a readme file from a patch.

Generate Message Files

```
Generating message files for Oracle Quality...
/oracle/appl/11.5/fnd/11.5.40/bin/FNDMDGEN APPS/APPS
0 Y US QA DB_TO_RUNTIME

Generating message files for Oracle Service...
/oracle/appl/11.5/fnd/11.5.40/bin/FNDMDGEN APPS/APPS
0 Y US CS DB_TO_RUNTIME

Generating message files for Oracle Cash
Management...
/oracle/appl/11.5/fnd/11.5.40/bin/FNDMDGEN APPS/APPS
0 Y US CE DB_TO_RUNTIME
...

Review the messages above, then press [Return] to
continue.
```

ORACLE

Generate Message Files

This is a sample output of this task in action. As you can see it is generating message files product by product.

Generate Form Files

```
            Maintain Applications Files

    ----------------------------------------------------

    1.   Create Applications environment file

    2.   Relink Applications programs

    3.   Copy files to destinations

    4.   Convert Character Set

    5.   Verify files necessary for runtime

    6.   Generate message files

    7.   Generate form files

    8.   Generate report files

    9.   Generate graphics files

    10.  Generate product jar files

    11.  Return to Main Menu
```

ORACLE

Generate Form Files

The next file type to generate on the menu is the form files.

Generate Form Files

- **This task generates binary Oracle Forms files (extension .fmx) for all installed languages from the form definition files (extension .fmb).**
- **Oracle Applications uses the binary form files to display data entry forms.**
- **Perform this task whenever you have issues with a form or set of forms.**

ORACLE

Generate Form Files

This task uses the form definition files with extension .fmb and generates binary forms files of extension .fmx. Oracle Applications uses these binary form files to display data entry forms.

This task should be performed anytime you have issues with a form or a set of forms.

Generate Form Files

This task performs the following actions:
- **Prompts for the number of parallel workers**
- **Displays the current character set (from NLS_LANG)**
- **Asks whether you want to generate Oracle Forms objects in this character set**
- **Asks whether you want to regenerate Oracle Forms PL/SQL library files**
- **Asks whether you want to regenerate Oracle Forms menu files**

Generate Form Files

When generating forms, AD Administration:
- Prompts for the number of parallel workers
- Displays the current character set (from the NLS_LANG variable)
- Asks whether you want to generate Oracle Forms objects in this character set
- Asks whether you want to regenerate Oracle Forms PL/SQL library files
- Asks whether you want to regenerate Oracle Forms menu files

Generate Form Files

This task performs the following actions:

- **Asks whether you want to regenerate Oracle Forms executable files**
- **Asks which products to generate Oracle Forms objects for**
- **Asks whether you want to generate specific forms objects for each selected product**
- **Creates a list of all Oracle Forms objects to generate**

Generate Form Files

AD Administration also:

- Asks whether you want to regenerate Oracle Forms executable files
- Asks which products to generate Oracle Forms objects for
- Asks whether you want to generate specific forms objects for each selected product
- Creates a list of all Oracle Forms objects to generate

Generate Form Files

This task performs the following actions:

- **Displays the list of Oracle Forms objects to be generated and allows you to select whether to regenerate specific objects or all objects**
- **Generates all selected Oracle Forms objects for all selected products in parallel**

ORACLE

Generate Form Files

It then:

- Displays the list of Oracle Forms objects to be generated and allows you to select whether to regenerate specific objects or all objects.
- And finally, AD Administration generates all selected Oracle Forms objects for all selected products in parallel.

Generate Form Files

Generate Form Files

```
Your current character set is 'WE8ISO8859P1'.
. . .
Do you want to regenerate Oracle Forms executable
files [Yes] ?

Enter list of products ('all' for all products)
[all]:

Generate specific form objects for each selected
product [No] ?

reading product form information...
Selecting Oracle Forms PL/SQL library files and menu
files to generate...

Selecting library and menu files for Applications
Object Library...
```

Generate Form Files

Here is a sample output of some of the questions that AD Administration prompts you for.

In this example the user has selected to generate all forms files for all products, as she has accepted the default response for the "Enter list of products" prompt in the middle of the screen.

Generate Report Files

```
            Maintain Applications Files

--------------------------------------------------

    1.   Create Applications environment file

    2.   Relink Applications programs

    3.   Copy files to destinations

    4.   Convert Character Set

    5.   Verify files necessary for runtime

    6.   Generate message files

    7.   Generate form files

    8.   Generate report files

    9.   Generate graphics files

   10.   Generate product jar files

   11.   Return to Main Menu
```

Generate Report Files

The eighth task on the Maintain Applications Files menu is Generate Reports files.

Generate Report Files

This task generates the binary Oracle Reports report files (extension `.rdf`) for all installed languages. It performs the following actions:

- **Displays the current character set (from `NLS_LANG`)**

- **Asks whether you want to generate Oracle Reports objects**

- **Asks whether you want to regenerate Oracle Reports PL/SQL library files**

- **Asks whether you want to regenerate Oracle Reports executable files**

- **Asks which products you want to generate Oracle Reports objects for**

Generate Report Files

The series of prompts and the actions performed in this task are very similar to the prompts and actions in the Generate Forms file task. Specifically, this task generates the binary Oracle Reports files with the .rdf extension.

It performs the following actions:

- Displays the current character set
- Asks whether you want to generate Oracle Reports objects
- Asks whether you want to regenerate Oracle Reports PL/SQL library files
- Asks whether you want to regenerate Oracle Reports executable files
- Asks for which products you want to generate Oracle Reports objects

Generate Report Files

This task performs the following actions:

- **Asks whether you want to generate specific Oracle Reports objects for each selected product**
- **Creates a list of all Oracle Reports objects to generate**
- **Displays the list of Oracle Reports objects to be generated and allows you to select whether to regenerate specific objects or all objects**
- **Generates all selected Oracle Reports objects for all selected products**

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Generate Report Files

It also:

- Asks whether you want to generate specific Oracle Reports objects for each selected product
- Creates a list of all Oracle Reports objects to generate
- Displays the list of Oracle Reports objects to be generated and allows you to select whether to regenerate specific objects or all objects
- Generates all selected Oracle Reports objects for all selected products

Generate Graphics Files

```
            Maintain Applications Files

    -----------------------------------------------

    1.   Create Applications environment file

    2.   Relink Applications programs

    3.   Copy files to destinations

    4.   Convert Character Set

    5.   Verify files necessary for runtime

    6.   Generate message files

    7.   Generate form files

    8.   Generate report files

    9.   Generate graphics files

    10.  Generate product jar files

    11.  Return to Main Menu
```

Generate Graphics Files

Generate Graphics files is the ninth option on the Maintain Applications Files menu.

Generate Graphics Files

This task generates the Oracle graphics files (extension .ogd) for all installed languages. It performs the following actions:

- **Displays the current character set (from NLS_LANG)**
- **Asks whether you want to generate Oracle Graphics objects**
- **Asks whether you want to regenerate Oracle Graphics PL/SQL library files**
- **Asks whether you want to regenerate Oracle Graphics executable files**
- **Asks which products you want to generate Oracle Graphics objects for**

Generate Graphics Files

This task generates the Oracle graphics files with the .ogd extension. This task prompts for and performs the following:

- Displays the current character set
- Asks whether you want to generate Oracle Graphics objects
- Asks whether you want to regenerate Oracle Graphics PL/SQL library files
- Asks whether you want to regenerate Oracle Graphics executable files
- Asks for which products you want to generate Oracle Graphics objects

Generate Graphics Files

This task performs the following actions:

- **Asks whether you want to generate specific Oracle Graphics objects for each selected product**
- **Creates a list of all Oracle Graphics objects to generate**
- **Displays the list of Oracle Graphics objects to be generated and allows you to select whether to regenerate specific objects or all objects**
- **Generates all selected Oracle Graphics objects for all selected products**

Generate Graphics Files

It also:

- Asks whether you want to generate specific Oracle Graphics objects for each selected product
- Creates a list of all Oracle Graphics objects to generate
- Displays the list of Oracle Graphics objects to be generated and allows you to select whether to regenerate specific objects or all objects
- Generates all selected Oracle Graphics objects for all selected products

Generate Product JAR Files

```
               Maintain Applications Files

     --------------------------------------------------

     1.   Create Applications environment file

     2.   Relink Applications programs

     3.   Copy files to destinations

     4.   Convert Character Set

     5.   Verify files necessary for runtime

     6.   Generate message files

     7.   Generate form files

     8.   Generate report files

     9.   Generate graphics files

     10.  Generate product jar files

     11.  Return to Main Menu
```

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Generate Product JAR Files

The tenth option on the Maintain Applications Files menu is the Generate Product JAR files option.

Generate Product JAR Files

This task:

- **Generates the JAR (Java archive) files in both the APPL_TOP and JAVA_TOP**

- **Is recommended whenever you apply an Oracle Forms patch**

Generate Product JAR Files

Java archive files (or JAR files) are stored in JAVA_TOP and the Java subdirectory of each product's top directory.

This task generates the JAR files in both the APPL_TOP (specifically, PROD_TOP/java and JAVA_TOP and signs any jar files on the Web server.

This step is recommended anytime an Oracle Forms patch is applied.

File System Tasks and Servers

Forms server

AD Administration

Admin server

Web server

Concurrent Processing server
and Reports server

File System Tasks and Servers

The Maintain Applications Database Objects tasks of AD Administration are performed from the Admin server only. The Maintain Applications Files system tasks may need to be performed on more than one server. The four servers of Oracle Applications are:

- Admin server
- Forms server
- Web server
- Concurrent Processing server

Note: The Reports server is installed and maintained with the Concurrent Processing server. The optional Discoverer server is maintained separately.

File System Tasks and Servers

	Admin Server	Forms Server	Web Server	Concurrent Processing Server
Create environment file	●	●	●	●
Relink applications programs	●	●	●	●
Copy files to destinations	●	●	●	●
Verify files for runtime	●	●	●	●
Generate message file	●	●	●	●
Generate form files	x	●	x	x
Generate report files	x	x	x	●
Generate graphics files	x	●	x	●
Generate product jar files	●	x	●	x

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File System Tasks and Servers

This table illustrates the Maintain Applications Files tasks and the servers that they may need to be performed on. As you can see, the first 5 tasks may need to be performed on all four servers. These are the:

- Create environment file
- Relink applications programs
- Copy files to destinations
- Verify files for runtime
- Generate message files.

The Generate forms files task needs to be performed only on the Forms server. The Generate reports file task needs to be performed only on the Concurrent Processing server. The Generate graphics file task needs to be performed on the Forms server and Concurrent Processing server. And finally, the Generate product jar files task is performed on the Admin server and the Web server.

AD Administration Log Files

```
              $APPL_TOP
  ...  ───────┼───────  ...

              admin

  ...  ───────┼───────  ...

              <SID>

  ...  ───────┼───────  ...

              log

  ...  ───────┼───────  ...

           ( adadmin.log )
```

AD Administration Log Files

The main AD Administration log file is called adadmin.log by default. This name can be changed when starting up AD Administration. This file is located in APPL_TOP/admin/<SID>/log, Where <SID> is the value of your ORACLE_SID or TWO_TASK variable.

AD Administration Log Files

- **If an error occurs or if you are unsure of messages returned by AD Administration, review the main AD Administration log file adadmin.log.**

- **This log file is located in the $APPL_TOP/admin/<SID>/log directory.**

- **If errors exist in the main log file, you should check the appropriate log file listed in the next slide to determine the cause of the error.**

AD Administration Log Files

When AD Administration completes, you should always review the log file to verify that there are no errors. Also, if an error occurs or you are unsure of the messages returned by AD Administration, review the main log file to determine the cause of the error.

If errors exist in the main AD Administration log file and it does not specify a cause, you should check the additional log files to determine the possible reason for the error.

AD Administration Log Files

- **adadmin.log - Main AD Administration log file**
- **adrelink.log - For relinking tasks**
- **adworkXX.log - For database operations run in parallel mode**

AD Administration Log Files

Some of the log files in addition to the main AD Administration log file are

- adrelink.log, this stores information on relinking tasks
- adworkXX.log - these are the worker log files where XX is the number of the worker such as 02. For database and generation tasks run in parallel, check these log files for details.

**Running AD Administration
in Non-interactive Mode**

**Non-interactive mode allows the user to schedule
AD Administration to run routine tasks.**

Running AD Administration in Non-interactive Mode

The non-interactive mode of AD Administration is a new feature for Release 11*i*. This feature allows the administrator to schedule AD Administration to run routine tasks.

To allow AD Administration to run in non-interactive mode, you must first perform the maintenance task in interactive mode and create a defaults file in the process. Once the defaults file has been created for a maintenance task, you can perform the task in non-interactive mode by using this defaults file for the key AD Administration information.

Creating the AD Administration Defaults File

- **Specify defaultsfile=<Defaults File Name> on the AD Administration command line. The defaults file must be located under $APPL_TOP/admin/<SID>.**
- **Run AD Administration through the maintenance task that you would like to run non-interactively in the future.**
- **Verify that your defaults file exists.**

Creating an AD Administration Defaults File

To create a Defaults file, specify defaultsfile= <filename> at the AD Administration command line. The defaults file must be located under APPL_TOP/admin/<SID>. For example type:

```
$ adadmin
defaultsfile=APPL_TOP/admin/<SID>/defaulttask.txt
```

Next, run AD Administration for the task that you want to run non-interactively in the future, for example, "Validate APPS schema(s)."

Once you complete the task, verify that the defaults file has been created. Now you are ready to use the non-interactive mode of AD Administration.

**Running AD Administration
in Non-interactive Mode**

**The command line parameter to run AD Administration
in non-interactive mode is interactive=no.**

**Here is an example command to run a non-interactive
session of AD Administration:**

```
$ adadmin defaultsfile= \
$APPL_TOP/admin/testdb1/adadmindef.txt \
logfile=adadmin_noninteractive.log \
workers=5 interactive=no
```

Running AD Administration in Non-interactive Mode

The command to run AD Administration in non-interactive mode is
interactive=no. The following is a sample invocation to run a task in non-
interactive mode.

```
$ adadmin \
defaultsfile=APPL_TOP/admin/testdb1/adadmindef.txt \
logfile=adadmin_noninteractive.log workers=5 \
interactive=no
```

This command prompts AD Administration to use the defaults file called
adadmindef.txt; write to a log file called adadmin_noninteractive.log; use 5
workers for the tasks running in parallel; and finally to run in non-interactive
mode.

Module Summary

In this module, you should have learned how
to do the following:

- **Create the main Applications environment file**
- **Generate message, form, report, graphics, and product jar files**
- **Identify the appropriate servers for file system administration tasks**
- **View log files**
- **Create a defaults file**
- **Run AD Administration in non-interactive mode**

Module Discussion

- **Name two file system maintenance tasks you can perform with AD Administration and describe them.**
- **Describe the four servers in the Oracle Applications system.**
- **What are the benefits of running AD Administration in non-interactive mode?**

Module Practice

- **Create the Applications environment file.**
- **Generate forms files.**
- **Create a defaults file.**
- **Run AD Administration in non-interactive mode.**

File System Administration Tasks

File System Administration Tasks

Special Utilities (Part A)

Chapter 18

Module 3

Special Utilities (Part A)

11*i* Use Oracle Applications AD Utilities

Objectives

At the end of this module, you should be able to do the following:

- **Monitor worker processes**
- **Restart and shutdown a worker**
- **Report on configuration information for installed Oracle Applications**
- **Install a new off-cycle product**

Module Overview

This module comprises the following topics:
- **Introduce AD Controller**
- **Review worker status**
- **Restart a failed worker**
- **AD Configuration script**
- **AD Configuration information**
- **New information for Release 11*i***
- **AD Splicer**
- **AD Splicer control files**
- **Post-splice steps**

Overview

In this module, we introduce the following:
- AD Controller
- How to review worker status
- How to restart a failed worker
- AD Configuration utility
- AD Configuration information
- AD Splicer utility
- AD Splicer control files
- Post-splice steps

AD Controller (`adctrl`)

With AD Controller you can:
- **Review worker status**
- **Restart a failed worker**
- **Restart a terminated worker**
- **Shutdown a worker**

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AD Controller

By using the AD Controller utility, you can determine the status of AutoUpgrade, AutoPatch, or AD Administration workers. You can also use it to manage worker processes.

With AD Controller you can:
- Review worker status
- Restart a failed worker
- Restart a terminated worker
- Shutdown a worker

The command to start AD Controller is adctrl. AD Controller prompts you for standard items such as the log file name and the AOL username and password.

AD Controller (`adctrl`)

```
                    AD Controller Menu
    ----------------------------------------------------
    1.   Show worker status

    2.   Tell worker to restart a failed job

    3.   Tell worker to shutdown/quit

    4.   Tell manager that a worker failed its job

    5.   Tell manager that a worker acknowledges quit

    6.   Tell manager to start a worker that has shutdown

    7.   Exit


    Enter your choice [1] :
```

AD Controller

This is the AD Controller main menu. From here you can:
- Show the status of each worker
- Tell a worker to restart a failed job
- Tell a worker to shutdown or quit
- Tell the manager that a worker failed its job
- Tell the manager that a worker acknowledges quit
- Tell the manager to start a worker that has shutdown
- Exit from the utility

AD Controller gathers worker status information from the FND_INSTALL_PROCESSES table. This table is created by the AD utility when jobs are run in parallel and dropped once the task is complete.

Reviewing Worker Status

```
Worker Code        Context            Filename     Status
-----  ------  ------------------- ---------    --------
  1     Run    Installing at R11541  afasdfa.dat  Running
  2     Run    Installing at R11541  aftxt.drv    Failed
  3     Run    Installing at R11541  afatsaf2.sql Running
  4     Run    Installing at R11541               Wait
  5     Run    Installing at R11541               Wait
```

Reviewing Worker Status

When selecting option 1," Show worker status", this is what you might see.

This screen shows 5 workers. All workers are running (Code=Run), but not all are currently running jobs (Status= Failed, Wait). Workers 1 and 3 are running jobs; workers 4 and 5 are in Wait status; and worker 2 has failed.

The "Context" column displays the current context of each job. Examples of context include "Installing at R11541" and "Parallel AutoPatch at R115".

The "Filename" column lists the file currently being run.

Reviewing Worker Status

Status	Description
Assigned	The manager assigned a job to the worker
Completed	The worker completed the job
Failed	The worker encountered a problem
Fixed, Restarted	You fixed the problem and the failed job has restarted
Restarted	The worker has restarted a job
Running	The worker is running a job
Wait	The worker is idle

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Reviewing Worker Status

These are the possible worker statuses:

- Assigned means the manager has assigned the job to a worker.
- Completed means the worker has completed the job successfully.
- Failed means the worker encountered a problem when running a job.
- Fixed, Restarted means you have fixed the problem and the failed job has restarted.
- Restarted means the worker is restarting a job.
- Running means the worker is running a job.
- Wait means the worker is idle.

Restarting a Failed Worker

```
Worker Code      Context          Filename    Status
----- ------  -------------------  ---------   --------
  1    Run    Installing at R11541  afasdfa.dat  Running
  2    Run    Installing at R11541  aftxt.drv    Failed
  3    Run    Installing at R11541  afatsaf2.sql Running
  4    Run    Installing at R11541               Wait
  5    Run    Installing at R11541               Wait
```

Restarting a Failed Worker

The status that we need to watch for is "Failed".

As this example shows, worker #2 has failed while running a file called aftxt.drv.

When the manager becomes idle (all workers are either in "Failed" or "Wait" status), it will automatically attempt to restart the failed workers. If the workers fail again on the same jobs, you need to review the log files and determine the cause of the issue before restarting the workers.

If you enabled the email feature when starting the AD utility that started the workers, then you automatically receive an email if a worker fails.

Restarting a Failed Worker

Perform the following steps to triage the problem that caused the failure and restart a failed worker:

- **Select option 1 from the main menu to review worker status and confirm the Failed status of the worker. The Filename column lists the name of the file that failed to run.**

- **Review the worker log file adworkXX.log under $APPL_TOP/admin/<SID>/log to determine the source of the error.**

- **Resolve the error.**

Restarting a Failed Worker

Here is the process of triaging a failed worker.

- Select option 1 (Show worker status) from the main menu to review worker status and confirm the Failed status of the worker. The Filename column lists the name of the file that failed to run.

- Review the worker log file called adworkXX.log under $APPL_TOP/admin/<SID>/log to determine the source of the error.

- Resolve the error based on information in the log file.

Restarting a Failed Worker

- **Select option 2 to tell the worker to restart a failed job. When prompted, enter the number of the worker that failed. If all workers failed and all the problems have been fixed, type all.**
- **Select option 1 again. The Status column for the worker that failed should now say Fixed, Restart, or Restarted.**

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Restarting a Failed Worker

Once you have resolved the error:

- Select option 2 to tell the worker to restart a failed job. When prompted, enter the number of the worker that failed. If all workers failed, type all.
- Select option 1 again. The Status column for the worker that failed should now say Fixed, Restart, or Restarted.

Restarting a Failed Patch Process

If a worker fails and cannot be restarted:
- **Tell the worker to shutdown/quit**
- **Tell the manager that a worker failed its job**
- **Tell the manager that a worker acknowledges quit**
- **Exit AD Controller**
- **Restart the patch**

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Restarting a Failed Patch Process

When applying a patch, there are times when a worker fails and cannot be restarted. If this occurs, the only alternative may be to stop the patch and restart.

In this scenario, you would use options 4 and 5 after manually shutting down the worker(s). After you shut down the worker(s) the manager must be told that the worker(s) has failed its job and acknowledges quit before you exit AD Controller. The progression of AD Controller commands would be:

- option 3: Tell worker to shutdown/quit
- option 4: Tell manager that a worker failed its job
- option 5: Tell manager that a worker acknowledges quit
- option 7: Exit

AD Configuration Script (`adutconf.sql`)

The AD Configuration script:

- **Is a SQL script (adutconf.sql)**
- **Is located in $AD_TOP/sql**
- **Reports standard information about the installed configuration of Oracle Applications**
- **Generates a file called adutconf.lst in the current working directory**

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AD Configuration

AD Configuration is a SQL script called adutconf.sql and it is located in $AD_TOP/sql. It reports standard information about the installed configuration of Oracle Applications and it generates a file called adutconf.lst in the current working directory.

The command to run this script is:

```
$ sqlplus <APPS username>/<APPS password> \
@$AD_TOP/sql/adutconf.sql
```

AD Configuration Script (`adutconf.sql`)

This utility provides information about the installed configuration of Oracle Applications. The information includes:

- **Information about the product group**
- **Whether Multiple Organizations is implemented**
- **Whether Multiple Reporting Currencies (MRC) is implemented**
- **Information about all installed products, including shared and dependent products**
- **The base language and other installed languages**
- **NLS environment settings**

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AD Configuration

AD Configuration provides:

- Information about the product group
- Whether Multiple Organizations is implemented
- Whether Multiple Reporting Currencies (MRC) is implemented
- Information about all installed products, including shared and dependent products
- The base language and other installed languages
- NLS environment settings

AD Configuration Script (`adutconf.sql`)

The following information that the AD Configuration script provides is new for Release 11*i*:

- **Rollback segment information**
- **SQL*Plus PAUSE and NEWPAGE settings**

AD Configuration

For Release 11*i*, the AD Configuration script provides additional information that did not exist in prior releases. These include:

- Rollback segment information
- SQL*Plus PAUSE and NEWPAGE settings

AD Splicer

AD Splicer

During the life span of an Oracle Applications release, there may be new products that are released after the base release of Oracle Applications. We refer to these new products as off-cycle products.

AD Splicer is a utility that was created to incorporate an off-cycle product into Oracle Applications so that it is recognized by the AD Utilities as a valid Oracle Applications product.

AD Splicer registers the product and creates a new environment setup. Then you use AutoPatch to install the product's component file system and database objects.

Note: The base release for 11*i* was 11.5.1. New products introduced after the 11.5.1 release are referred to as off-cycle products.

AD Splicer (`adsplice`)

- **AD Splicer allows an off-cycle product to be a valid Oracle Applications product for the given release.**
- **AutoUpgrade deliberately does not recognize products that have been added by AD Splicer.**
- **AD Splicer cannot be used to add custom, non-Oracle products to your APPL_TOP.**
- **AD Splicer must be run for each APPL_TOP and database combination.**

AD Splicer

Here's some key information about AD Splicer:

- AD Splicer allows an off-cycle product to be a valid Oracle Applications product for the given release.
- AutoUpgrade deliberately does not recognize products that have been added by AD Splicer.
- AD Splicer cannot be used to add custom, non-Oracle products to your APPL_TOP.
- AD Splicer must be run for each APPL_TOP and database combination.

Note: Product tablespaces for the new off-cycle products must be created before running AD Splicer.

AD Splicer Control Files

Product Definition Files
- **<prod>prod.txt: Language-independent information for product <prod>**
- **<prod>terr.txt: Language-dependent information for product <prod>**

Product Configuration File
- **newprods.txt**

AD Splicer Control Files

AD Splicer requires two types of control files:

- Product definition files
- Product configuration file

There are 2 product definition files per off-cycle product. They are

- <prod>prod.txt: which contains Language-independent information for product <prod>
- <prod>terr.txt: which contains Language-dependent information for product <prod>

<prod> represents the short name for an Applications product. For example GL for General Ledger and PO for Purchasing.

There is one product configuration file. It is called newprods.txt. The product configuration file must be edited for your specific system before the off-cycle product can be properly spliced.

The AD Splicer control files must copied to the APPL_TOP/admin directory.

Note: The product definition files must not be altered.

Editing newprods.txt

**Each spliced product in newprods.txt has an entry
such as the following:**

```
product=bis
base_product_top=*APPL_TOP*
oracle_schema=bis
sizing_factor=100
main_tspace=*Product_Name*D
index_tspace=*Product_Name*X
temp_tspace=*Temporary_Tablespace*
default_tspace=*Product_Name*D
```

Editing newprods.txt

Each spliced product in newprods.txt has an entry as shown in the slide. This
example shows the BIS product which was an off-cycle product for Release
11.0.

This file needs to be edited for your specific environment. The parameters that
may need editing are:

- **base_product_top** – the default value of *APPL_TOP* will place the
  product files under APPL_TOP.
- **main_tspace** – the default value of *Product_Name*D must be changed to
  the product's tablespace name. For example, BISD for the BIS product.
- **index_tspace** – the default value of *Product_Name*X must be changed to
  the product's index tablespace name. For example, BISX for the BIS
  product.
- **temp_tspace** – the default value of *Temporary_Tablespace* must be
  changed to the temporary tablespace name. For example, TEMP.
- **default_tspace** – the default value of *Product_Name*D must be changed
  to the product's tablespace name. For example, BISD for the BIS product.

Editing `newprods.txt`

Status	Description
product	The product being spliced
base_product_top	The base directory for product files
oracle_schema	The schema for product data objects
sizing_factor	The sizing factor used when creating tables and indexes
main_tspace	The tablespace for product tables
index_tspace	The tablespace for product indexes
temp_tspace	The tablespace for Oracle schema's temporary segments
default_tspace	The Oracle schema's default tablespace

Editing newprods.txt

This table defines each of the parameters in the newprods.txt file:

- The product entry is the product short name of the product you are splicing in.
- The base_product_top is the base directory for product files. In most cases this is called APPL_TOP.
- oracle_schema is the schema name for the products database objects. **Warning:** Do not use APPS.
- sizing_factor is the sizing factor used when creating tables and indexes.
- main_tspace is the tablespace for the product tables.
- index_tspace is the tablespace for the product indexes.
- temp_tspace is the tablespace for the Oracle schema's temporary segments.
- default_tspace is the Oracle schema's default tablespace.

ost-Splice Steps

Post-Splice Steps

- **After the new product is spliced in, the files and objects for this product can be installed.**
- **Integrate the environment file created by AD Splicer with your existing environment file (for non-NT platforms only).**
- **Log out and log back in so that you are using the new environment file (or registry entries) to set up your environment.**
- **Verify that <PROD>_TOP environment variables are set for your newly-spliced product.**
- **Run AutoPatch to install files and database objects for your new product.**

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Post Splice Steps

After the new product is spliced in, the files and objects for this product can be installed. To do this you need to:

- Integrate the environment file created by AD Splicer with your existing environment file. This step is for non-NT platforms only.

- Log out and log back in so that you are using the new environment file (or registry entries in NT) to set up your environment.

- Verify that the <PROD>_TOP environment variables are set for your newly-spliced product.

- Run AutoPatch to install files and database objects for your new product.

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Special Utilities (Part A)

Chapter 18 - Page 21

Module Summary

**In this module, you should have learned how
to do the following:**

- **Monitor worker processes**
- **Restart and shutdown a worker**
- **Report on configuration information for installed
Oracle Applications**
- **Install a new off-cycle product**

Module Discussion

- **Describe some of the functionalities of AD Controller.**
- **In what types of situations might AD Configuration be useful?**
- **What is an off-cycle product?**

Module Practice

- **Run AD Configuration**

Special Utilities (Part B)

Chapter 19

Module 4

Module 4

Special Utilities (Part B)

11*i* Use Oracle Applications AD Utilities

Objectives

At the end of this module, you should be able to do the following:

- **Convert the character set of files**
- **Compare an ODF file to the database**
- **Relink AD executables**
- **Identify licensed products and languages**

Module Overview

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Overview

In this module, we briefly cover the following AD utilities:

- File Character Set Conversion
- ODF Comparison
- AD Relink
- DataMerge
- AD Run SQL
- AD Rebase
- License Manager

These executables are located in AD_TOP/bin.

Note: Detailed information on using these utilities is available in the *Maintaining Oracle Applications* manual.

File Character Set Conversion (`adncnv`)

WE8ISO8859P1

adncnv

UTF8

File Character Set Conversion

File Character Set Conversion utility is used to convert the character set of unloaded files. Generally, the character set of files is converted automatically by Rapid Install and AutoPatch, however, in certain cases you may need to use this utility for any text files shipped by Oracle Applications, including:

- SQL*Plus scripts
- PL/SQL scripts
- Loader files
- Driver files
- ODF files
- Header files
- HTML files

File Character Set Conversion (`adncnv`)

Convert one file at a time with this command:

```
$ adncnv <source file> <source char set>
<destination file> <dest char set>
```

File Character Set Conversion

This utility converts one file at a time with this command:

```
$ adncnv <source file> <source char set> \
  <destination file> <dest char set>
```

Warning: If successful, do not character set convert a file multiple times as this may corrupt the file.

Warning: Non-text files (such as .fmx) and certain text files (such as loader files) should not be character set converted.

File Character Set Conversion (`adncnv`)

Parameter	Description
<source file>	Path and filename of the file to convert
<source char set>	Current character set
<destination file>	Path and filename for the converted file
<dest char set>	New character set for the converted file

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File Character Set Conversion

This table describes each of the parameters required by the File Character Set Conversion utility:

- Source file is the path and filename of the file to convert
- Source character set is the current character set
- Destination file is the path and filename for the converted file
- Destination character set is the new character set for the converted file

ODF Comparison (`adodfcmp`)

- **Each Oracle Applications product consists of building blocks.**
- **Each building block has an object description file (`ODF`) that describes its tables, indexes, sequences, views, and privilege sets.**
- **The ODF Comparison utility compares each building block object in its description file with the database.**
- **ODF Comparison (optionally) changes the database to match the ODF file while attempting to retain certain customizations such as a customer added index to a table.**
- **A log file records any changes performed, and any missing, extra, or incorrectly defined objects in the database.**

ODF Comparison

The ODF Comparison utility is a utility used to compare a building block to its description file:

- Each Oracle Applications product consists of building blocks.
- Each building block has an object description file (ODF) that describes its tables, indexes, sequences, views, and privilege sets (privilege sets are the grants used with earlier releases for access but are now obsolete).
- The ODF Comparison utility compares each building block object in its description file with the database.
- ODF Comparison (optionally) changes the database to match the ODF file while attempting to retain certain customizations such as a customer added index to a table.
- A log file records any changes performed, and any missing, extra, or incorrectly defined objects in the database.

Running ODF Comparison

Run adodfcmp by entering the following command:

- **For UNIX users:**

  ```
  $ adodfcmp <parameter>=<value>
  [<parameter>=<value> . . .]
  ```

- **For NT users:**

  ```
  C:\> adodfcmp <parameter>=<value>
  [<parameter>=<value> . . .]
  ```

ORACLE

Running ODF Comparison

To run ODF Comparison, move to the directory that contains the appropriate object description file. ODF files for AutoUpgrade are located in `<PROD>_TOP/admin/odf` while patches are located in `<PROD>_TOP/patch/115/odf`:

For UNIX users:

```
$ cd $<PROD>_TOP/patch/115/odf
```

For NT users:

```
C:\> cd %<PROD>_TOP%\patch/115\odf
```

Run adodfcmp by entering the following command:

For UNIX users:

```
$ adodfcmp <parameter>=<value>
  [<parameter>=<value>...]
```

For NT users:

```
C:\> adodfcmp <parameter>=<value>
  [<parameter>=<value>...]
```

Note: You can see instructions about ODF Comparison syntax by typing adodfcmp at the prompt.

ODF Comparison Parameters

Parameter	Description
mode	The types of objects in the description file to compare against the database.
touser	The ORACLE username and password of the Oracle Applications product to grant to.
priv_schema	A schema that has DBA privileges, along with its password, normally the APPS schema.
odffile	The name of the object description file to compare against the database.
userid	The ORACLE username and password for the Oracle Applications product's base schema.

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ODF Comparison Parameters

This table describes the required parameters for ODF Comparison.

An example command using these parameters may look like:

For UNIX:

```
$ adodfcmp odffile=gljen.odf userid=GL/GL tspace=GLD
  \ indextspace=GLX priv_schema=APPS/APPS
  mode=baseonly \ touser=APPS/APPS changedb=No
```

For NT users:

```
C:\> adodfcmp odffile=gljen.odf userid=GL/GL
  tspace=GLD \ indextspace=GLX priv_schema=APPS/APPS
  mode=baseonly \ touser=APPS/APPS changedb=No
```

This command compares the data model specified in the building block file gljen.odf with the database objects.

Note: Additional detail on these and other optional parameters are available in the *Maintaining Oracle Applications* manual.

ODF Comparison (`adodfcmp`)

```
The database is missing the sequence
GL_JE_CATEGORIES_S.

Create it with the statement:


CREATE SEQUENCE GL_JE_CATEGORIES_S MINVALUE
1 MAXVALUE 2147483647 INCREMENT BY 1 START
WITH 1 CACHE 20 NOCYCLE ORDER


Statement Executed.
```

ODF Comparison

This is a sample output from the ODF Comparison utility.

It states that there is a missing sequence called GL_JE_CATEGORIES_S and follows with the SQL statement to resolve the difference. If you specified changedb=yes then ODF also executes the statement.

AD Relink (`adrelink.sh`)

AD Relink

With AD Relink you can relink Oracle Applications executable programs with the Oracle8 Server product libraries contained within the Oracle Applications Technology Stack ORACLE_HOME. Relinking may be necessary when executable programs become corrupt, are accidentally deleted, or need to be updated after the server libraries are updated. You should only use AD Relink to relink AD executables. Executable programs for all other programs should be relinked using the Relink Applications Programs task from the Maintain Applications File menu of AD Administration. Normally any programs that need to be updated after a patch are automatically relinked by AutoPatch.

Note: For Release 11*i* NT executables are also relinked at the customer site.

AD Relink (`adrelink.sh`)

To run AD Relink:
- **Verify that you have C development tools that are compatible with Berkeley Version 1.15 or later.**
- **Log on as applmgr and run the appropriate environment file.**
- **If you are relinking files on a Concurrent Processing server, shut down the affected concurrent managers.**
- **If you are relinking files on a Forms server, have all Oracle Applications users log off before proceeding.**

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AD Relink

To run adrelink:

- Verify that you have C development tools that are compatible with Berkeley Version 1.15 or higher.
- For NT, verify that the following additional software are installed:
    - Microsoft Visual C++ version 6.0 + Service Pack 3 or higher
    - MKS Toolkit version 6.1a or higher
    - gnu make (shareware) version 3.77 or higher
- Log on as applmgr and run the appropriate environment file.
- If you are relinking files on a Concurrent Processing server, you shut down the concurrent managers.
- If you are relinking files on a Forms server, have all Oracle Applications users log off before proceeding.

AD Relink Syntax

**To relink one or more executable programs, run
adrelink.sh with one of these two commands:**

```
$ adrelink.sh force={y | n} [<optional
  args>] <targets>
    or
$ adrelink.sh force={y | n} [<optional
   args>] filelist=<file>
```

AD Relink Syntax

To relink one or more AD executable programs, run AD Relink with one of
these two commands:

```
$ adrelink.sh force={y | n} [<optional args>]
  <targets>
```

or

```
$ adrelink.sh force={y | n} [<optional args>]
  filelist=<file>
```

For example, the following command will relink the AutoPatch executable:

```
$ adrelink.sh force=y "ad adpatch"
```

The first command above allows you to relink programs individually and the
second command allows you to list in a file all of the programs you want to
relink into a file, so that you can relink multiple files.

The format of the file list and a full list of optional arguments are available in
the *Maintaining Oracle Applications* manual.

AD Relink

- **Typing adrelink.sh at the command prompt will provide instructions on the AD Relink utility syntax.**
- **Typing adrelink.sh examples at the command prompt will also provide examples for running the AD Relink utility.**

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AD Relink

By typing adrelink.sh without any additional parameters at the command prompt, AD Relink will provide instructions and examples on how to use the utility.

DataMerge (`addmimp`)

**Oracle
Applications
Database**

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DataMerge

The DataMerge utility is similar to the DML portion of the Oracle database import utility. It allows you to import data into the Oracle Applications database. Sometimes Oracle Support Services will ask you to run DataMerge to work around certain seed data related problems encountered while upgrading your Oracle Applications database.

In general, you should not run DataMerge manually unless instructed to do so by Oracle Support Services.

AD Run SQL (adurs)

AD Run SQL is a utility that allows you to run a specified file in AutoUpgrade and AutoPatch SQL Mode.

SQL mode:

- **Is an interpreter that reads your SQL script and then directly executes the statements that it understands**
- **Automatically scales NEXT EXTENTS storage size based upon your system**
- **Provides automatic error handling that is more robust than that of SQL*Plus**

AD Run SQL

AD Run SQL is a utility that allows you to run a specified file in the SQL mode used by AutoUpgrade and AutoPatch.

SQL mode:

- Is an interpreter that reads your SQL script and then directly executes the statements that it understands. This is faster than starting a separate SQL*Plus session.

- Automatically scales NEXT EXTENTS storage size based upon your system.

- Provides automatic error handling that is more robust than that of SQL*Plus. For example, a DROP SYNONYM statement does not return an error condition if the synonym does not exist and the next statement is a CREATE SYNONYM.

AD Run SQL (`adurs`)

When AutoUpgrade or AutoPatch run SQL scripts, they use AD SQL mode for most SQL scripts unless:

- **The SQL script includes PL/SQL**
- **The SQL script includes SQL*Plus commands, for example, `column X new_value`, `start` or `spool`**
- **The SQL script includes a `CREATE TABLE` or `INDEX` statement and should have a fixed size object**

AD Run SQL

When AutoUpgrade and AutoPatch run SQL scripts, they use AD SQL mode for most SQL scripts.

Running AD Run SQL

Run AD Run SQL by entering the following command:

- **For UNIX users:**

  ```
  $ adurs <keyword>=<value> \
  [< keyword >=<value> . . .]
  ```

- **For NT users:**

  ```
  C:\> adurs < keyword >=<value> \
  [< keyword >=<value> . . .]
  ```

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Running AD Run SQL

Run AD Run SQL with the command in the slide. Valid keywords are:

- **userid**= is the ORACLE username/password to run the SQL file in.
- **sqlfile**= is the file name of the SQL script to run.
- **logfile**= is the file name of the output log file (default is adurs.log).
- **sizingfactor**= is the sizing factor to apply (default is 100).
- **args**= is the list of evaluated arguments (if any).

For example:

For UNIX users:

```
$ adurs userid=apps/apps sqlfile=file1.sql
```

For NT users:

```
C:\> adurs userid=apps/apps sqlfile=file1.sql
```

AD Rebase (adrebase.exe)

- **AD Rebase is an NT-only utility that optimizes memory utilization of Oracle Applications, RDBMS and Tools executable programs.**

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AD Rebase

The AD Rebase utility is an NT-only utility that optimizes memory utilization of Oracle Applications, relational database management system (RDBMS) and Tools executable programs.

AD Rebase (`adrebase.exe`)

- **Oracle Applications executables are automatically optimized when delivered or relinked by way of Rapid Install, AutoPatch, or adrelink.sh.**
- **You may want to rerun the AD Rebase utility after upgrading or patching the Oracle Applications Technology Stack or the database.**
- **Failure to rebase a dynamic-link library (DLL) will not cause any functional problems.**
- **You will be able to restart and run your Oracle Applications regardless of the results of the rebase command.**

AD Rebase

Oracle Applications executables are automatically optimized when delivered by Rapid Install or AutoPatch, or when they have been relinked with AD Administration or AD Relink.

You may want to rerun the AD Rebase utility after upgrading the Oracle tools or the Database.

Failure to rebase a dynamic-link library (DLL) will not cause any functional problems. You will be able to restart and run your Oracle Applications regardless of the results of the rebase execution.

License Manager

- **License products**
- **License country specific functionalities**
- **License languages**
- **Disable languages**

License Manager

When you want to add additional products, country specific functionalities, or languages to your Oracle Applications system, you can use the Oracle Applications License Manager to accomplish these tasks. The License Manager is a new utility for Release 11*i*. It is used to:

- License products
- License country specific functionalities
- License languages
- Disable languages

License Manager (`adlicmgr`)

To start License Manager, go to:

UNIX:

```
$ cd $AD_TOP/bin
$ adlicmgr.sh
```

NT:

```
C:\> cd %AD_TOP%/bin
C:\> adlicmgr.cmd
```

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License Manager

Once you have contacted your Oracle sales representative, or set up your new license agreements online through the OracleStore, you are ready to "turn on" your new products, country specific functionalities and languages.

To start License Manager, go to the AD_TOP/bin directory and type adlicmgr.sh (UNIX) or adlicmgr.cmd (NT).

Note: UNIX users must verify that the DISPLAY variable is set.

License Manager (adlicmgr)

License Manager (`adlicmgr`)

License Manager

When License Manager starts up, this screen appears. It asks you for the:

- APPS username
- APPS password
- TWO_TASK or LOCAL variable

Select Operations Screen

Select Operations Screen

In the Select Operations screen, License Manager gives you the option of reviewing your currently licensed products or licensing additional products.

When you select Review your current Licensed Products, the Current License Information screen will appear.

Current License Information Screen

Current License Information Screen

The Current License Information screen displays the list of all products that are licensed. From this screen you can choose to save the current license information to a text file or to print the information.

If you click Save, you will be prompted for a location to save the file.

Select Operations Screen

Current License Information Screen

To license additional products, start License Manager and select Update your current Licensed Products in the Select Operations screen and click Next.

Current License Information Screen

Current License Information Screen

The Current License Information screen displays the list of all products that are licensed. Notice that this Current License Information screen does not allow you the option of saving or printing the licensed information.

Orderable Products Screen

Orderable Products Screen

Orderable Products Screen

The orderable products screen displays the product groups that you can license. You can license a product group by clicking on the adjacent check box. Oracle Applications products that do not belong to any product family can be licensed from the Licensable Products screen.

Note: License Manager accommodates new products, new country specific functionalities, and new languages. If you plan to license only products, only country specific functionalities, or only languages, just click Next to omit the screens that you do not need.

Licensable Products Screen

Licensable Products Screen

Licensable Products Screen

By clicking on the licenseable tab at the top of this screen, you see the list of licensable products. From this screen, you can license products individually.

Click on the additional products you want to add to the list. As you scroll through the list, you see that your currently licensed products are checked and grayed out. You cannot remove or delicense products from the list of licensed products using License Manager.

When you have finished selecting the additional products, click Next.

Country-Specific Functionalities Screen

Country-Specific Functionalities Screen

Country Specific Functionalities Screen

License Manager displays the Choose the Country Specific Functionalities screen. This screen displays the list of country specific functionalities (localizations) that are available in Release 11*i*.

Like the product selection screens, License Manager indicates the country specific functionalities that are currently licensed in your database. Scroll through the list and select any new country specific functionalities (you cannot remove country specific functionalities using License Manager).

When you are finished, click Next.

Languages and Character Set Screen

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Languages and Character Set Screen

The next screen displays the languages that you currently have licensed, along with your base language, the default territory, and the character set of your database.

Unlike adding additional products and country specific functionalities, in this screen you can change the status of:

- Licensed languages
- The base language
- The default territory

The database character set is provided as reference only. You must make sure that the languages you enable are compatible with the database character set.

To add a new language, click the Select Languages... list button to see a list of available languages.

Select Languages Screen

Select Languages Screen

By clicking on the Select Languages button of the Languages and Character Set screen, you see the Select Languages window. From here, you select the additional languages you would like to license.

Highlight each new language and click the > to move it to the list of languages to be installed. When you are finished, click OK.

Languages

After licensing additional languages, you:
- **May need to change the character set to a character set that supports all licensed languages.**
- **Must use the AutoPatch utility to install the language specific files.**

License Manager can be used to disable a language.

Languages

After licensing additional languages, you:

- May need to change the character set to a character set that supports all licensed languages.
- Must use the AutoPatch utility to install the language specific files.

Note: License Manager can be used to disable a language, but it will not remove the language files of the disabled language.

License Information Screen

License Information Screen

Once you have completed your selections for additional languages and click Next, License Manager displays the License Information screen.

The License Information screen shows you a list of already licensed and about to be licensed products, country specific functionalities and languages. Click Next to continue.

Summary Screen

Summary Screen

And finally, you see the Summary screen that summarizes your licensing actions. Click Finish and License Manager updates your database with the licensing information.

Once licensing is complete, you must run AutoPatch to apply the latest mini-pack(s) for the product(s) or country specific functionalities you have just licensed or to add the translated language components.

There may be product-specific implementation steps that you need to perform before using the new product.

Module Summary

In this module, you should have learned how to do the following:
- **Convert the character set of files**
- **Compare an ODF file to the database**
- **Relink AD executables**
- **Identify licensed products and languages**

Special Utilities (Part B)

Module Discussion

- **Name some of the file types that may need character set conversion.**
- **When should the AD Relink utility be used?**
- **Describe the process to license and install an additional language.**

Module Practice

- **Run AD Relink**
- **License an Additional Language**

Cloning Oracle Applications

Chapter 20

Cloning Oracle Applications

Module 5

Cloning Oracle Applications

11*i* Use Oracle Applications AD Utilities

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Cloning Oracle Applications

Chapter 20 - Page 2

Objectives

At the end of this module, you should be able to do the following:
- Describe situations that may require cloning.
- Describe the AD cloning utility.
- Detail the phases of the cloning process.
- Perform the steps within each of the phases.

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Cloning Oracle Applications

Module Overview

In this module, we introduce the AD cloning utility and the process of cloning Oracle Applications. We cover:

- **Situations that may require cloning**
- **AD cloning utility**
- **Cloning phases**
- **Detailed steps of each phase**

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Overview

In this module, we introduce the AD cloning utility and the process of cloning Oracle Applications. We cover:

- Situations that may require cloning
- AD cloning utility
- Cloning phases
- Detailed steps of each phase

Note: The Cloning Oracle Applications white paper is available on Oracle MetaLink (Note:135792.1).

Cloning Oracle Applications

Cloning is the act of creating an identical copy of an already existing Oracle Applications system. The new system and the existing system must be initially identical in these aspects:
- **Component versions**
- **Operating system versions**
- **Platform type**

Cloning Oracle Applications

Cloning is the act of creating an identical copy of an already existing Oracle Applications system. The new system including component versions, operating system versions, and platform type must be initially identical to the existing system.

With the flexible and sophisticated architecture of Oracle Applications Release 11*i*, simply copying all of the components will not provide you with a working Oracle Applications system. For instance, there are numerous configuration files in your file system that must be modified based upon the physical topology. In addition, the Rapid Install installation process utilizes Oracle Universal Installer (OUI) which writes key information about the installation to a binary registry file. When you copy the system to a target location, you invalidate the binary registry file. Consequently, you will not be able to apply patches to the OUI-based components.

Note: An Oracle Applications system is an implementation of Oracle Applications to serve a specific purpose. Each Oracle Applications system has a single Oracle Applications database, one or more APPL_TOP file systems, related ORACLE_HOMEs, and all of the required supporting services and installed objects.

Cloning Terminology

The following terms are used to identify the systems:

- **Source system - the system to be cloned.**
- **Target system - the newly created (or cloned) system.**

Cloning Terminology

The system to be cloned is referred to as the source system and the newly created system is referred to as the target system

Cloning Situations

Situations that may require cloning include:
- **Creating a test system from a recent copy of the production system in order to test patches against before applying to production.**
- **Periodically refreshing a test system from a production system in order to keep the test system current.**
- **Moving an existing system to a different machine.**

Cloning Situations

You may want to clone an Oracle Applications system for several reasons. Situations that may require cloning include:

- Creating a test system from a recent copy of the production system in order to test patches against before applying to production.
- Periodically refreshing a test system from a production system in order to keep the test system current.
- Moving an existing system to a different machine.

AD Cloning Utility

The AD cloning utility:
- **Preserves Oracle Applications configuration files specific to the target system.**
- **Removes components of the file system.**
- **Re-implements the saved configuration on the target system.**
- **Is included in patch #1906056.**
- **Is applied in pre-install mode to all APPL_TOPs on the source system.**

AD Cloning Utility

The AD cloning utility preserves Oracle Applications configuration files specific to the target system, removes components of the file system, and re-implements the saved configuration on the target system.

Download and apply patch #1906056 in pre-install mode to all APPL_TOPs on the source system. This patch contains the AD cloning utility. We recommend backing up the source system Oracle Applications files and database before performing the AD cloning process. We also suggest changing the APPS, APPLSYS and APPLSYSPUB passwords to their default values. The *Maintaining Oracle Applications* manual contains details on changing passwords.

Cloning Phases

The four main phases of cloning are:
- **Prepare the target system**
- **Replace the target system configuration**
- **Perform finishing tasks**
- **Test the target system**

Cloning Phases

There are four main phases of the cloning process. They are:

- **Prepare the target system** - comprises steps to prepare the target system for cloning.

- **Replace the target system configuration** - comprises steps to replace configuration information for the target system.

- **Perform finishing tasks** - describes the tasks you may need to perform to complete the cloning process.

- **Test the target system** - describes connectivity validation tests.

Prepare the Target System

- **Run Rapid Install to install a new instance.**
- **Modify user configuration (required for 11.5.1 UNIX users only).**
- **Use the AD cloning utility to preserve the environment.**
- **Remove the database files.**
- **Copy the source system database.**
- **Copy the source system files.**

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Prepare the Target System

The following steps should be completed to prepare the target system for cloning:

- Run Rapid Install to install a new instance.
- Modify user configuration (required for 11.5.1 UNIX users only).
- Use the AD cloning utility to preserve the environment.
- Remove the database files.
- Copy the source system database.
- Copy the source system files.

Run Rapid Install to Install a New Instance

- **Use the Rapid Install you originally used to create the source system.**
- **Choose the "Install Oracle Applications" option which will install all Oracle Applications components.**
- **Identify the name of the target system database and choose to install a "fresh install database".**
- **Create a new configuration file.**

Run Rapid Install to Install a New Instance

Use the Rapid Install you originally used to create the source system. For instance, if you originally installed 11.5.2 and applied the 11.5.3 maintenance pack, you would run the 11.5.2 Rapid Install. Choose the "Install Oracle Applications" option to install all Oracle Applications components. Identify the name of the target system database and choose to install a "fresh install database". Create a new configuration file. This file will be used later during the cloning process.

Run Rapid Install to Install a New Instance

Certain options must be selected to match the source system, such as:
- **Type of database**
- **Base language**
- **Default territory**
- **APPL_TOP character set**
- **Server and node configuration**

Run Rapid Install to Install a New Instance (cont.)

Certain options must be selected to match the source system, such as:

- Type of database (for instance if the source system database is a Vision demonstration database, the target system database must be a Vision demonstration database; if the source system database is a fresh install database, the target system database must be a fresh install database.)

- Base language

- Default territory

- APPL_TOP character set

- Server and node configuration (for example, if the source system has two nodes –one node for Admin, Concurrent Processing, and database and the other for Forms and Web– the target system must be identically configured in two nodes.)

Run Rapid Install to Install a New Instance

Other configuration options for the target system may differ from the source system, such as:

- **Port numbers**
- **Server hostname**
- **Domain name**
- **Disk mount points**
- **Operating system installation account and/or group**
- **Database name**

Run Rapid Install to Install a New Instance (cont.)

Other configuration options for the target system may differ from the source system, such as:

- Port numbers
- Server hostname
- Domain name
- Disk mount points
- Operating system installation account and/or group
- Database name

You may disregard the Product Selection and the Country-specific Functionality screens, as all product and country-specific functionality licensing information are already stored in the database from the source system.

Run Rapid Install to Install a New Instance

If you are cloning a multi-node Oracle Applications system:

- **Install the data server node first.**
- **Copy the new configuration file to each node in the target system.**
- **Run Rapid Install on each of the additional nodes by using the "Read configuration from file" option.**
- **Repeat the remaining steps in the Prepare the target system section on each node in your system.**

Run Rapid Install to Install a New Instance (cont.)

If you are cloning a multi-node Oracle Applications system, install the data server node first. Copy the new configuration file to each node in the target system and run Rapid Install on each of the additional nodes by using the "Read configuration from file" option.

When cloning a multi-node system, repeat the remaining steps in the Prepare the target system section on each node in your system.

The *Installing Oracle Applications* manual provides instructions on running Rapid Install.

Apply Technology Stack Patches

**Apply patches to the technology stack components in
the target system. This may include:**
- **Oracle data server**
- **Any of the Oracle Discoverer products**
- **Oracle HTTP server**

Apply Technology Stack Patches

If you have applied patches in the source system for any technology stack
components, apply these patches to the technology stack components in the
target system. This may include:

- Oracle data server
- Any of the Oracle Discoverer products
- Oracle HTTP server

Modify User Configuration (11.5.1 Only)

If you are cloning an Oracle Applications system originally installed using Rapid Install 11.5.1 and the Oracle Applications system was installed with the multi-user option:

- **Shutdown all services owned by the oracle user on the source system and the target system.**
- **Change the COMMON_TOP file system owner from the oracle user to the Applications user on the source system and the target system.**

Modify User Configuration (Required for 11.5.1 UNIX Users Only)

If you are cloning an Oracle Applications system originally installed using Rapid Install 11.5.1 and the Oracle Applications system was installed with the multi-user option, you need to change the COMMON_TOP file system owner from the oracle user to the Applications user to conform with the new structure:

- Shutdown all services owned by the oracle user on the source system and the target system.
- Once the services have been shut down, change the owner of the process scripts on both the source system and the target system.

Modify User Configuration (11.5.1 Only)

Shutdown all services owned by the oracle user on the source system and the target system:

```
$ cd <COMMON_TOP>/admin/scripts

$ adapcctl.sh stop

$ adcmctl.sh \
<APPS_username>/<APPS_password> stop

$ adfmcctl.sh stop

$ adfmsctl.sh stop

$ adfroctl.sh stop

$ adrepctl.sh stop

$ adalnctl.sh stop APPS_<SID>
```

Modify User Configuration (cont.)

Shutdown all services owned by the oracle user on the source system and the target system with the following commands:

```
$ cd <COMMON_TOP>/admin/scripts

$ adapcctl.sh stop

$ adcmctl.sh <APPS_username>/<APPS_password> stop

$ adfmcctl.sh stop

$ adfmsctl.sh stop

$ adfroctl.sh stop

$ adrepctl.sh stop

$ adalnctl.sh stop APPS_<SID>
```

Modify User Configuration (11.5.1 Only)

Once the services have been shut down, perform the following as the oracle user on both the source system and the target system:

```
$ cd <COMMON_TOP>
$ chown -R <application user> ./util/apache
$ cd admin/scripts
$ chown <application user> adapcctl.sh \
adcmctl.sh adfmcctl.sh adfmsctl.sh \
adfroctl.sh adrepctl.sh adalnctl.sh
```

Modify User Configuration (cont.)

Once the services have been shut down, perform the following commands as the oracle user on both the source system and the target system:

```
$ cd <COMMON_TOP>
$ chown -R <application user> ./util/apache
$ cd admin/scripts
$ chown <application user> adapcctl.sh adcmctl.sh \
  adfmcctl.sh adfmsctl.sh adfroctl.sh adrepctl.sh \
  adalnctl.sh
```

Note: Do not change all scripts in the directory as some must remain owned by the oracle user.

Use the AD Cloning Utility to Preserve the Environment

To save the target system configuration:
- **Log in as the Applications user on the target system.**
- **Do not source the Oracle Applications environment file.**
- **Run the AD cloning utility provided in patch #1906056.**

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Use the AD Cloning Utility to Preserve the Environment

The cloning utility preserves Oracle Applications configuration files specific to the target system. To save the target system configuration, log in as the Applications user on the target system, do **not** source the Oracle Applications environment file, and run the AD cloning utility provided in patch #1906056. Download and apply patch #1906056 in pre-install mode to all APPL_TOPs on the target system.

Attention: The AD cloning utility is meant to preserve the configuration of the target system and should not be run from the source system.

Use the AD Cloning Utility to Preserve the Environment

- **The AD cloning utility is written in the Perl language.**
- **Perl is located in the Apache directory of your Applications system**
- **UNIX users must add the …/perl/bin directory used by Apache into the PATH variable before running the adclone command.**

Use the AD Cloning Utility to Preserve the Environment (cont.)

The AD cloning utility is written in the Perl language. Perl is located in the Apache directory of your Oracle Applications system (this is generally. …/Apache/perl/bin/perl). For release 11.5.1, Apache is located in the COMMON_TOP directory and for later releases it is located in the *i*AS ORACLE_HOME.

For UNIX users:

UNIX users must add the …/perl/bin directory used by Apache into the PATH variable before running the adclone command. Validate this by ensuring the 'which' command returns the correct location:

```
$ PATH=<APACHE directory>/perl/bin:${PATH}
$ export PATH
$ which perl
```

Use the AD Cloning Utility to Preserve the Environment

Run the AD cloning utility in preclone mode from a temporary directory not located under the APPL_TOP of the target system with the following command:

```
perl <ad_top>/bin/adclone.pl -mode=preclone \
-env_name=<SID> \
-node_name=<hostname> \
-config_file=<config file> \
-ad_top=<ad_top>
```

Use the AD Cloning Utility to Preserve the Environment (cont.)

Run the AD cloning utility in preclone mode from a temporary directory not located under the APPL_TOP of the target system with the following command:

```
perl <ad_top>/bin/adclone.pl -mode=preclone \
-env_name=<SID> \
-node_name=<hostname> \
-config_file=<config file> \
-ad_top=<ad_top>
```

For example:

```
perl /d02/apps115/TESTappl/ad/11.5.0/bin/adclone.pl
  \
-mode=preclone -env_name=TEST -node_name=ap100sun \
-config_file=/d01/apps115/config.txt \
-ad_top=/d02/apps115/TESTappl/ad/11.5.0
```

Use the AD Cloning Utility to Preserve the Environment

Argument	Description
mode	Represents when you are running this script.
env_name	The ORACLE_SID value.
node_name	The name of your target system node, excluding the domain name.
config_file	Full pathname of the configuration file created by Rapid Install for the target system.
ad_top	Full pathname of the AD_TOP directory.

Use the AD Cloning Utility to Preserve the Environment (cont.)

The AD cloning utility arguments are as follows:

- **mode** - Represents when you are running this script. The options are preclone or postclone.
- **env_name** - The ORACLE_SID value.
- **node_name** - The name of your target system node, excluding the domain name.
- **config_file** - Full pathname of the configuration file created by Rapid Install for the target system.
- **ad_top** - Full pathname of the AD_TOP directory.

Use the AD Cloning Utility to Preserve the Environment

The AD cloning utility in preclone mode:
- **Shuts down any running services on the current node.**
- **Saves the configuration files from the APPL_TOP.**
- **Saves the configuration files from the COMMON_TOP.**
- **Removes APPL_TOP, JAVA_TOP, and OA_HTML directory contents.**

Use the AD Cloning Utility to Preserve the Environment (cont.)

The AD cloning utility in preclone mode:

- Shuts down any running services on the current node.
- Saves the configuration files from the APPL_TOP.
- Saves the configuration files from the COMMON_TOP.
- Removes APPL_TOP, JAVA_TOP, and OA_HTML directory contents.

If you are cloning a multi-node Oracle Applications system, run the AD cloning utility in preclone mode on each of the additional nodes of the target system.

The configuration files are saved to COMMON_TOP/admin/clone. Do not edit these files during the cloning process.

Remove the Database Files

As you will be using copies of the database files from the source system, remove the database files created by Rapid Install for the target system:

• **Use the database server process control script (addbctl.sh) to shutdown the database of the target system.**

• **Delete all of the database files (*.dbf files) from the target system.**

ORACLE

Remove the Database Files

As you will be using copies of the database files from the source system, the database files created by Rapid Install for the target system can be removed.

Use the database server process control script (addbctl.sh) to shutdown the database of the target system. The database server process control script is located in both these locations:

• 8.1.7 ORACLE_HOME/appsutil/scripts

• COMN_TOP/admin/scripts

Delete all of the database files (*.dbf files) from the target system.

Copy the Source System Database

After cleanly shutting down ('shutdown normal') and performing a cold backup of the source system database, perform the following steps:

- **Log on to the target system as the oracle user and source the environment file.**
- **Copy the database files to the target system.**
- **Verify the target system init.ora parameters.**
- **Create a new control file.**
- **Open the database.**
- **Verify that the Net8 listener allows remote connections to the database.**

ORACLE

Copy the Source System Database

Create a list of datafiles and online redo log files of your source system database. You can also choose to backup control files to trace as explained in step d) below. You need this information to create a new control file for the target system database.

After cleanly shutting down ('shutdown normal') and performing a cold backup of the source system database, perform the following steps:

a) Log on to the target system as the oracle user and source the environment file.
The environment file for the data server is located in the 8.1.7 ORACLE_HOME, and is called <SID>.env (UNIX) or <SID>.cmd (NT).

b) Copy the database files to the target system.

Identify the new mount points for the database files and copy the database files from the backup of the source system to the new target system.

c) Verify the target system init.ora parameters.

You may have updated the database initialization file in your source system. Verify that the parameter changes are reflected in the init.ora of your target system. Check all parameters, especially the location of your control files and the names of your rollback segments.

Copy the Source System Database

- **Run Rapid Install to install a new instance.**
- **Modify user configuration (required for 11.5.1 UNIX users only).**
- **Use the AD cloning utility to preserve the environment.**
- **Remove the database files.**
- **Copy the source system database.**
- **Copy the source system files.**

ORACLE

Copy the Source System Database (cont.)

d) Create a new control file.

To create new control files:

- Make a list of all datafiles and online redo log files of the target system database.

    You should have created this list of datafiles and online redo log files when you made backups of the source system database. If you did not, you can query for this information from the v$datafile, v$logfile and v$tempfile views in the source database.

    Alternatively you can issue an 'alter database backup controlfile to trace' command in the source system database and examine the resultant trace file located in the 'user_dump_dest' directory.

- Start up a new instance, but do not mount or open the database.

- Create a new control file for the database using the CREATE CONTROLFILE statement.

    You must specify the RESETLOGS option if you have renamed the database. Otherwise, select the NORESETLOGS option.

See the *Oracle8i Administrator's Guide* for details on creating control files.

e) Open the database.

If you specified RESETLOGS when creating the control file, use the ALTER DATABASE statement, indicating RESETLOGS.

f) Verify that the Net8 listener allows remote connections to the database.

Copy the Source System Files

**To copy the source APPL_TOP, OA_HTML, and
JAVA_TOP directories to the target system, perform
the following steps:**

- **Verify that all users have logged off the source
  system and shut down any running processes.**
- **Log on as the Applications user on the target
  system.**
- **Copy the source APPL_TOP, OA_HTML, and
  JAVA_TOP.**

Copy the Source System Files

To copy the source APPL_TOP, OA_HTML, and JAVA_TOP directories to the
target system, perform the following steps:

- Verify that all users have logged off the source system and shut down any
  running processes.
- Log on as the Applications user on the target system.
- Copy the source APPL_TOP, OA_HTML, and JAVA_TOP.

Copy these directory trees from each node of the source system to each
corresponding node of the new target system. If your target system is on the
same machine as your source system or the disks are NFS mounted, you can
copy an entire directory tree at once.

Copy the Source System Files

- **For UNIX users:**

  For example, if your source system APPL_TOP is /d01/apps115/PRODappl:

  ```
  $ cp -r /d01/apps115/PRODappl \
  /d02/apps115/TESTappl
  ```

- **For NT users:**

  For example, if your source system APPL_TOP is d:\PRODappl:

  ```
  C:\> xcopy /s /e /i d:\PRODappl \
  e:\TESTappl
  ```

Copy the Source System Files (cont.)

Use the following commands to copy the source system files:

For UNIX users:

For example, if your source system APPL_TOP is /d01/apps115/PRODappl and your target system location is APPL_TOP is /d02/apps115/TESTappl:

```
$ cp -r /d01/apps115/PRODappl /d02/apps115/TESTappl
```

The arguments for the copy command may differ depending upon the UNIX operating system type.

For NT users:

For example, if your source system APPL_TOP is d:\PRODappl and your target system location is APPL_TOP is /d02/apps115/TESTappl:

```
C:\> xcopy /s /e /i d:\PRODappl e:\TESTappl
```

 If the target system is on an independent node, you can zip or tar the source system directories and FTP them to the target system node.

Replace the Target System Configuration

Perform the following steps to re-implement the saved configuration on the target system:

- **Verify that the database is started and the Net8 listener allows remote connections to the database.**
- **Log on as the Applications user**
- **Do not source the Applications environment file**
- **Run the AD cloning utility in postclone mode to configure the target system.**

ORACLE

Replace the Target System Configuration

In the "Prepare the target system" section, the configuration specific to the target system was saved before replacing files with those from the source system. Perform the following steps to re-implement the saved configuration on the target system:

- Verify that the database is started and the Net8 listener allows remote connections to the database.
- Log on as the Applications user
- Do **not** source the Applications environment file
- Run the AD cloning utility in postclone mode to configure the target system.

The AD cloning utility is located in the AD_TOP/bin directory.

Replace the Target System Configuration

Use the following command to run adclone in postclone mode:

• **For all users:**

```
perl adclone.pl -mode=postclone \
-env_name=<SID> \
-node_name=<hostname> \
-config_file=<config file> \
-ad_top=<ad_top>
```

Replace the Target System Configuration (cont.)

Use the following command to run adclone in postclone mode:

For all users:

```
perl adclone.pl -mode=postclone -env_name=<SID> \
-node_name=<hostname> -config_file=<config file> \
-ad_top=<ad_top>
```

Note: The AD cloning utility will prompt you for the SYSTEM and APPS passwords when running in postclone mode

Replace the Target System Configuration

The AD cloning utility in postclone mode:
- **Configures the database profiles.**
- **Replaces the configuration files associated with the APPL_TOP.**
- **Replaces the configuration files associated with the COMMON_TOP.**
- **Generates the database security (DBC) file.**
- **Updates the interMedia shared library path.**
- **Starts up the services for this node.**

ORACLE

Replace the Target System Configuration (cont.)

The AD cloning utility in postclone mode:
- Configures the database profiles.
- Replaces the configuration files associated with the APPL_TOP.
- Replaces the configuration files associated with the COMMON_TOP.
- Generates the database security (DBC) file.
- Updates the interMedia shared library path.
- Starts up the services for this node.

Perform Finishing Tasks

- **Apply technology stack patches and configuration changes.**
- **Modify the web configuration file.**
- **Update Self-Service parameters.**
- **Sign the Java archive files.**
- **Relink the f60webmx executable.**
- **Relink Applications executables.**

Perform Finishing Tasks

This section describes the tasks you may need to perform to complete the cloning process

- Apply technology stack patches and configuration changes (conditionally required)
- Modify the web configuration file (conditionally required)
- Update Self-Service parameters (conditionally required)
- Sign the Java archive files
- Relink the f60webmx executable (conditionally required)
- Relink Applications executables (recommended)

Apply Technology Stack Patches and Configuration Changes

If you have applied patches or tuned the parameter settings in the source system for any technology stack components not referred to in this paper:

- **Re-apply the patches**
- **Re-implement the settings in the target system.**

Apply Technology Stack Patches and Configuration Changes

If you have applied patches or tuned the parameter settings in the source system for any technology stack components not referred to in this paper, you need to apply the patches and re-implement the settings in the target system. For example, you may have modified the Oracle HTTP server by adjusting some parameters in your httpd.conf file located in the *i*AS ORACLE_HOME/Apache/Apache/conf directory.

Note: All required technology stack patches should have been applied after running Rapid Install to install a new instance for the target system.

Modify the Web Configuration File

If web configuration file (appsweb.cfg) was patched, updated or customized in the source system you must update this file in the target system. Perform the following steps:

- **Back up appsweb.cfg from FND_TOP/resource and OA_HTML/bin of the target system.**
- **Copy appsweb.cfg from the source system to the target system.**
- **Modify the values in the ENVIRONMENT SPECIFIC PARAMETERS section of the appsweb.cfg of the target system to reflect the values for your target system.**

Modify the Web Configuration File

The web configuration file appsweb.cfg exists in two locations on the Oracle Applications file system: FND_TOP/resource and OA_HTML/bin. If appsweb.cfg was patched, updated or customized in the source system you must update this file in the target system. Perform the following steps:

- Back up appsweb.cfg from FND_TOP/resource and OA_HTML/bin of the target system.
- Copy appsweb.cfg from FND_TOP/resource and OA_HTML/bin of the source system to the target system.
- Modify the values in the ENVIRONMENT SPECIFIC PARAMETERS section of the appsweb.cfg of the target system to reflect the values in the backup copy that you created in step a). These parameters should reflect the values for your target system.

Update Self-Service Parameters

If you use Internet Explorer and changed the default SESSION_COOKIE_DOMAIN, update the Self-Service parameters directly using SQL*Plus:

```
sqlplus <APPS username>/<APPS password>
SQL> update ICX_PARAMETERS
 2> set SESSION_COOKIE_DOMAIN = '<domain>';
```

Update Self-Service Parameters

If you use Internet Explorer and changed the default SESSION_COOKIE_DOMAIN from null to some other value, update the Self-Service parameters directly using SQL*Plus:

```
sqlplus <APPS username>/<APPS password>
SQL> update ICX_PARAMETERS
2>  2  set SESSION_COOKIE_DOMAIN = '<domain>';
```

Sign the Java Archive Files

- **If you would like to use the same digital signature on both the source and target systems, copy the identitydb.obj from the source system to the target system.**
- **If you wish the target system to have a different digital certificate, create a new one.**
- **Run the AD Administration (adadmin) utility to generate product JAR files.**

Sign the Java Archive Files

Oracle Applications R11*i* requires that all Java archive files used in the client tier be certified using a customer specific digital certificate.

If you would like to use the same digital signature on both the source and target systems, copy the identitydb.obj from the source system to the target system. This file is located in the home directory of the source system's Applications default user. Copy this file to the home directory of the target system's Applications default user.

If you wish the target system to have a different digital certificate, then follow the instructions for creating a certificate in the *Installing Oracle Applications* manual.

Whether you choose to use a new or existing digital certificate, you should run the AD Administration (adadmin) utility to generate product JAR files.

Relink the f60webmx Executable

If your system utilizes the HP platform, you need to relink the f60webmx executable:

- **Run AD Administration.**
- **Choose Relink Applications programs from the Maintain Applications Files menu.**
- **Run 'chatr +s enable f60webmx' to resolve issues with Shared Library path.**

ORACLE

Relink the f60webmx Executable

If your system utilizes the HP platform, you need to relink the f60webmx executable. Run AD Administration and choose Relink Applications programs from the Maintain Applications Files menu. See the *Maintaining Oracle Applications* manual for instructions. After relinking successfully, run `'chatr +s enable f60webmx'` to resolve issues with Shared Library path. The f60webmx executable is located in the FND_TOP/bin directory.

Relink Applications Executables

Relinking all of your Oracle Applications executables is recommended. To relink Oracle Applications executables:

- **Run AD Administration.**
- **Choose Relink Applications programs from the Maintain Applications Files menu.**

ORACLE

Relink Applications Executables

Relinking all of your Applications executables is recommended. Use the relink Applications programs task of AD Administration to relink your Applications executables

Test the Target System

Check connectivity for the following:
- **Database PL/SQL Cartridge Connection**
- **Apache Jserv**
- **Applications logon and Apache Server**

Test the Target System

Check connectivity by using the following URLs:

- Database PL/SQL Cartridge Connection
  - With Apache single listener (11.5.2 and later or migrated 11.5.1), go to
    ```
    http://<apache host>:<apache port>/pls/<dad
    name>/FND_WEB.PING
    ```
  - With WebDB 2.5 (default configuration for 11.5.1), go to
    ```
    http://<webdb host>:<webdb port>/<dad
    name>/FND_WEB.PING
    ```
- You should see a table with information about your database.
- Apache Jserv
  ```
  http://<apache host>:<apache
  port>/servlets/IsItWorking
  ```
- You should see a message reassuring you that Apache JServ is working.
- Applications logon and Apache Server
  - Go to the Rapid Install portal page:
    ```
    http://<apache host>:<apache port>
    ```
- Click on Apps Logon Links, then click on the personal home page link.
- Log on to Self-Service Applications as SYSADMIN. Click on the link to the System Administration responsibility. This should bring up forms.

Test the Target System

**Verify that you can start and use the target system
successfully with the source system shut down:**
- **Shutdown the source system**
- **Start the target system**
- **Carry out login checks on the target system**

Test The Target System (cont.)

Verify that you can start and use the target system successfully with the source system shut down:

- Shutdown the source system.
- Start the target system.
- Carry out login checks on the target system.

Other Considerations

There may be additional product specific steps required to complete the cloning process. For example, if you are using:

- **Oracle Payroll (US), you may need to re-identify the location of the Quantum data files.**
- **Oracle Recovery Manager (RMAN), you need to reset the database ID.**

Other Considerations

There may be additional product specific steps required to complete the cloning process. For example, if you are using Oracle Payroll (US), you may need to re-identify the location of the Quantum data files. If you are using Oracle Recovery Manager (RMAN), you need to reset the database ID (DBID).

Module Summary

**In this module, you should have learned how
to do the following:**

- **Describe situations that may require cloning.**
- **Describe the AD cloning utility.**
- **Detail the phases of the cloning process.**
- **Perform the steps within each of the phases.**

Cloning Oracle Applications

Module Discussion

- **Name some situation that may require cloning of Oracle Applications.**
- **What are the two modes of the AD cloning utility?**
- **What are the functions of each of these two modes?**
- **Describe the manual steps within the cloning process.**

Cloning Oracle Applications

Appendix A: Quizzes

Chapter 21

Module 1 Quiz

1. The two main categories of AD Administration utility tasks are _____ and file system.

2. Select the correct sequence of preliminary AD Administration tasks:

a) Run the environment file, verify that the ORACLE_HOME directory is properly set, and ensure sufficient temporary disk space.

b) Ensure sufficient temporary disk space, shutdown concurrent managers, and run the environment file.

c) Verify that the ORACLE_HOME directory is properly set, run the environment file, and login as 'applmgr'.

d) Login as 'oracle,' run the environment file, verify that the ORACLE_HOME directory is properly set, and ensure sufficient temporary disk space.

3. AD Administration prompts you for the SYS and APPS passwords.

True or False.

4. The tasks that appear on the Maintain Database Objects menu are standard and do not change.

True or False.

5. The recreate grants and synonyms task_____ set up grants and synonyms for multi-currency schemas.

a) Does

b) Does not

6. The advrfapp.sql script runs against the APPS schemas to verify the integrity of each schema.

True or False.

Module 1 Quiz

7. Which statement about the compile flexfield data task is correct?

a) Should be performed after applying a set of patches that changes the setup of forms.

b) Helps alleviate one-time runtime compilation cost.

c) Is a required task.

d) Compiles the flexfield data the first time a user accesses the flexfield.

8. The _____ task is not displayed on the Database Objects menu if you do not have multi-lingual functionality currently installed.

9. Which statement about the DUAL table is correct?

a) It is automatically created.

b) It always has one column and two rows.

c) It is in the schema of the DUAL user.

d) It invokes PL/SQL routines.

10. The Multiple Reporting Currency feature allows you to define one or more reporting _____ .

11. Which statement about converting to Multi-Org is correct?

a) It converts a standard product group into a Multi-Org product group with one operating unit defined at the site level.

b) Automatically assumes the number of parallel workers for compiling invalid objects.

c) The conversion process takes 45 minutes to an hour.

d) It defines the Operating Unit and sets the site level AOL profile option.

12. Before converting to Multi-Org or Multiple Reporting Currencies, it is important to shut down all concurrent managers and ensure all users are logged off the system prior to conversion.

True or False.

Module 2 Quiz

1. When should you select the "Create Applications Environment File" task?

a) When you want to create an environment file with different settings than your current environment file.

b) When you want to recreate an environment file that is missing or corrupt.

c) When users encounter missing runtime files messages.

d) Both a) and b).

e) All of the above.

2. Which menu option(s) appears on the Maintain Applications File menu? (select all that apply)

a) Unload missing Applications files.

b) Copy files to destination.

c) Relink Applications programs.

d) Verify files necessary for runtime.

3. In the copy files to destination task, the HTML files are copied to the OAM_TOP directory.

True or False.

4. Oracle Applications use the message _____ files to display messages for users.

5. Message files must be generated according to a set maintenance schedule.

True or False.

6. AD Administration prompts you for which product's form files you would like to generate.

True or False.

Module 2 Quiz

7. What kind of files can be generated from the Maintain Applications File menu.
a) Report.
b) Graphics.
c) Product.
d) Both a) and b).
e) All of the above.

8. Which one of these items does AD Administration display when generating Graphics files? (select all that apply)
a) Displays the current character set.
b) Asks whether you want to regenerate Oracle Graphics PL/SQL library files.
c) Asks whether you want to execute Oracle Graphics executable files.
d) Creates a list of all Oracle Graphics objects to generate.

9. Product JAR files are generated in only the JAVA_TOP directory.
True or False.

10. The Generate product jar files task needs to be performed on the Admin server and the Web server only.
True or False.

11. What is the default name of the main AD Administration log file?
a) adworkXX.log.
b) adrelink.log.
c) adadmin.log.
d) admain.log.

12. There are _____ servers involved with the File System Administration tasks.

Module 2 Quiz

13. Before running AD Administration non-interactively, you must first create a
_____ file for your current environment.

14. In which directory must the defaults file be located?
a) APPL_TOP/admin/<SID>.
b) APPL_TOP/<SID>.
c) APPL_TOP/au/admin.
d) APPL_TOP/admin/restart.

15. The command line parameter to run AD Administration in non-interactive
mode is _____.

Module 3 Quiz

1. With AD Controller, you can determine the status of AutoUpgrade, AutoPatch, and AD Administration workers and restart tasks.
True or False.

2. When AD Controller returns a "Wait" status, this means that a problem has been fixed and the failed job is waiting to restart.
True or False.

3. AD Controller enables you to perform all of these tasks except:
a) Restart a terminated worker.
b) Review worker status.
c) Shutdown a worker.
d) Add a worker.
e) Change a worker's status.

4. The AD Configuration script is a SQL script (adutconf.sql) that generates a file called adutconf.lst.
True or False.

5. What information provided by AD Configuration is new for Release 11*i*?
a) Rollback segment information.
b) NLS environment settings.
c) Information about the product group.
d) Base language and other installed languages.

6. The AD Configuration utility is located in the _____ directory.

Module 3 Quiz

7. Which statement(s) about AD Splicer are correct? (select all that apply)

a) It must be run for each APPL_TOP and database combination.

b) It allows an off-cycle product to be a valid Oracle Applications product for the given release.

c) It can be used to add custom products to your APPL_TOP directory.

d) Products added by AD Splicer are recognized by AutoPatch.

8. AD Splicer has three types of control files.
True or False.

9. After splicing in an off-cycle product, you use the _____ utility to install the product files and database objects.

Module 4 Quiz

1. You may need to use the File Character Set Conversion utility for which files? (select all that apply)

a) HTML files.

b) PL/SQL scripts.

c) ODF files.

d) Driver files.

e) All of the above.

2. Each Oracle Applications product consists of _____, which each has an object description file (ODF).

3. You can use AD Relink to relink executables for all programs.

True or False.

4. _____ can be used to help work around certain seed data related problems encountered when upgrading your Oracle Applications database.

5. AutoUpgrade and AutoPatch will use AD SQL mode if the SQL script includes SQL*Plus commands.

True or False.

6. Although AD Rebase was built specifically for NT, it can be used on other platforms.

True or False.

Module 4 Quiz

7. You can use License Manager to license new products and remove existing products.

True or False.

8. License Manager allows you to do all of the following, except:

a) Add languages.

b) Add country specific funtionalities.

c) Change database character set.

d) Add individual products.

9. Once a product is licensed, the AutoInstall utility can be used to install the product files.

True or False.

Module 5 Quiz

1. The AD cloning utility can be run safely from:

a) Source system

b) Target system

c) Both the source and the target systems

2. The database name of the source system and the target system must be identical.

True or False.

3. The AD cloning utility in preclone mode (select all that apply):

a) Saves the configuration files from the APPL_TOP.

b) Removes APPL_TOP, JAVA_TOP, and OA_HTML directory contents.

c) Saves the configuration files from the COMMON_TOP.

d) Shuts down any running services on the current node.

e) All of the above.

Appendix B: Quiz Solutions and Practices

Chapter 22

Module 1 Quiz Solutions

1. The two main categories of AD Administration utility tasks are _____ and file system.

Correct Response: Database

2. Select the correct sequence of preliminary AD Administration tasks:

a) Run the environment file, verify that the ORACLE_HOME directory is properly set, and ensure sufficient temporary disk space. - Correct: This is the correct sequence of several of the preliminary AD Administration tasks. However, there are other preliminary tasks involved in this sequence.

b) Ensure sufficient temporary disk space, shutdown concurrent managers, and run the environment file. - Incorrect: Running the environment file comes before shutting down concurrent managers.

c) Verify that the ORACLE_HOME directory is properly set, run the environment file, and login as 'applmgr'. - Incorrect. You must login as 'applmgr' before running the environment file.

d) Login as 'oracle,' run the environment file, verify that the ORACLE_HOME directory is properly set, and ensure sufficient temporary disk space. - Incorrect. The login is not 'oracle.'

3. AD Administration prompts you for the SYS and APPS passwords.

True - Incorrect.

False - Correct. AD Administration prompts you for the SYSTEM and APPS passwords.

Module 1 Quiz Solutions

4. The tasks that appear on the Maintain Applications Database Objects menu are standard and do not change.

True - Incorrect.

False - Correct. The tasks that appear on the menu can vary depending on your Oracle Applications environment and configuration.

5. The recreating grants and synonyms task_____ set up grants and synonyms for multi-currency schemas.

a) Does. Incorrect.

b) Does not. Correct. This task does not set up grants and synonyms for multi-currency schemas. This, however, can be accomplished by selecting the Maintain Multiple Reporting Currencies schema(s) task from the Database Objects menu.

6. The advrfapp.sql script runs against the APPS schemas to verify the integrity of each schema.

True - Correct. The advrfapp.sql script is called by the Validate APPS schema task. When run against the APPS schemas, the advrfapp.sql script verifies the integrity of each schema.

False - Incorrect.

Module 1 Quiz Solutions

7. Which statement about the compile flexfield data task is correct?

a) Should be performed after applying a set of patches that changes the setup of forms. - Incorrect. This task does not need to be performed after applying a patch that changes the setup of forms.

b) Helps alleviate a one-time runtime compilation cost. - Correct. Compiling flexfield data helps alleviate a one-time runtime compilation cost.

c) Is a required task. - Incorrect. It is not a required task.

d) Compiles the flexfield data the first time a user accesses the flexfield. - Incorrect. Although this statement is true, it is not related to the compile flexfield data task of AD Administration.

8. The _____ task is not displayed on the Database Objects menu if you do not have multi-lingual functionality currently installed.

Correct Response: Maintain multi-lingual tables

The Maintain multi-lingual tables task is not displayed on the Database Objects menu if you do not have multi-lingual functionality currently installed.

9. Which statement about the DUAL table is correct?

a) It is automatically created. - Correct. Along with the data dictionary, the DUAL table is automatically created by Oracle.

b) It always has one column and two rows. - Incorrect. The DUAL table has one column and one row.

c) It is in the schema of the DUAL user. - Incorrect. It is in the schema of the SYS user.

d) It invokes PL/SQL routines. - Incorrect. The DUAL table does not invoke PL/SQL routines.

Module 1 Quiz Solutions

10. The Multiple Reporting Currency feature allows you to define one or more reporting _____ .

Correct Response: Sets of books.

The Multiple Reporting Currency feature allows you to define on or more reporting sets of books in addition to your primary set of books.

11. Which statement about converting to Multi-Org is correct?

a) It converts a standard product group into a Multi-Org product group with one operating unit defined at the site level. - Correct. The converting to Multi-Org task converts a standard product group into a Multi-Org product group with one operating unit defined at the site level.

b) Automatically assumes the number of parallel workers for compiling invalid objects. - Incorrect. It prompts you for the number of parallel workers.

c) The conversion process takes 45 minutes to an hour. - Incorrect. At a minimum, the process will take a few hours.

d) It defines the Operating Unit and sets the site level AOL profile option. - Incorrect. Before converting to Multi Org, you must define the Operating Unit and set the site level AOL profile option.

12. Before converting to Multi-Org or Multiple Reporting Currencies, it is important to shut down all concurrent managers and ensure all users are logged off the system prior to conversion.

True - Correct. It is important to shut down all concurrent managers and ensure all users are logged off the system to avoid the possibility of data corruption.

False - Incorrect.

Module 2 Quiz Solutions

1. When should you select the "Create Applications Environment File" task?

a) When you want to create an environment file with different settings than your current environment file. - Incorrect. You would want to create an environment file in this situation, however, there are other answers that also apply.

b) When you want to recreate an environment file that is missing or corrupt. - Incorrect. You would want to create an environment file in this situation, however, there are other answers that also apply.

c) When users encounter missing runtime files messages. - Incorrect. You would want to run the "verify files necessary for runtime" task in this situation.

d) Both a) and b). - Correct. You should select the "Create Applications Environment File" task in both of these situations

e) All of the above. - Incorrect. You would want to create a new Applications environment file for both a) and b), however, c) would indicate issues a new environment file will most likely not resolve.

2. Which menu option(s) appears on the Maintain Applications File menu? (select all that apply)

a) Unload missing Applications files. - Incorrect. The "Unload missing Applications files" option does not appear in the Maintain Applications Files menu. This task did exist in prior releases.

b) Copy files to destination. - Correct. This menu option appears in the Maintain Applications Files menu.

c) Relink Applications programs. - Correct. This menu option appears in the Maintain Applications Files menu.

d) Verify files necessary for runtime. - Correct. This menu option appears in the Maintain Applications Files menu.

3. In the copy files to destination task, the HTML files are copied to the OAM_TOP directory.

True. Incorrect.

False - Correct. The HTML files are copied to the OAH_TOP directory.

Module 2 Quiz Solutions

4. Oracle Applications uses the message _____ files to display messages for users.

Correct Response: Binary

Oracle Applications use the message binary files to display messages for users.

5. Message files must be generated according to a set maintenance schedule.

True - Incorrect.

False - Correct. In most cases, you only need to generate message files when instructed to do so in a patch readme file.

6. AD Administration prompts you for which product's form files you would like to generate.

True - Correct. You can select to generate forms files for any product of your choice.

False - Incorrect.

Module 2 Quiz Solutions

7. What kind of files can be generated from the Maintain Applications File menu.

a) Report - Incorrect. Report files can be generated by AD Administration, however, there are also other file types.

b) Graphics - Incorrect. Graphics files can be generated by AD Administration, however, there are also other file types.

c) Product - Incorrect. There is no option on the Maintain Applications files menu to generate "product" files.

d) Both a) and b) - Correct. Both Report and Graphics files can be generated through the Maintain Applications files menu.

e) All of the above - Incorrect. Not all of these file types can be generated through the Maintain Applications files menu.

8. Which one of these items does AD Administration display when generating Graphics files? (select all that apply)

a) Displays the current character set. - Correct. This item does appear.

b) Asks whether you want to regenerate Oracle Graphics PL/SQL library files. - Correct. This item does appear.

c) Asks whether you want to execute Oracle Graphics executable files. - Incorrect. AD Administration does not prompt for this.

d) Creates a list of all Oracle Graphics objects to generate. - Correct. This item does appear.

9. Product JAR files are generated in only the JAVA_TOP directory.

True - Incorrect.

False - Correct. Product JAR files are generated in both the APPL_TOP (<PROD>_TOP/java) and the JAVA_TOP directories.

Module 2 Quiz Solutions

10. The Generate product jar files task needs to be performed on the Admin server and the Web server.

True - Correct. This task must be performed on the Admin server and the Web server.

False - Incorrect.

11. What is the default name of the main AD Administration log file?

a) adworkXX.log - Incorrect. This log is for the database operations that run in parallel mode.

b) adrelink.log - Incorrect. This is the name of the relinking log file.

c) adadmin.log - Correct. This is the default name of the main AD Administration log file.

d) admain.log - Incorrect. There is no log file with this default name.

12. There are _____ servers involved with the File System Administration tasks.

Correct Response: Four

There are four servers involved with the File System Administration tasks: Admin, Forms, Web, and Concurrent Processor servers.

Module 2 Quiz Solutions

13. Before running AD Administration non-interactively, you must first create a _____ file for your current environment.

Correct Response: Defaults file.

You must create a defaults file before running AD Administration in non-interactive mode.

14. In which directory must the defaults file be located?

a) APPL_TOP/admin/<SID> - Correct. The defaults file must be located in the APPL_TOP/admin/<SID> directory.

b) APPL_TOP/<SID> - Incorrect. The defaults file is not located in the APPL_TOP/<SID> directory.

c) APPL_TOP/au/admin - Incorrect. The defaults file is not located in the APPL_TOP/au/admin directory.

d) APPL_TOP/admin/restart - Incorrect. The defaults file is not located in the APPL_TOP/admin/restart directory.

15. The command line parameter to run AD Administration in non-interactive mode is _____.

Correct Response: interactive=no.

The command line parameter to run AD Administration in non-interactive mode is interactive=no.

Module 3 Quiz Solutions

1. With AD Controller, you can determine the status of AutoUpgrade, AutoPatch, and AD Administration workers and restart tasks.

True - Correct. AD Controller can determine the status of workers and restart tasks.

False - Incorrect.

2. When AD Controller returns a "Wait" status, this means that a problem has been fixed and the failed job is waiting to restart.

True - Incorrect.

False - Correct. When AD Controller returns a "Wait" status, a worker is idle.

3. AD Controller enables you to perform all of these tasks except:

a) Restart a terminated worker. - Incorrect. You can restart a terminated worker with AD Controller.

b) Review worker status. - Incorrect. You can review worker status with AD Controller.

c) Shutdown a worker. - Incorrect. You can shutdown a worker with AD Controller.

d) Add a worker. - Correct. You cannot add a worker with AD Controller.

e) Change a worker's status. - Incorrect. You can change a worker's status with AD Controller.

Module 3 Quiz Solutions

4. The AD Configuration script is a sql script (adutconf.sql) that generates a file called adutconf.lst.

True - Correct. AD Configuration is a sql script (adutconf.sql) that generates a file called adutconf.lst.

False - Incorrect.

5. What information provided by AD Configuration is new for Release 11*i*?

a) Rollback segment information. - Correct. Release 11*i* provides rollback segment information

b) NLS environment settings. - Incorrect. NLS environment settings are not new to Release 11i.

c) Information about the product group. - Incorrect. Product group information has been provided prior to Release 11i.

d) Base language and other installed languages. - Incorrect. Language information is not new to Release 11i.

6. The AD Configuration utility is located in the _____ directory.

Correct Response: AD_TOP/sql

The AD Configuration utility is located in the AD_TOP/sql directory.

Module 3 Quiz Solutions

7. Which statement(s) about AD Splicer are correct? (select all that apply)

a) It must be run for each APPL_TOP and database combination. - Correct. AD Splicer must be run for each APPL_TOP and database combination.

b) It allows an off-cycle product to be a valid Oracle Applications product for the given release. Correct. AD Splicer allows an off-cycle product to be a valid Oracle Applications product for the given release.

c) It can be used to add custom products to your APPL_TOP directory. - Incorrect. You cannot use AD Splicer to add custom products to your APPL_TOP directory.

d) Products added by AD Splicer are recognized by AutoPatch. - Correct. Spliced products are recognized by AutoPatch.

8. AD Splicer has three types of control files.

True - Incorrect.

False - Correct. AD Splicer has two types of control files: Product Definition and Product Configuration Files.

9. After splicing in an off-cycle product, you use the _____ utility to install the product files and database objects.

Correct Response: AutoPatch

Run AutoPatch to install files and database objects for your new off-cycle products.

Module 4 Quiz Solutions

1. You may need to use the File Character Set Conversion utility for which files? (select all that apply)

a) HTML files - Incorrect. You may need to convert this file type, however, there are others.

b) PL/SQL scripts - Incorrect. You may need to convert this file type, however, there are others.

c) ODF files - Incorrect. You may need to convert this file type, however, there are others.

d) Driver files - Incorrect. You may need to convert this file type, however, there are others.

e) All of the above - Correct. You may need to use the File Character Set Conversion utility for all of these files.

2. Each Oracle Applications product consists of _____, which each has an object description file (ODF).

Correct Response: Building blocks

Each Oracle Applications product consists of building blocks, which each has an object description file (ODF).

3. You can use AD Relink to relink executables for all programs.

True - Incorrect.

False - Correct. AD Relink should only be used to relink AD executables. All other program executables should be relinked using the Relink Applications Programs task from the AD Administration Maintain Applications File menu.

Module 4 Quiz Solutions

4. _____ can be used to help work around certain seed data related problems encountered when upgrading your Oracle Applications database.

Correct Response: DataMerge

Oracle Support Services may ask you to run DataMerge to work around certain seed data related problems encountered when upgrading your Oracle Applications database.

5. AutoUpgrade and AutoPatch will use AD SQL mode if the SQL script includes SQL*Plus commands.

True - Incorrect.

False - Correct. AutoUpgrade and AutoPatch will not use AD SQL mode if the SQL script includes SQL*Plus commands.

6. Although AD Rebase was built specifically for NT, it can be used on other platforms.

True - Incorrect.

False - Correct. AD Rebase is an NT-only utility.

Module 4 Quiz Solutions

7. You can use License Manager to license new products and remove existing products.

True - Incorrect.

False - Correct. License Manager cannot remove existing products.

8. License Manager allows you to do all of the following, except:

a) Add languages - Incorrect. License Manager will allow you to license additional languages.

b) Add country specific funtionalities - Incorrect. License Manager will allow you to license additional country specific funtionalities.

c) Change database character set - Correct. The database character set cannot be added or changed by License Manager.

d) Add individual products - Incorrect. License Manager will allow you to license additional products.

9. Once a product is licensed, the AutoInstall utility can be used to install the product files.

True - Incorrect.

False - Correct. The product files have already been installed by Rapid Install. The AutoInstall utility does not exist for release 11i.

Module 5 Quiz Solutions

1. The AD cloning utility can be run safely from:

a) Source system - Incorrect. The AD cloning utility must not be run from the source system.

b) Target system - Correct. The AD cloning utility can be run only from the target system.

c) Both the source and the target systems - Incorrect. The AD cloning utility can be run only from the target system.

2. The database name of the source system and the target system must be identical.

True - Incorrect.

False - Correct. The database name of the source system and the target system can be different.

3. The AD cloning utility in preclone mode (select all that apply):

a) Saves the configuration files from the APPL_TOP. - Incorrect. The AD cloning utility in preclone mode does this, however, there are other valid selections.

b) Removes APPL_TOP, JAVA_TOP, and OA_HTML directory contents. - Incorrect. The AD cloning utility in preclone mode does this, however, there are other valid selections.

c) Saves the configuration files from the COMMON_TOP. - Incorrect. The AD cloning utility in preclone mode does this, however, there are other valid selections.

d) Shuts down any running services on the current node. - Incorrect. The AD cloning utility in preclone mode does this, however, there are other valid selections.

e) All of the above. - Correct. The AD cloning utility in preclone mode perform all of these tasks.

Module 1 Practice

Practice 1: Starting AD Administration

In this practice you set up your environment and start AD Administration. You will also answer all questions that AD Administration prompts you for.

ASSUMPTIONS:

This practice assumes that you have an instance of Oracle Applications Release 11*i* fully installed.

INSTRUCTIONS:

1 Log in as applmgr (or your equivalent default main Applications login).

2 Run the environment or command file for the appropriate product group.

For UNIX users:

The environment file is typically APPSORA.env. To run the file, from a Bourne or Korn shell, type the following:

```
$ . $APPL_TOP/APPSORA.env
```

For NT users:

Run APPSORA.cmd (in %APPL_TOP%). Verify that APPL_CONFIG is set to the name of the product group registry subkey:

```
C:\> echo %APPL_CONFIG%
```

3 Verify that ORACLE_HOME is set to the proper database directory, and that TWO_TASK identifies the correct database.

For UNIX users:

Type the following:

```
$ echo $TWO_TASK
$ echo $ORACLE_HOME
```

For NT users:

```
C:\> echo %LOCAL%
C:\> echo %ORACLE_HOME%
```

Module 1 Practice

Practice 1: Starting AD Administration (cont.)

4 Ensure that $ORACLE_HOME/bin is in your PATH. NT users check for %ORACLE_HOME%\bin.

For UNIX users:

At the prompt, type:
```
$ echo $PATH
```

If $ORACLE_HOME/bin is not in the path, add it using the following command:
```
$ PATH=$ORACLE_HOME/bin:$PATH
$ export PATH
```

For NT users:

At the prompt, type:
```
C:\> echo %PATH%
```

If %ORACLE_HOME%\bin is not there, add it by using the following command:
```
C:\> Set PATH=%ORACLE_HOME%\bin;%PATH%
```

Other directories, such as the location of the JRE executable (from the Java runtime environment), should also be in your path. The adovars.env file, or adovars.cmd for NT users, should be updated to include all nondatabase-specific directories in your PATH.

5 Shut down the concurrent managers if you plan to relink Oracle Applications product files or choose any of the tasks from the Maintain Applications Database Objects menu of AD Administration.
```
CONCSUB <APPS Username/APPS Password> SYSADMIN 'System
Administrator' SYSADMIN CONCURRENT FND DEACTIVATE
```

6 Ensure that there is sufficient temporary disk space.

You should have at least 50 MB in the temporary directories denoted by $APPLTMP and $REPORTS60_TEMP or %APPLTMP% and %REPORTS60_ TEMP% for NT. You should also have space in the operating system's default temporary directory (usually /tmp or /usr/tmp for UNIX and C:\temp for NT).

Module 1 Practice

Practice 1: Starting AD Administration (cont.)

7   Start AD Administration.

> Start AD Administration with the appropriate command name. **For UNIX users:**
> ```
> $ adadmin
> ```
> **For NT users:**
> ```
> C:\> adadmin
> ```

8   Respond to the prompts. Press [Enter] to accept the bracketed default values

> ```
> Your default directory is '/d3/dbf/testR11i/prodappl'.
> Is this the correct APPL_TOP [Yes] ?
>
> AD Administration records your AD Administration
> session in a text file that you specify.  Enter your AD
> Administration log file name or press [Return] to
> accept the default file name shown in brackets.
>
> Filename [adadmin.log] : adadmin_class.log
>
> You can be notified by e-mail if a failure occurs.
> Do you wish to activate this feature [Yes] ? No
>
> Please enter the batchsize [1000] :
>
> You are about to use or modify Oracle Applications
> product tables in your ORACLE database 'PROD'
> using ORACLE executables in '/local/db/8.0.6'.
> Is this the correct database [Yes] ?
>
> Enter the password for your 'SYSTEM' ORACLE schema:
> <your SYSTEM password>
>
> Enter the ORACLE password of Application Object Library
> [APPS] : <your APPS password>
> ```

The Main menu for AD Administration will appear.

Module 1 Practice

Practice 2: Validating APPS schemas

In this practice you use AD Administration to validate the APPS schema.

ASSUMPTIONS:

This practice assumes that you have completed Practice 1.

INSTRUCTIONS:

1 Select option 1, Maintain Applications Database Objects menu, from the AD Administration Main Menu.

2 Select option 1, Validate APPS schema(s), from the Maintain Applications Database Objects menu. This process takes approximately 15 minutes and maybe longer, depending on your configuration.

3 View the output file. The output file produced by the Validate APPS schema process is called <APPS>.lst, where <APPS> is the name of your APPS schema.

> Use an editor of your choice to view APPS.lst. The output file is located at $APPL_TOP/admin/<SID>/out/APPS.lst

4 Check for missing or incorrect synonyms in APPS.

> a) In the log file, go to the Checking for missing or incorrect synonyms in APPS section.

> b) Verify that there are no missing or incorrect synonyms in APPS.

> c) Follow the instructions in the file to resolve any issues.

5 Check for tables or sequences in APPS and in a base schema.

> a) In the log file, go to the Checking for tables/sequences in APPS and in a base schema section.

> b) Verify that there are no tables/sequences in both APPS and in a base schema.

> c) Follow the instructions in the file to resolve any issues.

6 Check for invalid objects in APPS.

> a) In the log file, go to the Checking for invalid objects in the APPS section.

> b) Verify that there are no invalid objects.

> c) Follow the instructions in the file to compile the invalid objects.

Module 1 Practice

Practice 3: Compiling Flexfields

In this practice you use AD Administration to compile flexfields.

ASSUMPTIONS:

This practice assumes that you have completed Practice 1.

INSTRUCTIONS:

1. Select option 1, Maintain Applications Database Objects menu, from the AD Administration Main Menu.

2. Select option 4, Compile flexfield data in AOL tables, from the Maintain Applications Database Objects menu. This process takes several minutes.

3. View the log file. As in practice 1, we named the log file produced by AD Administration adadmin_class.log. New output is appended to the file if it already exists.

   Use an editor of your choice to view adadmin_class.log. The log file is located at $APPL_TOP/admin/<SID>/log/ adadmin_class.log.

   Check for errors and warnings.

   a) In the log file, perform a search for the words "error" and "warning".

   b) If there are errors, you will need to determine what caused them.

Module 2 Practice

Practice 4: Creating the Applications Environment File

In this practice you use AD Administration to create the Applications environment file.

ASSUMPTIONS:

This practice assumes that you have completed Practice 1.

INSTRUCTIONS:

1   Select option 2, Maintain Applications Files menu, from the AD Administration Main Menu.

2   Select option 1, Create Applications environment file, from the Maintain Applications Files menu.

3   Respond to the prompts. Press [Enter] to accept the bracketed default values:

```
Enter the name of your Oracle Applications environment
file below.
File name [PROD.env] :   for_class.env

How do you wish to enable Parallel Concurrent
Processing:
1. Not enabled
2. Enable generic parallel concurrent processing
3. Enable parallel concurrent processing with operating
system queue

The default choice is 1 - Not enabled.

Enter your choice [1] :


The concurrent managers can create output files which
use a name that is no longer than 8 characters and an
extension which is no longer than 3 characters.

Do you wish to use the 8.3 file name convention [No]:

The concurrent managers can put all the log and report
files in a common area where the client machines can
view them.

Enter the name of this common area below, or press
[Return]if you want log and report files for each
application to go in that application's log and output
subdirectories.
Enter the name of the common area:
```

Module 2 Practice

Practice 4: Creating the Applications Environment File (cont.)

```
Enter the log subdirectory name for this product group
[log] :

Enter the output subdirectory name for this product
group [out] :

Enter the directory for Applications temporary files
[/var/tmp] :

Enter the directory for Oracle Reports temporary files
[/tmp] :

Some PL/SQL programs produce temporary log/output
files. The directories used for this must be listed in
the init.ora parameter "utl_file_dir".

The value of utl_file_dir for this database is:
"/usr/tmp"


Enter the directory for temporary log/output files from
PL/SQL programs.
Directory: /usr/tmp

The Oracle Applications forms are accessed via a web
server. Oracle Applications needs to know the name of
the machine on which the web server is running.

What is the name of the machine, including domain name,
hosting the web server that will be used for accessing
Applications forms?

Applications forms web server host machine [ ] ?
XX.XXXXX.com
(where XX.XXXXX is your domain name.)

What port is the Applications forms web server running
on [80] ?

Review the messages above, then press [Return] to
continue.
```

4   Review the newly created environment file located in APPL_TOP.

Module 2 Practice

Practice 5: Generating Forms Files

In this practice you use AD Administration to generate forms files.

ASSUMPTIONS:

This practice assumes that you have completed Practice 1.

INSTRUCTIONS:

1   Select option 2, Maintain Applications Files menu, from the AD
    Administration Main Menu.
2   Select option 7, Generate forms files, from the Maintain Applications Files
    menu.
3   Respond to the prompts. Press [Enter] to accept the bracketed default
    values.

```
Enter the number of workers [14] :

The default value for the number of workers is two plus
the number of CPUs on the machine where your database
server is running.

Your current character set is "WE8ISO8859P1". (This
value may be different).

Do you want to generate Oracle Forms objects using this
character set [Yes] ?

Do you want to regenerate Oracle Forms PL/SQL library
files [Yes] ?

Do you want to regenerate Oracle Forms menu files [Yes]
?

Do you want to regenerate Oracle Forms executable files
[Yes] ?

Enter list of products ('all' for all products) [all] :
fnd

Generate specific forms objects for each selected
product [No] ? Yes

The current set of installed languages is: US

Please select languages for generating Oracle Forms
files. You may select all of the above languages, or
just a subset.
```

Module 2 Practice

Practice 5: Generating Forms Files (cont.)

```
Enter list of languages ('all' for all of the above)
[all] :

You selected the following languages: US
Is this the correct set of languages [Yes]?

Reading product form information...

Selecting Oracle Forms PL/SQL library files and menu
files to generate...

Selecting library and menu files for Application Object
Library...

List of libraries and menus in Application Object
Library :
(Shows list of libraries and menus.)

Enter libraries and menus to generate, or enter 'all'
[all] : APPCORE.pll
(This is the main library that attaches all of the
sublibraries and calls them at the appropriate events.)

Selecting product forms to generate ...

Selecting forms for Application Object Library…

List of forms in Application Object Library:
(Shows list of forms)

Enter forms to generate, or enter 'all' [all] :
FNDSCSGN.fmx
(This is the sign-on form)

Generating Oracle Forms objects...
```

4   Review the log file.

Once forms generation is complete, review the log file for errors. The log file is located in APPL_TOP/admin/<SID>/log.

Module 2 Practice

Practice 6: Running AD Administration in Non-interactive Mode

In this practice you create a defaults file and run AD Administration in non-interactive mode.

ASSUMPTIONS:

This practice assumes that you have completed Practice 1.

INSTRUCTIONS:

1 Create a defaults file.

Start AD Administration with the following command.

For UNIX systems:
Specify defaultsfile=<Defaults File Name> on the AD Administration command line. The defaults file must be located under $APPL_TOP/admin/<SID>, where <SID> is the database name (ORACLE_SID/TWO_TASK). In our example testdb1 is the <SID>.

For example:
```
$ adadmin \
defaultsfile=$APPL_TOP/admin/testdb1/adadmindef.txt
```

For NT systems:
The file must be located under %APPL_TOP%\admin\ <SID>, where <SID> is the database (LOCAL). In our example testdb1 is the <SID>.

For example:
```
C:\> adadmin \
defaultsfile=%APPL_TOP%\admin\testdb1\adadmindef.txt
```

2 Respond to the prompts.

See Practice 1 for directions.

3 Check DUAL table.

From the Maintain Applications Database Objects menu, select task 6, Check DUAL table.

Module 2 Practice

Practice 6: Running AD Administration in Non-interactive Mode (cont.)

4 Exit AD Administration.

5 Verify that the defaults file was created.

Go to the directory that you specified in step 1 and verify that the defaults file has been created.

6 Run AD Administration in non-interactive mode.

Start AD Administration with the following command.

For UNIX systems:
```
$ adadmin \
defaultsfile=$APPL_TOP/admin/testdb1/adadmindef.txt \
logfile=adadmin_noninteractive.log interactive=no
```

For NT systems:
```
C:\> adadmin \
defaultsfile=%APPL_TOP%\admin\testdb1\adadmindef.txt
logfile=adadmin_noninteractive.log interactive=no
```

7 Verify that the task completed successfully.

When AD Administration finishes, view the log file to verify that the task completed successfully. The log file is located at $APPL_TOP/admin/<SID>/log/adadmin_noninteractive.log

Module 3 Practice

Practice 7: Running AD Configuration

In this practice you run the AD Configuration script to gather information about your Oracle Applications database.

ASSUMPTIONS:

This practice assumes that you have completed the first six steps of Practice 1 to set up your environment.

INSTRUCTIONS:

1 Go to the APPL_TOP/admin/<SID>/log directory.

2 Run AD Configuration.

    AD Configuration is located in AD_TOP/sql. The script is called adutconf.sql.

    For UNIX users:
```
$ sqlplus apps/apps @$AD_TOP/sql/adutconf.sql
```
    For NT users:
```
C:\> sqlplus apps/apps @%AD_TOP%\sql\adutconf.sql
```

3 View the output file.

    AD Configuration creates an output file called adutconf.lst in the directory where the script was run.

    a) In the editor of your choice, open adutconf.lst.

    b) Search for "Database name" and verify the name.

    c) Search for "Rollback Segment Sizes" and review the information.

    d) Search for "MultiOrg enabled?" and verify whether Multiple Organizations is enabled.

Module 4 Practice

Practice 8: Running AD Relink

In this practice you run the AD Relink utility to relink the AD Splicer executable.

ASSUMPTIONS:

This practice assumes that you have completed the first six steps of Practice 1 to set up your environment.

INSTRUCTIONS:

1 Run AD Relink.

From the operating system prompt, type the following command:

For UNIX users:
```
$ adrelink.sh force=y "ad adsplice"
```
For NT users:
```
C:\> adrelink force=y "ad adsplice"
```

2 View the log file.

The log file for AD Relink is named adrelink.log. When running AD Relink from the command line, the log file will be placed in APPL_TOP/admin/log/adrelink.log. Open the log file in an editor and check for any errors.

Module 4 Practice

Practice 9: Licensing an Additional Language

In this practice you run the License Manager utility to license an additional language.

ASSUMPTIONS:

This practice assumes that you have completed the first six steps of Practice 1 to set up your environment.

INSTRUCTIONS:

1 Run License Manager.

To start License Manager, go to:

For UNIX users:
```
$ cd $AD_TOP/bin
$ adlicmgr.sh
```

For NT users:
```
C:\> cd %AD_TOP%/bin
C:\> adlicmgr.cmd
```

2 Verify the database connect information.

a) Verify that the APPS username, APPS password, and the TWO_TASK are correct for your Applications database.

b) Click Next

3 Go to the Languages and Character Set screen.

a) Select Update your current Licensed Products in the Select Operations screen.

b) Click Next in the Current License Information screen.

c) Click Next in the Products screen.

d) Click Next in the Country-specific functionalities screen.

e) Review the currently licensed languages in the Selected Languages text box.

4 Go to the Select Languages screen.

a) Click the Select Languages button in the Languages and Character Set screen.

b) Highlight a currently unlicensed language in the Available Languages box.

c) Click on the right arrow button to move the language to the Selected Languages box.

d) Click OK.

Module 4 Practice

Practice 9: Licensing an Additional Language (cont.)

5 Verify the selected language.

a) In the Languages and Character Set screen, verify that the language you just selected appears in the Selected Languages box.

b) Click Next.

c) Click Finish in the Summary screen.

6 Optional steps.

a) To fully install all language files for the language you just licensed, you need to download the language files and use AutoPatch to install them.

b) To disable the language you just licensed, you can reverse the process in section c of step 4.

Patching and the AutoPatch Process

Chapter 23

**11*i* Patch and Maintain
Oracle Applications**

Before you begin this course, you should have the following qualifications:

- Knowledge of Internet Computing Architecture.
- Completion of Oracle Applications Architecture, Oracle Applications Install, and Use Oracle Applications AD Utilities is highly recommended.

How this course is organized:

Patch and Maintain Oracle Applications is an instructor-led course featuring lecture, written practice sessions and hands-on exercises.

This course takes a platform-generic approach. When appropriate, NT or UNIX specific information is presented. Many environment variables such as APPL_TOP are stated as such. For a UNIX environment assume that it is $APPL_TOP and for NT %APPL_TOP%.

The *Maintaining Oracle Applications* manual is a highly recommended companion to this course.

Course Modules

- **Patching and the AutoPatch Process**
- **Running AutoPatch**
- **Other Patching Topics**

Course Modules

This course contains three modules:

- Patching and the AutoPatch Process
- Running AutoPatch
- Other Patching Topics

Module 1

Patching and the AutoPatch Process

11*i* Patch and Maintain Oracle Applications

ORACLE

Patching and the AutoPatch Process

Chapter 23 - Page 4

Objectives

Objectives

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

- **Describe the elements of a patch.**
- **Distinguish between a patch, mini-pack, and maintenance pack.**
- **Describe how a patch is created.**
- **Explain the steps AutoPatch goes through to apply a patch.**

Module Overview

This module comprises the following topics:
- **Patches, Mini-packs, and Maintenance Packs**
- **Family Rollups and Family Consolidated Upgrade Patches**
- **Patch Naming Convention**
- **Patch Components**
- **Patch Creation**
- **Downloading a Patch**
- **Overview of AutoPatch**
- **AutoPatch Operations**
- **Applying a Patch**
- **Patch Application in a Multi-Node System**
- **Patch Documentation Files**

Overview

In this module we introduce the type of patches that are available for Oracle Applications, the patch creation process, and the process of downloading a patch from Oracle MetaLink. We also learn about patch naming conventions and look into the components that comprise a patch. In addition, we introduce the AutoPatch utility and cover the process of applying a patch in a single and multi-node systems.

There are several types of patches we cover in this module:
- individual patches
- mini-packs
- maintenance packs
- family rollups
- family consolidated upgrade patches.

Patching and the AutoPatch Process

Chapter 23 - Page 6

Patches, Mini-Packs, and Maintenance Packs

Patch + **Patch** + ... = **Mini-pack**

Mini-pack **Mini-pack** **Maintenance Pack**

+ + ... =

Patches, Mini-packs, and Maintenance Packs

A patch is a correction or modification to Oracle Applications. Patches are created and released when a feature is modified or when there is an issue with Oracle Applications. Some of these are simple issues and can be resolved with a single patch. A patch can contain fixes for a single issue or a collection of issues for a particular product.

Periodically, during a release cycle, a product combines all of their individual patches into a mini-pack. When these mini-packs of all Oracle Applications products are combined into a single patch, they are referred to as maintenance packs. In prior releases, mini-packs were referred to as patch sets and maintenance packs were referred to as release updates.

Mini-packs and maintenance packs are cumulative. In other words, if the latest mini-pack for a product has been applied, there is no need to apply a prior mini-pack. Mini-packs may also contain new features and functionalities.

A maintenance pack may be applied in its entirety or as individual mini-packs. Applying individual mini-packs will not update the maintenance release version, for example from 11.5.1 to 11.5.2, whereas applying the maintenance pack in its entirety with the consolidated driver will update the version number.

Family Rollups and Family Consolidated Upgrade Patches

Family Rollups and Family Consolidated Upgrade Patches

Product Mini-pack + **Product Mini-pack** + ... = **Family Rollups**

Product Upgrade Patches + **Product Upgrade Patches** + ... = **FCUP**

Family Rollups and Family Consolidated Upgrade Patches (FCUP)

Periodically, during a release cycle, a product family combines all of the mini-packs of individual products within the product family. This consolidation results in a family rollup patch.

To improve the performance of the upgrade process, we have introduced the family consolidated upgrade patch (FCUP). These family consolidated upgrade patches combine all product patches which update any known issues during the AutoUpgrade portion of the upgrade. These patches are packaged by product family and applied before the upgrade using the pre-install mode of AutoPatch.

Patch Naming Convention

Patch

`<patchnum>`

Mini-pack

11*i*<prod>.A, 11*i*<prod>.B

Maintenance Pack

11.5.1, 11.5.2, 11.5.3

Patch Naming Convention

Patches are named according to the format you see on this slide. A single patch is named after the patch or bug number. For example, a patch for a bug numbered 1234567 would simply be called patch 1234567.

The naming convention for a mini-pack is the release number followed by the product short name, then a letter, for example 11*i*.AD.A, 11*i*.AD.B.

The naming convention for a maintenance pack increments the third digit of the release number, for example 11.5.1, 11.5.2, 11.5.3.

The naming convention for family rollups and family consolidated upgrade patches is similar to that of single patches. They are named after the patch number.

Patch Components

- **Readme file**
- **Patch driver files**
- **Replacement files**

Patch Components

A patch, when downloaded, is usually in a zip format. When you unzip these patch files, there are several components that may be included. They are:

- Readme file
- Patch driver files
- Replacement files

Patch Driver Files

```
c123456.drv
```
Copy Driver
Copies replacement files

```
d123456.drv
```
Database Driver
Performs database updates

```
g123456.drv
```
Generation Driver
Regenerates forms, reports, and so on.

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Patch Driver Files

There are three types of patch drivers, each with its own naming convention. A patch may contain one, two or all three of these driver types:

- c<patchnum>.drv is the file or copy driver responsible for copying files and linking executables. All patches will contain a c<patchnum>.drv.

- d<patchnum>.drv is the database driver which runs SQL scripts and programs that update the database. A d<patchnum>.drv file is only included if the patch requires changes to your Oracle Applications database objects and if these changes can be automated.

- g<patchnum>.drv is the generation driver which generates forms, reports, and message files. A g<patchnum>.drv file is only included if the patch requires any forms, reports, or message files to be generated.

Note that the alphabetical naming convention reflects the order in which the drivers should be run:

- **c**<patchnum>.drv = Copying of files
- **d**<patchnum>.drv = Database updating
- **g**<patchnum>.drv = Generation of new components

Other Patch Components

Readme.txt file

Contains patch application instructions (may contain manual steps)

`README.txt`

Replacement files

Copied over existing files

SQL scripts

Run to perform updates

Other Patch Components

Every patch comes with a readme file (readme.txt). This file tells the user what the patch is fixing, the steps the user needs to perform, and any special instructions to perform the steps.

Note: It is imperative that you read the readme file before applying any patch.

Replacement files are listed in the copy driver. These files replace the forms, reports, SQL scripts, HTML files, object modules and so on which you have on your current system. They are organized by subdirectory within the patch directory based on where they belong on your file system.

There are scripts that may need to be run to modify the database. The scripts are typically called by the database driver. They are organized by subdirectory in the patch directory, but are run from APPL_TOP, not where the patch was unloaded.

Patch Creation

- **Customer reports a problem.**
- **Support analyst opens Technical Assistance Request (TAR) and researches problem.**
- **Support analyst gives customer existing patch if possible.**
- **Problem is logged as a bug if patch does not exist.**
- **Development researches issue and creates a candidate patch.**
- **Developer checks fix into local source control system.**

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Creating a Patch

This is the general process of creating a patch:

- First, a customer (or internal testers) report an issue.

- The support analyst or the customer opens a Technical Assistance Request, or TAR through the iTAR system.

- The support analyst researches the problem.

- If a patch already exists for the particular problem, the support analyst points the customer to the existing patch.

- If a patch does not exist, the problem is logged as a bug.

- Development then looks into the issue, fixes the issue, and creates a patch.

- The developer checks the patch into the local source control system.

Patch Creation

- **Development registers patch in ARU system.**
- **Development tests patch in standard environments.**
- **Patch is automatically ported to all other Oracle Applications platforms.**
- **Patch is translated to to all languages if required.**
- **Support is notified of new patch status.**
- **Patch is released to customers.**

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Creating a Patch (continued)

- Development registers the patch in the Automated Release Update system (ARU).
- The development group then downloads the patch from the ARU system and tests it internally. Two standard environments are used - a fully patched and unpatched - to catch packaging issues.
- The patch is ported to all other Oracle Applications platforms.
- The patch is translated to to all languages if required.
- ARU is updated and Support is notified of the patch.
- Support can distribute the patch to customers or customers can download the patches directly from Oracle MetaLink.

Note: Not every fix is released as a standard patch. In some cases, the fix is incorporated into a mini-pack.

Oracle MetaLink

Oracle MetaLink contains:
- **Technical documentation on Oracle products**
- **Technical forums on Oracle products**
- **Information on Oracle products availability**
- **Technical Assistance Requests (TARs)**
- **Patches**

Oracle MetaLink

Oracle MetaLink is an Oracle web site that contains

- Technical documentation on Oracle products
- Technical forums on Oracle products
- Information on Oracle products availability
- TARs (Technical Assistance Requests)
- Access to the iTAR system that allows customers to log a TAR
- Patches

Oracle MetaLink contains up to date information on Oracle Applications and there is an area specifically allocated to Oracle Applications Release 11*i*. Always check Oracle MetaLink periodically for bulletins, alerts, and issues.

Oracle MetaLink site: http://metalink.oracle.com/

Downloading a Patch

Downloading a Patch

Downloading a Patch

When you need to download a patch for your system, you can get the patch from Oracle MetaLink. Here's the process:

- Login to Oracle MetaLink
- Select the Patches option
- Access Oracle Applications product patches
- Query for the patches
- Download the patches

Downloading a Patch

Downloading a Patch

Once you login to Oracle MetaLink, you see the main page. The main page contains information that you can personalize by using the preferences button near the top.

The left margin contains links to important information pertaining to Oracle products. The Apps 11*i* Information button takes you to a wealth of information pertaining to Oracle Applications 11*i*, including product documentation, release notes, and key alerts.

The patches button is also located on the left border of this main page. Selecting it takes you to the patch download page.

Downloading a Patch

Downloading a Patch

This is the patch download page. For all Oracle Applications patches select the red text link.

Downloading a Patch

Downloading a Patch

The Oracle Applications patch download page allows you to query for patches based upon the search criteria you see on this screen. In this example we entered a patch number and click the submit button.

Downloading a Patch

Downloading a Patch

Oracle MetaLink queries the patch and we can select to download it from this page.

Overview of AutoPatch

Oracle Applications Database

Patch File

Oracle Applications File System

AutoPatch

Overview of AutoPatch

AutoPatch is a utility that automates many patching tasks for Oracle Applications. It is used to apply Oracle Applications:

- Patches
- Mini-packs (known as a patch set in previous releases)
- Maintenance packs (known as a release update in previous releases)
- Family rollups
- Family consolidated upgrade patches

In addition to maintaining existing products, AutoPatch is used to add files for a new language or a new product that was not a part of the base release.

Note: AutoPatch cannot be used to apply Oracle8*i* or Oracle Tools patches.

AutoPatch Operations

- **Copying files**
- **Archiving files in libraries**
- **Relinking executables**
- **Running SQL scripts or binary executables**
- **Generating forms, reports, and message files**
- **Generating Java archive (JAR) files**

AutoPatch Operations

AutoPatch may perform several tasks to apply a patch, mini-pack, family rollup, or a maintenance pack. These include:

- Copying files
- Archiving files in libraries
- Relinking executables
- Running SQL scripts or binary executables
- Generating forms, reports, and message files
- Generating Java archive (JAR) files

AutoPatch performs a limited set of operations when applying a family consolidated upgrade patch.

AutoPatch Features

AutoPatch:
- **Automates many tasks to make the application of patches easier**
- **Supports a powerful, granular patching mechanism**
- **Compares version numbers before replacing a file to ensure the most recent file is used**
- **Makes a backup copy before replacing any file**

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AutoPatch Features

AutoPatch automates many patching tasks to make the application of patches easier.

AutoPatch supports a powerful, granular patching mechanism which allows changing the minimum set of files. Before AutoPatch replaces a file with one from the patch, it compares the version numbers to ensure the most recent file is used. If a file on the file system is more recent than the file in a patch, AutoPatch does not change the file.

Before replacing any file, AutoPatch makes a backup copy.

AutoPatch Features

AutoPatch is:
- **Platform aware**
- **Translation aware**

AutoPatch Features

AutoPatch is

- Platform aware: If you try to apply a Sun Solaris specific patch on a Windows NT system, AutoPatch warns you of what you are trying to do.
- Translation aware: If language translation needs to be applied in addition to the patch you are applying, AutoPatch notifies you.

Applying a Patch

Applying a Patch

The next two slides show the process of applying a patch. This example shows the replacement of a file on the system using a copy driver.

After you have downloaded the patch, copy the patch files to a directory on your file system by unzipping the archived patch file. The directory tree created by the unzipping process is referred to as the PATCH_TOP directory.

Once the patch is unzipped, review the readme file for all instructions.

Note: We recommend having a single location within the site (on a single server) for downloading and storing patches. A new directory, patches_top, should contain all Oracle Applications patches with separate subdirectories for each patch (these subdirectories are created automatically when a patch is unpacked). The patches_top directory should also contain a 'patches.log' style spreadsheet detailing what patches have been or will be applied and to which APPL_TOPs, databases, and so on, as well as who applied the patch and who verified the success of the patch.

Applying a Patch

Applying a Patch (continued)

Once you start AutoPatch, it:

- Reads the patch driver files under PATCH_TOP.

- Verifies that the on-site file with the same name and location is an older version than the patch file. If the patch file is an older version than the existing file, AutoPatch does not copy it.

- Before replacing a file, makes a back up in a subdirectory of the patch directory. This is labeled 1 on the right side of the slide.

- Copies the new file from PATCH_TOP to the product directory.

- If the patch is a C object module, archives it into the C libraries and relinks dependent Oracle Applications executables with the Oracle8 server.

- Perform database updates specified in the database driver.

- If it is a generation driver you are applying, it generates forms, reports, and/or message files.

- Records its actions to applptch.txt, or the Patch History file which is located under $APPL_TOP/admin/<SID>.

- Records summary information of actions actually performed to applptch.sum, or the Patch Summary file, which is located under $APPL_TOP/admin.

Applying a Patch in a Multi-Node System

Applying a Patch in a Multi-Node System

Your installation of Oracle Applications is a multi-node system if one or more servers are installed on separate nodes (machines) or APPL_TOPs. If your system is configured on multiple nodes, you must run AutoPatch on each node to install or update the necessary files. You need to run AutoPatch only once on the Admin server to update database objects, but you must run the copy and generation drivers on all nodes that require those changed files.

The table below shows which driver files need to be run on which server.

	Admin Server	Forms Server	Web Server	Conc. Proc. Server
c\<bugno>.drv	✔	✔	✔	✔
d\<bugno>.drv	✔	X	X	X
g\<bugno>.drv	✔	✔	✔	✔

Note: AutoPatch is platform aware. If you attempt to apply a patch on a node with the wrong platform, AutoPatch notifies you.

Applying a Patch in a Multi-Node System

If the patch being applied only updates:
- **A forms file, then the copy and generation files need to be applied only to the Forms server node**
- **A reports file, then the copy and generation files need to be applied only to the Concurrent Processing server node**

* We recommend running the patch on all nodes and letting the drivers determine the proper course of action.

Applying a Patch in a Multi-Node System

With a multi-node system, if the patch being applied updates only a Forms file, then the copy and generation files need to be applied only to the Forms server node. If the patch updates a Reports file, then the copy and generation files need to be applied only to the Concurrent Processing server node. However, we recommend running the patch on all nodes and letting AutoPatch and the drivers determine the proper course of action.

If all servers are installed on a single node, then the drivers need to be applied only once as all servers are maintained concomitantly.

Applying a Patch in a Two-Node System

Applying a Patch in a Two-Node System

In this example the middle tier is separated into two nodes. The Admin server and the Concurrent Processing server are installed on one node and the Forms and Web servers are installed on a separate node.

A patch should be applied in order from top to bottom on this slide. The copy driver should be applied to both nodes; the database driver applied to the node containing the Admin server; and finally the generation driver applied to both nodes.

Patch Application Documentation Files

```
                          $APPL_TOP
                             │
                           admin
                  ┌──────────┴
                  │        <SID>
          applpsum.txt       ┌──────────┬
                             │           │
                           log       applptch.txt
                       ┌─────┴─────┐
                       │           │
                  adpatch.log   adpatch.lgi
```

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Patch Application Documentation Files

These are the primary patch application documentation files:

applpsum.txt: This is the Patch Summary file located in the $APPL_TOP/admin directory. This file records in a succinct manner all patches applied to an APPL_TOP or database. Information such as when and to which databases a patch was applied are recorded. Fixes within a patch that are not applied or a patch that has no actions are not recorded in this summary file.

applptch.txt: This is the Patch History file located in the $APPL_TOP/admin/<SID> directory. This file contains detailed information on which files have changed during the AutoPatch session. It records patch information whether a patch was successfully applied or not.

adpatch.log: This is the main log file and it records all detail actions for an AutoPatch session. You can find this file at $APPL_TOP/admin/<SID>/log, where <SID> is the value of your TWO_TASK or ORACLE_SID variable. The default log file name is adpatch.log. When applying a patch, we recommend you name your log file in a manner similar to the driver file you are applying. For example, d123456.log, when applying the database driver for patch # 123456.

Patch Application Documentation Files

Patch Application Documentation Files

adpatch.lgi: This is the information log file and it contains informational messages, such as files that were not applied. This file resides in the same location as your AutoPatch log file. It has the same base filename, but with an .lgi extension instead of a .log extension. For example, if your AutoPatch log file is named d123456.log, your AutoPatch informational log file will be named d123456.lgi.

Note: These documentation files are appended each time a patch is applied.

Expanded AutoPatch Sequence

- **Copy replacement files**
- **Update database**
- **Generate new forms and reports**
- **Possible additional manual steps**
- **Possible additional AutoPatch executions on other servers**

Expanded AutoPatch Sequence

In reviewing the order when applying patch drivers:

- Run the file copy driver.
- AutoPatch copies replacement files.
- If there are database steps, you run AutoPatch on the Admin server using the database driver to update the database.
- If forms or reports need to be generated after updating the database, run AutoPatch again using the generation driver.
- You may also need to perform manual update steps before and/or after running AutoPatch. The readme.txt file describes these steps.
- In a multi-node configuration, you often need to update files on several nodes, requiring you to run AutoPatch several times on the appropriate nodes (machines).

Module Summary

**In this module, you should have learned how
to do the following:**

- **Describe the elements of a patch**
- **Distinguish between a patch, mini-pack, family
rollup, family consolidated upgrade patch, and
maintenance pack**
- **Describe how a patch is created**
- **Explain the steps AutoPatch goes through to apply
a patch**

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Module Discussion

- **This module covered five operations performed during the application of a typical patch. What are these?**
- **A patch generally consists of several types of driver files. Name the driver files and their purpose.**
- **What is the purpose of the Patch History file?**

Module Practice

Module Practice

Download patches from Oracle MetaLink.

Running AutoPatch

Chapter 24

Module 2

Running AutoPatch

11*i* Patch and Maintain Oracle Applications

Objectives

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

- **Perform setup tasks prior to running AutoPatch.**
- **Run the AutoPatch utility to apply patches and maintenance packs.**
- **Perform additional tasks after running AutoPatch.**

Module Overview

This module comprises the following topics:
- **AutoPatch Setup Tasks**
- **Running AutoPatch**
- **AutoPatch Prompts**
- **AutoPatch Messages**
- **Post AutoPatch Tasks**
- **When a Worker Fails**
- **Restarting AutoPatch**

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Overview

In this module we cover:
- Setup tasks you must perform before running AutoPatch
- AutoPatch prompts and messages you see when you start AutoPatch
- Post AutoPatch tasks
- What to do when a worker fails
- How to restart AutoPatch

Technical note: In Release 11*i*, additional tools are required to maintain Oracle Applications on Windows NT. In the new "UNIX-like" model, relinking (required by patches or upgrades) is done at the customer site, thus allowing a higher level of granularity of patching.

The following software must be installed at the customer site:
- Microsoft Visual C++ version 6.0 + Service Pack 3 or higher (http://www.microsoft.com)
- MKS Toolkit version 6.1a or higher (http://www.mks.com)
- gnu make (shareware) version 3.77 or higher (http://www.gnu.org)

AutoPatch Setup Tasks

- **Log in as applmgr.**
- **Run environment script.**
- **Verify database environment.**
- **Verify PATH.**
- **Ensure sufficient disk space.**

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Setup Tasks

There are a few steps to perform before running AutoPatch, they are:

- Log in as applmgr or your default Applications user.

- Run the environment file for the Oracle Applications product group you want to update. This file is normally called <db_name>.env or APPSORA.env and is under APPL_TOP. Depending on your setup, you may have already run this file when you logged in during the first step.

- Verify $APPL_TOP.

- Verify $ORACLE_HOME, $ORACLE_SID, and $TWO_TASK. Ensure that these environment variables point to the correct database and directory.

- Verify your PATH variable. You want to ensure that $ORACLE_HOME/bin and $AD_TOP/ bin are in your PATH variable.

- Verify sufficient disk space. The temporary directories APPLTMP, REPORT60_TMP, and the operating system temporary directory (/tmp, /usr/tmp, or C:\temp) must each have at least 50 MB of free space.

AutoPatch Setup Tasks

- **Copy patch files to your patch directory.**
- **Read the readme.txt file for any special instructions.**
- **Backup any files that might be overlaid.**
- **Backup the file system and database before applying a series of mini-packs or a maintenance pack.**

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Setup Tasks (continued)

Once your environment is prepared:

- **Copy the patch files to your own PATCH_TOP directory:** How you do this depends on how you receive the patch. You can receive it on a CD or you can download it from MetaLink. The file will probably be zipped. Therefore, you need to unzip it.

- **Read the readme.txt file:** It provides information on running AutoPatch. This information may include such things as other patch or software prerequisites, space requirements, time requirements, and any required manual steps. It also specifies which files are changed and which bugs are fixed. It is imperative that you read the readme file before applying the patch.

- **Backup any previously patched files you want to save:** Before AutoPatch copies over a current file, it backs up that file to a subdirectory of the patch directory. Therefore, you don't need to manually back up the files unless you absolutely feel that you must.

Note: Before applying a series of mini-packs or a maintenance pack, we highly recommend backing up the Oracle Applications file system and database. Because once a patch is applied, there is no method of backing out the patch.

AutoPatch Setup Tasks

- **Shut down system.**
- **Perform any preparatory tasks in readme.txt.**
- **Run adpatch.**

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Setup Tasks (continued)

Once you have backed up your system, if needed, and prepared your patch top directory:

- AutoPatch may replace forms or reports, or update seed data and the database structure so it is a good idea to make sure nothing is accessing the database during an AutoPatch session. You may need to have all Oracle Applications users log out and shut down all concurrent managers.

- Perform any preparatory steps listed in the readme file. For example, you may need to run some SQL scripts manually.

- Run AutoPatch from the PATCH_TOP directory.

Starting AutoPatch

Run adpatch from patch directory by entering the following command:

- **For UNIX users:**

  `$ adpatch`

- **For NT users:**

  `C:\> adpatch`

Starting AutoPatch

The AutoPatch executable is located in the AD_TOP/bin directory. Run AutoPatch from the directory containing the patch files (referred to as the PATCH_TOP directory).

For example:

- **For UNIX users:**

  ```
  $ cd /d01/appl/rll5/patches/123456
  $ adpatch
  ```

  Where /d01/appl/rll5/patches/123456 is the PATCH_TOP directory.

- **For NT users:**

  ```
  C:\> cd appl\rll5\patches\123456
  C:\> adpatch
  ```

  Where appl\rll5\patches\123456 is the PATCH_TOP directory.

AutoPatch Prompts

```
            Copyright (c) 2000 Oracle Corporation
               Redwood Shores, California, USA
               Oracle Applications AutoPatch
                        Version 11.5


NOTE: You may not use this utility for custom development
unless you have written permission from Oracle Corporation


Your default directory is </d01/appl/115>.
Is this the correct APPL_TOP [Yes]?


adpatch records your adpatch session in a text file you
specify. Enter your adpatch log file name or press [Return]
to accept the default name shown in brackets.
Filename [adpatch.log] :
```

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Answering AutoPatch Prompts

Once AutoPatch starts, you see prompts similar to the ones in these series of slides.

You are prompted to answer some initial questions. The default selection for these questions are provided in [ ]. To select the default, just press [Enter]. The initial questions are similar to those for AD Administration. These ask you to:

- Verify that you are pointing to the correct APPL_TOP.
- Specify a name for the AutoPatch log file (the default is adpatch.log). When applying a patch, we recommend you name your log file in a manner similar to the driver file you are applying, for example: d123456.log.

AutoPatch Prompts

```
You can be notified by e-mail if a failure occurs.
Do you wish to activate this feature [Yes] ?

You chose to be notified by e-mail when a failure occurs.
Please enter the e-mail ID(s) (separated by a space) that
notifications should be sent to [applmgr] :
applmgr@oracle.com sysadmin@oracle.com

Please enter the batchsize [1000] :
```

Answering AutoPatch Prompts (cont.)

- Provide an e-mail address for notification if requesting online notification of errors. In this example we have selected the default Yes and entered the email ids appmgr@oracle.com and sysadmin@oracle.com.
- Set a batch commit size to be used with SQL processing.
The batch commit size determines the number of rows to commit at one time when certain scripts run. When you start AutoPatch, it prompts you to enter a batch commit size to be used during the patch process. If you do not specify a value, AutoPatch uses a default batch commit size, which is set to a relatively small value to accommodate systems with small rollback segments. To take advantage of large rollback segments, you must specify a batch commit size larger than the default value.

AutoPatch Prompts

```
Please enter the name of the Oracle Applications
Environment that this APPL_TOP belongs to.

The Applications Environment name must be unique across
all Oracle Applications Environments at your site, must be
from 1 to 8 characters long, and may only contain
alphanumeric characters.

Sample Applications Environment names are: "prod", "test",
and "demo".

Applications Environment Name [prod] : prod *
```

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Answering AutoPatch Prompts (cont.)

The questions on the next three slides are asked if you do not have a configuration file with the system and server configuration information. The configuration file is created when you answer the prompted questions during a Rapid Install or an AutoUpgrade session. If a configuration file exists, AutoPatch will read this file for the appropriate information.

This next prompt asks us for the Oracle Applications system name. This name is usually defined during the initial Rapid Install installation of Oracle Applications. As you can see at the bottom of this slide, there is an asterisk next to the name prod, which means that AutoPatch answered this prompt by looking in the configuration file.

AutoPatch Prompts

```
NOTE: If you do not currently have certain types of files
installed in this APPL_TOP, you may not be able to perform
certain tasks.


Example 1: …


Do you currently have files used for installing or
upgrading the database installed in this APPL_TOP [Yes] ?
Yes *
Do you currently have Java and HTML files for HTML-based
functionality installed in this APPL_TOP [Yes] ? Yes *


Do you currently have Oracle Applications forms files
installed in this APPL_TOP [Yes] ? Yes *


Do you currently have concurrent program files installed
in this APPL_TOP [Yes] ? Yes *
```

Answering AutoPatch Prompts (cont.)

These next series of prompts determine what servers you have installed on the node you are running AutoPatch. Like the Oracle Applications system name, these prompts are answered automatically by referencing the configuration file and you see an asterisk next to these answers:

- Do you currently have files used for installing or upgrading the database installed in this APPL_TOP [Yes] ? Yes *
- Do you currently have Java and HTML files for HTML-based functionality installed in this APPL_TOP [Yes] ? Yes *
- Do you currently have Oracle Applications forms files installed in this APPL_TOP [Yes] ? Yes *
- Do you currently have concurrent program files installed in this APPL_TOP [Yes] ? Yes *

AutoPatch Prompts

```
Please enter the name Oracle Applications will use to
identify this APPL_TOP.

The APPL_TOP name you select must be unique within an
Oracle Applications Environment, must be from 1 to 8
characters long, and may only contain alphanumeric and
underscore characters.

AutoPatch has computed a default APPL_TOP name for you
based on the servers you have implemented in this
APPL_TOP.

APPL_TOP Name [tafnw1] : tafnw1 *
...
```

Answering AutoPatch Prompts (cont.)

Another item that is usually answered automatically is the APPL_TOP name. Thus, we see the asterisk next to the answer in this slide.

The Oracle Applications system name and the APPL_TOP name are used by AutoPatch to create a subdirectory of your patch directory to back up the product's current or old file. Specifically, it backs up:

```
$<PROD>_TOP/<subdir(s)>/<old_file_name>
```

to

```
<patch_dir>/backup/<sys_name>/<appl_top_name>/
```
```
<prod>/<subdir(s)>/<old_file_name>
```

Where <patch_dir> is the patch directory, <sys_name> is the Oracle Applications system name, <appl_top_name> is the APPL_TOP name, and <prod> is the name of the product being patched.

System Questions

System Questions

AutoPatch needs the password for your 'SYSTEM' ORACLE
schema in order to determine your installation
configuration.

Enter the password for your 'SYSTEM' ORACLE schema:
manager

Connecting to SYSTEM......Connected successfully.

The ORACLE username specified below for Application
Object Library uniquely identifies your existing product
group: APPLSYS

Enter the ORACLE password of Application Object Library
[APPS] : APPS

System Questions

AutoPatch prompts you for the SYSTEM schema password and the APPS
password.

System Questions

```
AutoPatch is verifying your username/password.
Connecting to APPLSYS......Connected successfully.

Connecting to SYSTEM......Connected successfully.

Connecting to APPLSYS......Connected successfully.

Reading product information from file…
```

ORACLE

System Questions

Once you have supplied the necessary information, AutoPatch connects to the database to continue processing.

Patch File Name and Location

```
Enter the directory where your Oracle Applications patch
has been unloaded

The default directory is [/d01/appl/115/patch/1425621] :


Please enter the name of your AutoPatch driver file :
c1425621.drv


Do you want to continue with AutoPatch [Yes] ?
```

Patch File Name and Location

When it connects, AutoPatch asks you to verify the directory where the patch has been unloaded. The default directory should be correct if you are running AutoPatch from your PATCH_TOP directory.

It then asks you for the name of the patch driver file. AutoPatch asks you if you want to continue.

Patch File Name and Location

```
Determining target release...

Current target release is 11.5.4

Do you want to see the list of fixes in this patch [No] ?
yes

Pause every 24 lines when displaying list of fixes [No] ?
No

aru bug_1425621 contains:...

Do you want to continue with AutoPatch [Yes] ? Yes
```

ORACLE

Patch File Name and Location

The next series of prompts asks if you want to see the list of fixes in the patch
and if so, whether you want AutoPatch to pause every 24 lines when displaying
the list.

Messages

```
Determining which bug fixes to apply...
Done determining which bug fixes to apply.

AutoPatch is running in serial mode.

Performing version checking for driver files...
Copying driver files into installation area...
   No driver files were selected for copying.
ForceCopying driver files into installation area
   No driver files were selected for forcecopying.
Determining valid on-site files...
Screening out files not valid for this installation...
Extracting object modules from product libraries...
   No object modules were selected for extraction.
```

ORACLE

Messages

After you specify the patch to apply, AutoPatch processes the fix. It notifies you of the processing it is performing as it executes. These messages are shown in this slide.

Note: If the patch is one that can be applied in parallel mode, AutoPatch asks you to specify the number of parallel workers you want to use. It automatically determines the default value for the number of workers as being two plus the number of CPUs on the node where your database server is running. For example, on single-processor nodes, the default is 3.

AutoPatch then initiates the required number of workers, which it manages through the use of the FND_INSTALL_PROCESSES table. If any remedial action is required to address failures in any of these workers, the procedures described in the lesson on monitoring and restarting workers should be used.

See the *Use Oracle Applications AD Utilities* course for details.

Messages

```
Performing version checking...
Determining what executables to link...
Determining what Oracle Forms files to generate...
Determining what Oracle Reports libraries to generate...
Determining what Oracle Report files to generate...
Turing off FNDMDGEN actions for products that
```

Messages (cont.)

AutoPatch determines what actions to perform and what not to perform. These messages detail the processing being performed by AutoPatch.

Messages

```
Updating the Patch History file...

AutoPatch is complete.

AutoPatch may have written informational messages to the
file
/d01/appl/115/admin/ap2000/log/adpatch.lgi

You should check the file
/d01/appl/115/admin/ap2000/log/adpatch.log
for errors.

$
```

ORACLE

Messages (cont.)

As AutoPatch finishes its tasks, it writes information to the Patch History and
the Patch Summary files and reminds you to review the log files for any errors.

Post AutoPatch Tasks

Check log files for errors
- **adpatch.log: main AutoPatch log file**
- **adrelink.log: for relinking tasks**
- **adlibout.log: for copying C object files out of a product's C library**
- **adlibin.log: for copying C object files into a product's C library**

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Post AutoPatch Tasks

The most important step after AutoPatch completes is to check the log files for any errors that may have occurred during the patching process. These are some of the files you should check:

- adpatch.log is the main AutoPatch log file.
- adrelink.log contains information for relinking tasks performed by AutoPatch.
- adlibout.log contains information when copying C object files out of a product's C library.
- adlibin.log contains information when copying C object files into a product's C library.

Post AutoPatch Tasks

Check log files for errors
- **adwork*XX*.log: for operations run in parallel mode**
- **adpatch.lgi: for AutoPatch informational messages**

Post AutoPatch Tasks (cont.)

Other files you want to check are:

- adworkXX.log, which contains information for operations run in parallel mode. XX represents the number of the worker, for instance 01, 02, 03.
- adpatch.lgi, which contains additional AutoPatch informational messages.

Note: The log files are located in the log directory APPL_TOP/admin/<SID>/log.

Post AutoPatch Tasks

- **Perform any manual update steps (see readme.txt)**
- **Read protect log, out, and restart files**
- **Remove any obsolete files**
- **Update MLS and MRC schemas**
- **Pin packages and sequences in SGA**

ORACLE

Post AutoPatch Tasks (cont.)

- Perform any manual steps.
  Check the readme.txt file for any manual steps to perform. These steps may include checking for invalid objects and recompiling them, if necessary.

- Clean up or read-protect log/, restart/, and out/ directories as needed.
  These files contain passwords to the Oracle Applications products.

- Remove any obsolete files.
  Once you are sure the patch has been applied successfully and the system properly tested, you can delete any backup file copies located in the patch subdirectory. If space permits, we recommend keeping a backup copy of the old files. Do not delete applptch.txt, the Patch History file or applpsum.txt the Patch Summary file.

- Update MLS and MRC schemas.
  If specified by the patch readme file, run the Maintain Multi-lingual or Maintain MRC options of AD Administration.

- Pin packages and sequences in System Global Area.
  If the patch affected database objects, then it is best to ensure that all new objects are pinned.

If AutoPatch Fails

- **Before worker processing**
- **During worker processing**
- **After worker processing**

If AutoPatch Fails

The course of action may differ depending on when the failure occurs - before, during, or after worker processing.

If the patch is being applied in parallel mode, AutoPatch operates with the number of parallel worker processes that you specified. When AutoPatch fails before or after the worker processes, a message appears asking whether you would like to continue:

```
An error occurred while ...
Continue as if it were successful [No] :
```

At this point it is best to exit AutoPatch and review the log files to determine the source of the error. Once the error is resolved, you can restart AutoPatch.

If an error or a problem cannot be resolved:

- Verify that all steps in the readme file were completed
- Check the MetaLink site for additional information regarding the patch being applied
- Call Oracle Support

MetaLink site: http://metalink.oracle.com/

When a Worker Fails

- **Log on as `applmgr` from another window.**
- **Run the environment file.**
- **Split or copy the worker log file.**
- **Fix the problem.**
- **Restart the worker.**

```
AD Worker error:
The following ORACLE error:
ORA-01630: max # extents (50) reached in temp segment
in tablespace  TSTEMP

occurred while executing the SQL statement:
CREATE INDEX AP.AP_INVOICES_N11 ON AP.AP_INVOICES_ALL
(PROJECT_ID,   TASK_ID) NOLOGGING STORAGE (INITIAL 4K
NEXT 512K MINEXTENTS 1 MAXEXTENTS 50 PCTINCREASE 0)
```

AutoPatch Failure During Worker Processes

When AutoPatch fails during worker processes, you do not have to wait until the other workers and AutoPatch stop. You can fix the problem and restart the worker while the manager is running by performing the following steps:

- Log in as 'applmgr' from another terminal or terminal window and verify the environment.

- Run the environment file.

- Split or copy the worker log file. This prevents errors if the worker tries to write to its log file while you are reviewing the file or if the file editor cannot handle a large file.

- Review the end of the log file to find the problem.

- Fix the problem.

- Restart the failed job using the AD Controller utility.

Note: See the *Use Oracle Applications AD Utilities* course for information on AD Controller (adctrl).

Restarting AutoPatch

```
Copyright (c) 2000 Oracle Corporation
        Redwood Shores, California, USA
        Oracle Applications AutoPatch
                 Version 11.5


NOTE: ...
adpatch records your adpatch session in a text file you
specify. Enter your adpatch log file name or press
[Return] to accept the default name shown in brackets.
Filename [adpatch.log] :


Backing up restart files, if any......Done


Your previous AutoPatch session did not run to
completion.
Do you wish to continue with your previous AutoPatch
session [Yes] ?
```

Restarting AutoPatch

AutoPatch can be restarted as many times as necessary until the patch is successfully applied. If you typed "abort" at one of the prompts or exited AutoPatch to fix an error, you can restart AutoPatch by providing the AutoPatch command:

```
$ adpatch
```

AutoPatch then asks you if you would like to continue with the previous session. Accepting the default "Yes" option restarts AutoPatch from where it stopped.

Note: AutoPatch may not work properly if you partially applied a copy driver and then try to reapply the same copy driver from the beginning, that is, not continuing the previous session. You should fix the issue and restart.

Module Summary

In this module, you should have learned how to do the following:

- **Perform setup tasks prior to running AutoPatch.**
- **Run the AutoPatch utility to apply patches and maintenance packs.**
- **Perform additional tasks after running AutoPatch.**

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Module Discussion

- **There are several setup tasks to perform before running AutoPatch. Name two of these.**
- **Name the log files you should check for error messages after applying a patch.**
- **From what directory should you run AutoPatch? Why?**

Module Practice

Module Practice

- **Set up the environment**
- **Run AutoPatch**

Other Patching Topics

Chapter 25

Module 3

Other Patching Topics

11*i* Patch and Maintain Oracle Applications

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Other Patching Topics

Chapter 25 - Page 2

Objectives

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

- **Run AutoPatch in test mode**
- **Run AutoPatch before or during an upgrade**
- **Merge patch drivers from multiple patches**
- **Patch multiple product groups**
- **Apply patches that include Java**
- **Use test systems to test patches**
- **Specify execution options**

Module Overview

This module comprises the following topics:
- **AutoPatch Modes**
- **Java Release Infrastructure**
- **Patching Java Files**
- **Creating a Digital Certificate**
- **Patching Multiple Product Groups**
- **Running Multiple AutoPatch Sessions**
- **Adding Translations and New Products**
- **Using Test and Production Systems**
- **AutoPatch Options**
- **AD Merge Patch**
- **Merging Patches**

Overview

In this module, we focus on the test mode, pre-install mode, and non-interactive modes of AutoPatch. We also cover:

- Java Release Infrastructure
- Patching Java Files
- Creating a Digital Certificate
- Patching multiple product groups
- Running multiple AutoPatch sessions
- Adding translations and new products
- Using Test and Production systems
- AutoPatch options

In this module we also learn about the AD Merge Patch utility and how it is used to merge multiple patches into a single merged patch.

AutoPatch Modes

AutoPatch

AutoPatch Modes

In addition to the standard patch application mode, AutoPatch can be run in theses modes:

- Test mode
- Pre-install mode
- Non-interactive mode.

Using AutoPatch in Test Mode

The command to run AutoPatch in test mode:

```
$ adpatch apply=no
```

Messages stating actions not performed:

```
Performing second half of mirrored copies...
   No mirrored copies were executed in this patch


Running SQL scripts or EXEC commands...


Updating the Patch History file...
   Did not update Patch History file (empty patch)


AutoPatch is complete.
```

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Running AutoPatch in Test Mode

When using the test mode option, you can run AutoPatch to determine the actions of a patch without actually applying the patch. When running AutoPatch in test mode, it documents the operations it would have performed, but it does not perform any actions. In general, AutoPatch lists each file it would have copied, generated, relinked, or executed.

To run AutoPatch in test mode, you use the `apply=no` command you see in the top box.

Using AutoPatch in Test Mode

In test mode, AutoPatch:
- **Reads and validates the patch driver file**
- **Reads the product file driver files**
- **Extracts object modules to allow version verification**
- **Performs version verification and documents which files would be copied**
- **Determines which SQL scripts and exec commands it would have run**

Running AutoPatch in Test Mode

In test mode, AutoPatch:
- Reads and validates the patch driver file
- Reads the product file driver files
- Extracts object modules to allow version verification
- Performs version verification and documents which files would be copied
- Determines which SQL scripts and exec commands it would have run

In test mode, AutoPatch does not:
- Copy files
- Archive object modules
- Relink any executables
- Generate any forms, reports, menus, or PL/SQL libraries
- Run any SQL scripts or executables
- Update the Patch History or Patch Summary files

Using AutoPatch in Pre-Install Mode

```
$ adpatch preinstall=y


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                   Oracle Applications AutoPatch
                             Version 11.5


NOTE:...


adpatch records your adpatch session in a text file you
specify. Enter your adpatch log file name or press
[Return] to accept the default name shown in brackets.
Filename [adpatch.log] :


Mode Pre-Install = YES
```

Using AutoPatch in Pre-install Mode

In some instances, such as upgrading Oracle Applications to 11.5, you may need to patch AutoUpgrade related files before performing the upgrade. In this case, you would use the pre-install mode of AutoPatch because the version of AutoPatch is different than the version of the database (10.7 or 11.0). The Oracle Applications Release Notes or Oracle MetaLink list the patches that need to be applied in this mode.

You run AutoPatch in pre-install mode after running Rapid Install to lay down the new 11.5 Oracle Applications file system.

AutoPatch in pre-install mode:

- Does not run SQL or exec commands, or generate any files
- Does not read product driver files
- Will only relink AD and AOL executables
- Will only apply bug fixes
- Will not apply maintenance packs

To run AutoPatch in pre-install mode, you use the preinstall=y command you see at the top of the slide.

**Using AutoPatch in Non-Interactive Mode
Creating a Defaults File**

- **Specify defaultsfile=<Defaults File Name> on the AutoPatch command line. The defaults file must be located under $APPL_TOP/admin/<SID>.**
- **Run AutoPatch up to the point where it asks you for the directory where your Oracle Applications patch has been unloaded, then enter `abort`.**
- **Verify that your defaults file was created.**

Using AutoPatch in Non-interactive Mode

For Release 11*i*, you can run AutoPatch to apply patches without user intervention. By specifying a patchtop location, AutoPatch will locate and run all patch drivers specific to the patch you want to apply.

Before you can run AutoPatch non-interactively, you must initially create an AutoPatch defaults file for your current system.

To create an AutoPatch defaults file:

- Specify defaultsfile=<Defaults File Name> on the AutoPatch command line. The defaults file must be located under APPL_TOP/admin/<SID>.

  For example:
  ```
  $ adpatch
    defaultsfile=$APPL_TOP/admin/testdb1/def.txt
  ```

- Run AutoPatch up to the point where it asks you for the directory where your Oracle Applications patch has been unloaded. Then enter `abort` at this prompt.
- Verify that your defaults file was created.

Once you have an AutoPatch defaults file for your current system, you can run AutoPatch non-interactively.

Using AutoPatch in Non-Interactive Mode

Command to run AutoPatch in non-interactive mode:

```
$ adpatch defaultsfile=$APPL_TOP/admin/testdb1/def.txt \
logfile=c123456.log \
patchtop=$APPL_TOP/patch/123456 \
workers=3 \
interactive=no
```

Where:
- **The defaults file is $APPL_TOP/admin/testdb1/def.txt**
- **The PATCH_TOP is $APPL_TOP/patch/123456**
- **The number of parallel workers is three**

Using AutoPatch in Non-interactive Mode

To apply a standard patch to your APPL_TOP and database non-interactively, the AutoPatch command line is:

```
$  adpatch \
defaultsfile=$APPL_TOP/admin/testdb1/def.txt \
logfile=cpy123456.log \
patchtop=$APPL_TOP/patch/123456 \
workers=3 \
interactive=no
```

Where the defaults file is $APPL_TOP/admin/testdb1/def.txt, the PATCH_TOP is $APPL_TOP/patch/123456, the number of parallel workers is three, and the mode is non-interactive.

A standard patch consists of three drivers with the following naming convention:

- c<patchnum>.drv
- d<patchnum>.drv
- g<patchnum>.drv

Each driver will be run automatically and in the order listed.

Using AutoPatch in Non-Interactive Mode

Items that constitute non-standard naming conventions are:
- **The last component of the patch directory is not a 6-to-8-digit number.**
- **The patch driver files are not named *<Patch Number>.drv.**

Using AutoPatch in Non-interactive Mode

There are instances when a patch may not follow the standard naming convention. Items that constitute non-standard naming conventions are:

- The last component of the patch directory is not a 6-to-8-digit number.
- The patch driver files are not named *<Patch Number>.drv, where * is c, d, or g.

In order to apply such a patch non-interactively, you must supply the following information to AutoPatch:

- The names of the patch driver files.
- The order in which the patch driver files should run.

You provide this information to AutoPatch using the keyword `driver=<values>`, where <values> is a comma-separated list of the patch driver files you want AutoPatch to run.

Using AutoPatch in Non-Interactive Mode

Command to run AutoPatch in non-interactive mode for a non-standard patch:

```
$ adpatch defaultsfile=$APPL_TOP/admin/testdb1/def.txt \
logfile=cpy123456.log \
patchtop=$APPL_TOP/patch/123456 \
driver=my_drv1.drvc,my_drv3.drvd,my_drv2.drvg \
workers=3 \
interactive=no
```

Where:
- **my_drv1.drv is the copy driver**
- **my_drv3.drv is the database driver**
- **my_drv2.drv is the generate driver**

Using AutoPatch in Non-interactive Mode

Suppose you want AutoPatch to apply the following non-standard patch driver files in the order specified:

- my_drv1.drv (copy driver)
- my_drv3.drv (database driver)
- my_drv2.drv (generate driver)

The naming convention used here is to add a c, d, or g at the end of the .drv extension in the command: c is for copy driver, d is for database driver, and g is for generate driver. Specify the driver= command-line argument as follows:

```
$  adpatch \
defaultsfile=$APPL_TOP/admin/testdb1/def.txt \
logfile=cpy123456.log \
patchtop=$APPL_TOP/patch/123456 \
driver=my_drv1.drvc,my_drv3.drvd,my_drv2.drvg \
workers=3 \
interactive=no
```

AutoPatch will run my_drv1.drv first, my_drv3.drv second, and my_drv2.drv last.

Restarting a Non-Interactive Session

Command to restart AutoPatch in non-interactive mode:

```
$ adpatch defaultsfile=$APPL_TOP/admin/testdb1/def.txt \
logfile=cpy123456.log \
patchtop=$APPL_TOP/patch/123456 \
workers=3 \
interactive=no \
restart=yes
```

Where:

- **The defaults file is $APPL_TOP/admin/testdb1/def.txt**
- **The PATCH_TOP is $APPL_TOP/patch/123456**
- **The number of parallel workers is three**
- **Restart non-interactive session is yes**

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Restarting a Non-Interactive Session

If AutoPatch encounters an error during a non-interactive patch session, you can not restart AutoPatch by executing the original AutoPatch command.

To restart a non-interactive AutoPatch session, use the same command line options you first used, but add the 'restart=yes' command-line option that you see at the bottom of the box in the slide. It is important that you do not omit any of the original command-line arguments, as this omission may change AutoPatch's behavior and cause unpredictable results.

For additional information see the *Maintaining Oracle Applications*, Release 11*i* manual.

Java Release Infrastructure (JRI)

- **For the purpose of developing, releasing, patching, and maintaining Oracle Applications Java code.**
- **JRI technology allows JAR files to be downloaded to the desktop client and generated and signed on-site.**
- **The time required to load an Oracle Applications applet is drastically reduced.**
- **Authenticated users behind firewalls are able to use the applet.**

Java Release Infrastructure (JRI)

The Java Release Infrastructure is an environment utilized by Oracle Applications for the purpose of developing, releasing, patching, and maintaining Oracle Applications Java code. Much of the functionality of JRI is invisible to the user. The only direct interaction you may have with JRI is during the Java patching process when AutoPatch calls the jcopy program to merge the Java archive (JAR) patch files with the apps.zip file located on the Oracle Applications file system and during the maintaining process when AD Administration is used to regenerate JAR files.

In actuality, JRI is working in the background each time a user logs onto Oracle Applications by way of JInitiator. JRI technology allows JAR files to be downloaded to the desktop client and generated and signed on-site. By utilizing JRI to create signed JAR files, the time required to load an Oracle Applications applet is drastically reduced and authenticated users behind firewalls can use the applet.

apps.zip

apps.zip

apps.zip is:
- **A patchable archive of all Java class files required by Oracle Applications**
- **Located in AU_TOP/java and a public version is copied to JAVA_TOP**

apps.zip

apps.zip is a patchable archive of all Java class files required by Oracle Applications. Individual Java class files are never present on the file system.

apps.zip is located in AU_TOP/java and a public copy is stored under JAVA_TOP. The public copy is the one utilized by the Web server, as the Web server can see the JAVA_TOP stored apps.zip but, for security reasons, does not access the apps.zip in AU_TOP.

Java File Patching

- **Patch apps.zip**
- **Regenerate JAR Files**
- **Sign JAR Files**

ORACLE

Patching Java Files

The process used automatically by AutoPatch to apply a Java patch is:

- Patch changed Java classes into apps.zip.

- Regenerate Java archive, or JAR files: The generation portion of the Java patch process regenerates the JAR files in both the APPL_TOP and JAVA_TOP. The JAR files in the APPL_TOP are located in <PROD>_TOP/java/jar and the JAR files in the JAVA_TOP are located in JAVA_TOP/oracle/apps/<prod>/jar. JAR files can be regenerated as a maintenance task at anytime with the regenerate product JAR file option of AD Administration.

- Sign JAR files: The final step of the Java patching process is the signing of all JAR files with the customer's digital signature. This is an inherent part of the Java patching process and no user intervention is required.

Applying Java Patches

```
        APPL_TOP              JAVA_TOP


            au            apps.zip        utils
          11.5.0                   apps

           java                           fnd
j<patchnum>.zip  →  apps.zip  →                jar
       jcopy
```

Applying Java Patches

Here is a visual representation of the Java patching process.

The Java patch is comprised of Zipped Resource Units (ZRU), in addition to the normal patch files. A ZRU is one or more Java files and associated versions bundled into a unit. The ZRU is in the format j<patchnum>.zip, where <patchnum> is the patch or bug number in the ARU system.

Once the patch archive is unzipped and the PATCH_TOP directory created, the copy driver (c<patchnum>.drv) is run with AutoPatch in the same manner as a standard patch. The copy driver file for a Java patch contains one or more jcopy commands. The jcopy command takes the contents of j<patchnum>.zip and merges them with the apps.zip file located in the java directory under AU_TOP. This process replaces the old class files in the existing apps.zip and updates it with the new files in j<patchnum>.zip. It then updates the public apps.zip file located under JAVA_TOP.

Note: You may have multiple j<patchnum>.zip files included in your patch, each of which is referenced in a jcopy command in the copy driver.

Creating a Digital Certificate

The AD Java Key Generation utility (adjkey) is:
- **Used to create and set up the signing entity, the digital key pair, the digital certificates, and the adsign.txt file required by AutoPatch and other AD utilities to sign JAR files**
- **Built to expand the functionalities of javakey**
- **Has one command line argument: initialize**

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Creating a Digital Certificate

Before a Java patch can be applied, a digital certificate must exist. The digital certificate is usually created during category 4 of an Oracle Applications upgrade or during the post-installation phase of an Oracle Applications installation.

If the digital certificate does not exist, you need to create one before Java files can be patched.

The AD Java Key Generation utility, or adjkey is

- Used to create and set up the signing entity, the digital key pair, the digital certificates, and the adsign.txt file required by AutoPatch and other AD utilities to sign JAR files
- Built to expand the functionality of Sun's javakey utility
- It has one command line argument: initialize.

The use of adjkey was covered in detail in the *Oracle Applications Install* course.

Patching Multiple Product Groups

Oracle Applications Database 1

AutoPatch

Oracle Applications File System

Oracle Applications Database 2

Patching Multiple Product Groups

Your Oracle Applications environment can have multiple product groups using one APPL_TOP. Although we do not recommend this configuration, some customers may have set up their environments in this manner to optimize the use of space. A production system should never have this type of configuration.

Multiple product groups can share a single file system, but they must use different databases. Multiple product groups can share a file system if and only if:

- They have identical configurations, such as the same set of fully licensed products.
- None of the product groups are production systems.
- They are always patched to the same level.

Patching Multiple Product Groups

The order that patches should be applied in a multiple product group environment is:
- **c<patchnum>.drv on product group 1**
- **d<patchnum>.drv on product group 1**
- **g<patchnum>.drv on product group 1**
- **d<patchnum>.drv on product group 2**

Patching Multiple Product Groups

If multiple product groups share a file system and each product group resides on a different database, the file system components of a patch (the copy driver and the generation driver) only need to be run once, but the database driver component of the patch must be run against each product group's database.

The order that patches should be applied in a multiple product group environment is

- c<patchnum>.drv on product group 1
- d<patchnum>.drv on product group 1
- g<patchnum>.drv on product group 1
- d<patchnum>.drv on product group 2

Note: Remember to reset the database connection information before applying the database driver to additional product groups.

Running Multiple AutoPatch Sessions

- **Log out of applmgr to clear the PATH environment.**
- **Log back in as applmgr.**
- **Run appropriate environment file to set new environment.**
- **Start new AutoPatch session.**

Running Multiple AutoPatch Sessions

When applying patches in a multiple product groups environment, you can run multiple AutoPatch sessions.

To run AutoPatch against multiple product groups:

- Log out of applmgr to clear the PATH environment variable.
- Log back in as applmgr.
- Run the appropriate environment file to set up the new environment.
- Start a new AutoPatch session with your new environment.

You can run AutoPatch against multiple product groups concurrently because the AutoPatch files are written to different admin base directories for each product group and each product group resides in its own database.

Note: You cannot run multiple AutoPatch sessions against the same product group.

Adding Translations and New Products

Adding Translations and New Products

You can use AutoPatch to add a translation or a new product that was not a part of the base release. These items are delivered in the form of a patch and can be applied in the same way as a regular patch.

In the case of a new product that was not part of the base release, you will need to splice it into your Oracle Applications system with AD Splicer before the patch can be applied and the new product added.

The respective patch readme file contains detailed information on applying a translation, or new product patch.

In addition, AutoPatch is translation aware. When applying a patch, AutoPatch notifies you if a translated patch also needs to be applied.

For additional information on AD Splicer, see the *Use Oracle Applications AD Utilities* course and the *Maintaining Oracle Applications* manual.

Using Test and Production Systems

Using Test and Production Systems

Using Test and Production Systems

It is important to use a test system to check patches before applying them to your production system.

The test database and the production database should always be kept separate. The production database must use a different file system than any other database, including a separate ORACLE_HOME.

After you are sure that the patch works correctly and the original issue has been resolved in the test system, apply the patch to your production file system and production database.

AutoPatch Options

AutoPatch accepts a command line argument called `options=` that consists of a comma separated list of keywords preceded by no.

- **You can use these keywords to turn off certain processing options or defaults.**
- **For example, the following entry turns off password verification:**

```
$ adpatch options=novalidate
```

ORACLE

AutoPatch Options

AutoPatch accepts a command line argument called options= that consists of a comma separated list of keywords preceded by no. This argument allows you to manually manipulate the actions of the patch.

You can use these keywords to turn off certain processing options or defaults.

For example, the following entry turns off password verification:

```
$ adpatch options=novalidate
```

AutoPatch Options

Option	Controls
copy	Copying of files
genform	Generation of forms
genmenu	Generation of menus
genrep	Generation of reports
link	Linking of programs
sql	Execution of SQL statements
validate	Validation of ORACLE schema passwords
jcopy	Applies Java patches

ORACLE

AutoPatch Options

Here are some of the other command line options:

- copy for copying of files
- genform for the generation of forms
- genmenu for the generation of menus
- genrep for the generation of reports
- link for the linking of programs
- sql for the execution of SQL statements
- validate for the validation of ORACLE schema passwords
- jcopy for the application of Java patches

See the *Maintaining Oracle Applications* manual for more detail on these options and a list of other options.

AD Merge Patch

AD Merge Patch is:
- **A utility that is designed to merge multiple AutoPatch compatible patches into a single integrated patch.**
- **Located in the bin directory of `AD_TOP`.**

AD Merge Patch

AD Merge Patch is:

- A utility that is designed to merge multiple AutoPatch compatible patches into a single integrated patch.
- Located in the bin directory of AD_TOP.

Each time AutoPatch is started, it prompts you for a series of answers and based on your input attempts to connect to your Oracle Applications system. This initial phase may take several minutes. If you repeat this phase dozens of times, the time required for the initial phases for the series of patches can add up to hours.

In addition, duplicate link, generate and database tasks are eliminated by AutoPatch.

By applying merged patches, you can save a substantial amount of time in the maintenance of your Oracle Applications system.

Merging Patches

Merging Patches

Source

```
c123456.drv
d123456.drv
g123456.drv
 readme.txt
```

```
c987654.drv
d987654.drv
g987654.drv
 readme.txt
```

Destination

```
cmerged.drv
dmerged.drv
gmerged.drv
 readme.txt
```

Merging Patches

Merging multiple patches into one patch not only saves time but makes patching easier.

AD Merge Patch is an executable that reads the driver files and the readme.txt files for each patch in the source directory and merges them together to create a single set of driver files and a single readme.txt file in the destination directory. AD Merge Patch identifies the latest version of a patch if there are different versions in the source patches.

The merged patches are named:

cmerged.drv, dmerged.drv, gmerged.drv, and readme.txt

Running AD Merge Patch

To merge two or more patches into a single integrated patch, run `admrgpch` with the following arguments:

For UNIX users:
`$ admrgpch <source directory> <destination directory>`

For NT users:
`C:\> admrgpch <source directory> <destination directory>`

Running AD Merge Patch

To run AD Merge Patch to merge two or more patches into a single integrated patch, use the command you see on the slide.

The AD Merge Patch utility accepts two arguments:

- The source directory where the patches to merge have been unloaded.
- The destination directory where the unified patch will be created.

AD Merge Patch creates the merged patch driver files and copies the actual files needed by the merged patches into the destination directory.

Always check the AD Merge Patch log file for errors after merging patches. The default log file name is admrgpch.log and is located in the directory where AD Merge Patch was run.

The readme.txt file in the destination directory will contain instructions on how to apply the merged patch using AutoPatch.

Naming the Merged Patch Drivers

To specify the name of the merged patch drivers, run admrgpch with the following arguments:

For UNIX users:
```
$ admrgpch -s <source directory> \
-d <destination directory> \
-merge_name <name>
```
For NT users:
```
C:\> admrgpch <source directory> \
-d <destination directory> \
-merge_name <name>
```

Naming the Merged Patch Drivers

To run AD Merge Patch to specify the name of the merged patch drivers, use the command you see on the slide.

For example the command:

```
$ admrgpch -s /d01/appl_top/patches \
-d /d01/appl_top/merged \
-merge_name NLS99
```

Would merge the patches located in the /d01/appl_top/patches directory and place them in the /d01/appl_top/merged directory. The merged patches will be named cNLS99.drv, dNLS99.drv, gNLS99.drv, and readme.txt

AD Merge Patch

AD Merge Patch will not merge patches of different:
- **Releases**
- **Platforms**
- **Parallel modes**

AD Merge Patch

Keep in mind that AD Merge Patch does not merge patches of different:

- Releases
- Platforms
- Parallel modes

Module Summary

In this module, you should have learned how to do the following:
- **Run AutoPatch in test mode**
- **Run AutoPatch before or during an upgrade**
- **Merge patch drivers from multiple patches**
- **Patch multiple product groups**
- **Apply Java patches**
- **Use test systems to test patches**
- **Specify execution options**

ORACLE

Module Discussion

Module Discussion

- **Name two operations performed by AutoPatch when running in test mode.**
- **What are the benefits of AD Merge Patch?**
- **What is the purpose of the Java Release Infrastructure?**

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Module Practice

- **Run AutoPatch in non-interactive mode**
- **Merge patches**

Appendix A: Quizzes

Chapter 26

Module 1 Quiz

1. A maintenance pack is a collection of mini-packs.
True or False.

2. Which of the following is the correct order in which the patch drivers are run?
a) Copy driver, database driver, and generation driver..
b) Database driver, copy driver, and generation driver.
c) Generation driver, copy driver, and database driver.
d) Generation driver, database driver, and copy driver.

3. It is imperative that you _____ the readme file before applying any patch.

4. When a customer experiences a problem, he or she should first check Oracle _____ for any bulletins, alerts, or fixes to the problem.

5. Customers can create TARs through the ARU (Automatic Release Update) system.
True or False.

6. Metalink contains which of the following?
a) Patches
b) TARs (Technical Assistance Requests)
c) Technical forums on Oracle Products
d) Both a) and c)
e) All of the above

Module 1 Quiz

7 AutoPatch can perform several patching tasks, including:

a) Generating forms and reports.

b) Running SQL scripts and executable binary files.

c) Creating libraries.

d) Only a) and b).

e) All of the above.

8 AutoPatch supports a powerful, granular patching mechanism.
True or False.

9 You must manually backup all files that AutoPatch will overwrite.
True or False.

10 When patching in a multi-node system, AutoPatch only needs to be run once.
True or False.

11 You may need to perform _____ update steps before or after running AutoPatch.

12 Which of the following is the default patch application documentation file that records all detail actions for an AutoPatch session?

a) adpatch.log

b) applpsum.txt

c) applptch.txt

d) adpatch.lgi

Module 2 Quiz

1. You need at least _____ of disk space in each temporary directory before running AutoPatch.

2. AutoPatch setup tasks include.

a) Running the environment file for the Oracle Applications product group you want to update.

b) Remove any obsolete files.

c) Reading the readme.txt file.

d) Both a) and b).

e) Both a) and c).

3. The Oracle Applications file system and database should be backed up prior to applying a series of mini-packs or a maintenance pack.
True or False.

4. If you do not specify a batch commit size, AutoPatch will discontinue the patching process.
True or False.

5. Which statement is an example of an initial prompt when running the AutoPatch process?

a) Provide an email address for online notification of errors.

b) Provide the password to the SYS user.

c) Verify the readme.txt instructions.

d) Backup previous file versions.

6. After the initial prompts and system questions, AutoPatch asks all of these except:

a) The default patch directory.

b) The name of the driver file.

c) Whether you want to see the readme file.

d) Whether you want to see the list of fixes in the patch.

Module 2 Quiz

7. The adrelink.log file contains information on moving C object files into a product's C library.
True or False.

8. Once you are sure the patch has been applied successfully, you can delete the _____ located in the patch subdirectory.

9. If AutoPatch fails, immediately call Oracle Support.
True or False.

Module 3 Quiz

1. AutoPatch can be used for which of the following tasks?

a) Patching multiple product groups.

b) Merging patches.

c) Applying Java patches.

d) Both a) and c).

e) Both b) and c).

2. Running AutoPatch in test mode documents the operations that would have been performed without applying them.

True or False.

3. The defaults file is created immediately after answering the question that prompt you to:

a) Specify the Oracle Applications system name.

b) Confirm the database name and directory.

c) Enter the batch size.

d) Provide the APPS password.

e) All of the above.

4. Much of the JRI (Java Release Infrastructure) functionality is _____ to the user.

5. The apps.zip file is located directly under the APPL_TOP directory.

True or False.

6. Which is the final step of the Java patching process?

a) Signing of JAR files.

b) Regenerating JAR files.

c) Replacing the old class files in the existing apps.zip file.

d) Updating the public apps.zip file in the JAVA_TOP directory.

Module 3 Quiz

7. Multiple product groups can be installed in an Oracle Applications environment, and they can share a single file system and database.
True or False.

8. When applying patches in a multiple product group environment, they should be applied in this order:
c<patchnum>.drv on product group 1
d<patchnum>.drv on product group 1
g<patchnum>.drv on product group 1
d<patchnum>.drv on product group 2
True or False.

9. You _____ run multiple AutoPatch sessions against the same product group.

10. AD Merge Patch is located in which bin directory?
a) AD_TOP
b) APPL_TOP
c) AU_TOP
d) AD_MERGE_TOP

11. AD Merge Patch will merge patches of different
a) Releases
b) Products
c) Parallel modes
d) None of the above

12. To merge two or more patches into a single, integrated patch, run AD Merge Patch with the command _____.

Appendix B: Quiz Solutions and Practices

Chapter 27

Module 1 Quiz Solutions

1. A maintenance pack is a collection of mini-packs.

True - Correct. A maintenance pack consists of mini-packs for most Oracle Applications products.

False - Incorrect.

2. Which of the following is the correct order in which the patch drivers are run?

a) Copy driver, database driver, and generation driver. - Correct. This is the correct order.

b) Database driver, copy driver, and generation driver. - Incorrect.

c) Generation driver, copy driver, and database driver. - Incorrect.

d) Generation driver, database driver, and copy driver. - Incorrect.

3. It is imperative that you _____ the readme file before applying any patch.

Correct Response: read, review

The readme file tells the user what the patch is fixing, what files will be changed, and any special steps the user needs to perform, therefore, you must read the readme file before applying any patch.

Module 1 Quiz Solutions

4. When a customer experiences a problem, he or she should first check Oracle _____ for any bulletins, alerts, or fixes to the problem.

Correct Response: Metalink

A customer should check Metalink for any bulletins, alerts, or fixes to a particular problem.

5. Customers can create TARs through the ARU (Automatic Release Update) system.

True - Incorrect.

False - Correct. Customers can create TARs through the iTAR system on Oracle MetaLink. Oracle Support Services uses the ARU (Automatic Release Update) system to see if patches are available for a customer for known issues.

6. Metalink contains which of the following?

a) Patches - Incorrect. Metalink contains this and more.

b) TARs (Technical Assistance Requests) - Incorrect. Metalink contains this and more.

c) Technical forums on Oracle Products - Incorrect. Metalink contains this and more.

d) Both a) and c) - Incorrect. Metalink contains these and more.

e) All of the above. - Correct. Metalink contains patches, TARs, and technical forums on Oracle Products.

Module 1 Quiz Solutions

7. AutoPatch can perform several patching tasks, including:

a) Generating forms and reports - Incorrect. AutoPatch performs this and more.

b) Running SQL scripts and executable binary files - Incorrect. AutoPatch performs this and more.

c) Creating libraries - Incorrect. AutoPatch does not create libraries.

d) Only a) and b) - Correct. AutoPatch generates forms and reports and runs SQL scripts and executable binary files.

e) All of the above. - Incorrect. AutoPatch does not create libraries.

8. AutoPatch supports a powerful, granular patching mechanism.

True - Correct. AutoPatch supports a powerful, granular patching mechanism. Customers are not forced to accept changes they do not need. Rather than provide a high watermark code level, only the necessary files are sent with the patch.

False - Incorrect.

9. You must manually backup all files that AutoPatch will overwrite.

True - Incorrect.

False - Correct. AutoPatch will automatically backup the files to be replaced.

Module 1 Quiz Solutions

10. When patching in a multi-node system, AutoPatch only needs to be run once.

True - Incorrect.

False - Correct. AutoPatch must be run once on the Admin Server node and again on all nodes that require the changes.

11. You may need to perform _____ update steps before or after running AutoPatch.

Correct Response: manual

You may need to perform manual update steps before or after running AutoPatch, and the readme.txt file will describe these steps.

12. Which of the following is the default patch application documentation file that records all detail actions for an AutoPatch session?

a) adpatch.log - Correct. The adpatch.log file records all detail actions for an AutoPatch session.

b) applpsum.txt - Incorrect. This is the patch summary file.

c) applptch.txt - Incorrect. This is the patch history file.

d) adpatch.lgi - Incorrect. This is the patch informational log file.

Module 2 Quiz Solutions

1. You need at least _____ of disk space in each temporary directory before running AutoPatch.

Correct Response: 50MB

You need at least 50MB of disk space in each temporary directory.

2. AutoPatch setup tasks include.

a) Running the environment file for the Oracle Applications product group you want to update. - Incorrect. This is a setup task, however, there are others.

b) Remove any obsolete files. - Incorrect. This is not a setup task.

c) Reading the readme.txt file. - Incorrect. This is a setup task, however, there are others

d) Both a) and b) - Incorrect. Removing obsolete files is not a setup task.

e) Both a) and c) - Correct. These are both setup tasks.

3. The Oracle Applications file system and database should be backed up prior to applying a series of mini-packs or a maintenance pack.

True - Correct. Oracle recommends backing up the Oracle Applications file system and database, because there is no method of backing out a patch.

False - Incorrect.

Module 2 Quiz Solutions

4. If you do not specify a batch commit size, AutoPatch will discontinue the patching process.

True - Incorrect.

False - Correct. If you do not specify a batch commit size, AutoPatch will use a default batch size and continue the process.

5. Which statement is an example of an initial prompt when running the AutoPatch process?

a) Provide an email address for online notification of errors. - Correct. AutoPatch prompts you to provide an email address for online notifications.

b) Provide the password to the SYS user. - Incorrect. AutoPatch does not prompt for the SYS password. It does prompt for the SYSTEM and APPS passwords.

c) Verify the readme.txt instructions. - Incorrect. AutoPatch does not prompt you to verify the readme.txt instructions.

d) Backup previous file versions. - Incorrect. AutoPatch does not prompt you to backup previous file versions.

6. After the initial prompts and system questions, AutoPatch asks all of these except:

a) The default patch directory - Incorrect. AutoPatch asks for the default patch directory.

b) The name of the driver file - Incorrect. AutoPatch asks for the name of the driver file.

c) Whether you want to see the readme file - Correct. AutoPatch does not ask whether you want to see the readme file.

d) Whether you want to see the list of fixes in the patch - Incorrect. AutoPatch asks whether you want to see the list of fixes in the patch.

Module 2 Quiz Solutions

7. The adrelink.log file contains information on moving C object files into a product's C library.

True - Incorrect.

False - Correct. adrelink.log file contains information on relinking tasks. adlibin.log contains information on moving C object files into a product's C library.

8. Once you are sure the patch has been applied successfully, you can delete the _____ located in the patch subdirectory.

Correct Response: backup files

You can delete all the backup files located in the patch subdirectory once you verify the patch has been applied successfully.

9. If AutoPatch fails, immediately call Oracle Support.

True - Incorrect.

False - Correct. If AutoPatch fails, you should review the log files to determine the source of the error, verify that all the steps in the readme.txt file were completed, and check the Oracle MetaLink site for additional information regarding the patch being applied before you call Oracle Support.

Module 3 Quiz Solutions

1. AutoPatch can be used for which of the following tasks?

a) Patching multiple product groups - Incorrect. AutoPatch can patch multiple product groups, however, there is another task on this list it can perform.

b) Merging patches - Incorrect. AD Merge Patch is used to merge patches.

c) Applying Java patches - Incorrect. AutoPatch can apply Java patches, however, there is another task on this list it can perform

d) Both a) and c) - Correct. AutoPatch can be used to patch multiple product groups and apply Java patches.

e) Both b) and c) - Incorrect. AD Merge Patch is used to merge patches.

2. Running AutoPatch in test mode documents the operations that would have been performed without applying them.

True - Correct. If you run AutoPatch in test mode, you can view the operations that would have been performed without actually applying them.

False - Incorrect.

3. The defaults file is created after answering the questions that prompt you to:

a) Specify the Oracle Applications system name. - Incorrect. The defaults file is created after answering this and other prompts.

b) Confirm the database name and directory. - Incorrect. The defaults file is created after answering this and other prompts

c) Enter the batch size. - Incorrect. The defaults file is created after answering this and other prompts

d) Provide the APPS password. - Incorrect. The defaults file is created after answering this and other prompts

e) All of the above. - Correct. The defaults file is created after answering all of these prompts.

Module 3 Quiz Solutions

4. Much of the JRI (Java Release Infrastructure) functionality is _____ to the user.

Correct Response: invisible

Much of the JRI functionality is invisible to the user.

5. The apps.zip file is located directly under the APPL_TOP directory.

True - Incorrect.

False - Correct. The apps.zip file is located in the AU_TOP/java and the JAVA_TOP directory.

6. Which is the final step of the Java patching process?

a) Signing of JAR files. - Correct. This is the final step of the Java patching process.

b) Regenerating JAR files. - Incorrect. This is not the final step of the Java patching process.

c) Replacing the old class files in the existing apps.zip file. - Incorrect. This is not the final step of the Java patching process.

d) Updating the public apps.zip file in the JAVA_TOP directory. - Incorrect. This is not the final step of the Java patching process.

Module 3 Quiz Solutions

7. Multiple product groups can be installed in an Oracle Applications environment, and they can share a single file system and database.

True - Incorrect.

False - Correct. Multiple product groups can share a single file system, but they must use different databases.

8. When applying patches in a multiple product group environment, they should be applied in this order:

c<patchnum>.drv on product group 1

d<patchnum>.drv on product group 1

g<patchnum>.drv on product group 1

d<patchnum>.drv on product group 2

True - Correct. This is the correct order.

False - Incorrect.

9. You _____ run multiple AutoPatch sessions against the same product group.

Correct Response: Cannot

You cannot run multiple AutoPatch sessions against the same product group. However, you can run AutoPatch against multiple product groups concurrently, because the AutoPatch files are written to different admin base directories for each product group and each product group resides in its own database.

Module 3 Quiz Solutions

10. AD Merge Patch is located in which bin directory?

a) AD_TOP - Correct. AD Merge Patch is located in the bin directory of AD_TOP.

b) APPL_TOP - Incorrect. AD Merge Patch is not located in the bin directory of APPL_TOP.

c) AU_TOP - Incorrect. AD Merge Patch is not located in the bin directory of AU_TOP.

d) AD_MERGE_TOP - Incorrect. AD_MERGE_TOP is not a valid directory.

11. AD Merge Patch will merge patches of different

a) Releases - Incorrect. AD Merge Patch will not merge patches of different releases.

b) Products - Correct. AD Merge Patch will merge patches of different products.

c) Parallel modes - Incorrect. AD Merge Patch will not merge patches of parallel modes.

d) None of the above - Incorrect. AD Merge Patch will merge patches of different products.

12. To merge two or more patches into a single, integrated patch, run AD Merge Patch with the command _____.

Correct Response: admrgpch

To merge two or more patches into a single, integrated patch, you need to run admrgpch.

Module 1 Practice

Practice 1: Downloading a Patch

In this practice you download two patches from MetaLink and review the contents of these patches.

In some classroom environments these patches are prestaged as access to Oracle MetaLink is not available.

ASSUMPTIONS:

This practice assumes that you have Oracle Applications Release 11i fully installed. The patch numbers listed below were valid at the time of publication. Your instructor may suggest another set of patches.

INSTRUCTIONS:

1 Create a patch directory on your system. This will be your PATCH_TOP directory.

2 Log in to MetaLink: http://metalink.oracle.com/

If you do not have a MetaLink account, you need to register through the First Time Users section.

3 Download patch #1501350

    a) From the MetaLink Home page, click on the Patches tab in the left side bar.

    b) Click on the flashing red text that says, " => NEW! Click here for ALL Applications Product Patches."

    c) In the patch number field, type in 1501350 and click Submit

    d) Click Download and save the patch to the patch directory you created in step 1.

4 Download patch #1761859

    a) From the MetaLink Home page, click on the Patches tab in the left side bar.

    b) Click on the flashing red text that says, " => NEW! Click here for ALL Applications Product Patches."

    c) In the patch number field, type in 1761859 and click Submit

    d) Click Download and save the patch to the patch directory you created in step 1.

5 Unzip the patches

    a) Go to the patch directory where you downloaded the patches.

    b) Unzip the two patches. This creates two directories, one labeled 1501350 and the other 1761859.

Module 1 Practice

Practice 1: Downloading a Patch (cont.)

6 Review patch #1501350

a) Go to the 1501350 directory and open the readme file (readme.txt) in an editor. Look for any special instructions and/or patch prerequisites. It is imperative that you read the readme file before applying the patch.

b) Open the copy driver (c1501350.drv) and determine the files it will copy and the actions it will perform.

c) Open the database driver (d1501350.drv) and determine the database actions it will perform.

Module 2 Practice

Practice 2: Setting up the Environment

In this practice you will set up your environment in preparation for AutoPatch.

ASSUMPTIONS:

This practice assumes that you have Oracle Applications Release 11i fully installed and that you have completed practice 1.

INSTRUCTIONS:

1 Log in as applmgr (or your equivalent default main applications login).

2 Run the environment or command file for the appropriate product group.

> **For UNIX users**:
> The environment file is typically APPSORA.env. To run the file, from a Bourne or Korn shell, type the following:
> ```
> $ . $APPL_TOP/APPSORA.env
> ```
> **For NT users**:
> Run APPSORA.cmd (in %APPL_TOP%). Verify that APPL_CONFIG is set to the name of the product group registry subkey:
> ```
> C:\> echo %APPL_CONFIG%
> ```

3 Verify that ORACLE_HOME is set to the proper database directory, and that TWO_TASK identifies the correct database.

> **For UNIX users**:
> Type the following:
> ```
> $ echo $TWO_TASK
> $ echo $ORACLE_HOME
> ```
> **For NT users**:
> ```
> C:\> echo %LOCAL%
> C:\> echo %ORACLE_HOME%
> ```

4 Ensure that $ORACLE_HOME/bin is in your PATH. NT users check for %ORACLE_HOME%\bin.

> **For UNIX users**:
> At the prompt, type:
> ```
> $ echo $PATH
> ```
> If $ORACLE_HOME/bin is not in the path, add it using the following command:
> ```
> $ PATH=$PATH:$ORACLE_HOME/bin$ export PATH
> ```

Module 2 Practice

Practice 2: Setting up the Environment (cont.)

For NT users:

At the prompt, type:

```
C:\> echo %PATH%
```

If %ORACLE_HOME%\bin is not there, add it by using the following command:

```
C:\> Set PATH=%ORACLE_HOME%\bin;%PATH%
```

Other directories, such as the location of the JRE executable (from the Java Runtime Environment), should also be in your path. The adovars.env file, or adovars.cmd for NT users, should be updated to include all nondatabase-specific directories in your PATH.

5 Copy the patch files to your own PATCH_TOP directory.

You may have already performed this step in Practice 1. If not, perform Practice 1 in place of steps 5 and 6.

6 Read the readme.txt file.

It provides information on running AutoPatch. This information includes software requirements such as other patch or software prerequisites, space requirements, time requirements, and any required manual steps. It also specifies which files are changed and which bugs are fixed. It is imperative that you read the readme file before applying the patch.

7 Backup any previously patched files you want to save.

This step is optional as AutoPatch will back up the current files to a subdirectory of the patch directory before it copies over them.

8 Ensure that there is sufficient temporary disk space.

You should have at least 50 MB in the temporary directories denoted by $APPLTMP and $REPORTS60_TEMP or %APPLTMP% and %REPORTS60_ TEMP% for NT. You should also have space in the operating system's default temporary directory (usually /tmp or /usr/tmp for UNIX and C:\temp for NT).

9 Have all Oracle Applications users log out, and shut down all concurrent managers.

AutoPatch may update seed data and the database structure so it is a good idea to make sure nothing is accessing the database during an AutoPatch session.

```
CONCSUB <APPS Username/APPS Password> SYSADMIN 'System
Administrator' SYSADMIN CONCURRENT FND DEACTIVATE
```

1 Perform any preparation steps listed in the patch readme.txt

For example, you may need to run some SQL scripts manually.

Module 2 Practice

Practice 3: Running AutoPatch

In this practice you will run AutoPatch to apply a patch.

ASSUMPTIONS:

This practice assumes that you have Oracle Applications Release 11i fully installed and that you have completed practice 2.

INSTRUCTIONS:

1 Run AutoPatch from the PATCH_TOP directory.

Run the AutoPatch utility from the directory containing the patch files (referred to as the PATCH_TOP directory). The PATCH_TOP for patch 1501350 was created in practice 1.

For example:

```
$ cd /d3/dbf/testR11i/prodappl/patches/1501350
$ adpatch
```

Where/d3/dbf/testR11i/prodappl/patches/1501350 is the PATCH_TOP directory.

Start AutoPatch with the appropriate command name.

For UNIX users:
```
$ adpatch
```
For NT users:
```
C:\> adpatch
```

2 Respond to the prompts. Press [Enter] to accept the bracketed default values.

```
Your default directory is '/d3/dbf/testR11i/prodappl'.
Is this the correct APPL_TOP [Yes] ?

AutoPatch records your AutoPatch session in a text file
that you specify.  Enter your AutoPatch log file name or
press [Return] to accept the default file name shown in
brackets.
Filename [adpatch.log] : class_1501350.log

You can be notified by e-mail if a failure occurs.
Do you wish to activate this feature [No] ?

Please enter the batchsize [1000] :

You are about to use or modify Oracle Applications product
tables in your ORACLE database 'PROD'
using ORACLE executables in '/local/db/8.0.6'.
Is this the correct database [Yes] ?
```

Practice 3: Running AutoPatch (cont.)

```
Enter the password for your 'SYSTEM' ORACLE schema:
<your SYSTEM password>

Enter the ORACLE password of Application Object Library
[APPS] : <your APPS password>
```

3   Respond to the patch specific prompts. Press [Enter] to accept the bracketed default values.

```
Enter the directory where your Oracle Applications
patch has been unloaded.
The default directory is
[/d3/dbf/testR11i/prodappl/patch/1501350]:
<your default patch directory for patch 1501350>

Please enter the name of your AutoPatch driver file:
c1501350.drv

Do you want to see the list of fixes in this patch [No]
? Yes

Pause every 24 lines when displaying list of fixes [No]
? No

Do you want to continue with AutoPatch [Yes] ? Yes
```

4   Verify that the patch applied properly.

When AutoPatch finishes, view the log file to verify that the task completed successfully. The log file is located at APPL_TOP/admin/<SID>/log/class_1501350.log

5   Repeat steps 1 - 4 for the database driver.

In step 3 when AutoPatch prompts for the driver file, enter the name of the database driver:

```
Please enter the name of your AutoPatch driver file:
d1501350.drv
```

After the prompt "Do you want to continue with AutoPatch [Yes] ?", you will be asked how many workers to use.

```
Enter the number of parallel workers [XX] :
```

You can accept the default value.

Module 3 Practice

Practice 4: Running AutoPatch Non-interactively

In this practice you will run AutoPatch in non-interactive mode.

ASSUMPTIONS:

This practice assumes that you have Oracle Applications Release 11i fully installed and that you have completed practice 3.

INSTRUCTIONS:

1 Review patch # 1761859

    a) Go to the 1761859 directory and open the readme file (readme.txt) in an editor. Look for any special instructions and/or patch prerequisites.

    b) Open the copy driver (c1761859.drv) and determine the files it will copy and the actions it will perform.

    c) Open the database driver (d1761859.drv) and determine the database actions it will perform.

    d) Open the generation driver (g1761859.drv) and determine the file generation actions it will perform.

2 Create a defaults file.

  Start AutoPatch with the following command.

    For UNIX systems:
    Specify defaultsfile=<Defaults File Name> on the AutoPatch command line. The defaults file must be located under $APPL_TOP/admin/<SID>, where <SID> is the ORACLE_SID or TWO_TASK variable. In our example testdb1 is the <SID>. For example:

```
$ adpatch \
defaultsfile=$APPL_TOP/admin/testdb1/adpatchdef.txt
```

    For NT systems:
    The file must be located under %APPL_TOP%\admin\<SID>, where <SID> is the database (LOCAL). In our example testdb1 is the <SID>. For example:

```
C:\> adpatch
defaultsfile=%APPL_TOP%\admin\testdb1\adpatchdef.txt
```

3 Respond to prompts.

  See Practice 3 for directions.

  Run AutoPatch up to the point where it asks you for the directory where your Oracle Applications patch has been unloaded. Then type 'abort' at this prompt.

Module 3 Practice

Practice 4: Running AutoPatch Non-interactively (cont.)

4   Verify that the defaults file was created

Go to the directory that you specified in step 1 and verify that the defaults file has been created.

5   Run AutoPatch in non-interactive mode from the PATCH_TOP for patch 1761859 that was created in practice 1.

Start AutoPatch with the following command:

For UNIX systems:
```
$ adpatch \
defaultsfile=$APPL_TOP/admin/testdb1/adpatchdef.txt \
logfile=class_1761859.log \
patchtop=<your PATCH_TOP for patch 1761859> \
driver=c1761859.drv,d1761859.drv, g1761859.drv \
workers=3 \
interactive=no \
restart=yes
```

For NT systems:
```
C:\> adpatch \
defaultsfile=%APPL_TOP%\admin\testdb1\adpatchdef.txt \
logfile=class_ 1761859.log \
patchtop=<your PATCH_TOP for patch 1761859> \
driver=c1761859.drv,d1761859.drv, g1761859.drv \
workers=3 \
interactive=no \
restart=yes
```

We need the restart=yes option in this command because we aborted the patch process when creating the defaults file.
Verify completion.

When AutoPatch finishes, view the log file to verify that the task completed successfully. The log file is located at $APPL_TOP/admin/<SID>/log/class_1761859.log

Module 3 Practice

Practice 4: Running AutoPatch Non-interactively (cont.):

7 If AutoPatch fails while running in non-interactive mode, fix the issue and use the following command to restart it.

Start AutoPatch with the following command:

For UNIX systems:
```
$ adpatch
defaultsfile=$APPL_TOP/admin/testdb1/adpatchdef.txt \
logfile=class_1761859.log \
patchtop=<your PATCH_TOP for patch 1761859> \
driver=c1761859.drv,d1761859.drv, g1761859.drv \
workers=3 \
interactive=no \
restart=yes
```

For NT systems:
```
C:\> adadmin
defaultsfile=%APPL_TOP%\admin\testdb1\adpatchdef.txt \
logfile=class_1761859.log \
patchtop=<your PATCH_TOP for patch 1761859> \
driver=c1761859.drv,d1761859.drv, g1761859.drv \
workers=3 \
interactive=no \
restart=yes
```

Note: We do not recommend using "restart=yes" for all non-interactive sessions of AutoPatch. We suggest using "restart=yes" immediately after creating a defaults file or when you are repeating a prior patch session of the same patch. The reason is if there was a prior incomplete patch session with patch number 123456 and the user wants to apply patch 654321 in non-interactive mode, by including "restart=yes" in the command AutoPatch will attempt to apply patch 123456 and not 654321.

Module 3 Practice

Practice 5: Merging Patches

In this practice you will merge two patches into one merged patch.

ASSUMPTIONS:

This practice assumes that you have Oracle Applications Release 11i fully installed and that you have completed practice 1.

INSTRUCTIONS:

1 Create a merged patch directory on your system. This will be your MERGED_PATCH_TOP directory.

2 Set up your environment. See practice 2 for details.

3 Run AD Merge Patch to merge patches 1501350 and 1761859.

Run AD Merge Patch with the following command.

The source directory is the PATCH_TOP directory where patches 1501350 and 1761859 have been unloaded. The destination directory is the MERGED_PATCH_TOP directory you created in step 1.

For UNIX systems:
```
$ admrgpch <source directory> <destination directory>
```

For NT systems:
```
C:\> admrgpch <source directory> \
<destination directory>
```

4 Review the merged patch

a) Go to the MERGED_PATCH_TOP directory and open the readme file (readme.txt) in an editor. Review the contents of this file and the manner in which it is formatted.
b) Open the copy driver (cmerged.drv). Review the contents of this file and the manner in which it is formatted
c) Open the database driver (dmerged.drv). Review the contents of this file and the manner in which it is formatted.