Oracle® Applications

Maintenance Procedures

Release 11*i* (11.5.9)

Part No. B10641-01

June 2003

ORACLE®

Oracle Applications, Maintenance Procedures, Release 11*i* (11.5.9)

Part No. B10641-01

Primary Author: Carole Eubanks and Yun Shaw

Contributors: Subash Chadalavada, Venkat Damerla, Miles Fender, Michael Fiore, William Greene, My-Xuan Ho, Matthew Lobaugh, Jeff Lunn, Rick Lotero, Kent Noble, Greg Seiden

Contents

2 Maintaining Your System

3 Applying Patches

4 Migrating Files and Databases

5 Reporting and Tracking

6 Troubleshooting

Index

Send Us Your Comments

Oracle Applications, Maintenance Procedures, Release 11*i* (11.5.9)

Part No. B10641-01

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

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

If you find any errors or have any other suggestions for improvement, please indicate the document title and part number, and the chapter, section, and page number (if available). You can send comments to us at the following email address: apps_relgrp_us@oracle.com.

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

Preface

Oracle Applications Maintenance Procedures and *Oracle Applications Maintenance Utilities* make up the *Maintaining Oracle Applications Documentation Set*. *Maintenance Procedures* contains instructions about configuring, maintaining, patching, and other tasks associated with keeping your system up-to-date and working efficiently. *Maintenance Utilities* describes the various utilities used for the maintenance tasks, including both the AD utilities and Oracle Applications Manager (OAM) utilities.

Intended Audience

This book is intended for database administrators and system administrators who are responsible for performing Oracle Applications maintenance tasks.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Standards will continue to evolve over time, and Oracle Corporation is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For additional information, visit the Oracle Accessibility Program Web site at `http://www.oracle.com/accessibility/`.

Accessibility of Code Examples in Documentation

JAWS, a Windows screen reader, may not always correctly read the code examples in this document. The conventions for writing code require that closing braces

should appear on an otherwise empty line; however, JAWS may not always read a line of text that consists solely of a bracket or brace.

Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle Corporation does not own or control. Oracle Corporation neither evaluates nor makes any representations regarding the accessibility of these Web sites.

Structure

This book contains the following chapters:

- Chapter 1 describes procedures for changing the configuration of Oracle Applications after the initial installation.
- Chapter 2 contains general procedures for maintaining Oracle Applications.
- Chapter 3 focuses on procedures for patching Oracle Applications.
- Chapter 4 describes procedures associated with migrating an Oracle Applications file system or an Oracle database.
- Chapter 5 contains information on reports such as analyzing patch history.
- Chapter 6 lists various troubleshooting procedures for managing the AD utilities parallel processes.

Related Documents

All Release 11*i* documentation is included on the *Oracle Applications Document Library* CD, which is supplied in the Release 11*i* Update CD Pack. You can download some soft-copy documentation from Oracle Docs Online at http://otn.oracle.com/documentation. You can also purchase hard-copy documentation from the Oracle Store at http://oraclestore.oracle.com.

If you are looking for...	See these documents...
Additional information	*Oracle Applications Concepts* *Upgrading Oracle Applications* *Installing Oracle Applications* *Maintaining Oracle Applications Documentation Set: Oracle Applications Maintenance Utilities* *Oracle Applications Installation Update Notes** *Oracle Applications Release Notes** *Oracle Applications NLS Release Notes** *Oracle Applications System Administrator's Guide* *Oracle Self-Service Web Applications Implementation Manual* *Oracle Workflow Administrator's Guide* *Oracle Workflow Developer's Guide* *Oracle Application Object Library/Workflow Technical Reference Manual*
Information on new features in this release	*Release Content Documents and Features Summary Matrices** *Oracle Applications DBA 11i+ Features Matrix** *Oracle Applications Product Update Notes* *Electronic Technical Reference Manual (eTRM)** *Release Content Documents (RCD)**
Application-specific features	*Oracle Applications user's guides* *Oracle Applications implementation manuals* *Multiple Organizations in Oracle Applications* *Multiple Reporting Currencies in Oracle Applications*
Information about custom development	*Oracle Applications User Interface Standards for Forms-based Products* *Oracle Applications Developers' Guide*
Database information	Oracle9*i* Documentation Set

*Available only on Oracle*MetaLink*

Update or patch readme files may contain information about new documentation that you can download.

> **Note:** Documentation associated with this release was current as of the time it was released. Go to Oracle*MetaLink* for information about changes made since this book was released.

Training and Support

Oracle offers a complete set of training courses and multi-level support services.

Training

You can attend training courses at any Oracle Education Center, arrange for trainers to teach at your facility, or use Oracle Learning Network (OLN) — Oracle

University's online education utility. Oracle training professionals can also develop custom courses using your organization structure, terminology, and data as examples.

Support

The Oracle support team includes your Technical Representative and Account Manager. It also includes Oracle consultants and support specialists who have expertise in your business area, and in managing an Oracle database server and your hardware and software environment.

Oracle*MetaLink* is a self-service, web-based isupport connection, which is maintained by Oracle Support Services 24 hours a day, 7 days a week. Use it to obtain information and advice from technical libraries and forums, download patches, look at bug details, and create or update TARs. Register at http://metalink.oracle.com, and check for updates and information before you install or upgrade your Oracle Applications. The *Start Here* CD also contains links to the various resources on Oracle*MetaLink*.

Conventions

The following conventions are used in this book:

Convention	Meaning
UNIX: **Windows:**	Indicates platform-specific information. This guide contains information for both UNIX and Windows platforms. Instructions for UNIX platforms also apply to Linux platforms, unless otherwise noted.
$ or C:\>	Represents the platform-specific command prompt. Your prompt may differ.
`Monospace text`	Represents command line text. Type this text exactly as shown.
< >	Text enclosed in angle brackets represents a variable. Substitute a value for the variable text. Do not type the brackets.
[ ]	Encloses optional items or indicate a function key. Do not type the brackets.
|	Represents an *or* option among several options. You must enter only one of the options. Do not type the vertical bar.
\	In examples of commands you type online, a backslash at the end of a line signifies that you must type the entire command on one line. *Do not type the backslash.*

Convention	Meaning
Special Notes	Alert you about particular information within the body of the book. They include Additional Information, Attention, Note, and Warning.

1

Configuring Your System

This chapter contains information about modifying the Oracle Applications system configuration. It includes the following sections:

Registering Applications Components

At various times throughout the life cycle of an Oracle Applications release, you may decide to use additional products, country-specific functionalities, or languages. If you do, you must register the new components so that utilities like AutoPatch recognize that they exist and are activated.

You use License Manager, an Oracle Applications Manager (OAM) utility, to register new Applications products, country-specific functionalities, and languages.

Note: License Manager does not set up license agreements or determine pricing. It only registers the products you have licensed or the country-specific functionalities and languages you have added. Use Oracle Store to obtain new software, or contact your Oracle sales representative to set up licensing agreements.

Additional Information: See Oracle Applications Manager in the *Oracle Applications System Administrator's Guide*. See also Using the Oracle Applications Manager in Chapter 2.

Using License Manager

Business Requirement

I want to make sure that the new products I have added to my system configuration are maintained at the same level as my existing products.

Discussion

You must register newly licensed components added since the initial installation. This registration "turns the products on" so that other Applications utilities recognize them as being active in your system and perform the necessary tasks for them.

Use the Oracle Applications Manager (OAM) License Manager to register:

- Products
- Country-specific functionalities
- Languages and Territory

In addition to the registration options, the following report links provide access to details about the products and product-related components that are already registered in your system:

- Licensed Products/Shared Products
- Country-specific Functionalities
- Languages and Territory
- Summary

> **Note:** Additional products are not the same as *off-cycle* products, and the procedures differ for handling them. See Registering Off-cycle Products in this chapter for more information.

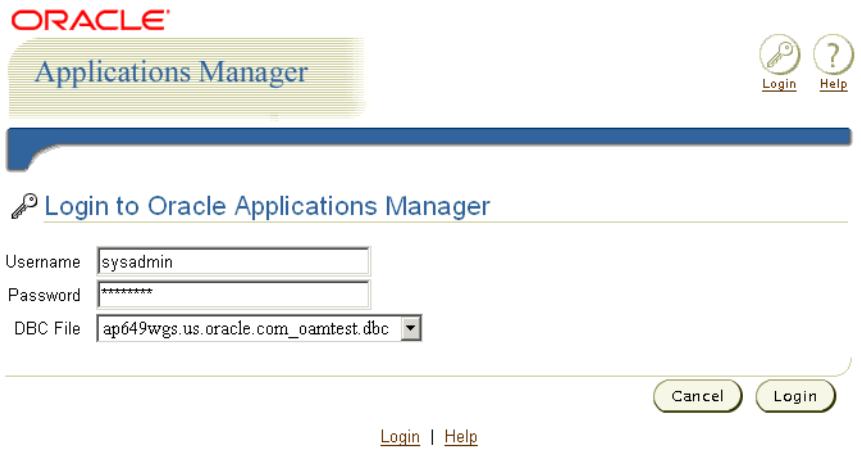
Action

The following steps illustrate how to use OAM License Manager in general. Details about specific uses are described in the various Business Requirements in this chapter.

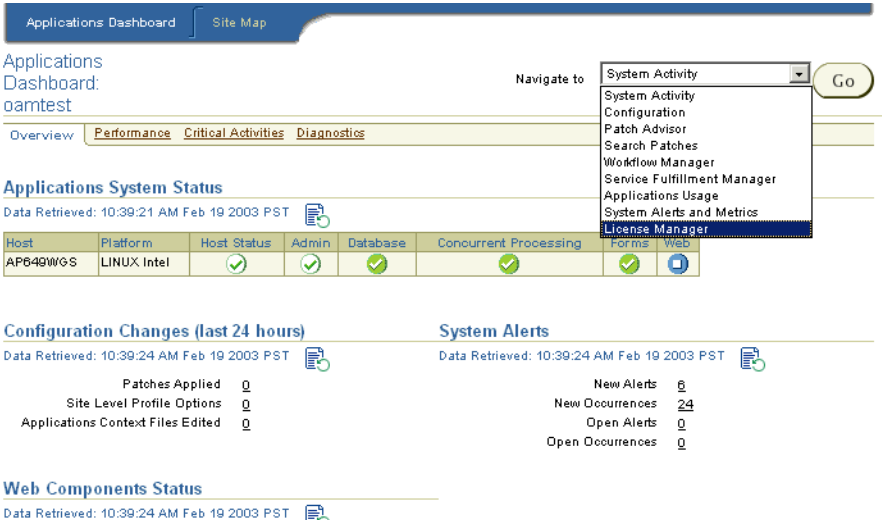
1. Access OAM from the following URL:

```
http://<HTTP hostname>.<domain>:<HTTP port>/servlets/weboam/oam/oamLogin
```

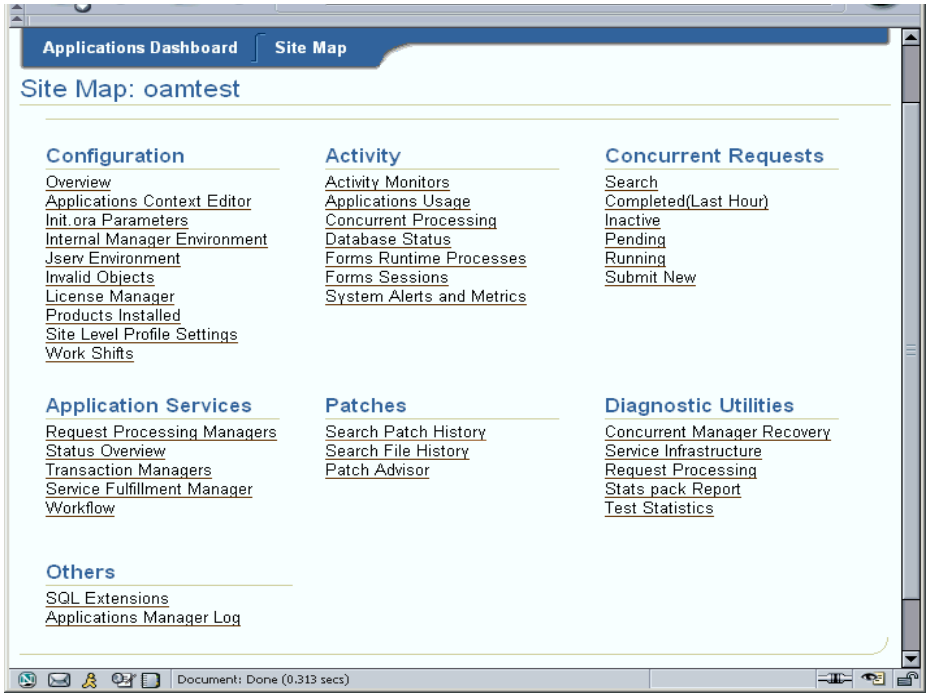
Enter your username and password and click Login.



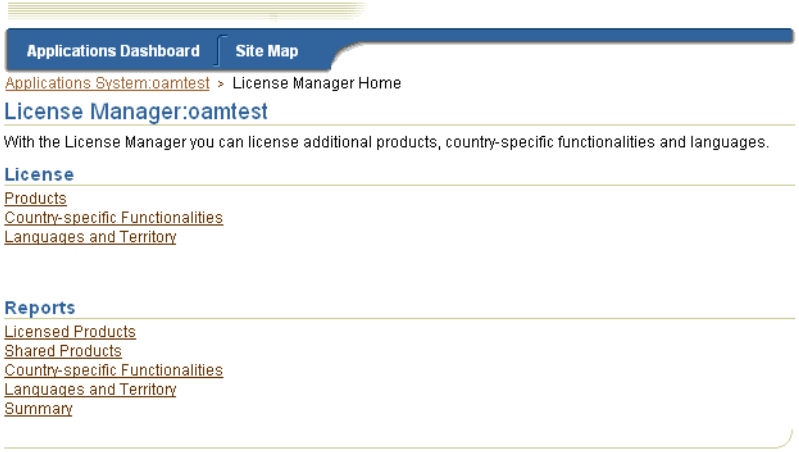
2. The OAM Dashboard appears. To access the License Manager Home page, pull down the Navigate To list and highlight License Manager. Click Go.



Or, you can access License Manager by clicking the Site Map tab and selecting License Manager from the Configuration section.



Regardless of the method you use, the License Manager Home page appears.



3. From this page, select one of the licensing (registration) options or report options by clicking the associated link.
4. Complete the information to register products, country-specific functionalities, or languages added since the initial installation of Oracle Applications. If you want to view a report, select a report type from the list and then complete the selection criteria. The remaining Business Requirements in this section contain details about using these options.
5. Close License Manager.

   Once you have successfully completed the registration information, or you have finished viewing reports, click Logout.

Note: Once a product or component has been registered, you cannot use License Manager to delete the registration.

Registering Products

Business Requirement

I have set up a licensing agreement to add products to my existing Applications system. How do I register these products?

Discussion

Once you have set up the required product licensing agreement, you must register the new products in your installation. If you do not, you will not be able to apply patches or perform other maintenance tasks for these products. You register products by using the OAM License Manager. There are two options:

- Register the entire Oracle Applications E-Business Suite. This option registers all products in the E-Business Suite price bundle in a single operation.
- Register Component Applications. The E-Business Suite is made up of modules, each representing a major Applications group, such as Financials, Marketing, HR Applications and so on. Each module is divided into Application components, for example Financials, TeleSales, or Self-Service HR. When you register a component Application, you register the components (products) that make up that Application.

Note: These two options are the primary options. You can also register individual products. See Registering Individual Products in this chapter.

Action

To begin registering products, follow Steps 1 – 3 in the Using License Manager section to access the License Manager Home page. Then, select a registration option and complete the steps under the appropriate heading in this section.

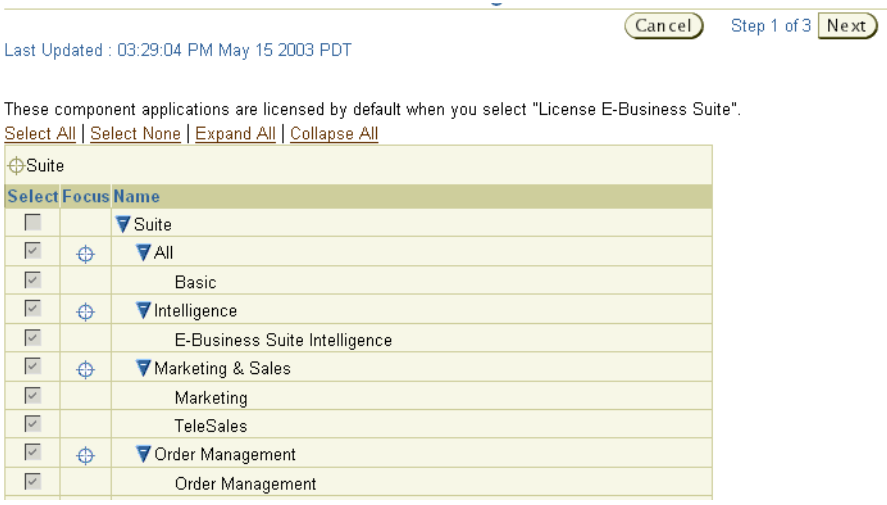
To register the entire Oracle Applications E-Business Suite:

1. From the License Manager Home page, click Products to see the License Products page.

   Select License E-Business Suite and click Continue.

2. Review the E-Business Suite of Applications.

   This page displays the list of modules included in the Oracle Applications E-Business Suite.



Notice that all the check boxes are grayed and checked. Since you have chosen to register the entire E-Business Suite, there are no choices to make on this page. All the modules and their component Applications will be registered. Click Next to continue.

3. Register Add-on products.

The next page displays the E-Business Suite Add-on products.

Some products are not included in the E-Business Suite price bundle. For example, if you have recently licensed Advanced Supply Chain Planning, you must register it on this page, as it is not included in the standard E-Business Suite bundle.

Click the check (tick) box beside an Add-on product to register it. Any component Applications or products that are already registered in your system are grayed and checked. Boxes that are only grayed identify the name of a component Application group. This group label is for identification only and cannot be selected.

Click Next to continue.

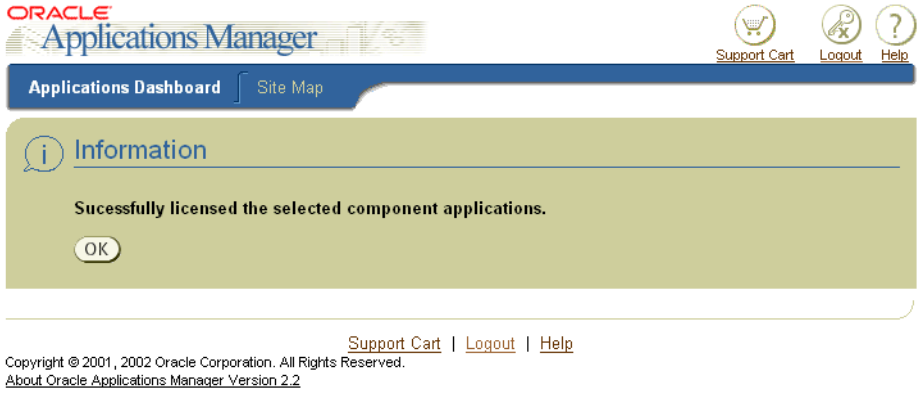
4. Review the products you have selected for registration.

   License Manager displays the Add-on products you selected on the previous screen and any E-Business Suite products that have not been registered previously. E-Business Suite products that were already registered in your existing installation are not shown.

   Click Submit.

5. Confirm the registration choices.

   License Manager displays a confirmation page.



Click OK to complete the product registration. Click Logout to leave License Manager.

6. Apply product patches.

   There may be product-specific patches or mini-packs required for the newly licensed products. In order to determine if there are patches to apply, use the OAM Patch Advisor. See Patch Advisor in *Oracle Applications Maintenance Utilities* for details, and Keeping Patches Current in Chapter 5 of this book.

   Once you have determined which patches (if any) you need to apply, use AutoPatch to apply the updates. See Applying a Patch in Chapter 3 of this book, and AutoPatch in *Oracle Applications Maintenance Utilities*.

7. Generate files.

   As patches are applied to Oracle Applications, files belonging to newly registered products are not generated. You should generate all product files now, before you use the product. If you generated files as a part of applying a product-specific patch (in the previous step), omit this step.

   Additional Information: See Managing Files in Chapter 2.

8. Perform product-specific implementation steps.

   Setup or implementation steps may be required. See the product-specific documentation for details.

To register Component Applications:

1. From the License Manager Home page, click Products to access the License Products page.

   Select License Component Application and click Continue.

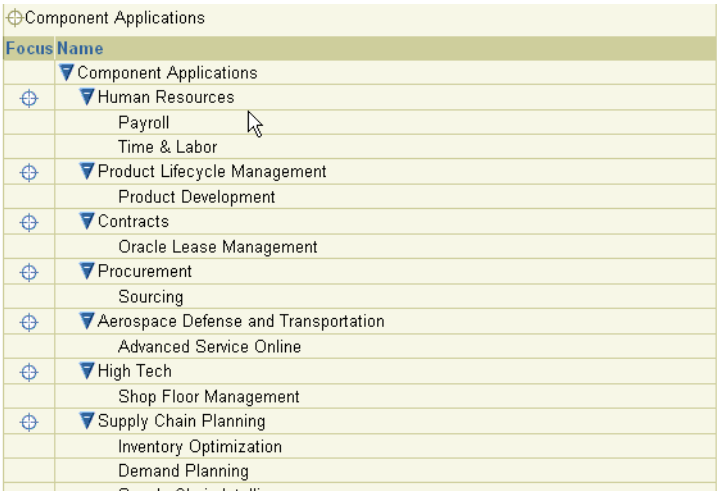
2. Select a component Application to register.

   License Manager displays the list of Application modules. Each module is expanded to show its individual components. Notice that component Applications that are already registered are grayed and checked. Applications that are grayed without a check are for display only and cannot be selected.

Collapse the component Application that you do *not* want to register by clicking the blue triangle next to its name. Then, to select all the products included in expanded component Applications, click Select All. To select only some of the components, click them individually. Notice that the Select All option applies *only* to those Applications that you have expanded.

3. Review your registration selections.

   License Manager displays the products that will be licensed if you continue.



Review your selections. If you selected an Application on the previous page, you cannot deselect it on this page. To make changes, click Back and then revise the selections. Click Submit when you are finished.

4. Accept the registration choices.

   Click OK to finish the registration. Click Logout to leave License Manager.

5. Determine if there are product-specific patches to apply. See Steps 6 – 8 in the discussion about registering the E-Business Suite.

Registering Individual Products

Business Requirement

I have licensed some individual products, but not an entire component Application. How do I register these products?

Discussion

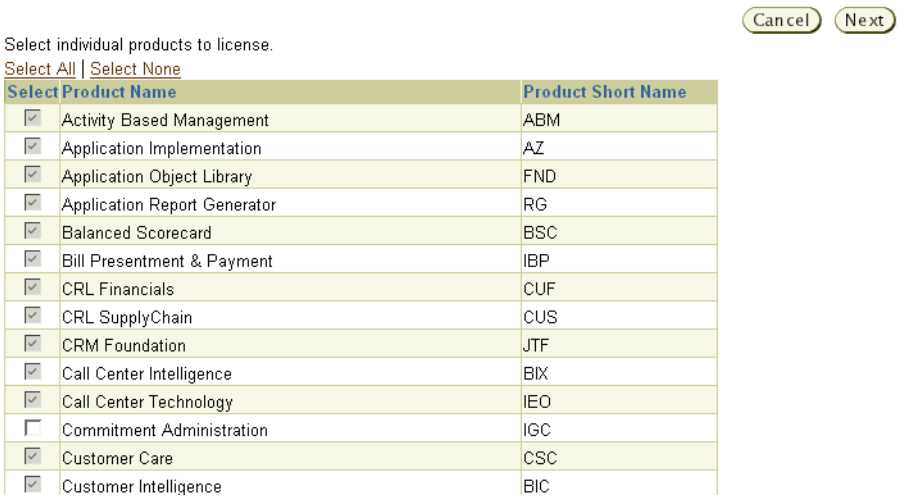
You can use License Manager to register any add-on products that are not included in the E-Business Suite or individual products in a component Application.

1. From the License Manager Home page, click Products to see the product registration options. If it is not already expanded, click the blue triangle next to Show More Options.

Select License Applications Product and click Continue.

2. Choose individual products.

   License Manager displays the License Individual Products page.



Select	Product Name	Product Short Name
☑	Activity Based Management	ABM
☑	Application Implementation	AZ
☑	Application Object Library	FND
☑	Application Report Generator	RG
☑	Balanced Scorecard	BSC
☑	Bill Presentment & Payment	IBP
☑	CRL Financials	CUF
☑	CRL SupplyChain	CUS
☑	CRM Foundation	JTF
☑	Call Center Intelligence	BIX
☑	Call Center Technology	IEO
☐	Commitment Administration	IGC
☑	Customer Care	CSC
☑	Customer Intelligence	BIC

This page lists all Applications products, including Add-on products from the E-Business Suite and individual products included in component Applications. Boxes next to products that are already registered, and shared or dependent products, are shaded and checked.

3. Select individual products.

   Click the check (tick) box next to the product(s) you want to register and click Next.

4. Review the products you have selected and click Submit.

5. Accept the registration selections by clicking OK. Click Logout to leave License Manager.

6. Determine if there are product-specific patches to apply. See Steps 6 – 8 in the discussion about registering the entire E-Business Suite.

Registering Country-specific Functionalities

Business Requirement

I want to register country-specific functionalities added since my initial Oracle Applications installation.

Discussion

You can use the OAM License Manager to register country-specific functionalities at any time after your initial installation. See the Using License Manager section for information on accessing the License Manager Home page.

Note: You can order country-specific functionalities online from the Oracle Store, or by contacting your Oracle Sales representative.

Action

1. From the License Manager Home page, click Country-specific Functionalities.

   The License Country-specific Functionalities page appears.

Use this page to select additional functionalities. Check (tick) boxes next to functionalities that are already registered are checked and grayed. Once registered, you cannot use License Manager to delete the functionality.

Make selections and click Next when finished. License Manager asks you to verify your choices.

2. Submit your changes.

   Click Submit, and then click OK to accept the changes.

Registering Languages

Business Requirement

I want to add languages that were not in my initial Oracle Applications installation.

Discussion

Oracle Applications is supported in numerous languages. You use the OAM License Manager to register languages that you have added to your system since the initial installation. You can also use it to change the base language.

Attention: The language you add must be supported by the current character set. If you need to change the current character set, see *Migrating an Applications Installation to a New Character Set* (Oracle*MetaLink* Doc ID: 124721.1.)

See Using License Manager in this chapter for information on accessing the License Manager Home page.

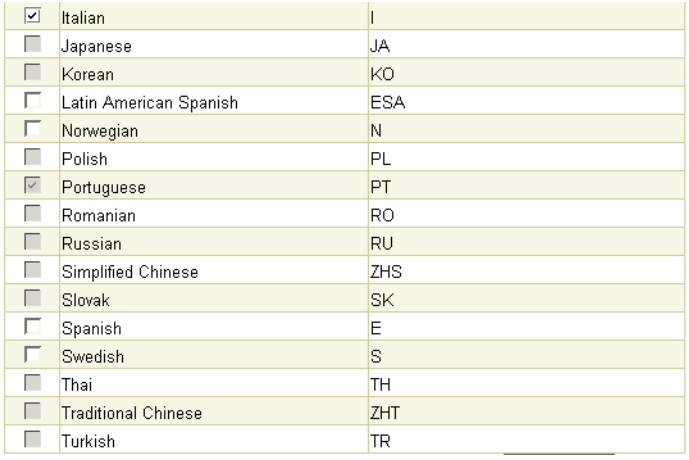
Action

1. From the License Manager Home page, click Languages and Territory.

   The License Languages page appears. It displays the list of languages and indicates your current database character set. Languages that are already registered are checked and grayed. Languages that are grayed without a check are not compatible with your current character set. You must change the character set before you can select one of these languages.

2. Select the new language.

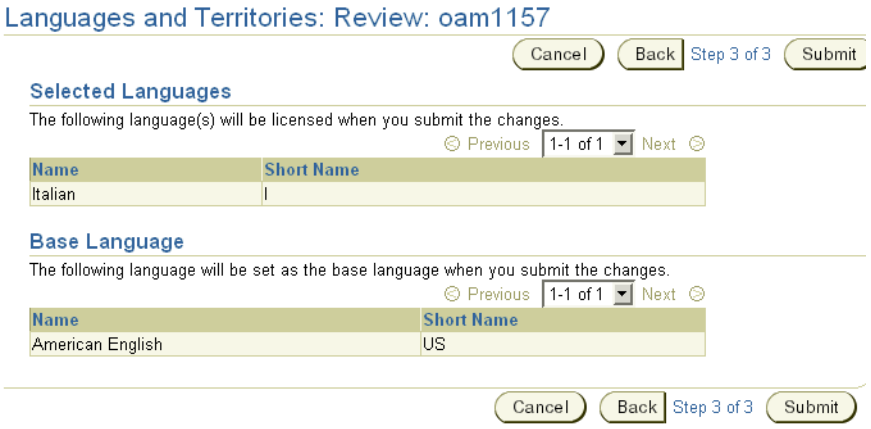
   To register a new language(s), click the check box next to the language name. In the example, Italian will be added as a newly register language.



   Click Next to continue.

3. Review the addition.

License Manager displays the requested change and the currently selected base language.



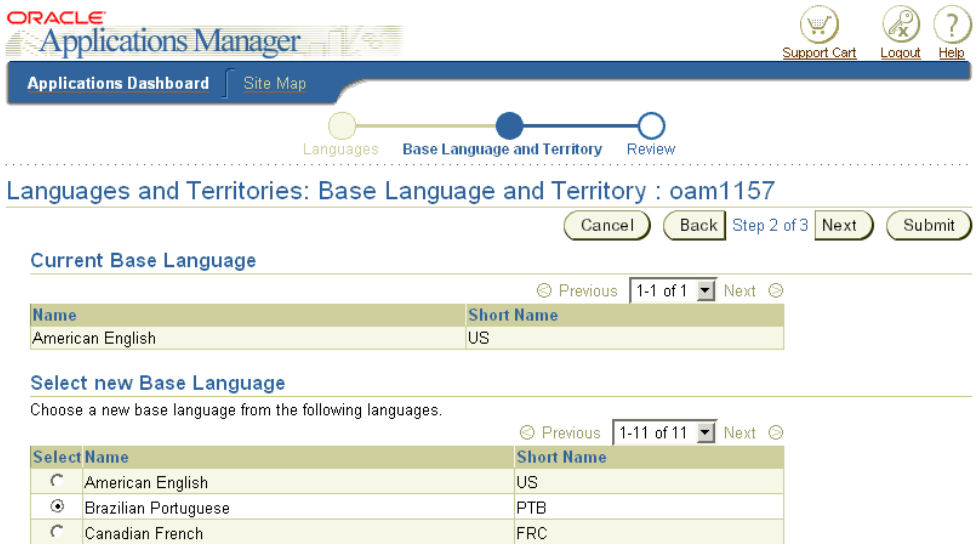
This screen serves two purposes: it displays all newly selected languages, and it displays any newly selected base language. In this case, it displays only the new language you selected on the previous screen.

Click Submit to save the changes. License Manager displays a confirmation screen listing your selection. Click OK to return to the home page.

4. Review or select the base language.

   From the License Manager Home page, click Languages and Territory. License Manager displays the list of languages currently active in your system. Click Next to continue.

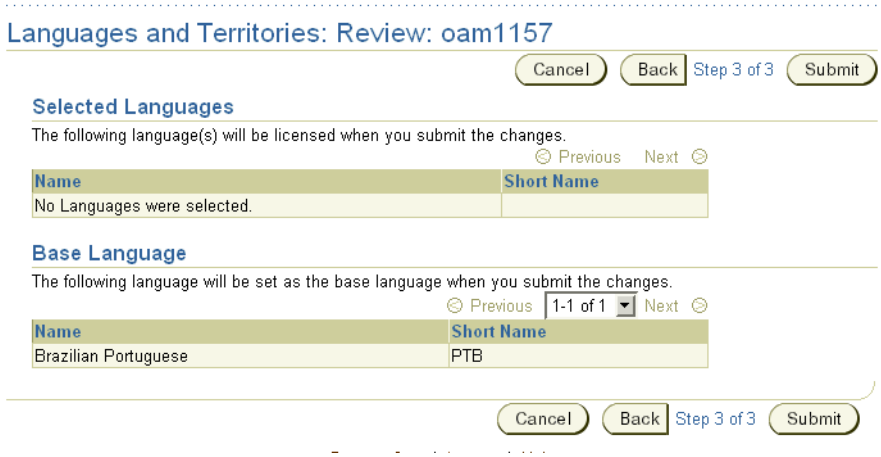
   The next screen displays the current base language and lists the other languages that are currently registered and active. If you want to change the base language, for example to Brazilian Portuguese, click the button next to that language.



Click Next to continue.

5. Review and confirm changes.

   License Manager displays the new base language. In this case, the screen displays only the base language you selected on the previous screen. The new language selection has already been submitted and accepted, and so doesn't show again on this screen.



Click Submit to save the new base language. License Manager displays a confirmation message.

Click OK to confirm the changes and return to the License Manager Home page.

6. Install translated software.

   To complete the licensing process, you must install the appropriate translated software. See *Oracle Applications NLS Release Notes* for instructions.

Resolving Issues with New Files

Business Requirement

I have registered an additional product, country-specific functionality, or language. Some of my files are missing or not working properly.

Discussion

If you applied product-specific patches as a part of the registration procedure, you may find that some files are not performing as expected. If you did not do so during the application of the product-specific patch, you may need to generate files.

Action

Follow instructions for Managing Files in Chapter 2.

Registering Off-cycle Products

Business Requirement

I want to use a product that was not included in the most current maintenance release.

Discussion

Products that are released in between maintenance releases are called *off-cycle* products. To incorporate an off-cycle product, use AD Splicer to register the product with the existing Oracle Applications system, then use AutoPatch to install all product-related files.

> **Additional Information:** See AD Splicer in *Oracle Applications Maintenance Utilities* for more information.

As a part of the process of adding off-cycle products, you will be directed to create a tablespace for each new product. The Oracle Applications product tablespace naming standard is to add a suffix to the product abbreviation. Add D for the product data tablespace and X for the product index tablespace. For example, the data and index tablespaces for the ZSA product are ZSAD and ZSAX, respectively.

Action

Perform the following steps:

1. Download the initial product patch from Oracle*MetaLink.*

   This patch contains information about the new product, AD Splicer control files required to register the product, and product files.

2. Review the readme file.

   Unzip the patch in the patch top directory. The patch readme file contains information on how to install the product. It may include manual steps to perform as part of this process.

3. Apply prerequisite patches (if any).

   Follow the instructions about prerequisite patches in the patch readme file.

4. Create tablespaces.

All Oracle Applications products should have their own tablespaces. The standard procedure is to create one tablespace for the product tables and another for the product indexes.

Additional Information: See Creating Tablespaces in the *Oracle9i* documentation set.

5. Edit the product configuration file.

   You must edit this file before you run AD Splicer. See AD Splicer in *Oracle Applications Maintenance Utilities* for more information about the configuration file.

   The *APPL_TOP* entry for base_product_top points to the location defined by the APPL_TOP environment variable. Edit the last four parameters according to the tablespace names used to create the product tablespaces.

   For example,

```
product=zsa
base_product_top=*APPL_TOP*
oracle_schema=zsa
sizing_factor=100
main_tspace=ZSAD
index_tspace=ZSAX
temp_tspace=TEMP
default_tspace=ZSAD
```

6. Copy AD Splicer control files and product configuration file.

   Copy <prod>prod.txt and <prod>terr.txt files and newprods.txt to APPL_TOP/admin.

   Note: If a newprods.txt already exists from a previous AD Splicer session, rename the existing file before copying the new newprods.txt file.

7. Register the off-cycle product.

   Log on as applmgr, set the environment, and run AD Splicer. It modifies the APPL_TOP and database, then performs the same registration function as OAM License Manager.

UNIX:

```
$ cd $APPL_TOP/admin
$ adsplice
```

Windows:

```
C:\> cd %APPL_TOP%\admin
C:\> adsplice
```

Run AD Splicer for each APPL_TOP and database combination so that the Applications utilities recognize the off-cycle products as active and valid.

8. Create a new environment file (UNIX) or new Applications environment subkey in the registry (Windows).

   Additional Information: See AD Administration in the *Oracle Applications Maintenance Utilities.*

9. Run AD Configuration (adutconf.sql) to verify that the product was spliced properly into the database.

   Additional Information: See AD Configuration in the *Oracle Applications Maintenance Utilities.*

10. If you are a UNIX user, integrate the environment file created by AD Splicer with the existing environment file. If the existing environment file was not customized, copy the new version on top of the old one.
11. Log out and log back in so that the new environment file (UNIX) or environment subkey in the registry (Windows) is used to set up the environment. See Setting the Environment in *Oracle Applications Maintenance Utilities*.
12. Verify that <PROD>_TOP registry and environment variables are set for the newly spliced off-cycle products.
13. Run AutoPatch to install files and database objects for the new products.

    The patch readme file lists the driver files that you need to run.

    Additional Information: See Interactive Patching in Chapter 3.

Adding Database Functionality

After your initial installation, you may decide to add functionality to your database. For example, you may need to convert the database to use Multiple Reporting Currencies (MRC) or to use the Multi-Org feature.

Converting to Multiple Reporting Currencies

Business Requirement

I need to provide support for financial reporting using several functional currencies.

Discussion

With Multiple Reporting Currencies, you can store, maintain, and report on your organization's financial data in more than one functional currency. Converting Oracle Applications to use the Multiple Reporting Currencies (MRC) feature requires proper testing and preparation before you apply it to your production system. It is important that you review the information in *Multiple Reporting Currencies in Oracle Applications* carefully before you begin.

Running AD Administration is a part of the conversion process. The information in this section gives general instructions about the conversion itself and details the use of the AD Administration utility.

Action

Perform the following steps:

1. Complete the preparatory steps documented in *Multiple Reporting Currencies in Oracle Applications*.
2. Set up the environment and database:
   - Verify the NLS_LANG variable
   - Create rollback segments
   - Verify SYSTEM tablespace requirements
   - Add space to existing tablespaces
3. Compile and validate the APPS schema.

   Use AD Administration to compile and validate the APPS schema.

Additional Information: Refer to Compiling Invalid Objects in Chapter 2.

4. Convert to Multiple Reporting Currencies.

   Select the Convert to Multiple Reporting Currencies task option in AD Administration.

   Additional Information: See AD Administration in *Oracle Applications Maintenance Utilities.*

5. Verify the installation.

   Review the AD Administration log files for errors or warnings. Then, run the advrfmrc.sql script in AD_TOP/admin/sql to verify that the conversion to MRC was successful.

6. Perform post-installation steps.

   If the system includes FastFormula, create FastFormula packages in the APPS_MRC schema.

   Additional Information: See Appendix B of *Multiple Reporting Currencies in Oracle Applications*

7. Perform product-specific steps.

   There may be additional product-specific implementation steps required to fully activate MRC.

   Additional Information: See Appendix B of *Multiple Reporting Currencies in Oracle Applications*

8. Maintain MRC schema.

   The APPS_MRC schema is a modified copy of the APPS schema. It requires synchronization every time the APPS schema is updated. Choose "Maintain Multiple Reporting Currencies schema" from the Maintain Applications Database Objects menu in AD Administration to synchronize the MRC and APPS schemas. See AD Administration in *Oracle Applications Maintenance Utilities*.

Converting to Multiple Organization (Multi-Org) Architecture

Business Requirement

I want to convert my standard product groups to a Multi-Org product group.

Discussion

To convert your database to one that uses multiple organization architecture, run the "Convert to Multi-Org" task on the Maintain Applications Database Objects menu in AD Administration. This conversion creates one operating unit defined at the site level.

> **Additional Information:** See *Multiple Organizations in Oracle Applications*. See also Maintain Applications Database Objects in *Oracle Applications Maintenance Utilities*.

Action

Complete the following steps:

1. Define operating unit and set profile option.

   Define at least one operating unit and set the site-level AOL profile option MO:Operating Unit to use this unit. This setting tells AD Administration what operating unit it should use when converting your existing data. This site-level profile option must remain set at all times.

   > **Warning: 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.**

2. Start AD Administration.

   Type *adadmin* at the command line.

   > **Additional Information:** See AD Administration in the *Oracle Applications Maintenance Utilities* for information starting AD Administration.

3. From the Main menu, choose the Maintain Applications Database Objects menu.

4. Convert to Multi-Org.

   Run the Convert to Multi-Org task to perform the conversion to Multiple Organization architecture.

   Attention: The conversion may take anywhere from a few hours for a newly implemented installation database to much longer for an existing production database with a large amount of data.

Managing Configuration Parameters

This section describes the procedures for updating the configuration parameters contained in the Applications Context file, which is initially created by Rapid Install during an installation or upgrade. The instructions in this section assume that you are familiar with both Rapid Install and the AutoConfig utility.

Additional Information: See Configuration Details in *Installing Oracle Applications*.

Editing Configuration Parameters

Business Requirement

How do I make changes to my system configuration parameters?

Discussion

Rapid Install captures all the configuration parameters associated with your installation. It stores the parameters for both your APPL_TOP and the technology stack in a central repository called the Applications Context. When you subsequently run AutoConfig during maintenance tasks, it looks at the Context file and uses the parameters it finds there to generate updated configuration files and database profiles.

In this release, you can edit the existing configuration parameters using the Oracle Applications Manager (OAM) Applications Context Editor. When you save the new parameters, OAM stores them in the OAM schema and automatically updates (synchronizes) the Applications Context. You must then run AutoConfig to populate all the system configuration files with the updated parameters.

Additional Information: See AutoConfig in *Oracle Applications Maintenance Utilities*.

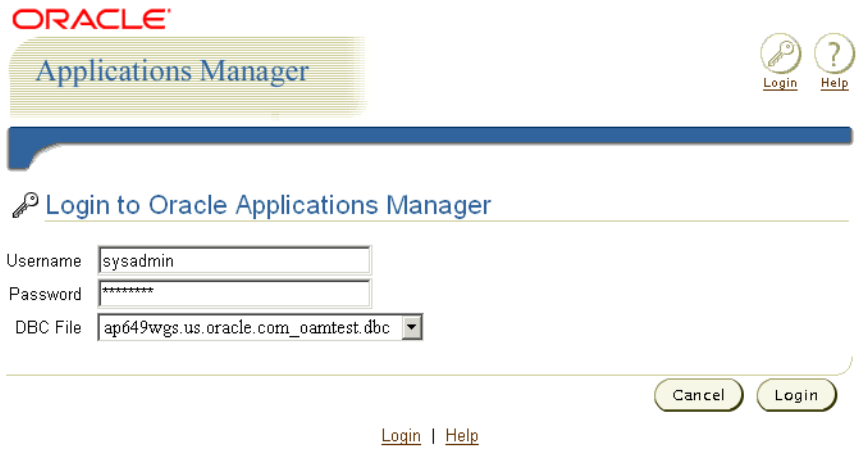
Action

Follow these steps to update configuration parameters:

1. Access OAM from the following URL:

   ```
   http://<HTTP hostname>.<domain>:<HTTP port>/servlets/weboam/oam/oamLogin
   ```

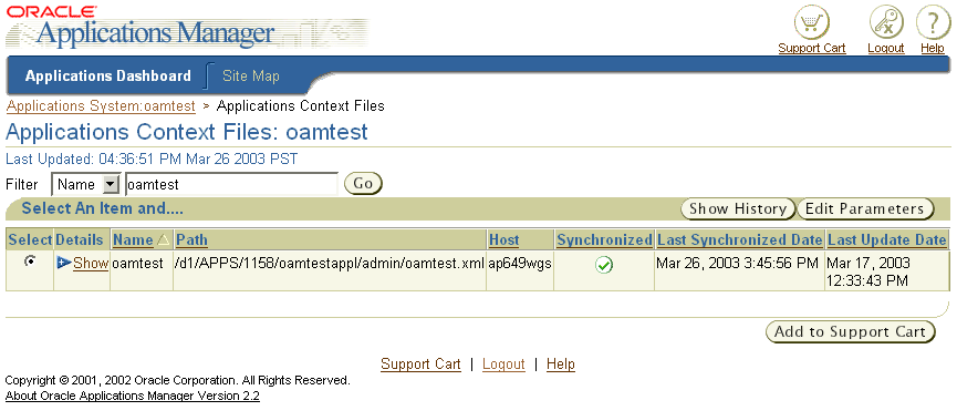
   Enter your username and password and click Login.



   The OAM Dashboard appears. Click the Site Map tab.

2. Access the Applications Context Editor.

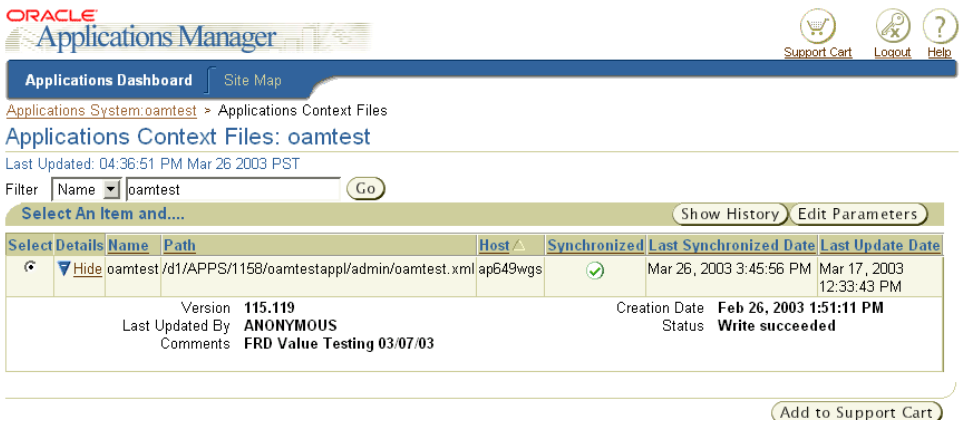
   OAM displays a list of all the links in the site. The Applications Context Editor link is located under the Configuration heading. Click Applications Context Editor. OAM displays the main Context Editor page.



3. Select a specific node.

   In the Filter field, use the pull down list to indicate Name, Path, or Host. Enter the Name of the node, the directory Path to the node, or the name of the Host.

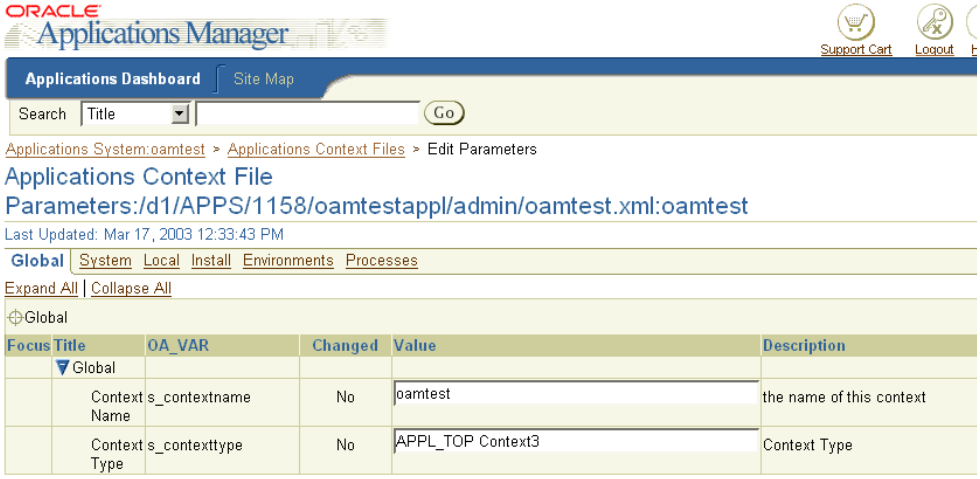
   Expand the Details column by clicking the blue triangle.



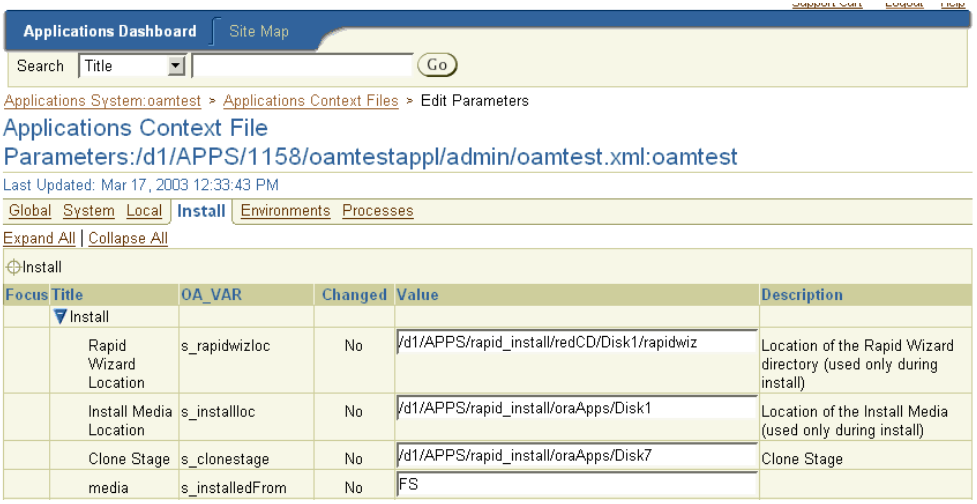
   Context Editor displays information about the version, creation date, and the name of the person who last made updates. The Status information corresponds to the Synchronized column value. Write Succeeded/Failed indicates whether the synchronization between the OAM database and the Applications Context file was successful.

4. Review configuration parameters.

Click Edit Parameters to see the existing configuration parameters grouped by these categories: Global, System, Local, Install, Environment, and Processes. The initial screen displays existing Global parameters.



Information shown on all parameters screens includes: variable name, internal name, change status indicator, value, and a short description. Clicking a category link displays the parameters associated with that category. For example, click Install to see the parameters associated with Rapid Install.



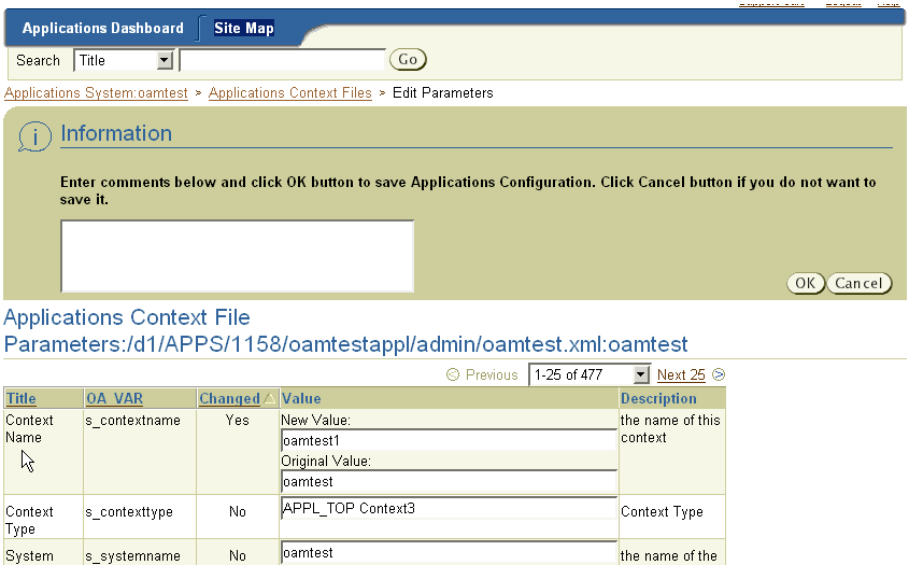
You can also search for a specific parameter by entering its title (name), OA_VAR (internal name), value, or description in the Search field.

5. Revise parameters.

   Choose the appropriate group of parameters and make necessary changes in the Value field. Click Save.

6. Submit changes.

   Context Editor displays a confirmation screen and provides a space for comments. It also displays the entire contents of the context file, including the changed values. Notice that values are displayed in groups of 25. Click the arrows to move forward and back through the pages.



Click OK to save the changes. The Oracle Applications Manager automatically stores the new values in the OAM database and updates the Applications Context.

> **Note:** Clicking Save saves the entire configuration including the updated values.

7. Add new values to the system configuration.

Run AutoConfig to generate new system configuration files that are propagated with the new values. See the next section for instructions.

Setting Up AutoConfig (Windows)

Business Requirement

I've used the Context Editor to change port value and service configuration changes on the application tier for Windows. Are there any other requirements before I run AutoConfig to propagate these configuration changes?

Discussion

To reconfigure services for port value and service configuration changes on the application tier, you must remove the services before you run AutoConfig.

Note: The <CONTEXT_NAME> variable defaults to <SID>_<hostname>. You may set it to <SID> or customize it to some other environment-specific name.

Action

Stop the Windows services with the following steps:

1. In Windows, navigate to the Network option in the Control Panel.
2. Click the Services tab, and remove any services that you configured with the Context Editor.
3. Reboot the system.
4. Run the appropriate command scripts from the following table to de-install all services that AutoConfig will change. The command scripts are located in the <COMMON_TOP>\admin\install\<CONTEXT_NAME> directory.

Service	Command
8.0.6 TNS Listener	adsvalsn.cmd -deinstall
Apache Service	adsvapc.cmd -deinstall
Concurrent Manager	adsvcm.cmd -deinstall
Forms Service	adsvfrm.cmd -deinstall

Service	Command
Reports Service	adsvrep.cmd -deinstall
Metrics Client	adsvfmc.cmd -deinstall
Metrics Server	adsvfms.cmd -deinstall
TCF Service	adsvtcf.cmd -deinstall

Deinstall only those services that AutoConfig will reconfigure. These scripts are not order-dependent.

5. Run AutoConfig to propagate the new service configuration changes.

Generating and Applying Configuration Updates

Business Requirement

I have updated the Applications Context file and need to apply the changes to my system.

Discussion

You must run AutoConfig to apply the Applications Context updates to your system. Doing so generates the new configuration files for the APPL_TOP and the Oracle Homes in the associated techstack. AutoConfig uses the parameters stored in the Applications Context file and system configuration templates to create new process control scripts and update system profiles.

Note: The <CONTEXT_NAME> variable defaults to <SID>_<hostname>. You may set it to <SID> or customize it to some other environment-specific name.

Action

Complete the following steps:

1. Log on as applmgr and set the environment.

Additional Information: See Setting the Environment in *Oracle Applications Maintenance Utilities.*

2. Stop all server processes.

   Additional Information: See Starting or Stopping All Server Processes in Chapter 2.

3. Start AutoConfig on the application tier.

   UNIX:

   AutoConfig prompts for the APPS password.

   ```
   $ <COMMON_TOP>/admin/scripts/<CONTEXT_NAME>/adautocfg.sh
   ```

   Windows:

   AutoConfig does not prompt for the APPS password, however, you must supply it in the command.

   ```
   C:\> <COMMON_TOP>\admin\scripts\<CONTEXT_NAME>\adautocfg.cmd \
        <APPS password>
   ```

   Or, start AutoConfig on the database tier.

   UNIX:

   AutoConfig prompts for the APPS password.

   ```
   $ <RDBMS ORACLE_HOME>/appsutil/scripts/<CONTEXT_NAME>/adautocfg.sh
   ```

   Windows:

   AutoConfig does not prompt for the APPS password, however, you must supply it in the command.

   ```
   C:\> <RDBMS ORACLE_HOME>\appsutil\scripts\<CONTEXT_NAME>\
   adautocfg.cmd <APPS password>
   ```

   AutoConfig generates new configuration files.

4. Start all server processes.

   Use the newly generated server process script to start all server processes.

Restoring a Previous Configuration

Business Requirement

I may need to restore a configuration that I used previously. Can I compare my current configuration and the previous one before I make this decision.

Discussion

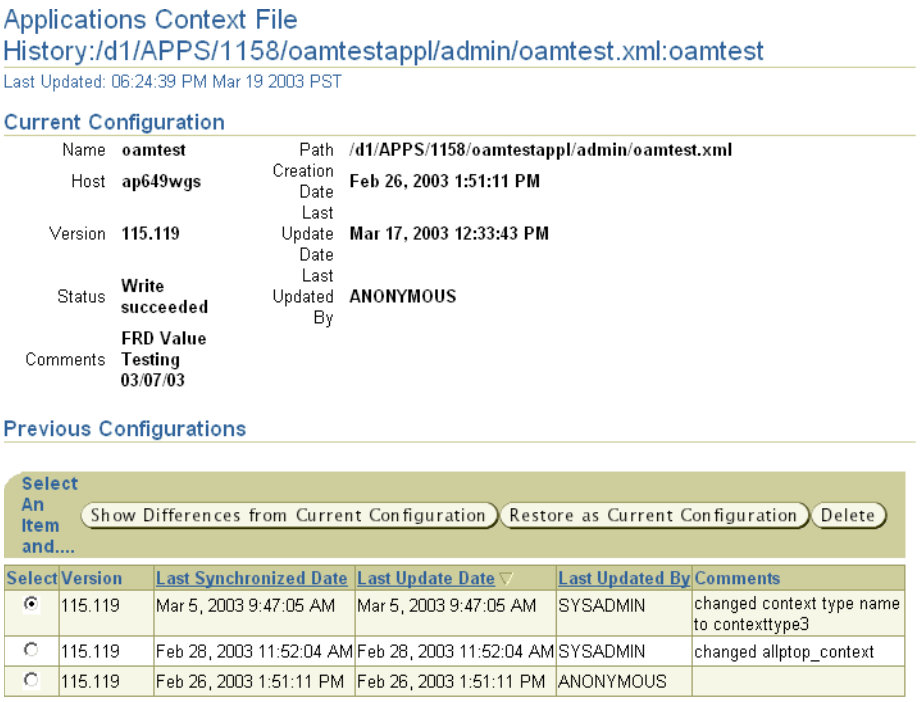
With the OAM Context Editor, you can view a history of system configuration parameters stored in the OAM database. You can display the current configuration or previous ones. You can also request a comparison between the current configuration and a previous one. If necessary, Context Editor can restore a previous set of configuration parameters better suited to your current business requirements.

Action

To view configuration history and restore a previous configuration, follow these steps:

1. Follow Steps 1 – 2 in Editing Configuration Parameters for instructions on accessing the initial Context Editor screen.
2. View configuration history.

   Click Show History. Context Editor displays the History screen.



Applications Context File History:/d1/APPS/1158/oamtestappl/admin/oamtest.xml:oamtest

Last Updated: 06:24:39 PM Mar 19 2003 PST

Current Configuration

Name	oamtest	Path	/d1/APPS/1158/oamtestappl/admin/oamtest.xml
Host	ap649wgs	Creation Date	Feb 26, 2003 1:51:11 PM
Version	115.119	Last Update Date	Mar 17, 2003 12:33:43 PM
Status	Write succeeded	Last Updated By	ANONYMOUS
Comments	FRD Value Testing 03/07/03		

Previous Configurations

Select An Item and.... Show Differences from Current Configuration | Restore as Current Configuration | Delete

Select	Version	Last Synchronized Date	Last Update Date	Last Updated By	Comments
◉	115.119	Mar 5, 2003 9:47:05 AM	Mar 5, 2003 9:47:05 AM	SYSADMIN	changed context type name to contexttype3
○	115.119	Feb 28, 2003 11:52:04 AM	Feb 28, 2003 11:52:04 AM	SYSADMIN	changed allptop_context
○	115.119	Feb 26, 2003 1:51:11 PM	Feb 26, 2003 1:51:11 PM	ANONYMOUS	

This page lists other configurations stored in the OAM database. It shows the version number, last synchronized date, last update date, the user who last updated the configuration, and any comments for each configuration.

To replace the current configuration with a previous one, select the previous version from the list and click Restore as Current Configuration. Context Editor displays a new page and prompts you to enter comments regarding the restoration. It also lists all the parameters. Click Save to restore the previous configuration. You can also delete a previous configuration from the database by selecting it and clicking the Delete button.

To see a contrast between the current configuration and one that you have used in the past, select a previous version from the list and click Show Differences from Current Configuration.

This page lists the parameters that differ in value between the previous configuration and the current one. To restore an individual value, select it and click Save. This action replaces the value in the current configuration. On the next page you can enter comments regarding your change.

Running the Context Editor from the Command Line

Business Requirement

I cannot edit my configuration parameters using OAM. What do I do?

Description

You can run the Context Editor wizard from the command line to modify the Applications Context and the Database Context.

Action

For complete information about running the Context Editor wizard, see Appendix D: Context Editor in *Using AutoConfig to Manage System Configurations with Oracle Applications 11i* on Oracle*MetaLink*.

Converting Character Sets

When you change or add languages for your system, you may need to convert the files, the database, or the APPL_TOP to a compatible character set.

Converting the Character Set for Files

Business Requirement

I need to manually convert a character set.

Discussion

AD Administration, AutoPatch, and Rapid Install convert Oracle files from one character set to another automatically. If necessary, however, you can also use the File Character Set Converter to manually convert the character set of your files.

Action

See File Character Set Converter (adncnv) in *Oracle Applications Maintenance Utilities* for information on running this utility.

2

Maintaining Your System

This chapter contains general procedures for proper maintenance of an Oracle Applications system. It includes the following sections:

Using the Oracle Applications Manager

The Oracle Applications Manager (OAM) interface allows system administrators to manage an Oracle Applications instance.

Business Requirement

I would like to access configuration and patching information from a single point.

Discussion

The Oracle Applications Manager (OAM) provides a web-based gateway where system administrators can view system information, monitor system activity, manage Applications services, and perform many other tasks.

Some of the system configuration and reporting utilities that we discuss in this book and in *Oracle Applications Maintenance Utilities* are accessed from OAM. They include:

- Applications Context Editor
- License Manager
- Patch Advisor
- Patch history searches (Patch History Database)

For example, from OAM you can choose one of the patch history search features to create a report listing the patches you have already applied to your system. Or, you can choose the Applications Context Editor and use it to change your system configuration parameters.

> **Additional Information:** Oracle Applications Manager in the *Oracle Applications System Administrator's Guide*.

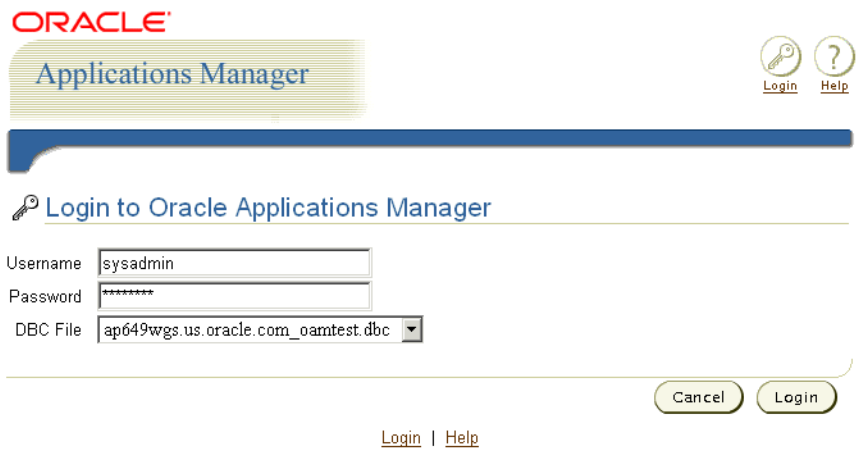
Action

Follow these steps to start OAM and access Applications utilities:

1. Access OAM by typing the following URL:

   ```
   http://<HTTP hostname>.<domain>:<HTTP port>/servlets/weboam/oam/oamLogin
   ```

   Enter your username and password and click Login.



   You can also access OAM from the Rapid Install Portal page at this URL:

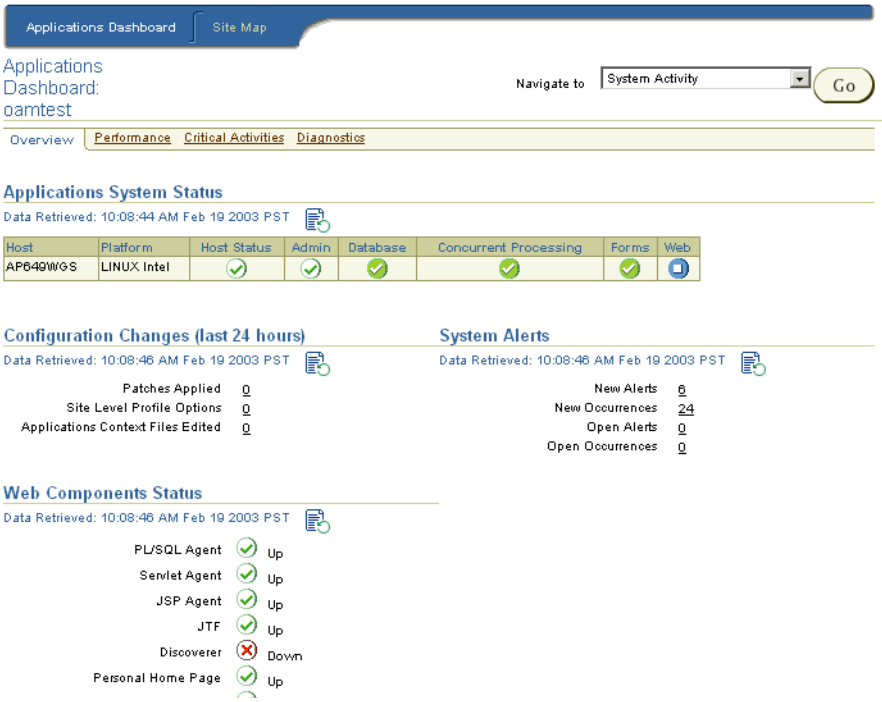
   ```
   http://<HTTP hostname>.<domain>:<HTTP port>
   ```

Click Apps Logon Links > Oracle Applications Manager.

Regardless of which method you use, OAM displays the Dashboard page.

2. Monitoring your system.

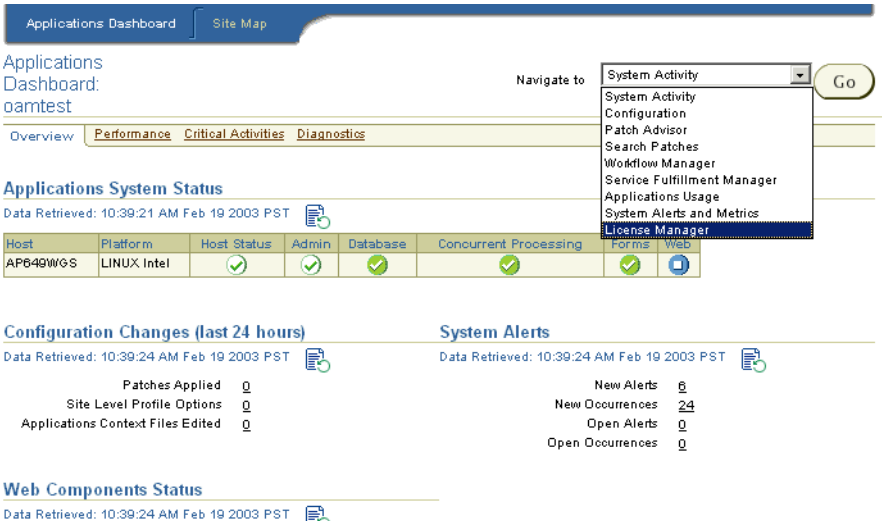
   The OAM Dashboard presents a quick overview of the general status of your system. It includes several regions: Applications System Status, Configuration Changes, System Alerts, and Web Component Status. You can drill down for more information in each region.



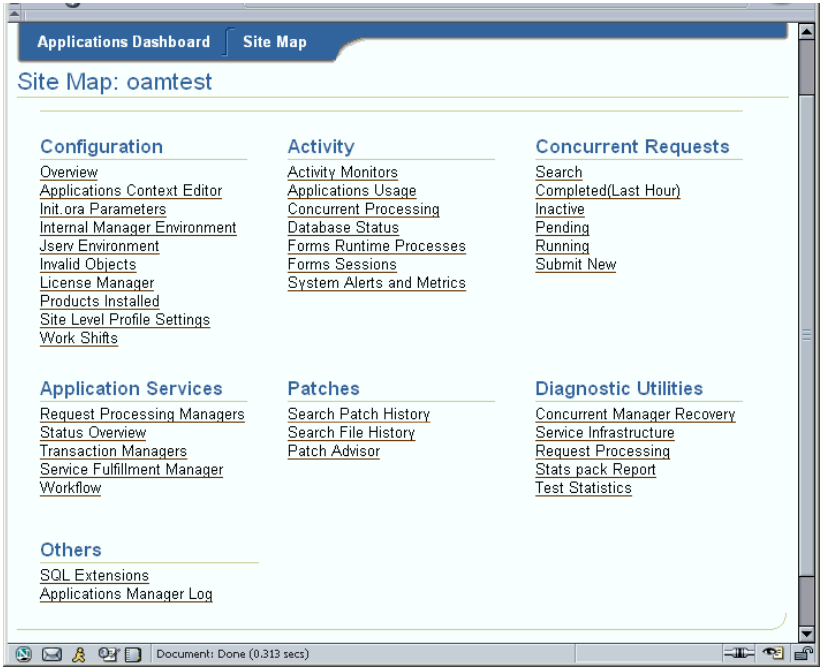
- Applications System Status lists each Host, its Platform, and Status, as well as the status of the services such as Admin and Database.
- Configuration Changes displays the number of patches applied, the number of profile options changed, and the number of context files edited in the last 24 hours.
- System Alerts lists the number of system alerts in several categories including: New Alerts, New Occurrences, Open Alerts, and Open Occurrences.

- Web Components Status lists the status of the web components, including PL/SQL Agent, Servlet Agent, JSP Agent, JTF, and others.

  In addition, the Dashboard contains links to information about performance, critical activities, and diagnostics, and a Navigate To: list box you can use to access some commonly used OAM utilities.



  To view a complete list of OAM utilities and links, click Site Map from the Dashboard page.



This page provides access to all the utilities and features of the Oracle Applications Manager. Click any of the links to continue.

For complete information about OAM, refer to the Oracle Applications Manager in the *Oracle Applications System Administrator's Guide*. For more information about the Patch Advisor and the Search Patch History options, see *Oracle Applications Maintenance Utilities*. See also subsequent Business Requirements in this book.

Performing Tasks Non-interactively

You can run some file system and database maintenance tasks non-interactively. This allows you to schedule future tasks with little or no user intervention.

Using AD Administration Non-interactively

Business Requirement

I would like to schedule and run maintenance tasks during non-business hours.

Discussion

AD Administration provides you with a complete set of options for maintaining both database objects and the file system. You access and run these tasks by selecting them from an AD Administration menu. The menu tasks are *interactive* — they require you to respond to prompts in order to supply the information necessary to complete the task.

> **Additional Information:** See AD Administration in *Oracle Applications Maintenance Utilities*.

You can schedule certain maintenance tasks to run with little or no user intervention by using AD Administration *non-interactively*. Instead of responding to AD Administration prompts each time you run the task, you store the responses once in a defaults file that you create for an individual task (or set of tasks). You then specify the appropriate defaults file the next time you need to run the task. AD Administration completes the appropriate actions without any further action on your part.

Action

Complete the following steps:

1. Create and name the defaults file.

   Run AD Administration, specifying defaultsfile=<Defaults File Name> on the command line. This action creates a defaults file for the current environment.

   UNIX:

   The file must be under the $APPL_TOP/admin/<SID> directory, where <SID> is the database name (ORACLE_SID/TWO_TASK). For example:

   ```
   $ adadmin defaultsfile=$APPL_TOP/admin/testdb1/adadmindef.txt
   ```

   Windows:

   The file must be under the %APPL_TOP%\admin\<SID> directory, where <SID> is the database name (LOCAL). For example:

   ```
   C:\> adadmin defaultsfile=%APPL_TOP%\admin\testdb1\adadmindef.txt
   ```

2. Interactively run the maintenance task to populate the defaults file.

   From the AD Administration menu, choose a maintenance task. Answer all prompts during the session. If you omit any of the information in the prompts, AD Administration may not be able to complete the non-interactive session.

3. Verify that the defaults file exists.
4. Run AD Administration from the command line.

   Specify the following: the name of the defaults file, the name of the log file, the number of parallel workers, and the interactive=no parameter. For example:

   UNIX:

   ```
   $ adadmin defaultsfile=$APPL_TOP/admin/testdb1/adadmindef.txt \
     logfile=adadmin_noninteractive.log workers=5 interactive=no
   ```

   Windows:

   ```
   C:\> adadmin defaultsfile=%APPL_TOP%\admin\testdb1\adadmindef.txt \
        logfile=adadmin_noninteractive.log workers=5 interactive=no
   ```

Restarting a Failed Non-interactive Session

Business Requirement

My non-interactive session failed. How do I restart it?

Discussion

To restart a failed non-interactive session, you run AD Administration using the restart=yes parameter.

Action

Complete the following steps:

1. Determine the reason the session failed and fix the issue.
2. Run AD Administration from the command line.

   Use the same parameters that you used to start the original non-interactive session, plus the restart=yes parameter. For example:

   UNIX:

   ```
   $ adadmin defaultsfile=$APPL_TOP/admin/testdb1/adadmindef.txt \
     logfile=adadmin_noninteractive.log workers=5 interactive=no restart=yes
   ```

   Windows:

   ```
   C:\> adadmin defaultsfile=%APPL_TOP%\admin\testdb1\adadmindef.txt \
        logfile=adadmin_noninteractive.log workers=5 interactive=no restart=yes
   ```

3. AD Administration runs the task. It does not prompt you to continue the previous (failed) session.

Managing the Database

This section contains information you can use to tune your database and effectively manage your system resources.

Locally Managed Tablespaces

Business Requirement

What tablespace management methods does Oracle Applications support?

Discussion

There are several methods for managing tablespace configurations in an Oracle database. They include dictionary-managed, locally managed with AUTO extent allocation, locally managed with USER extent allocation, and locally managed with UNIFORM extent allocation.

> **Additional Information:** See the Oracle9*i* documentation set. See also *Oracle9: Database Administrator's Guide*.

Action

Oracle Applications currently supports only two local extent management methods. In order to successfully use Oracle Applications, choose one of the following methods:

- locally managed USER extent allocation is fully supported and set up as the default
- locally managed UNIFORM extent allocation is also supported

Analyzing the Database

Business Requirement

I want my system to process SQL queries and commands more efficiently.

Discussion

Oracle Applications Release 11*i* processes data using cost-based optimization (CBO). This means it executes SQL commands and queries based on the most efficient use of system resources. To keep this information up to date, analyze the database and update system schema statistics by running the Gather Schema Statistics concurrent program.

While each system may be different, it is a good idea to run the Gather Schema Statistics program after you have accumulated a significant amount of transaction data and/or as a part of your regular system maintenance (approximately once a month).

Note: Identify and adjust the frequency for gathering *all* statistics and those for specific products based on system usage.

Action

Complete the following steps:

1. Log on to Oracle Applications with the System Administrator responsibility.
2. Navigate to the Submit Request window (Request > Run).
3. Submit the Gather Schema Statistics program.

   Set the schema name to ALL to gather statistics for all Oracle Applications schemas (having an entry in the FND_PRODUCT_INSTALLATIONS table). In addition to gathering index and table-level statistics, the procedure also gathers column-level histogram statistics for all columns listed in the FND_HISTOGRAM_COLS table.

   Additional Information: See Cost-Based Optimization in Oracle Applications in the *Oracle Applications System Administrator's Guide.*

Creating Grants and Synonyms

Business Requirement

How do I recreate grants and synonyms?

Discussion

Running the Validate APPS schema task produces an output file that may reveal missing grants and synonyms. You can recreate them by running the "Recreate grants and synonyms" task from AD Administration.

Action

Complete the following steps:

1. Start AD Administration.

   Additional Information: See AD Administration in *Oracle Applications Maintenance Utilities* for information on starting AD Administration and the menu choices referenced in this procedure.

2. From the Main menu, choose the Maintain Applications Database Objects menu.
3. Recreate grants and synonyms for the APPS schema.

   Select the "Recreate grants and synonyms" task.

   Note: To set up grants and synonyms for the MRC schema, run "Maintain MRC" (from the Maintain Database Objects menu) after validating the APPS schema and fixing any issues you find.

Compiling Invalid Objects

Business Requirement

When should I compile invalid objects in my APPS schema and how do I do it?

Discussion

The Oracle database automatically compiles invalid database objects the first time they are used. This action can take some time, so if there are a lot of invalid objects, you may want to compile them before the first use to avoid the initial slowness inherent in a "lazy compile."

You compile invalid objects with AD Administration. This task is most effective under the following circumstances:

- Immediately after an upgrade

- Before converting to Multi-Org or Multiple Reporting Currencies (MRC)
- After performing an export/import (migration)
- As a part of custom development in the APPS schema

Action

Complete the following steps:

1. Start AD Administration.

   Additional Information: See AD Administration in *Oracle Applications Maintenance Utilities*.

2. From the Main menu, choose the Maintain Applications Database Objects menu.
3. Compile APPS schema.

   Select the "Compile APPS schema" task.

Pinning Objects

Business Requirement

I can't execute some stored packages or functions. What should I do?

Discussion

If SGA space is fragmented, there may not be enough for a package or function. You can pre-allocate space in the SGA shared pool for packages, functions, and sequences by "pinning" them. The scripts described in this procedure work well as templates and can be used to create your own custom pinning scripts.

Attention: Run these scripts when packages or sequences are patched (and the patch readme file tells you to do so), or any time after objects are invalidated, either because of patching or customizations.

The ADXGNPIN.sql script pins packages and functions in the APPS schema, while ADXGNPNS.sql pins sequences in the base product schemas. Both scripts take the name of a schema as an argument, or % for all schemas. ADXGNPIN.sql generates

and invokes another SQL file, ADXSPPIN.sql. ADXGNPNS.sql generates and runs ADXSPPNS.sql.

Action

Complete the following steps:

1. Create the appsutil/admin directory in the ORACLE_HOME of the database server, if it doesn't already exist.
2. Copy ADXGNPIN.sql and ADXGNPNS.sql from the AD_TOP/sql directory of the admin server to this directory.
3. Set the environment to point to the ORACLE_HOME for the database server. Access the database server directly.
4. Go to the directory created in Step 1 and run ADXGNPIN.sql and ADXGNPNS.sql from SQL*Plus:

```
sqlplus <SYS username>/<SYS password> @ADXGNPIN.sql <APPS schema name>

sqlplus <SYS username>/<SYS password> @ADXGNPNS.sql <Base product schema
name>
```

> **Note:** The MRC schema contains some definer rights packages. If the system uses MRC, run ADXGNPIN.sql in the MRC schema to pin these packages.

Listing Objects in the Shared Pool

Business Requirement

I would like to see a list of objects stored in the SGA shared pool.

Discussion

You can run the ADXCKPIN.sql script to query for objects stored in the SGA shared pool. It shows the objects known to the SGA and the size that they consume. The output file is ADXCKPIN.lst.

Action

Run the following script:

UNIX:

```
$ cd $APPL_TOP/admin/<SID>/out
$ sqlplus <SYSTEM username>/<SYSTEM password> @$AD_TOP/sql/ADXCKPIN.sql
```

Windows:

```
C:\> cd %APPL_TOP%\admin\<SID>\out
C:\> sqlplus <SYSTEM username>/<SYSTEM password> @%AD_TOP%\sql\ADXCKPIN.sql
```

Managing Files

This section contains information about maintenance tasks associated with Applications files.

Generating Product Files

Business Requirement

Some of my product files appear to be missing. What do I do?

Discussion

Every Oracle Applications product contains generated files, such as forms, reports, graphics, message, and JAR (Java archive) files. Use AD Administration to generate files when you suspect an issue with generated files. For example, if users are not able to use a certain General Ledger form, regenerating the form file may resolve the issue. You may also need to generate files after you license additional products.

Action

Complete the following steps:

1. Determine the file types that require generation.
2. Log on as applmgr and set the environment.

   Additional Information: See Setting the Environment in *Oracle Applications Maintenance Utilities.*

3. Start AD Administration.

   Additional Information: See AD Administration in *Oracle Applications Maintenance Utilities.*

4. From the main menu, select the Generate Applications Files menu and select the task for the type of files you want to generate.
   - When you choose one of the options for generating forms files, reports files or graphics files, you can select an individual file, a set of files, or all files of the selected type.
   - The "Generate product JAR files" option allows you to generate all JAR files for all products, or only JAR files that are out of date.
   - The "Generate message files" option generates all message files for all products.
5. Repeat the generation task on each APPL_TOP that contains the files, if the Oracle Applications system contains multiple APPL_TOPs.
6. Review the AD Administration log file for any warnings or errors.

Maintaining Snapshot Information

Business Requirement

I read a document that says I need to set up snapshots for each APPL_TOP in my system. What do I do?

Discussion

Snapshots give a picture of selected APPS-related files in a given APPL_TOP. They record details for each file in the APPL_TOP (like file name and file version). They also record summary information about patches that have been applied to the APPL_TOP.

You must run the Maintain Snapshot Information option once for each APPL_TOP before you apply any patch that contains a “compatible feature prereq” line on that APPL_TOP.

> **Additional Information:** See Maintain Applications Files Tasks in *Oracle Applications Maintenance Utilities*.

Action

To set up the Snapshot feature, follow these steps:

1. From the AD Administration main menu, select the Maintain Applications Files menu. Run the “Maintain snapshot information” task.

2. Under Snapshot Options, choose “Manage Snapshots within this Application System.”
3. Select “Refresh the Current View of this APPL_TOP in the database.”
4. Repeat this step for each APPL_TOP in your installation.

Relinking AD Executables

Business Requirement

I have used the AD Administration menu option to relink programs on my system. Now I need to relink the AD executables.

Discussion

Although you relink Applications programs by choosing the "Relink Applications programs" option from the Generate Applications Files menu in AD Administration, you cannot relink AD executables in the same way. Instead, you must run AD Relink from the command line by specifying the name of the utility that you want to relink.

If you need to relink more than one AD utility, you can indicate this to AD Relink by entering the utility names on the command line.

Note: You can also use the commands listed here if for some reason you cannot relink programs using AD Administration.

Additional Information: See AD Relink (adrelink) in *Oracle Applications Maintenance Utilities*.

Action

Perform the following steps:

1. Log on as applmgr and set the environment.

   Additional Information: See Setting the Environment in *Oracle Applications Maintenance Utilities*.

2. When relinking files on a concurrent processing server, shut down the concurrent managers. When relinking files on a forms server, shut down the forms server.

   Additional Information: See Stopping or Starting Individual Server Processes in this chapter.

3. Run AD Relink with this command:

   ```
   $ adrelink.sh force=y <ad program name>
   ```

   If you want to relink several AD utilities at once, list the programs, separating each one with a space and enclosing it in quotations. For example, to link both AD Controller (adctrl) and AD Administration (adadmin), you would type:

   ```
   $ adrelink.sh force=y "ad adctrl" "ad adadmin"
   ```

Relinking AD Executables (Windows)

Business Requirement

I need to relink AD executables on my Windows system.

Discussion

Although you relink Applications programs by choosing the "Relink Applications programs" option from the AD Administration Generate Applications Files menu, you cannot use this option to relink AD executables. Instead, you must run AD Relink from the command line.

Note: You can also use the commands listed here if for some reason you cannot relink programs using AD Administration.

Additional Information: See AD Relink (adrelink) in *Oracle Applications Maintenance Utilities*.

Action

Perform the following steps:

1. Run %<APPL_TOP>%\relinkenv.cmd, using either Windows Explorer or the Run command from the Start menu.

2. In the command window that results, change directory to %APPL_TOP% and run apps.sh to set up all required environment variables. (Note there is a space between the dots in this command.)

   ```
   C:\> . ./apps.sh
   ```

3. Change directory to %APPL_TOP%\bin and relink the desired file using the following syntax:

   ```
   C:\> sh adrelink.sh force={y | n} [<optional arguments>] <ad program name>
   ```

   If you want to relink several AD utilities at the same time, list the programs, separating each one with a space and enclosing it in quotations. For example, to relink both AD Controller (adctrl) and AD Administration (adadmin), you would type:

   ```
   C:\> sh adrelink.sh force=y "ad adctrl.exe" "ad adadmin.exe"
   ```

Creating a Backup

Business Requirement

I want to create a backup copy of an AD executable before I run AD Relink.

Discussion

If you run AD Relink using the *force=y* command line argument, it may create a backup copy of the existing executable. In this case, it renames the newly linked executable. If there is already a backup copy, AD Relink renames it, then renames the executable. Use the *backup_mode* command line argument to tell AD Relink whether to back up executables. Values for backup mode are:

Command Line Argument	Result
backup_mode=none	Do not back up any executables
backup_mode=all	Back up all executables
backup_mode=file	Back up files according to the instructions in adlinkbk.txt (the default)

Action

Perform the following steps to back up all executables:

1. Log on as applmgr and set the environment.

Additional Information: See Setting the Environment in *Oracle Applications Maintenance Utilities*.

2. When relinking files on a concurrent processing server, shut down the concurrent managers. When relinking files on a forms server, shut down the forms server.

   Additional Information: See Stopping or Starting Individual Server Processes in this chapter.

3. Run AD Relink with this command:

   ```
   $ adrelink.sh force=y backup_mode=all <ad program name>
   ```

Recovering Disk Space

This section contains information about increasing available disk space.

Compressing, Archiving, and Deleting Files

Business Requirement

I am running short of disk space. Are there files that can be safely compressed, archived, or deleted?

Discussion

One way to recover disk space is to archive, compress or delete obsolete Oracle Applications product files. Oracle recommends doing this only if there is no other way to increase available disk space. Always back up files before deleting them and keep the backup readily available in case you need to restore files.

Additional Information: See File System in *Oracle Applications Concepts*.

Action

To complete these tasks, use the procedures and commands specific to your operating system.

Log and output files. After completing an upgrade of Oracle Applications or a maintenance task with an AD utility, you can compress, archive, or delete the files

in the following directories, where <SID> is the name of the database instance for the current Applications system: $APPL_TOP/admin/<SID>/log and $APPL_TOP/admin/<SID>/out (UNIX) or %APPL_TOP%\ admin\<SID>\log and %APPL_TOP%\admin\<SID>\out (Windows). Do not delete the directories.

> **Attention:** Log files may contain passwords. Back up these files to a secure location.

Upgrade files After you complete and verify an upgrade, you can compress, archive, or delete the files in $APPL_TOP/admin/preupg (UNIX) or in %APPL_TOP%\admin\preupg (Windows).

> **Attention:** Do *not* remove any files under <PROD>_TOP/admin. They are used by AD utilities such as AutoPatch and AD Administration.

AutoPatch backup files After you run AutoPatch, you can compress, archive, or delete old files that have been backed up in the patch subdirectory. Be sure the patch was applied successfully and the patched functionalities are fully tested before you delete backup files.

> **Additional Information:** See AutoPatch in *Oracle Applications Maintenance Utilities.*

Managing Server Processes

This section contains information about manually starting or stopping server processes.

Stopping or Starting Individual Server Processes

Business Requirement

Can I stop or start a specific server process manually on my application tier?

Discussion

When Rapid Install sets up and configures the server processes during installation, it stores a script for each application tier process in the COMMON_

TOP/admin/scripts/<CONTEXT_NAME> directory, where <CONTEXT_NAME> is the name of the database instance.

Note: The <CONTEXT_NAME> variable defaults to <SID>_<hostname>. You may set it to <SID> or customize it to some other environment-specific name.

Note: The scripts contain system-specific information. If you change the Rapid Install defaults, you may need to edit the scripts before rerunning them.

Oracle Applications provides scripts for the following application tier processes. The logon for all the scripts is applmgr.

Server Process	UNIX Script	Windows Script
Forms Server Listener Defines the Oracle Forms Cartridge parameters.	adfrmctl.sh	adfrmctl.cmd
Forms Metrics Server Keeps track of all forms servers in a given pool of forms servers and directs each form execution request to the least loaded server that is able to service requests in the given pool.	adfmsctl.sh	adfmsctl.cmd
Forms Metrics Client Sends load information, such as the number of forms processes that are currently running on that machine, to the Metrics Server. The Metrics Client runs on each machine with a forms server.	adfmcctl.sh	adfmcctl.cmd
Report Review Agent Used to view concurrent processing files online. This utility uses Net8 to communicate with the forms server. Rapid Install names the Net8 listener APPS_<CONTEXT_NAME>, configures network files, and verifies file permissions.	adalnctl.sh	adalnctl.cmd
Reports Server Processes requests to execute a report and returns the output of the report. The script sets the DISPLAY variable to the default value defined when Rapid Install was run. **Note**: The listener should always be the APPS listener name or the script may terminate another listener.	adrepctl.sh	adrepctl.cmd

Server Process	UNIX Script	Windows Script
Concurrent Managers Read requests for programs and start the appropriate concurrent programs. See Concurrent Managers in the *Oracle Applications System Administrators Guide*. **Note**: These scripts require the APPS username and password.	adcmctl.sh	adcmctl.cmd
HTTP (web) Server Processes URL requests to execute forms-based Applications and Self-Service Web Applications.	adapcctl.sh	adapcctl.cmd

Action

To stop or start a single server process on the application tier, type the following:

```
<process script name> [stop | start]
```

For example, to stop the Reports Server process, you would type:

```
adrepctl.sh stop
```

Stopping or Starting Individual Server Processes (Windows)

Business Requirement

How do I stop or start an individual server process manually on a Windows platform?

Discussion

You typically stop or start processes on Windows platforms from the Services control panel. You use the .cmd scripts *only* when you need a customized, automated startup or shutdown (for example, if you have customized these scripts for running nightly backups).

Action

Complete the following steps to use the Services Control Panel:

1. Go to the Windows Control Panel (NT) or Administrative Tools (2000) and click Services.
2. Select a service from the Services window.

3. Click Start or Stop, as required.

To use the .cmd scripts from the command line, type the following command:

```
[process script name] [stop | start]
```

For example, to stop the Reports Server process, you would type:

```
adrepctl.cmd stop
```

Starting or Stopping All Server Processes

Business Requirement

Can I start or stop all application tier server processes with a single command?

Discussion

During maintenance procedures, you may be asked to stop and start server processes.

> **Note:** The <CONTEXT_NAME> variable defaults to <SID>_<hostname>. You may set it to <SID> or customize it to some other environment-specific name.

Action

To stop all server processes, where <COMMON_TOP> is the full path to the COMMON_TOP directory:

UNIX:

```
<COMMON_TOP>/admin/scripts/<CONTEXT_NAME>/adstpall.sh <APPS username>/<APPS
password>
```

Windows:

```
<COMMON_TOP>\admin\scripts\<CONTEXT_NAME>\adstpall.cmd <APPS username>/<APPS
password>
```

To start all processes, run the following script, where <COMMON_TOP> is the full path to the COMMON_TOP directory:

UNIX:

```
<COMMON_TOP>/admin/scripts/<CONTEXT_NAME>/adstrtal.sh <APPS username>/<APPS
password>
```

Windows:

```
<COMMON_TOP>\admin\scripts\<CONTEXT_NAME>\adstrtal.cmd <APPS username>/<APPS
password>
```

Stopping or Starting Database Processes

Business Requirement

How do I stop or start the Oracle Net Services listener manually?

Discussion

When Rapid Install sets up and configures the server processes during installation, it stores a script for the Net Services listener process in the database server 9.2.0 RDBMS ORACLE_HOME/appsutil/scripts/<CONTEXT_NAME> directory. You use this script to start or stop the Net Services listener process on your database tier.

Note: All scripts in this section contain system-specific information. If you change the Rapid Install defaults, you may need to edit the scripts before rerunning them.

Note: The <CONTEXT_NAME> variable defaults to <SID>_<hostname>. You may set it to <SID> or customize it to some other environment-specific name.

Action

Complete these steps:

1. Log on as the oracle user on the database server.
2. Type the following command:

   UNIX:

   ```
   addlnctl.sh [start|stop] <listener_name>
   ```

   Windows:

   ```
   addlnctl.cmd [start|stop] <listener_name>
   ```

   For example, to start a listener for the PROD listener, type:

UNIX:

```
addlnctl.sh start PROD
```

Windows:

```
addlnctl.cmd start PROD
```

> **Additional Information:** See the *Oracle Net Services Administrator's Guide*.

Business Requirement

How do I stop or start the Oracle database manually?

Discussion

When Rapid Install sets up and configures the server processes during installation, it stores a script for the database process in the database server RDBMS ORACLE_HOME/appsutil/scripts/<CONTEXT_NAME> directory. You use this script to start or stop the database on your database tier.

> **Note:** All scripts in this section contain system-specific information. If you change the Rapid Install defaults, you may need to edit the scripts before rerunning them.

Action

Perform the following steps:

1. Log on as the oracle user on the database server.
2. Type the following command:

   UNIX:

   ```
   addbctl.sh [start|stop] {immediate|abort|normal}
   ```

   Windows:

   ```
   addbctl.cmd [start|stop] {immediate|abort|normal}
   ```

3

Applying Patches

This chapter contains information about applying patches to an Oracle Applications system. It includes the following sections:

Interactive Patching

Patches and updates to the Oracle Applications file system or database are applied on the application tier using AutoPatch, which notes the servers set up during your installation and performs the actions required by the patch on each APPL_TOP.

You can apply a patch interactively or non-interactively. *Interactive* patching — the "normal" patching method — means that you supply all the information that AutoPatch needs by responding to a series of prompts. For more information about prompts, see the AutoPatch chapter in *Oracle Applications Maintenance Utilities.*

You can also apply a patch *non-interactively* to avoid having to respond to some of the AutoPatch prompts and to accommodate special types of patches. The Non-interactive Patching section in this chapter describes this process more fully.

Applying a Patch

Business Requirement

I need to apply a patch to my Oracle Applications system.

Discussion

Once you have determined that you need to apply a patch, for example, by running Patch Advisor, you download the patch and use AutoPatch to apply it to your system. See AutoPatch in *Oracle Applications Maintenance Utilities* for more information about patching and patch structure.

Most patches contain multiple patch driver files that split the actions of a patch. The *copy* (c) driver changes Oracle Applications files, the *database* (d) driver changes Oracle Applications database objects, and the *generate* (g) driver generates forms, reports, graphics, or message files.

Some patches combine the actions of the driver files into a single driver call a *unified* driver (u). A unified driver contains commands that perform all the functions of the copy, database, and generate drivers. You apply a unified driver to all APPL_TOPS, and AutoPatch sorts out which actions in the unified driver are required for the current APPL_TOP.

Patches may require prerequisite patches and/or manual steps. The patch readme file describes all the required steps. It is important to read and follow all the instructions you find in this file. The steps in this procedure describe the basic ("normal") steps for applying a patch.

Note: Before applying large patches like mini-packs, family packs, or maintenance packs, back up the Oracle Applications file system and database.

Action

Perform the following steps:

1. Log on as applmgr and set the environment.

   Additional Information: See Setting the Environment in *Oracle Applications Maintenance Utilities.*

2. Place the patch in a designated patch top directory.

Create a patch top directory, if it doesn't already exist, and download the patch into that directory. Placing patches in a designated patch area helps to streamline the maintenance of the Oracle Applications system. Do not use the patch subdirectory under the <PROD>_TOP directories as your patch top directory.

Unzip the patch in the patch top directory you created in the previous step.

3. Review the readme file.

   The readme file (README.txt or README.html) is located in the directory created by the unzipping process and contains instructions for applying the patch. There may be prerequisite patches and/or manual steps.

4. Merge the patches (conditional).

   When applying several compatible patches, consider reducing your downtime by using AD Merge Patch to combine the patches into a single patch. See the Merging Patches section in this chapter.

5. Shut down services.

   When applying a patch that updates or relinks files, shut down services as follows:

If the files are on...	...shut down these services
a concurrent processing server node	concurrent managers
a web server node	web server listeners
a forms server node	forms server listeners

If your system uses MRC, you must also shut down the concurrent managers when you apply a patch that updates the database instance.

Additional Information: See Stopping or Starting Individual Server Processes in Chapter 2.

Attention: A patch is not completely applied until all portions have been run successfully. Accessing any part of Oracle Applications while a patch is being applied may result in errors.

6. Use the *adpatch* command to start AutoPatch from the patch top directory (the directory where you unloaded the patch files).

7. Respond to the AutoPatch prompts. See the AutoPatch chapter in *Oracle Applications Maintenance Utilities* for more information.

8. When AutoPatch prompts for the driver name, specify the copy driver. AutoPatch applies the copy driver, then exits. If the patch contains a unified driver (designated with the letter *u*), specify that driver and omit the following step.

9. If you need to apply another driver, start AutoPatch again. When the driver name prompt appears, enter the database driver (if appropriate). Repeat this process if you need to also apply a generate driver.

10. Review log files.

    Review the AutoPatch log file after the application of each driver file for warnings or errors. It is located in APPL_TOP/admin/<SID>/log (default name adpatch.log). In addition, some patch tasks may create separate log files in the same directory. If the patching process used multiple workers, each worker creates its own log file.

11. Review customizations.

    Customized files should already be registered in the applcust.txt file in the APPL_TOP/admin directory. If AutoPatch displayed a message indicating that previously registered, customized files will be replaced by the patch, review those files to determine if customizations need to be re-applied or merged.

12. Maintain Multiple Reporting Currencies schema.

    If your system uses MRC, and the patch updates your database, AutoPatch automatically runs the Maintain MRC task to ensure that your MRC schema is consistent with the changes to your APPS schema. If the patch does not update the database, or your system does not use MRC, AutoPatch takes no action.

    Note: It's a good idea to check the AutoPatch log files to verify the MRC schema. If there are errors, see *Oracle Applications Maintenance Utilities* for instructions on running the "Maintain MRC schema" task manually from AD Administration.

13. Pin SGA packages (optional).

If AutoPatch modified Oracle Applications database objects, you may want to run ADXGNPIN.sql and ADXGNPNS.sql to pin new packages and sequences in the Oracle System Global Area. These scripts are located in AD_TOP/sql.

Additional Information: See Pinning Objects in Chapter 2.

14. Restart server processes.

    After verifying the successful application of the patch, start all server processes and allow users to access the system.

    Additional Information: Refer to Starting or Stopping All Server Processes in Chapter 2.

15. Delete or archive AutoPatch backup files

    Once you have tested the patched system, you can delete the backup copies of files from the patch directories to recover disk space, as necessary. We recommend archiving these files if you have space available.

    Additional Information: See Recovering Disk Space in Chapter 2.

Applying Part of a Unified Driver File

Business Requirement

I received a patch that contains a unified driver, however, the instructions state that I run only the database portion of the patch.

Discussion

Some patches combine the actions of the driver files into a single driver call a *unified* driver (u). A unified driver contains commands that perform all the functions of the copy, database, and generate drivers. You apply a unified driver to all APPL_TOPS, and AutoPatch sorts out which actions in the unified driver are required for the current APPL_TOP.

Certain procedures, such as patching with a staged APPL_TOP, may require you to apply only the database portion of a unified driver. In these cases, you use command line options to tell AutoPatch which portions of the patch to omit. *AutoPatch will apply all portions of the patch except the ones that you specifically omit on the command line.*

Action

Perform the following steps:

1. Follow the instructions in Steps 1 – 5 in the Applying a Patch procedure.
2. Type the *adpatch* command as indicated in Step 6, adding the following options on the command line: nocopyportion and nogenerate portion. The command line syntax should look like this:

   ```
   $ adpatch options=nocopyportion,nogenerateportion
   ```

3. Respond to the AutoPatch prompts. See the AutoPatch chapter in *Oracle Applications Maintenance Utilities* for more information.
4. At the prompt for the driver name, specify the unified (u) driver. AutoPatch runs the driver, applying only the database portion of the patch.
5. Finish applying the patch as directed in Steps 10 – 15.

Applying a Unified Driver on a Multi-node System

Business Requirement

How do I apply a unified driver update to each APPL_TOP in a multi-node system.

Discussion

Some patches combine the actions of the driver files into a single driver call a *unified* driver (u). A unified driver contains commands that perform all the functions of the copy, database, and generate drivers. You apply a unified driver to all APPL_TOPS, and AutoPatch sorts out which actions in the unified driver are required for the current APPL_TOP.

When applying updates on a multi-node system, the copy and generate portions of the driver must be applied on all application tier nodes. The database portion is applied only on the admin server node.

Action

Apply the unified driver in its entirety on the admin server node, and then apply the unified driver on the non-admin server nodes. Follow the instructions in the Applying a Patch procedure and apply the unified driver as follows:

1. Shut down concurrent managers and other services.
2. Apply the unified driver on the admin server node.

AutoPatch automatically runs all driver portions (copy, database, and generate).

3. Apply the unified driver on the concurrent processing server node.

   AutoPatch selectively runs only the copy and generate driver portions.

4. Start concurrent managers.

5. Apply the unified driver on the remaining application tier nodes.

   AutoPatch selectively runs only the copy and generate driver portions.

6. Start other services and restart web server, if necessary.

> **Note:** If the extent of the patch actions is unknown, shut down all services and make sure all users are logged off before applying any portion of the patch. Some patches, such as those that update online help, do not require any system downtime.

Applying a Patch (Windows)

Business Requirement

I run Oracle Applications on a Microsoft Windows platform. Are there additional steps needed to apply a patch?

Discussion

There are a few additional requirements for applying a patch on Windows systems.

Action

Complete the following steps:

1. Refer to the Release Maintenance Tools section in *Oracle Applications Installation Update Notes Release 11i for Microsoft Windows* to ensure all necessary tools for release maintenance on Windows are installed properly.

2. Ensure that %JAVA_TOP% and %JAVA_TOP%\loadjava.zip are included in the set classpath statement of %APPL_TOP%\admin\adovars.cmd.

3. Apply the patch or patches as directed in this chapter.

Testing a Patch Before Applying It

Business Requirement

I want to assess the effects of applying a patch before I apply it to my production system.

Discussion

To test its effects, you should apply a patch (following the basic directions for applying a patch) on a test system first, and assess the results, before you apply it on your production system. This is the recommended method of testing patches.

If you do not, or cannot, use a test system, you can apply the patch on your production system using the AutoPatch test mode (apply=no) to see all the actions AutoPatch would take if you applied it in the "normal" way. In general, AutoPatch lists each file it would have copied, generated, relinked, or executed, but it doesn't actually perform these actions.

Test mode does not archive object modules into your product libraries, run any SQL or exec commands, update the patch history database, or update the release version in the database. It does, however, read and validate the patch driver file, read product file driver files, extract object modules from product libraries (for version checking), and perform version checking.

The Patch Impact Analysis report in Patch Advisor tells you which files are affected by a patch. You may want to use it instead of running AutoPatch in test mode. In future releases, this report will give you more complete information about the impact of a patch on your system than using the test mode.

> **Additional Information:** See Patch Advisor in *Oracle Applications Maintenance Utilities*.

Action

Complete the following steps:

1. Complete the steps in the Applying a Patch section of this chapter.
2. When directed to run AutoPatch, use the following command:

```
adpatch apply=no
```

Patching an AD Utility

Business Requirement

I need to apply a patch to the AutoUpgrade utility before I use it to perform an upgrade.

Discussion

Pre-install mode is generally used during the upgrade process to update AD utilities or apply family consolidated upgrade patches. In this mode, AutoPatch asks all normal start-up questions except those relating to the database. Run AutoPatch in pre-install mode (preinstall=yes) only on the admin server and apply only the copy driver. The patch readme file will instruct you when to use the pre-install mode.

> **Additional Information:** See AutoPatch Modes in *Oracle Applications Maintenance Utilities*.

Note: In pre-install mode, AutoPatch may incorrectly copy files that should not be copied or fail to copy files to destinations outside the APPL_TOP. Use this mode *only* if the patch requires it.

Action

Complete the following steps:

1. Complete the steps in the Applying a Patch section of this chapter. When prompted for the installed languages, enter only US even though the system may have multiple languages installed.
2. When directed to run AutoPatch, use the following command:

```
adpatch preinstall=y
```

Validating Passwords

Business Requirement

How can I validate passwords before I apply a patch?

Discussion

By default, AutoPatch does not validate passwords. You can enable password validation during a patching session by supplying the validate option (options=validate) on the command line when you run AutoPatch. If you are applying multiple patches, we recommend you use AD Merge patch to combine the updates (where compatible) so that you apply them in a single AutoPatch session. In this case, you would only have to validate passwords once.

> **Additional Information:** See Creating a Merged Patch in this chapter.

If you have several patches that cannot be merged, you can save time by turning on the validate option only for the application of the first patch, and then leaving it off for the subsequent patches.

Action

1. Perform the steps in the Applying a Patch section of this chapter.
2. When directed to run AutoPatch, use the validate command. It should look like this:

```
adpatch options=validate
```

Applying Patches to a System with Multiple APPL_TOPs

Business Requirement

I need to apply patches to all the APPL_TOPs in my installation.

Discussion

The configuration of Oracle Applications is multi-node if one or more servers is installed on a separate node (machine) or under a separate APPL_TOP. In a multi-node system, run AutoPatch on each APPL_TOP to patch the necessary files.

In general, you:

- Run the copy driver (c<patchnum>.drv) on every node containing one or more of the files being replaced by the patch. If in doubt, run the copy driver on all APPL_TOPs.
- Run the database driver (d<patchnum>.drv) only once, and only from the APPL_TOP that implements the admin server.

- Run the generate driver (g<patchnum>.drv) on every APPL_TOP containing one or more of the files to be generated. If in doubt, apply the generate driver on all APPL_TOPs.

Action

Complete the following steps. The example assumes a system with two nodes, one with an admin server and a concurrent processing server implemented on the APPL_TOP, and the other with a forms server and a web server implemented on the APPL_TOP.

1. Shut down concurrent managers and other services.

   Note: If the extent of the patch actions is unknown, shut down all services and make sure all users are logged off before applying any portion of the patch. Some patches, such as those that update online help, do not require any system downtime.

2. Apply the copy and database drivers to the APPL_TOP on node 1 (admin and concurrent processing).
3. Start the concurrent managers.
4. Apply the copy driver to the APPL_TOP on node 2 (forms and web servers).
5. Apply the generate driver to the APPL_TOP on node 1.
6. Apply the generate driver to the APPL_TOP on node 2.
7. Start services and restart the web server, if necessary.

   Additional Information: See Stopping or Starting Individual Server Processes in Chapter 2.

   Attention: Do not run multiple sessions of AutoPatch on the same Applications system at the same time.

Applying Patches to a System with MRC

My system is configured to use Multiple Reporting Currencies (MRC). I have several patches to apply to my database in one AutoPatch session. To save time, I

would like to defer the Maintain MRC portion of the AutoPatch process until after I have applied all the patches.

Discussion

In Release 11.5.9, AutoPatch maintains the Multiple Reporting Currencies schema each time you apply a database driver. The best way to eliminating multiple Maintain MRC actions is to use the AD Merge Patch utility to merge all compatible patches. This allows you to apply the patches in one operation, and consequently, Maintain MRC runs only once.

If this is not possible (for example, if the patches are not compatible), you can signal AutoPatch to defer the Maintain MRC action until after the last database driver is applied. You can accomplish this in two ways:

Apply the database driver of each patch with the options=nomaintainmrc command line option, so that the patches are applied without maintaining MRC. When you apply the last patch, omit this option so that AutoPatch runs Maintain MRC automatically.

Or, you can run the database driver of all patches with options=nomaintainmrc. After the last patch is applied, run AD Administration and choose the Maintain MRC task.

> **See Also:** See Maintain Applications Database Objects Tasks in *Oracle Applications Maintenance Utilities*.

After running AutoPatch with the maintainmrc option turned on (the default), it's a good idea to check the log file to verify that the Maintain MRC task completed successfully. If there are any errors or warnings related in the log file, resolve the issue and then run the Maintain MRC task using AD Administration.

Action

Complete the following steps:

1. Perform the steps in the Applying a Patch section of this chapter.
2. When directed to run AutoPatch to apply the database driver of a patch, use the nomaintainmrc command line option. It should look like this:

```
adpatch options=nomaintainmrc
```

Applying Emergency Patches

Business Requirement

I have to apply an emergency patch. Can I apply it without shutting down services?

Discussion

If an emergency patch can be applied without shutting down services, the patch readme will explicitly say so. If the patch readme doesn't explicitly state this, you should assume that you need to shut down services before applying the patch.

Action

Complete the following steps:

1. Apply the patch on a test version of your production database. Be sure the test copy is recent so that it closely approximates your production system.
2. Run AutoPatch and apply the patch. You may not have to shut down the server processes.

Applying an Emergency NLS Patch

Business Requirement

I have to apply an emergency patch to my NLS system, which uses several language translations. I don't want to shut down the system to apply all the translation patches.

Discussion

When applying a patch that requires a language translation, you can defer the application of the translation database driver until after you have applied the other drivers. This allows the system to be available to all users during the time the language translation is being applied. Remember that you can merge NLS patches if you have several to apply.

> **Additional Information:** See Creating a Merged Patch in this chapter.

Action

Complete the following steps:

1. Shut down the system (all services) and log users off.
2. Apply the US copy driver to all servers.
3. Apply the US database driver to the admin server.
4. Apply the US generate driver to all servers.
5. Bring the system back up and allow US users to log on.
6. Apply the translation copy driver to all servers.
7. Apply the translation generate driver to all servers.
8. Allow translation users to log on
9. Apply the translation database driver to the admin server.

Non-interactive Patching

You can apply a patch interactively or non-interactively. *Interactive* patching means that you supply basic information that AutoPatch needs by responding to a series of prompts. See Interactive Patching in this chapter for more information.

With *non-interactive* patching, you create a defaults file that contains much of the information you would have supplied at the AutoPatch prompts. When running AutoPatch, you specify the name of the defaults file, the location of the patch top directory, the name of a driver file, and other parameters on the command line.

Note: Before applying large patches like mini-packs, family packs, or maintenance packs, back up the Oracle Applications file system and database.

Creating a Defaults File

Business Requirement

How do I create a defaults file for running AutoPatch non-interactively?

Discussion

Applying a patch non-interactively substantially reduces the need for user intervention when AutoPatch processes patching tasks. Instead of responding to AutoPatch prompts each time you initiate a patching session, you store the responses once in a defaults file. Once created, you specify the defaults file when

you run patches non-interactively so that AutoPatch can complete the appropriate actions with very little user intervention.

You can also create a defaults file by copying $APPL_TOP/admin/adalldefaults.txt to a different file name under $APPL_TOP/admin/<SID>. Edit it as needed.

Action

Complete the following steps:

1. Create and name the defaults file.

   On the AutoPatch command line, specify defaultsfile=<Defaults File Name> and its location. The file must be located in APPL_TOP/admin/<SID>.

   For example:

   UNIX:

   ```
   $ adpatch defaultsfile=$APPL_TOP/admin/<SID>/def.txt
   ```

   Windows:

   ```
   C:\> adpatch defaultsfile=%APPL_TOP%\admin\<SID>\def.txt
   ```

2. Run AutoPatch to the point where it asks for the directory where the Oracle Applications patch has been unloaded. Type *abort* at this prompt.
3. Verify that the defaults file exists.

Applying a Single Driver

Business Requirement

I have created a defaults file. How do I use it to apply a single patch driver?

Discussion

If you have created a defaults file, you can tell AutoPatch to run non-interactively, and specify the location and name of the defaults file and the driver.

Action

Complete these steps:

1. Create the defaults file as described in this section.

2. Follow the steps 1 – 5 in the Applying a Patch section of this chapter.
3. Run the AutoPatch command, adding the following parameters:location of the defaults file (<defaultsfile=>), a name for the logfile (<logfile=>), location of the patch top directory (<patchtop=>), name of the driver file (<driver=>), number of workers to use for applying the patch (<workers=>), and interactive=no.

   For example, if the defaults file is APPL_TOP/admin/testdb1/def.txt, the driver file is c123456.drv for patch 123456 (located in APPL_TOP/patch/123456), you will use three parallel workers, and the AutoPatch log file name is 123456.log, you would type the following.

   UNIX:

   ```
   $ adpatch defaultsfile=$APPL_TOP/admin/testdb1/def.txt logfile=123456.log \
     patchtop=$APPL_TOP/patch/123456 driver=c123456.drv workers=3 \
     interactive=no
   ```

   Windows:

   ```
   C:\> adpatch defaultsfile=%APPL_TOP%\admin\testdb1\def.txt \
        logfile=123456.log patchtop=%APPL_TOP%\patch\123456 \
        driver=c123456.drv workers=3 interactive=no
   ```

4. Perform the remaining steps in the Applying a Patch section (as necessary).

Applying all Drivers in a Standard Patch

Business Requirement

I want to apply all the drivers for a standard patch non-interactively.

Discussion

A *standard* patch is one that uses the format that AutoPatch expects — a patch top directory that is named using a 6- to 8-digit number, and drivers that follow the standard naming conventions (*c* to designate the copy driver, *d* to designate the database driver, and *g* to designate the generate driver).

If you have created a defaults file, and the patch top name and the driver file names are in standard format, you can apply all the drivers without naming them individually. AutoPatch looks in the patch top directory you specify for c<patchnum>.drv, d<patchnum>.drv, and g<patchnum>.drv and runs the driver files without prompting for the file names.

Action

Complete the following steps:

1. Create the defaults file as described previously in this section.
2. Follow the steps1 – 5 in the Applying a Patch section of this chapter.
3. Run the AutoPatch command as described in the Applying a Single Driver section. Specify only the location of the defaults file and the patch top directory. Do not specify the "driver" argument.

   UNIX:

   ```
   $ adpatch defaultsfile=$APPL_TOP/admin/testdb1/def.txt \
     logfile=patch123456.log patchtop=$APPL_TOP/patch/123456 workers=3 \
     interactive=no
   ```

   Windows:

   ```
   C:\> adpatch defaultsfile=%APPL_TOP%\admin\testdb1\def.txt \
        logfile=patch123456.log patchtop=%APPL_TOP%\patch\123456 \
         workers=3 interactive=no
   ```

4. Perform the remaining steps in the Applying a Patch section of this chapter (as necessary).

Applying a Non-standard Patch Non-interactively

Business Requirement

I need to apply a patch that was not created with the standard patch naming convention. I would like to apply it non-interactively.

Discussion

A *non-standard* patch is one where the structure is standard, but the naming convention is not. That is, the last component of the patch directory is not a 6- to 8-digit number, or the patch driver files are not named *<patchnum>.drv, or both. Oracle Applications sometimes ships non-standard patches. Most merged patches are non-standard because of the way they are named.

Action

Complete the following steps:

1. Create the defaults file as described previously in this section.

2. Follow the steps 1 – 5 in the Applying a Patch section of this chapter.
3. Run the AutoPatch command as described in the Applying a Single Driver section. For the driver=<values> argument, use a comma-separated list of the patch driver names. Add *c* for copy driver, *d* for database driver, and *g* for generate driver at the end of each driver file name.

   For example, to apply the following patch driver files:

   - my_drv1.drv (copy driver)
   - my_drv3.drv (database driver)
   - my_drv2.drv (generate driver)

   The driver=command would look like this:

   ```
   adpatch driver=my_drv1.drvc,my_drv3.drvd,my_drv2.drvg
   ```

   Note: In this example, AutoPatch interprets my_drv1.drvc as being a copy driver with the name my_drv1.drv. However, if a patch driver file with some extension other than drvc, drvd, or drvg is specified, AutoPatch assumes that you intend it to run the file with exactly that extension — it does not try to re-map the extension back to drv.

4. Perform the remaining steps in the Applying a Patch section of this chapter (as necessary).

   Note: If you are applying all drivers for a patch non-interactively on a multi-node system, you *must* apply the patch on the admin server before you apply it on other servers.

Restarting a Non-interactive AutoPatch Session

Business Requirement

AutoPatch errored out while I was applying patches non-interactively. I have resolved the issue that caused the error and want to restart the failed session.

Discussion

When AutoPatch is running non-interactively and encounters an error, it exits to the operating system and reports a failure. The Restart argument is intended specifically for this circumstance. When AutoPatch sees the restart=yes argument, it assumes that there is an old session, and expects to find one. If it cannot, it will fail. *Do not* indicate restart=yes to start a new AutoPatch session.

Action

Complete the following steps:

1. Look through the log files, diagnose the error, and fix it.
2. Use the same command line options that you used initially, but add restart=yes. As an example, here is the command to restart the Applying a Single Driver example:

   UNIX:

   ```
   $ adpatch defaultsfile=$APPL_TOP/admin/testdb1/def.txt logfile=123456.log \
     patchtop=$APPL_TOP/patch/123456 driver=c123456.drv workers=3 \
     interactive=no restart=yes
   ```

   Windows:

   ```
   C:\> adpatch defaultsfile=%APPL_TOP%\admin\testdb1\def.txt \
        logfile=123456.log patchtop=%APPL_TOP%\patch\123456 \
        driver=c123456.drv workers=3 interactive=no restart=yes
   ```

   Attention: Do not omit any of the original command line arguments, as this could change AutoPatch's behavior and cause unpredictable results.

Merging Patches

You can merge patches and apply the merged patch like you would a single patch.

Creating a Merged Patch

Business Requirement

I need to apply several patches. Is there a way to reduce the time it takes to apply them?

Discussion

You can merge multiple patches into a single patch by using AD Merge Patch. This AD utility combines multiple AutoPatch-compatible patches into a single, integrated patch. Once the merge is complete, you use AutoPatch to apply the resulting patch in a single operation. Using a merged patch reduces the time it takes to complete the patching process.

> **Additional Information:** See AD Merge Patch (admrgpch) in *Oracle Applications Maintenance Utilities*.

Action

Complete these steps:

1. Review the readme files carefully.

   Some patch readme files contain special instructions for applying merged patches. The patch may also require manual steps.

2. Create directories.

   In the patch top area, create a source directory and a destination directory. Choose any name for these directories.

3. Unzip patches.

   Copy all the patches to be merged into the source directory and unzip them.

4. Run AD Merge Patch.

   Run AD Merge Patch and supply the arguments for the destination directory name and the source directory name. You also need to specify the merged patch name, or accept the default.

   > **Additional Information:** See AD Merge Patch in *Oracle Applications Maintenance Utilities*.

5. Check AD Merge Patch log files.

   After AD Merge Patch runs, check the admrgpch.log file for errors. The file is located in the current working directory (where AD Merge Patch was run).

Note: AD Merge Patch cannot merge patches of different releases, different parallel modes, or different platforms. However, it can merge patches for a specific platform with a generic patch, or patches with different source character sets. AD Merge Patch notifies you if you try to merge incompatible patches.

Applying a Merged Patch

Business Requirement

I have successfully combined several patches into a single, merged patch. How do I apply it?

Discussion

Once a merged patch is created, apply it just like a single patch. You can apply it either interactively or non-interactively. If you apply it non-interactively, you must treat it as a non-standard patch.

Action

Complete the following steps to apply the patch interactively:

1. Follow the instructions in the Interactive Patching section of this chapter.
2. Be sure to note that the destination directory where you created the merged patch is now the patch top directory.

To apply the patch non-interactively, see Applying a Non-standard Patch Non-interactively in this chapter.

Patching NLS Systems

These patching procedures apply regardless of whether you are running American English and one additional language, or American English and several additional languages. If you have several additional languages, you can merge all NLS translation patches for all languages and apply them as one patch.

Applying a Single Patch to an NLS Installation

Business Requirement

I need to apply a single patch to an Oracle Applications NLS installation.

Discussion

If an Oracle Applications system contains languages other than American English (US), patching consists of applying a US patch (applied first) and a translation patch for each installed language (applied after the US patch). If you have installed more than one additional language, you can merge all the translation patches and apply them as a single, merged NLS patch.

You can also merge US patches and language patches. Depending on your downtime window and your system topology, it may be necessary to keep the US and non-US patches separate. (See Applying an Emergency NLS Patch in this chapter). This procedure assumes that you will apply US and language patches separately.

Action

Complete the following steps:

1. Use AutoPatch to apply the patch drivers of the US patch.
2. Use AutoPatch to apply the patch drivers of each NLS patch. If you have merged the individual NLS patches for a system that runs multiple languages, apply all drivers for the merged NLS patch.

Applying Multiple Patches to an NLS Installation

Business Requirement

I need to apply several patches to an Oracle Applications NLS installation.

Discussion

Use AD Merge Patch to combine the US patches into a single, merged US patch, and then again to combine all the NLS translation patches (regardless of the number of additional languages you have installed) into a single, merged NLS patch. Then use AutoPatch to apply the two merged patches.

Additional Information: See AD Merge Patch in *Oracle Applications Maintenance Utilities*. See also Applying a Single Patch to an NLS Installation in this chapter.

Action

Perform the following steps, assuming the installation has American English, French, and German installed:

1. Use AD Merge Patch to merge the US (American English) patches into a single patch.
2. Use AD Merge Patch to merge the French and German patches into a single NLS patch.
3. Use AutoPatch to apply all drivers of the merged US patch.
4. Use AutoPatch to apply all drivers of the merged NLS patch.

Backing Out Patches

Although you can back out patches that you have applied to your Oracle Applications system and restore it to its pre-patched state, this course of action should be undertaken *only* if you have no other choice.

WARNING: There is no automated method of backing out patches.

Restoring from a Failed Copy Driver

Business Requirement

A copy driver failed during a patching procedure. I need to restore my system.

Discussion

You should always test the application of a patch several times on a test system, particularly if the patch is a mini-pack, family pack, or maintenance pack. Once the test application is successful, apply the patch on the production system.

Before applying a large number of patches, a series of mini-packs, family packs, or a maintenance pack, back up the Oracle Applications file system and database.

Action

Complete the following steps:

1. Determine the cause of the failure.

   In many cases, the issue can be resolved and the patching process restarted at the point of failure.

2. Determine the copy driver actions.

   If there is no feasible method of resolving the issue, review the log files and the copy driver to determine the files copied by the patch and the update actions performed.

3. Restore files.

   If a file in the patch directory is a more recent version than the product's current file, AutoPatch backs up the current file into a subdirectory of the patch directory. If <patch_dir> is the patch directory, <system_name> is the Applications system name, <appl_top_name> is the APPL_TOP name, and <prod> is the name of the product being patched, AutoPatch backs up:

   ```
   <PROD>_TOP/<subdir(s)>/<old_file_name>
   ```

   to

   ```
   <patch_dir>/backup/<system_name>/<appl_top_name>/<prod>/<subdir(s)>/ \
   <old_file_name>
   ```

   Note: The Applications system name and the APPL_TOP name are determined during the Rapid Install process.

   Use these backup files to restore the files on the Oracle Applications system. If the patch is large and you copied many files, restore the entire file system with the backup you created before you applied the patch. Then, reapply the copy driver. If you restore the entire file system you do not have to perform Steps 4-7.

4. Relink files.

   If the copy driver includes actions to relink files, determine the files affected and relink them using AD Administration or, for AD programs, use AD Relink.

   Additional Information: Refer to *Oracle Applications Maintenance Utilities* for more information on these utilities.

5. Restore Java files.

   If the patch included Java updates, restore the Oracle Applications Java files by running the following command from the PATCH_TOP/backup/<ApplicationsSystem Name>/<APPL_TOP Name>directory.

   ```
   adjava oracle.apps.ad.jri.adjcopy -masterArchive $JAVA_TOP \
   -deltaArchives java -favorLowRevisions -mode APPLY
   ```

6. Generate JAR files.

   If Java files are included in the patch, generate JAR files using the AD Administration utility.

   Additional Information: See AD Administration in *Oracle Applications Maintenance Utilities*.

7. Generate other files.

   If there are forms, reports, graphics, or message files included in the patch, generate these files using AD Administration.

   Additional Information: See Managing Files in Chapter 2.

Restoring from a Failed Database Driver

Business Requirement

Can I restore my system after a failed database driver?

Discussion

Restoring from a failed database driver can present complex issues. There is no general method of backing out changes a patch makes to the Oracle Applications database. To help avoid the need to restore a database, you should always test the application of a patch several times on a test system, particularly if the patch is a mini-pack, family pack, or maintenance pack. Once the test application is successful, apply the patch on the production system.

Attention: There is no general method of backing out changes a patch makes to the Oracle Applications database.

Before applying a large number of patches, a series of mini-packs, family packs, or a maintenance pack, back up the Oracle Applications file system and database.

Action

Complete the following steps:

1. Review worker log files to determine the problem.
2. Fix the issues that caused the failure.
3. Restart the database driver.

If you cannot resolve the failed driver in this way, you must restore the database from backup.

4

Migrating Files and Databases

This chapter contains information about migrating Oracle Applications file systems and databases. It includes the following sections:

Relocating Files

You can relocate selected product top directories or the entire APPL_TOP to another location on the same node.

Moving a Product Top

Business Requirement

I want to move a product top directory from one location to another location on the same node.

Discussion

When you move a product top directory (for example, GL_TOP) to another location, you create a *distributed* installation. The basic tasks include copying the product directory and creating a symbolic link from the original location to the new one.

> **Note:** This procedure is not supported on Windows platforms.

Action

Complete the following steps:

1. Make sure all users log off Oracle Applications, then shut down all processes.

   For example, on a concurrent processing server, shut down all concurrent managers. Or, on a forms server, shut down the forms server listeners.

2. Copy product files.

   Copy the product directory tree to the new file system location. For example, to copy the GL_TOP files:

   ```
   $ cp -r /d02/appl/gl /d05/appl2/gl
   ```

   Repeat this command for any other product directories that you want to move. Do not use the move command or delete the old files until the migration is successful.

   Warning: Do not move the AD, FND, or admin directories. They must always be located directly under the original APPL_TOP.

3. Rename the directory.

   Rename the product directory in the original location and preserve it until the system is verified. For example, to rename the GL_TOP directory:

   ```
   $ mv /d02/appl/gl /d02/appl/gl_old
   ```

   Repeat this command for any other product directories that you copied.

4. Create a symbolic link to the new directory.

   Create a link from the original location of the product directory to the location where the directory was copied. For example, to link the GL_TOP files:

   ```
   $ ln -s /d05/appl2/gl /d02/appl/gl
   ```

   Repeat this command for any other product directories that you want to move.

5. Reset the environment and restart processes.

   Set the environment and restart any server processes that were shut down. Log on to Oracle Applications to test the new file system arrangement. Once everything is working properly, allow users to access the system. Then, remove the files from the old directory to free up disk space.

Relocating the Entire APPL_TOP

Business Requirement

I need to move the entire APPL_TOP, not just product top directory files.

Discussion

When moving the entire APPL_TOP to another location, you copy the APPL_TOP directory and create a symbolic link from the original location to the new location.

> **Note:** This procedure is not supported on Windows platforms.

Action

Complete the following steps:

1. Make sure all users log off Oracle Applications and shut down all processes.

   For example, on a concurrent processing server, shut down all concurrent managers before continuing. Or, on a forms server, shut down the forms server listeners before moving files.

2. Copy the APPL_TOP.

   Copy the APPL_TOP directory tree to the new file system location. For example:

   ```
   $ cp -r /d02/appl /d05/appl
   ```

3. Rename the directory.

   Rename the original APPL_TOP directory and preserve it until the system is verified. For example:

   ```
   $ mv /d02/appl /d02/appl_old
   ```

4. Create a symbolic link to the new directory.

   Create a link from the original APPL_TOP location to the location where it was copied. For example:

   ```
   $ ln -s /d05/appl /d02/appl
   ```

5. Reset the environment and restart processes.

Set the environment and restart any server processes that were shut down. Log on to Oracle Applications to test the new file system arrangement. Once everything is working properly, allow users to access the system. Then, remove the files from the old directory to free up disk space.

Moving Files to Another Node

Business Requirement

I want to move product top files to another node that is running a different operating system than the source node.

Discussion

You use Rapid Install to install product files on the target node, so you must first acquire the appropriate Oracle Applications software. Then, migrate the database, apply appropriate patches, and reapply your customizations.

Action

Complete the following steps:

1. Obtain the software for Oracle Applications and all components in the underlying Oracle Applications technology stack.

   Use the same release of Oracle Applications software that is on the source node. For example, if Oracle Applications Release 11.5.9 is on the source node, obtain Release 11.5.9 for the target node.

2. Complete the preparation steps for the target node.

   The preparation steps are identical to the preparation steps required for Rapid Install. If the target node is set up to use Oracle Applications, most of these steps will have already been completed.

   Additional Information: See Getting Started in *Installing Oracle Applications.*

3. Install Oracle Applications product files.

   Use Rapid Install to install the necessary files on the target node. Refer to *Installing Oracle Applications* for complete instructions.

4. Migrate the database, if necessary.

If the database is to be moved, perform the steps to migrate the database. If the database will remain on the source node, point to the source database by setting the TWO_TASK (UNIX) or LOCAL (Windows) variable.

> **Additional Information:** See *Export/Import Process for Oracle Applications Release 11i Database Instances* on Oracle*MetaLink* for more information on migrating a database.

5. Perform post-installation steps and apply patches.

   The post-installation steps for this process are identical to the ones required for Rapid Install.

   > **Additional Information:** See Finishing Your Installation in *Installing Oracle Applications.*

   If patches were applied to the source Oracle Applications file system that is being replaced, apply the same patches and any other platform-specific patches to the new file system.

6. Reapply customizations.

   If there are customizations, reapply, recompile, and regenerate them.

7. Verify that the migration is successful.

   Log in and use the Oracle Applications system on the target node. When you are satisfied that the migrated system works as it should, remove the product files from the source node.

Cloning an Oracle Applications System

Cloning is the act of creating an identical copy of an existing Oracle Applications system. The new system, including component versions, operating system, and platform type, is identical to the existing system.

Term/Convention	Description
Source system	Applications system being cloned.
Target system	Applications system being created as a copy of the source.
applmgr	User that owns the Applications file system (APPL_TOP and application tier technology stack).

Term/Convention	Description
oracle	User that owns the database file system (RDBMS ORACLE_HOME and database files).

Cloning a Single-node System to a Single-node System

You can use the Rapid Clone utility to create an identical copy of an existing single-node system. The steps in this section form the *basic* cloning procedure. Other procedures in this chapter refer to some or all of these basic steps.

Business Requirement

I want to create a duplicate of my single-node production system to use as a test system — for applying patches or testing updates.

Discussion

Simply copying all the Oracle Applications components will not provide a working duplicate Oracle Applications system. There are numerous configuration files in the system and configuration information in the database that must be modified based on the system configuration. Typically, you create a clone of an Oracle Applications system because you want to:

- Create a copy of a production system for testing updates
- Migrate an existing system to new hardware
- Create a stage area to reduce patching downtime

The Oracle Applications cloning methodology uses AutoConfig with Rapid Clone to configure the duplicate system. During the cloning process, you must complete some prerequisite steps, to prepare for cloning, and some finishing steps to complete the process. The complete list of steps is included in this section.

Action: Perform prerequisite tasks

Prepare the source system by applying patches and running AutoConfig.

1. Verify source and target node software versions.

   The following software component versions must exist on the source and/or target nodes. The location column indicates the node where the software component must be present.

Software	Minimum Version	Location	Details
Oracle Universal Installer	2.1.0.17	All source system nodes	Included in all 11.5.7 and later Rapid Install environments, or if on an earlier release, apply patch 2614231.
Perl	5.005	Source and target database node	Download from Perl.com. Perl must be in your PATH for cloning.
JRE (UNIX)	1.1.8 (UNIX)	Source database node	If the RDBMS ORACLE_HOME was not installed using Rapid Install, install JRE 1.1.8 into the the <RDBMS ORACLE_HOME>/jre/1.1.8 directory.
JRE (Windows)	1.3.1	Source database node	Install JRE 1.3.1 into the <RDBMS ORACLE_HOME>/jre/1.3.1 directory. See Appendix A in *Cloning Oracle Applications Release 11i with Rapid Clone* on Oracle*MetaLink*.
JDK	1.3.1	Target middle-tier applications nodes	Refer to *Upgrading JDK 1.3. with Oracle Applications 11i* on Oracle*MetaLink* for instructions.
Zip	2.3	All source nodes	Download from InfoZip. Zip must be in your PATH for cloning.

2. Apply file names patch (Windows users only).

   Apply patch 2237858 to enable support for long file names.

3. Apply the Rapid Clone patch.

   Update the Applications file system with the Rapid Clone files by applying patch 2926786 to all application tier server nodes.

4. Apply AutoConfig RDBMS support patch.

   Update the Oracle Applications file system with the AutoConfig files by applying patch 2942559 to all application tier server nodes.

5. Set up Rapid Clone on the Applications tier.

   - If the source Applications system was created with Rapid Install version 11.5.5 (or earlier), and has not been migrated to AutoConfig, follow the steps in *Migrating to AutoConfig on the Applications Tier* in Oracle*MetaLink* document 165195.1.
   - All users must run AutoConfig on the Applications tier. See Section 5 in *Migrating to AutoConfig on the Applications Tier* in Oracle*MetaLink* document 165195.1.

6. Set up Rapid Clone on the database tier.

Implement AutoConfig in the RDBMS ORACLE_HOME. Follow the steps in Section 4 of *Migrating to AutoConfig on the Applications Tie*r in Oracle*MetaLink* document 165195.1. You must perform the tasks in Section 4, Step 1 for all versions of Rapid Install, and every time the Rapid Clone patch is applied.

Note: The <CONTEXT_NAME> variable defaults to <SID>_<hostname>. You may set it to <SID> or customize it to some other environment-specific name.

Action: Clone Oracle Applications 11i

Use Rapid Clone to create template files for cloning on the source system. After the source system is copied to the target, Rapid Clone updates these templates to contain the new target system configuration settings. Rapid Clone will not change the source system configuration.

In this action you will prepare the source system for cloning, copy the source system to the target system, and configure the target system.

Phase 1: Prepare the source system

Complete these steps to prepare the source system for cloning.

1. Prepare the source system database tier.

   Log on to the source system as the oracle user and run the following commands:

   ```
   cd <RDBMS ORACLE_HOME>/appsutil/scripts/<CONTEXT_NAME>
   perl adpreclone.pl dbTier
   ```

2. Prepare the source system application tier.

   Log on to the source system as the applmgr user and run the following commands on each node that contains an APPL_TOP:

   ```
   cd <COMMON_TOP>/admin/scripts/<CONTEXT_NAME>
   perl adpreclone.pl appsTier
   ```

Phase 2: Copy the source system to the target system

Copy the application tier file system from the source Applications system to the target node by completing the following steps *in the order listed*. Be sure the application tier files copied to the target system are owned by the target applmgr user, and that the database tier files are owned by the oracle user.

1. Copy the application tier file system

Log on to the source system application tier node as the applmgr user. Then, do the following:

- Shut down the application tier server processes
- Copy the following application tier directories from the source node to the target application tier node, retaining the original directory structure:
  - <APPL_TOP>
  - <OA_HTML>
  - <OA_JAVA>
  - <COMMON_TOP/util>
  - <COMMON_TOP/clone>
  - <806 ORACLE_HOME>
  - <iAS ORACLE_HOME>

2. Copy the database tier file system

   Log on to the source system application tier node as the oracle user. Then, do the following:

   - Perform a normal shutdown of the source system database
   - Copy the database (DBF) files from the source system to the target system
   - Copy the source database ORACLE_HOME to the target system
   - Start the source Applications system database and application tier processes

Phase 3: Configure the target system

Run the following commands to configure the target system:

1. Configure the target system database server

   Log on to the target system as the oracle user and type the following commands to configure and start the database:

```
cd <RDBMS ORACLE_HOME>/appsutil/clone/bin
perl adcfgclone.pl dbTier
```

> **Note:** Review Appendix B of the *Cloning Oracle Applications Release 11i with Rapid Clone* on Oracle*MetaLink* for information about dividing database files across more than4 mount points.

2. Configure the target system application tier server nodes

   Log on to the target system as the applmgr user and type the following commands:

   ```
   cd <COMMON_TOP>/clone/bin
   perl adcfgclone.pl appsTier
   ```

   Attention: For Windows users only: add <806 ORACLE_HOME>\bin to the system path before performing this step.

Action: Finish the Cloning Process

Complete the steps in this section if they apply to your implementation or to the way you intend to use the cloned system.

1. Update profile options

   Rapid Clone updates only site level profile options. If any other profile options are set to instance-specific values, you must update them manually.

2. Update printer settings

   If the new cloned system will use different printers from the source system, update the new system with the new printer settings.

3. Update Workflow configuration settings

   Cloning an Oracle Applications instance does not update the host and instance-specific information used by Oracle Workflow. Review the following tables and columns to verify there is no instance-specific data in the Workflow configuration on the target system.

Table Name	Column Name	Column Value Details
WF_NOTIFICATION_ATTRIBUTES	TEXT_VALUE	Value starts with "http://<old web host>:". Update to new web host.
WF_ITEM_ATTRIBUTE_VALUES	TEXT_VALUE	Value starts with "http://<old web host>:". Update to new web host.
WF_SYSTEMS	GUID	Create a new system defined as the new global database name using the Workflow Administrator Web Applications responsibility.
WF_SYSTEMS	NAME	Replace value with the new database global name.
WF_AGENTS	ADDRESS	Update database link with the new database global name.
FND_FORM_FUNCTIONS	WEB_HOST_NAME	Update with the new web host name.

Table Name	Column Name	Column Value Details
FND_FORM_FUNCTIONS	WEB_AGENT_NAME	Update to point at the new PLSQL listener name.
FND_CONCURRENT_REQUESTS	LOGFILE_NAME	Update with the correct path to the logfile directory.
FND_CONCURRENT_REQUESTS	OUTFILE_NAME	Update with the new directory path on the target system

4. Reboot the target machine (Windows only).

Synchronizing a Cloned System

You can adapt the basic cloning steps to synchronize the target system with the source system.

Business Requirement

I want to refresh a cloned (target) system periodically to synchronize it with changes made to the source system.

Discussion

After you have cloned a system, you may want to keep the cloned (target) system synchronized with the original (source) system. This means applying all the changes you have made to the source system to the target system.

You can refresh the target system by repeating some of the same steps outlined in the basic cloning procedure discussed previously in this chapter.

Note: The <CONTEXT_NAME> variable defaults to <SID>_<hostname>. You may set it to <SID> or customize it to some other environment-specific name.

Action

Perform the following steps (from the basic cloning procedure) to refresh your target system.

1. Prepare the source system.

   Complete all the steps in the Phase 1: Prepare the source system section on page 4-8.

2. Copy the source system to the target system.

Go to the Phase 2: Copy the source system to the target system section on page 4-8. Follow the steps based on your requirements.

- Copy the application tier file system if: the APPL_TOP, 806 ORACLE_HOME, or iAS ORACLE_HOME needs to be refreshed. Copy only the portion of the application tier file system that has been updated.
- Copy the database tier file system if: the RDBMS ORACLE_HOME or the database needs to be refreshed. If you are refreshing the database, the ORACLE_HOME should be refreshed at the same time.

3. Configure the target system.

   Specify the existing target system context file when running adcfgclone.pl commands, where the database context file is <RDBMS ORACLE_HOME/appsutil/<Target CONTEXT_NAME>.xml:

   ```
   perl adcfgclone.pl dbTier (Database target context file>
   ```

   and, where appltop context file is <APPL_TOP>/admin/<Target CONTEXT_NAME>.xml:

   ```
   perl adcfgclone.pl appsTier <Appltop target context file>
   ```

4. Finish the cloning process.

   Complete all the steps in the Action: Finish the Cloning Process section on page 4-10.

Cloning a Single-node System to a Multi-node System

You can adapt the basic cloning steps to clone a single-node system to a multi-node system.

Business Requirement

My system currently runs on a single node. How do I create a multi-node system?

Discussion

To create a multi-node system, you will place the servers from the single node on individual nodes by performing the basic cloning steps on each of the new target nodes. An Oracle Applications system consists of five server types:

- Database server (database tier)
- Forms server (application tier)

- Web server (application tier)
- Concurrent Processing server (application tier)
- Administration server (application tier)

During the cloning process, each of these servers can be placed on its own node, resulting in the creation of a multi-node system.

Action

Perform the following steps (from the basic cloning procedure) to clone your single-node system to a multi-node system.

1. Perform prerequisite tasks.

   Complete all the steps in the Action: Perform prerequisite tasks section on page 4-6 on the source node and on all the target nodes.

2. Clone Oracle Applications 11*i*.

   Complete all the steps in the Phase 1: Prepare the source system section on page 4-8, in the Phase 2: Copy the source system to the target system section on page 4-8, and the Phase 3: Configure the target system section on page 4-9.

   When creating more than one application tier node from a single-node system, perform the copy and configure steps on each target node. Copy the database ORACLE_HOME and the database only to the node where the database will run.

3. Finish the cloning process.

   Complete all the steps in the Action: Finish the Cloning Process section on page 4-10.

Cloning a Multi-node System to a Multi-node System

You can adapt the basic cloning steps to clone a multi-node system to a multi-node system.

Business Requirement

My system currently runs on multiple nodes. How do I create a cloned multi-node system?

Discussion

You can clone a multiple-node system provided the number of nodes and distribution of servers on the target system mirrors that of the source system. For example, if your current system contains three nodes, your target system must also have three nodes, each with the same servers that you have on the source node.

Action

Perform all the steps in the basic cloning process (see Cloning a Single-node System to a Single-node System on page 4-6) on each node. For example, if the source system contains three nodes, perform the cloning process three times.

- Clone source system node 1 to target system node 1
- Clone source system node 2 to target system node 2
- Clone source system node 3 to target system node 3

Attention: Clone the database server node first.

Re-creating an Existing Database

Migrating means transferring a database from one location to another. There are several ways to accomplish a database migration, including the export/import process discussed in the Exporting/Importing a Database section of this chapter. We recommend this process if you need to transfer a database to improve scalability, or to change your block size. Other types of migration rely on different instructions, as shown in the following table.

If you are migrating your database...	Refer to...
To prepare for an upgrade to Release 11*i*	*Upgrading Oracle Applications*
To prepare for applying a maintenance pack	The maintenance pack Release Notes
To a different version of the Oracle server you are using with Oracle Applications	http://metalink.oracle.com/metalink/plsql/certify. welcome, and *Oracle9i: Database Migration*

Attention: You must migrate the entire database. Do not migrate individual schemas or parts of an Oracle Applications database.

Exporting/Importing a Database

Business Requirement

I want to migrate my database to a different platform so I can improve scalability (or change the database block size). The target node and the source node are different machines.

Discussion

With the Oracle Export and Import utilities, you can move existing data in Oracle format to and from Oracle databases. For example, using export files you can archive database data or move data among different Oracle databases that run on the same operating system (or on different operating systems). You should be familiar with both these utilities before you begin to transfer database objects.

> **Additional Information:** Refer to the *Oracle9i:Database Utilities* documentation set for more information.

Action

For complete and up-to-date instructions for migrating an existing database instance using the Export/Import process, see *Export/Import Process for Oracle Applications Release 11i Database Instances Using Oracle9i Enterprise Edition* on Oracle*MetaLink*.

Preserving Custom Links

Business Requirement

I have custom database links in the source database instance that point to the source database instance. I need to preserve these links.

Discussion

In the process of exporting/importing your database, custom links created in the source database need to be re-created in the target database. When you re-create these links, the <custom database link>, <user>, and <password> parameters should be the same as they were in the source database.

In the target database, the <host name> is the host name of the target database server node, <port number> is the port number of the Net8 TNS listener for the

target database instance, and <SID> is the ORACLE_SID of the target database instance

Action

From the target database server node, connect to the target database as APPS and run the following commands.

```
$ sqlplus APPS/<APPS password>
SQL> drop database link <custom database link>;

SQL> create database link <custom database link> connect to <user> identified by
<password> using '(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=<host name>)
(PORT=<port number>))(CONNECT_DATA=(SID=<ORACLE_SID>)))';
```

5

Reporting and Tracking

This chapter describes how to use the patch history database reports to analyze patch history information. It contains the following sections:

Keeping Patches Current

For optimum performance, your system should always include the latest patches available. The Oracle Applications Manager (OAM) Patch Advisor allows you to define your patch level requirements, and compare the patches in your system's patch history database against a list of all currently recommended Oracle Applications patches.

Business Requirement

I want to bring my system up to the latest patch level available. How do I determine if there are patches that I have not yet applied?

Discussion

Each time you apply a patch, AutoPatch stores the associated information in the Oracle Applications Manager (OAM) patch history database. OAM provides a GUI interface that you can use to query the database for complete history of patches

applied to your system, to search for the patches you have already applied, and to determine existing patches that should be applied to keep your system current.

> **Additional Information:** For more information, see The Patch History Database in *Oracle Applications Maintenance Utilities*.

The OAM Patch Advisor creates a list of recommended patches by comparing the patches in the patch history database against a list of recommended patches in a *patch information bundle* that you download from Oracle*MetaLink* before you run Patch Advisor.

Patch Advisor determines which of the recommended patches you should apply to your system. It reports the contents of the patch and the files that it will update when applied. It does not report on all available patches, but only on the patches that provide pro-active maintenance. The set of recommended patches includes a maintenance pack, family packs, mini-packs, and high-priority patches.

Action

For complete information on setting up Patch Advisor, defining the appropriate filters, navigating the Patch Advisor screens, and submitting requests, see Patch Advisor in *Oracle Applications Maintenance Utilities*.

Analyzing Patching History

As you apply patches, AutoPatch records its actions in the Oracle Applications patch history database. You can access all patch history information, including query options and reports, from the Oracle Applications Manager (OAM).

> **Additional Information:** See Patch History in *Oracle Applications Maintenance Utilities* for more information.

Determining if a Patch Was Applied

Business Requirement

I need to determine if a specific patch has been applied to my Oracle Applications system.

Discussion

The Oracle Applications Manager (OAM) provides a GUI interface that you can use to view a complete history of patches applied to your system. Using OAM, you access the patch history database and submit a query for individual patches.

> **Additional Information:** See the Simple Patches Search section in *Oracle Applications Maintenance Utilities.*

Action

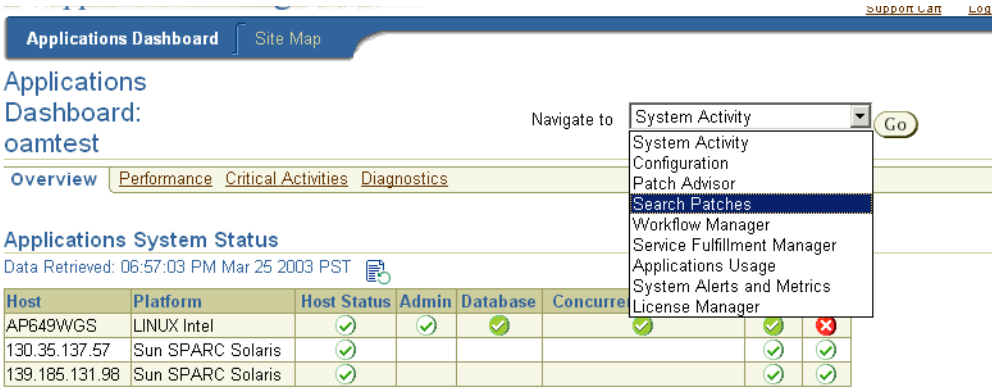
Perform the following steps:

1. Access the Oracle Applications Manager.

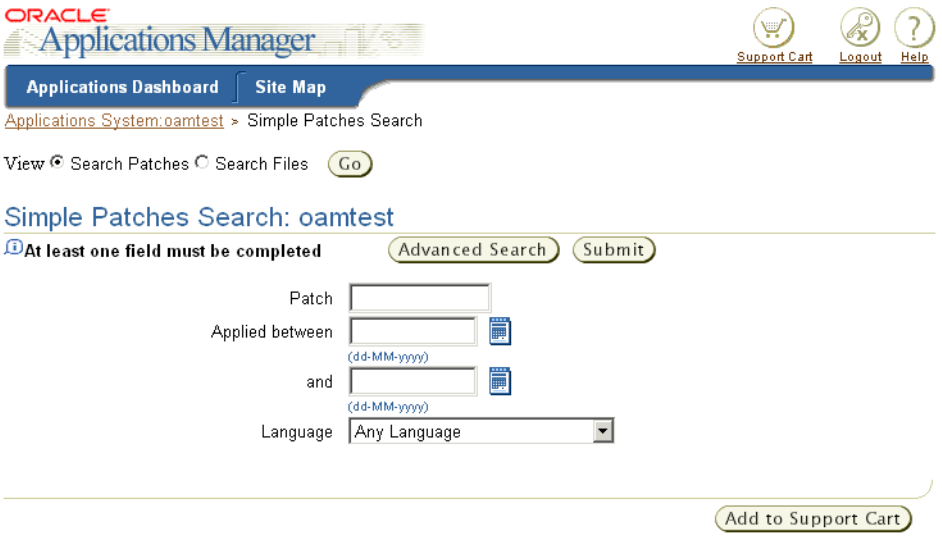
   Follow the instructions in Using the Using the Oracle Applications Manager in Chapter 2 of this book. They describe the login procedure, the Applications Dashboard, and the Site Map.

2. Access the Search Patches page.

   Pull down the Navigate To list and highlight Search Patches. Click Go.



The Simple Patches Search page appears.

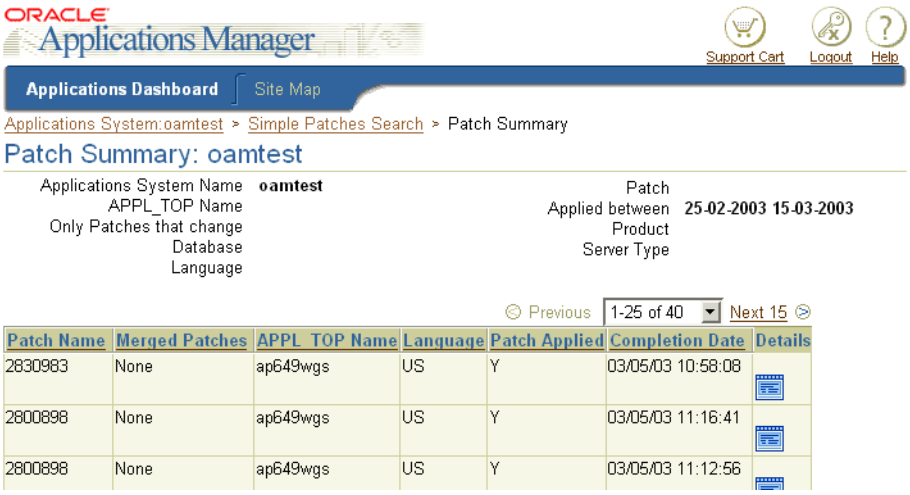


3. Enter a patch number. Or, enter dates for your search in the Applied between <begin date> and/or <end date> fields.

   For example, to determine patches applied during the period beginning February 2, 2003 and ending March 15, 2003, enter those dates in the <begin date> and <end date> fields. You can also search for all patches up to a specific date (complete only the <end> date field) and all patches on a given date (enter the same date in both fields). Click Submit.

4. Review the Patch Summary report.

   The report provides summary information for all patches applied during this time period. If the patch in question is not listed, it has not been applied.



Additional Information: See Patch Summary Report in *Oracle Applications Maintenance Utilities*.

Determine Files Affected by a Patch

Business Requirement

I need to determine which files were affected when I applied a specific patch.

Discussion

The Oracle Applications Manager (OAM) provides a GUI interface that you can use to view a complete history of patches applied to your system and the files that they affected. Using OAM, you access the patch history database and submit a query for individual files affected by a specific patch.

Additional Information: See the Simple Patches Search section in *Oracle Applications Maintenance Utilities.*

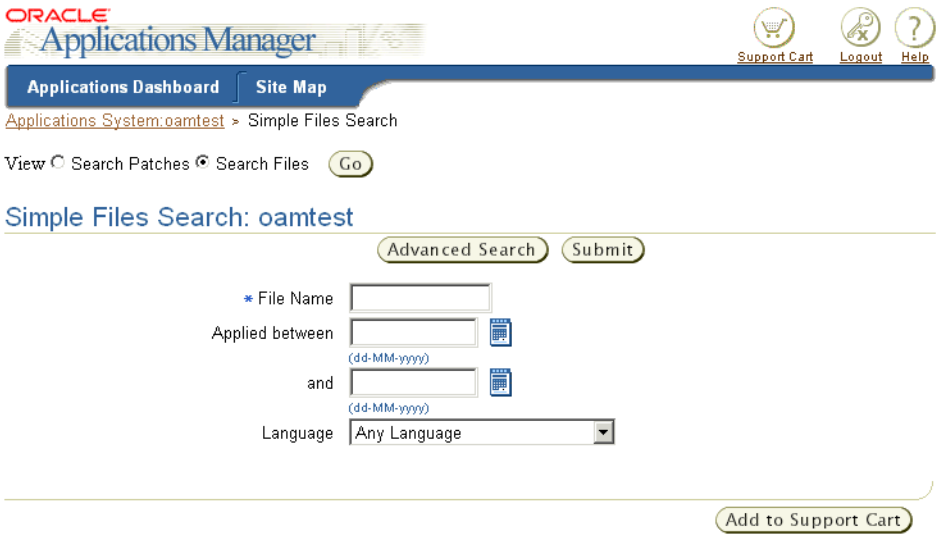
Action

Perform the following steps:

1. Access the Oracle Applications Manager.

Follow the instructions in Using the Using the Oracle Applications Manager in Chapter 2 of this book. They describe the login procedure, the Applications Dashboard, and the Site Map.

2. Click Site map from the Dashboard page. From the Site Map, click Search File History to access the Simple Files Search page.



3. Enter the file name and the dates for your search in the File Name and Applied between <begin date> and/or <end date> fields, respectively.

4. Review the File History report.

   The report provides the APPL_TOP name, product short name, directory path where the file is located, name and version number of the file, and so on.

   Additional Information: See File History Report in *Oracle Applications Maintenance Utilities.*

Viewing Patch Information in a Text Format

Business Requirement

I need to review all files affected when I applied a large patch.

Discussion

There may be times when you need to view large amounts of data, or you just need a list of patches that doesn't include the detail provided in the OAM Patch History reports. If this is the case, you can run a PL/SQL report from the command line that lists all patches applied, all files affected by a patch, or all patches applied within a certain date range. These reports create a text file that you can scroll through quickly without paging through the complete information provided in the OAM Patch History feature.

Action

To run a report that provides a text listing of patch information, follow the appropriate instructions in this section.

To see a list of all patches with patch details:
Run adphrept.sql (located in $AD_TOP/patch/115/sql). It produces the Patch History report (adphrept.r). The parameters are follows:

```
<query_depth> <bug_number or ALL> <bug_product or ALL> \
<end_date_from (mm/dd/rr or ALL)> <end_date_to (mm/dd/rr or ALL)> \
<patchname/ALL> <patchtype/ALL> <level/ALL> <language/ALL> \
<appltop/ALL> <limit to forms server? (Y/N) \
<limit to web server? (Y/N) \
<limit to node server? (Y/N) \
<limit to admin server? (Y/N) \
<only patches that change DB? (Y/N)
```

For <query_depth>, specify 1 (details of patches only), 2 (details of patches and their bug fixes only), or 3 (details of patches, bug fixes, and bug actions)

At the command prompt, type the report command and enter values for the parameters and prompts. For example, to see the complete patch details for patches applied in December 2002, type the following using the mm/dd/rr format:

UNIX:

```
$ cd $AD_TOP/patch/115/sql
$ sqlplus <APPS username>/<APPS password> @adphrept.sql 3 ALL ALL 12/01/02 \
  12/31/02 ALL ALL ALL ALL ALL N N N N N
```

Windows:

```
C:>\ cd %AD_TOP%\patch\115\sql
C:>\ sqlplus <APPS username>/<APPS password> @adphrept.sql 3 ALL ALL 12/01/02 \
     12/31/02 ALL ALL ALL ALL ALL N N N N N
```

To see a file version history:
Run adfhrept.sql (located in $AD_TOP/patch/115/sql). It produces the File Version History report (adfhrept.r). The parameters are follows:

```
<filename> <latest file version only? (Y/N) \
<start_date (mm/dd/rr or ALL)> <end_date (mm/dd/rr or ALL)> \
<patchtype/ALL> <language/ALL> \
<appltop/ALL> <limit to forms server? (Y/N) \
<limit to web server? (Y/N) \
<limit to node server? (Y/N) \
<limit to admin server? (Y/N) \
<only patches that change DB? (Y/N)
```

At the command prompt, type the report command and enter values for the parameters and prompts. For example, to see the complete file version history for admorgb.pls considering only patches applied in December 2002, type the following using mm/dd/rr format:

UNIX:

```
$ cd $AD_TOP/patch/115/sql
$ sqlplus <APPS username>/<APPS password> @adfhrept.sql admorgb.pls \
  N 12/01/02 12/31/02 ALL ALL ALL N N N N N
```

Windows:

```
C:>\ cd %AD_TOP%\patch\115\sql
C:>\ sqlplus <APPS username>/<APPS password> @adfhrept.sql admorgb.pls \
     N 12/01/02 12/31/02 ALL ALL ALL N N N N N
```

To see a list of all patches in a given date range:
Run adpchlst.sql (located in $AD_TOP/patch/115/sql). It produces a list (adpchlst.lst) of all patches, but does not include patch detail.

This report takes into account patches included in a merged patch. For example, if you combine patches 123, 124, and 125 in a merged patch called merged1, the report lists patches 123, 124, and 125, but not merged1.

At the command prompt, type the report command and enter the date parameters in mm/dd/yyyy format. For example, to see a list of patches applied in April 2003, type the following:

UNIX:

```
$ cd $AD_TOP/patch/115/sql
$ sqlplus <APPS username>/<APPS password> @adpchlst.sql 04/01/2003 04/30/2003
```

Windows:

```
C:>\ cd %AD_TOP%\patch\115\sql
C:>\ sqlplus <APPS username>/<APPS password> @adpchlst.sql 04/01/2003 04/30/2003
```

Searching for Driver File Actions

Business Requirement

I need to verify how my system was affected when I applied a specific patch.

Discussion

The patch history database stores information about the actions performed when you applied patches to your Oracle Applications system. You can search for actions performed by copy drivers, database drivers, or generate drivers.

> **Additional Information:** See Patch Summary Report in *Oracle Applications Maintenance Utilities*.

Action

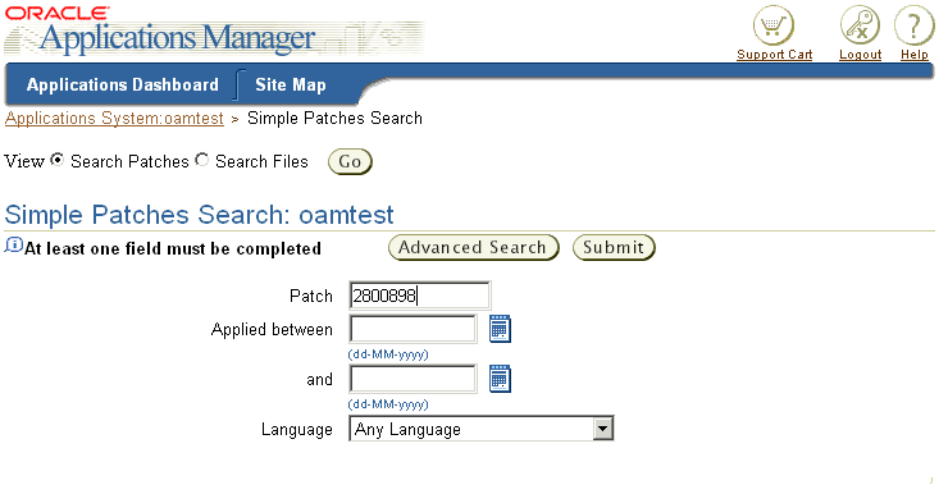
Complete the following steps:

1. Access the Simple Patches search screen.

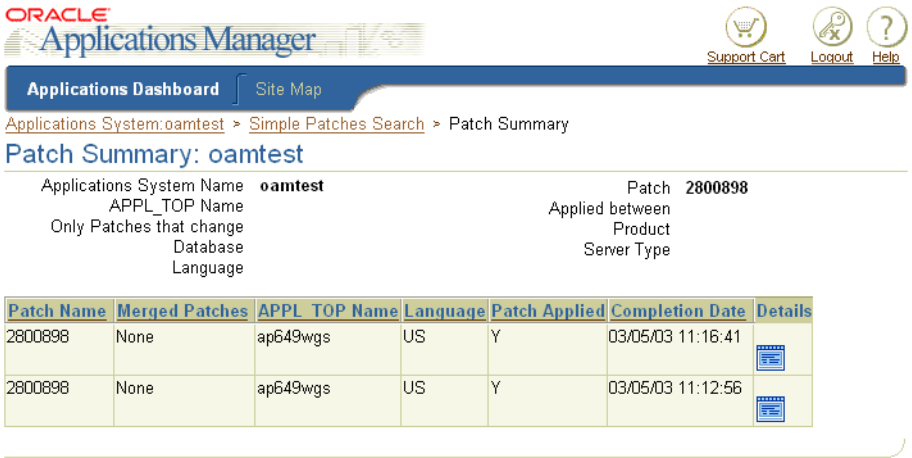
   See Steps 1 – 2 in the Determining if a Patch Was Applied section in this chapter.

2. Select the patch.

   Enter the patch number in the Patch field.

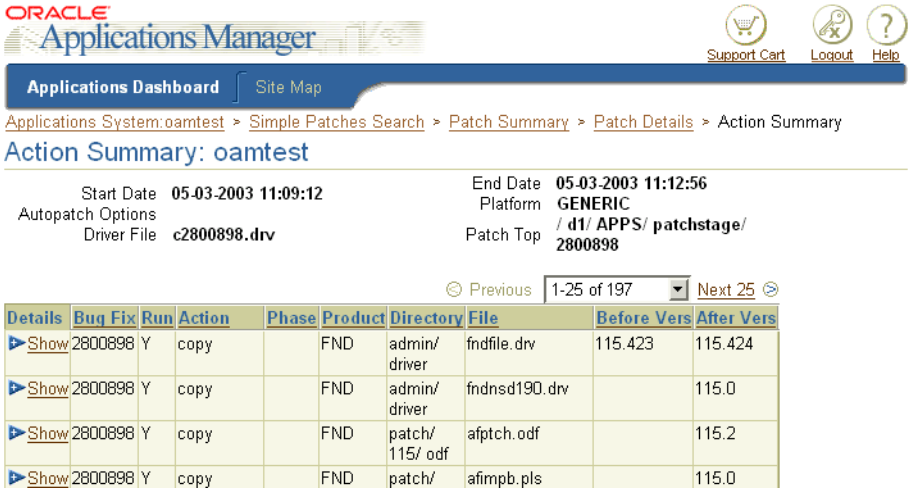


Click Submit. The Patch Summary report shows all applications of the patch.

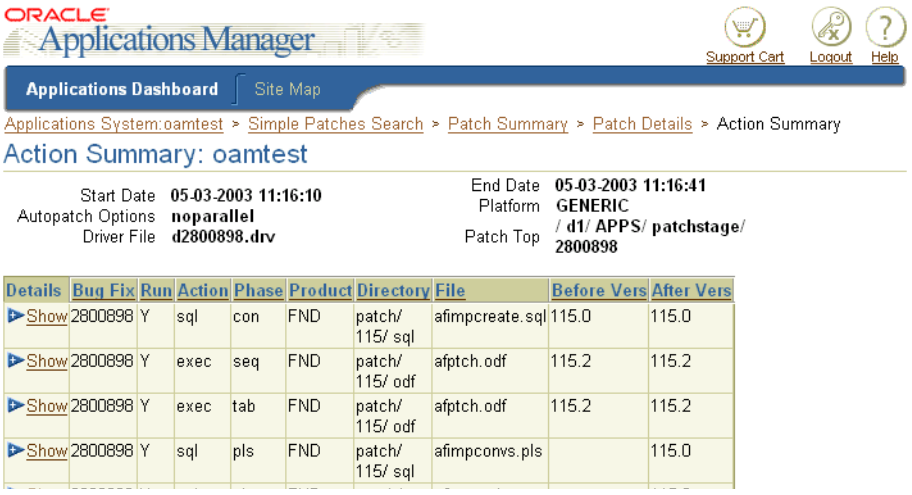


Click the Details link to access the Patch Details report, which lists each of the drivers included in the patch.

Select the radio button next to a driver file and click the Action Summary button to access the Action Summary report. If the driver selected is a copy driver, the Patch Summary report shows the driver actions, such as copy, libout, and link.



If the driver selected is a database driver, the Patch Summary report shows the driver actions, such as sql and exec.



Toggling the Hide/Show link in the Details column for a database driver action, either shows additional driver action details or hides the details.

> **Additional Information:** See Patch Details Report in *Oracle Applications Maintenance Utilities.*

If the driver selected is a generate driver, the Patch Summary report shows the driver actions.

Searching for Translation Patches

Business Requirement

My Oracle Applications system operates in multiple languages. I want to make sure translation patches have been applied successfully.

Discussion

If the Oracle Applications system operates in more than one language, a translation patch must be applied for each US patch that you apply. The patch history database stores information about translation patches that have been applied to your Oracle Applications system.

> **Additional Information:** See Patch Summary Report in *Oracle Applications Maintenance Utilities.*

Complete the following steps:

1. Access the Simple Patches search screen.

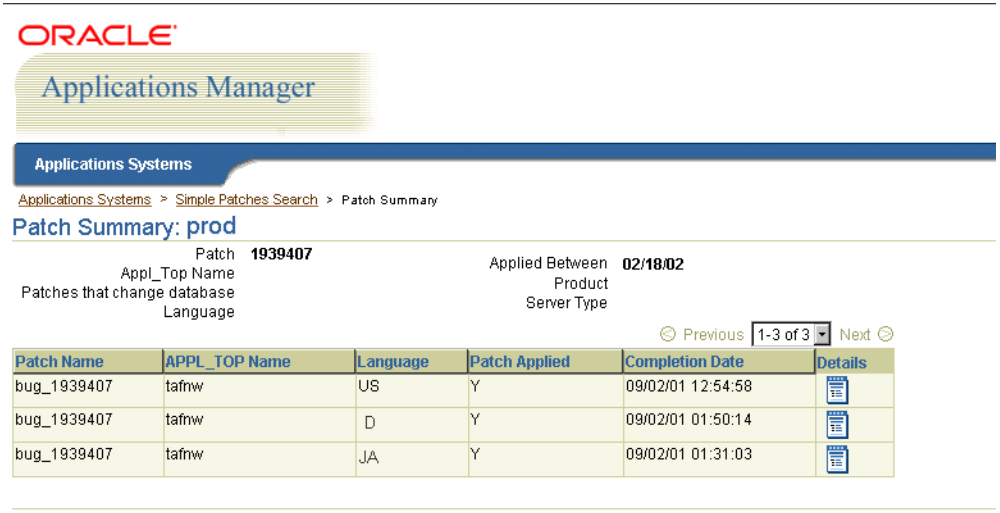
   Additional Information: See Steps 1 – 2 in the Determining if a Patch Was Applied section in this chapter.

2. Specify the patch.

   Enter the patch number in the Patch field, then click Submit.

   The Patch Summary report screen appears, showing all applications of the patch. If multiple translations were applied, there will be multiple rows. The Language column shows the languages applied.

   For example, if the American English (US), German (D), and Japanese (JA) translations for patch 1939407 were applied, there will be three rows in the Patch Summary report.



Additional Information: See Patch Summary Report in *Oracle Applications Maintenance Utilities.*

Patch History Information

Because patch history resides in a database, you can migrate it to another system by using the export/import feature.

Migrating Patch History Information

Business Requirement

I want to be able to access patch history stored for one system on my other systems.

Discussion

You can migrate patch history information from one system to another by downloading (exporting) it from the patched system database (source) and uploading (importing) it into a target database on another system. You use the Oracle Applications Generic Loader (FNDLOAD) and the adphst.lct file to create a portable, editable text file (LDT file) that contains the patch history information.

The Generic Loader downloads data from the source database according to a configuration file (.lct), and converts the data into a data file (.ldt). It can then upload this data to another database (target).

> **Additional Information:** See Generic Loader in the *Oracle Applications System Administrator's Guide.*

Action

Follow these steps to export the information in your patch history database.

1. Download (export) patch history information from the source system.

   Type the following command to create the LDT file (in the current directory). Do not put blank space before or after the equal (=) signs, as this will cause the Loader to ignore the P_APPS_SYS_NAME and P_APPL_TOP_NAME parameters.

   ```
   FNDLOAD <APPS username>/<APPS password> 0 Y DOWNLOAD \
   $AD_TOP/patch/115/import/adphst.lct <LDT filename> PATCH_RUN \
   P_APPS_SYS_NAME=<Applications Sys Name> P_APPL_TOP_NAME=<APPL_TOP name> \
   [optional export args]
   ```

   The optional export arguments serve as additional filters to limit the information exported. Review the list of arguments and enter them as appropriate.

Optional Export Arguments	Description
P_START_DATE*	Start of date range in "YYYY/DD/MM HH24:MI:SS" format (for example, "2002/30/12 23:06:24").
P_END_DATE*	End of date range in "YYYY/DD/MM HH24:MI:SS" format.
P_BUGNUM	Patch (bug) number (for example, 2079967).
P_LANG	Language for NLS patches (for example, F for French).
P_MINIPACK	Mini-pack level (for example, 11i.AD.H).
P_RELEASE	Release (for example, 11.5.9).
P_DRIVER_TYPE	Driver type, where C is the copy driver, D is database driver, and G is generate driver. If specified, it must be C, CD, CG, CDG, D, DG or G only.

* Date values that include white space must be enclosed in double quotation marks. For example, 2002/30/12 23:06:24 is invalid without the double quotation marks.

2. Copy the LDT file from the current directory to the target system.
3. Upload (import) patch history information to the target system. Type the following command from the directory where the LDT file was copied to upload (import) patch history information to the target system.

```
FNDLOAD <APPS username>/<APPS password> 0 Y UPLOAD \
$AD_TOP/patch/115/import/adphst.lct <LDT filename> - [optional import args]
```

The optional import arguments allow you to choose the Applications system name and APPL_TOP name when importing the data. Review the list of arguments and enter them as appropriate.

Optional Import Arguments	Description
P_IMPORT_AT	The default is Y, which imports the APPL_TOP name and Applications system name from the source system.
P_APPL_TOP_NM	If you set P_IMPORT_AT to N, use this parameter to change the APPL_TOP name to match that of the target system.
P_APPS_ENV_NM	If you set P_IMPORT_AT to N, used this parameter to change the Applications system name to match that of the target system.

Reviewing Registered Products

Business Requirement

I want to see a list of the products, country-specific functionalities, and languages that are registered in my system.

Discussion

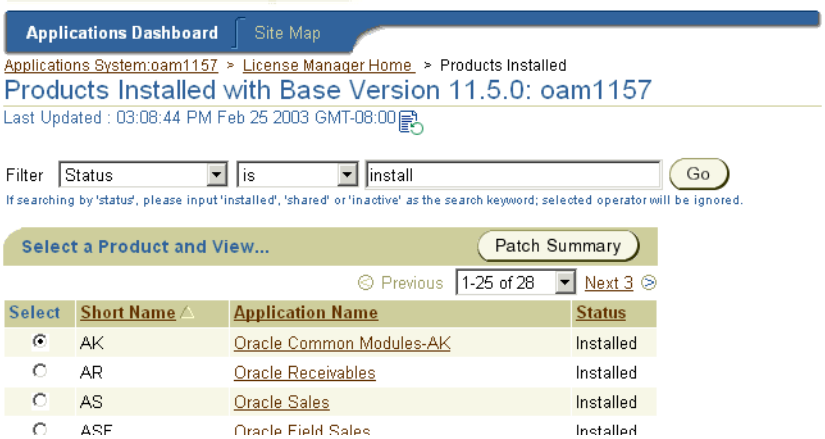
At various times, you may want to see a list of your registered products, country-specific functionalities, and languages. You can produce reports that list the components you have registered as well as provide valuable information about the history of any patches that have been applied since they were registered.

Action

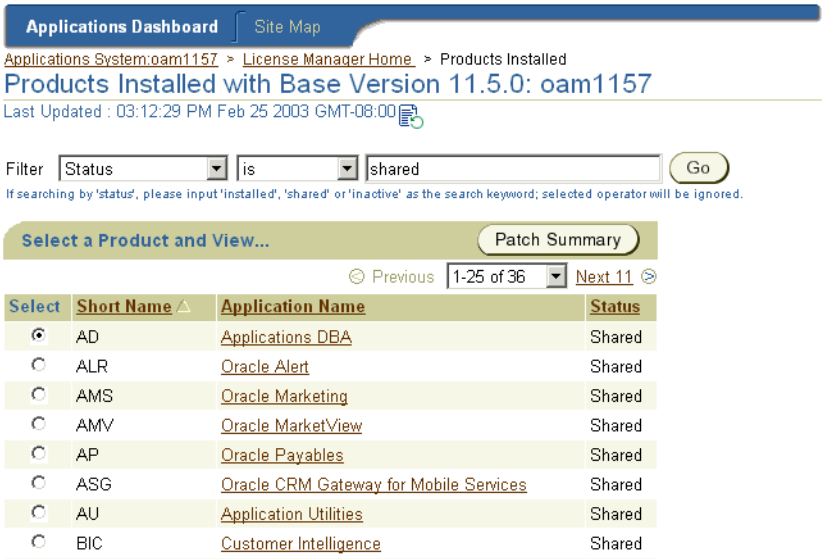
Follow the steps in the Using License Manager section in Chapter 1 to access the License Manager Home page. Then, from the License Manager Home page, choose one of the options under Reports.

You can view reports about licensed products, shared products, country-specific functionalities, languages and territories. In addition, you can select the Summary option to see all the report information on one screen.

For each selection, License Manager displays a page that contains the report information. When you are finished viewing a reports page, click OK to return to the License Manager Home page. For example, if you select the Licensed Products report, License Manager displays all fully licensed products registered in the Oracle Applications system.



You can filter by product short name, Applications name, or licensed status to narrow the scope of the report. Complete the Filter fields and click Go to activate. For example, if you change the Filter Status to Shared, License Manager displays the Shared Products report. (You can also view this report by clicking Shared Products under the Reports section of the License Manager Home page.)

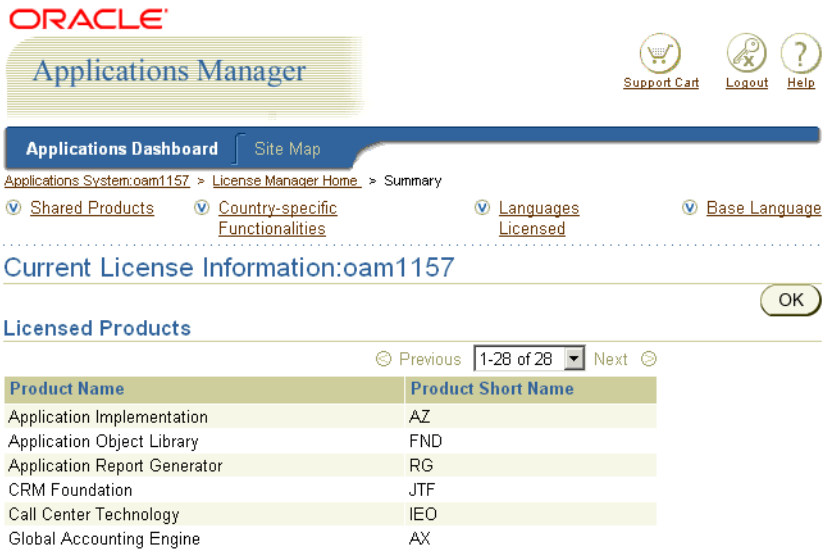


If the Licensed Products report (or the Shared Products report) retrieves multiple pages of information, use the Previous and Next links or the drop down list to

navigate from page to page. The information is arranged in increments of 25 line items per page. Each line item represents a licensed product.

Click on the heading for a column to sort the report information based on the content in that column. Each time you click the heading, the sort alternates between ascending and descending order.

If you select the Licensed Information Summary report:
To see summary information, select the Licensed Information Summary report. This report displays all current registration information in your Oracle Applications system.



The report is divided into sections: Licensed Products, Shared Products, Country-specific Functionalities, Base Language, Default Territory, and Languages. You can quickly jump to each of these sections by clicking the associated link at the top of the page. For example, if you click Country-specific Functionalities, the page displays only that section of the report.

Reporting System Status

Use the reports in this section to gather information about your system.

Summarizing Timing Information

Business Requirement

Can I see a summary of the time it takes for parallel workers to complete their jobs?

Discussion

AutoUpgrade, AutoPatch, and AD Administration produce a Job Timing report named adt<session_id>.lst each time they run. The report is located in $APPL_TOP/admin/<SID>/out. You can also produce this report manually during or after an upgrade to view timing statistics from a prior session.

> **Additional Information:** See Job Timing Report in *Oracle Applications Maintenance Utilities.*

Action

To run the Job Timing report from the command line, type the following:

UNIX:

```
$ cd $APPL_TOP/admin/<SID>/out
$ sqlplus <APPS username>/<APPS password> @$AD_TOP/admin/sql/adtimrpt.sql \
  <session id> <output file>
```

Windows:

```
C:\> cd %APPL_TOP%\admin\<SID>\out
C:\> sqlplus <APPS username>/<APPS password> @%AD_TOP%\admin\sql\adtimrpt.sql \
     <session id> <output file>
```

Do not include an extension for the <output file> in these commands. The adtimrpt.sql script creates two files: an .lst file, which is the timing report, and a .csv file, which is currently not used.

Standard Installed Configuration Information

Business Requirement

How can I view information such as rollback segment information, list of operating units, or NLS init.ora settings?

Discussion

You can run a utility (adutconf.sql) that produces a report (adutconf.lst) containing standard configuration information.

> **Additional Information:** See AD Configuration (adutconf) in *Oracle Applications Maintenance Utilities.*

Action

Log in as applmgr and set the environment as described in Setting the Environment in Chapter 1 of *Oracle Applications Maintenance Utilities*. Use the following command to run this script. The output file is written to adutconf.lst in the current working directory.

UNIX:

```
$ cd $APPL_TOP/admin/<SID>/out
$ sqlplus <APPS schema username>/<APPS schema password> \
  @$AD_TOP/sql/adutconf.sql
```

Windows:

```
C:\> cd %APPL_TOP%\admin\<SID>\out
C:\> sqlplus <APPS schema username>/<APPS schema password> \
     @%AD_TOP%\sql\adutconf.sql
```

Identifying File Versions and Translation Levels

Business Requirement

I want to collect information about file versions.

Discussion

When collecting information about your system for Oracle Support, you may need to determine the version level of your files. You can do this by running the AD File Identification utility (adident). For more information, see AD File Identification (adident) in *Oracle Applications Maintenance Utilities*.

6

Troubleshooting

This chapter contains information about troubleshooting issues that may arise when using the AD utilities. It includes the following sections:

Managing Worker Processes

AutoPatch, AutoUpgrade, and AD Administration can perform processing jobs in parallel to speed the time it takes to complete them. This section describes the procedures for reviewing these processes and handling situations where processing has been interrupted.

Reviewing Worker Status

Business Requirement

I need to check the status of the jobs being processed by one of the AD utilities.

Discussion

When AutoPatch, AutoUpgrade, and AD Administration process jobs in *parallel*, they assign jobs to workers for completion. There may be situations that cause a worker to stop processing. Using AD Controller, you can determine the status of workers and manage worker tasks.

Additional Information: See AD Controller and Parallel Processing in *Oracle Applications Maintenance Utilities*.

Action

To review worker status, perform these steps:

1. Log on as applmgr and set the environment.

   Additional Information: See Setting the Environment in *Oracle Applications Maintenance Utilities.*

2. Start AD Controller.

   ```
   adctrl
   ```

3. Review worker status.

   Select Option 1 from the AD Controller main menu to view the worker status screen. The screen shows the following information:

   - Number of the worker
   - Action code assigned to each worker
   - Action being performed by each worker
   - Name of the file being processed. In the case of a failed job, it's the name of the file that was being processed when the error occurred.
   - Worker status

   The following table describes the entries that may appear in the Status column.

Status	Meaning
Assigned	The manager assigned a job to the worker, and the worker has not started.
Completed	The worker completed the job, and the manager has not yet assigned it a new job.
Failed	The worker encountered a problem.
Fixed, Restart	You fixed the problem, and the worker should retry whatever failed.
Restarted	The worker is retrying a job or has successfully restarted a job (Note that the status does not change to Running). A worker that has been terminated may also show a status of Restarted.
Running	The worker is running a job. A worker that has been terminated may also show a status of Running.
Wait	The worker is idle.

If the worker status shows Failed, the problem may need to be fixed before the AD utility can complete its processing.

Determining Why a Worker Failed

Business Requirement

One of the workers has failed. How do I determine the cause of the failure?

Discussion

When a worker fails its job, you do not have to wait until the other workers and the manager stop. Use the worker log files (adworkxx.log) to determine what caused the failure. These log files are written to APPL_TOP/admin/<SID>/log. Find the appropriate file and copy it to a temporary area so that you can review it. If the job was deferred after the worked failed, there may be no action required on your part.

> **Additional Information:** See Log and Restart Files and Deferred Jobs in *Oracle Applications Maintenance Utilities*.

Action

Complete the following steps:

1. Set up environment.

Log in as applmgr from another terminal or terminal window and set the environment.

> **Additional Information:** See Setting the Environment in *Oracle Applications Maintenance Utilities.*

2. Determine which worker shows an error.

   Follow the steps in the Reviewing Worker Status section in this chapter.

3. Copy the worker log file.

   Copy the log file to a different file name to prevent errors that may occur if the worker tries to write to its log file while you are reviewing it. For example, to copy and rename the adwork02.log file to edit02.log, type:

   UNIX:

   ```
   $ cp adwork02.log edit02.log
   ```

   > **Note:** Use the *tail* command in UNIX to limit the view to only the last part of a very large file.

   Windows:

   ```
   C:\> copy adwork02.log edit02.log
   ```

4. Review the copied log file to find out why the worker failed.

   The following is an example of a worker failure message:

   ```
   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 FREELISTS 4) PCTFREE 10 MAXTRANS 255 TABLESPACE APX

   AD Worker error:
   Unable to compare or correct tables or indexes or keys because of the error
   above
   ```

In the example, the worker could not create the index AP_INVOICES_N11 because it reached the maximum number of extents in the temporary tablespace.

5. Determine how to fix the problem that caused the failure.

Handling a Failed Job

Business Requirement

I have reviewed the log file for the failed worker and determined the problem. What do I do next?

Discussion

A worker usually runs continuously in the background and when it fails to complete the job it was assigned, it reports a status of Failed. When the manager displays an error message, confirm the failed status of a worker by using AD Controller to review worker status. If the job was deferred after the worker failed, there may be no action required on your part.

> **Additional Information:** See Parallel Processing in *Oracle Applications Maintenance Utilities.*

Action

Complete the following steps:

1. Determine the failed file.

   The Worker and Filename columns in the AD Controller worker status screen show the numbers of the workers that failed and list the name of the files that failed to run.

2. Review the worker log file.

   Each worker logs the status of tasks assigned to it in adwork*xx*.log, where *xx* is the worker number. These files are in the APPL_TOP/admin/<SID>/log directory. For example, adwork01.log for worker 1 and adwork02.log for worker 2. Review adwork*xx*.log for the failed worker to determine the source of the error.

3. Resolve the error.

Resolve the error using the information provided in the log files. Contact Oracle Support Services if you do not understand how to resolve the issue.

4. Restart the failed job.

   Choose Option 2 from the AD Controller main menu to tell the worker to restart a failed job.

5. Verify worker status.

   Choose Option 1 again. The Status column for the worker that failed should now say Restarted or Fixed, Restart.

> **Note:** When all workers are in either Failed or Wait status, the manager becomes idle. At this point, you must take action to get the failed workers running again.

Terminating a Hanging Worker Process

Business Requirement

A worker process has been running for a long time. What should I do?

Discussion

When running the AD utilities, there may be situations when a worker process appears to hang, or stop processing. If this occurs, it may be necessary to terminate the process manually. Once you do, you must also manually restart that process.

> **Caution:** A process that appears to be hanging could be a long-running job. Be careful when terminating processes.

> **Additional Information:** See Restarting a Failed Worker in this chapter. See also How the AD Utilities Work and AD Controller in *Oracle Applications Maintenance Utilities*.

Action

1. Determine what the worker process is doing.

   Use the AD Controller worker status screen to determine the file being processed and check the worker log file to see what it is doing:

- Verify whether the process is consuming CPU.
- Review the file to see what actions are being taken.
- Check for correct indexes on the tables (if the problem appears to be performance-related).
- Check for an entry for this process in the V$SESSION table. This may provide clues to what the process is doing in the database.

2. Get the worker's process ID.

   If the job is identified as "hanging," determine the worker's process ID.

   UNIX:

   ```
   $  ps -a | grep adworker
   ```

   Windows:

   Invoke the Task Manager (Ctrl-Alt-Delete) to view processes.

3. Determine what processes the worker has started, if any. If there are child processes, get their process IDs. Examples of child processes include SQL*Plus and FNDLOAD.
4. Stop the hanging process, using the command that is appropriate for your operating system.
5. Make necessary changes.

   Fix the issue that caused the worker to hang. Contact Oracle Support Services if you do not understand how to proceed.

6. Restart the job or the worker.

   See Restarting a Failed Worker in this chapter for more information.

Restarting Processes

This section describes some situations where you may need to choose the restart option in AD Controller.

Restarting a Failed Worker

Business Requirement

I need to restart a failed worker.

Discussion

If a worker has failed, or if you have terminated a hanging worker process, you need to manually restart the worker.

Action

Complete these steps:

1. Start AD Controller.
2. Choose Option 1 to review worker status.
3. Take the appropriate action for each worker status:

   If the worker shows *Failed*, choose Option 2 to restart the failed job. When prompted, enter the number of the worker that failed.

   If the worker shows *Running* or *Restarted* status, but the process is not really running, select the following options:

   - Option 4: Tell manager that a worker has failed its job. When prompted, enter the number of the hanging worker.
   - Option 6: Tell manager to start a worker that has shut down. When prompted, enter the number of the worker that failed.

   Note: Do not choose Option 6 if the worker process is running. Doing so will create duplicate worker processes with the same worker ID and will cause incorrect results.

Restarting a Terminated Child Process

Business Requirement

I have stopped a child process. How do I restart the processing?

Discussion

Some worker processes spawn other processes called *child processes*. If you terminate a child process (that is hanging), the worker that spawned the process shows *Failed* as the status. After you fix the problem, choose to restart the failed job. Once the worker is restarted, the associated child processes are started as well.

Action

Restart the worker process. The worker will restart its assigned jobs and spawn the necessary child processes. No further user action is required.

> **Additional Information:** See Parallel Processing in *Oracle Applications Maintenance Utilities.*

Restarting an AD Utility After a Machine Crash

Business Requirement

While I was running an AD utility, I experienced a machine crash. What's the best way to the restart the utility?

Discussion

Because it cannot automatically detect a machine crash, you must manually notify the manager that all jobs have failed and manually restart the workers. If you restart the utility without doing this, the utility status and the system status will not be synchronized.

> **Additional Information:** See AD Controller in *Oracle Applications Maintenance Utilities.*

Action

1. Start AD Controller.
2. Select the following options:
   - Option 4: Tell manager that a worker has failed its job (specify *all* workers)
   - Option 2: Tell worker to restart a failed job (specify *all* workers)
3. Restart the AD utility that was running when the machine crashed.

Shutting Down and Restarting the Manager

This section discusses some reasons for shutting down or reactivating a manager.

Shutting Down the Manager

Business Requirement

How do I stop an AD utility while it's running?

Discussion

There may be situations when you need to shut down an AD utility while it is running. For example, you may need to shut down your database while you are running AutoPatch, AutoUpgrade, or AD Administration.

You should perform this shutdown in an orderly fashion so that it doesn't affect your data. The best way to do this is to shut down the workers manually, which also causes the AD utility to quit in an orderly fashion.

Action

1. Select AD Controller Option 3 and enter *all* for the worker number. Each worker stops once it completes or fails its current job.
2. Verify that no worker processes are running. Use a command similar to the one in the following example. The command arguments may vary on different platforms.

   UNIX:

   ```
   $  ps -a | grep adworker
   ```

   Windows:

   Invoke the Task Manager (Ctrl-Alt-Delete) to view processes.
3. When all workers have shut down, the manager and the AD utility quits.

Reactivating the Manager

Business Requirement

No workers are running jobs. What's the problem?

Discussion

A restarted worker resumes the failed job immediately as long as the worker process is running. The other workers change to a *Waiting* status if they cannot run any jobs because of dependencies on the failed job, or because there are no jobs left

in the phase. When no workers are able to run, the manager becomes idle. Messages like the following will appear on the screen:

```
ATTENTION: All workers either have failed or are waiting:

           FAILED: file cedropcb.sql on worker  1.
           FAILED: file adgrnctx.sql on worker  2.
           FAILED: file aftwf01.sql  on worker  3.

ATTENTION: Please fix the above failed worker(s) so the manager can continue.
```

Action

Complete the following steps for each failed worker:

1. Determine the cause of the error.

   In AD Controller, choose Option 1 to view the status. Review the worker log file for the failed worker to determine the source of the error.

2. Resolve the error.

   Use the information provided in the log files. Contact Oracle Support Services if you do not understand how to resolve the issue.

3. Restart the failed job.

   Choose Option 2 on the AD Controller menu to tell the worker to restart a failed job. The worker process restarts, causing the AD utility to become active again.

   Additional Information: See AD Controller in *Oracle Applications Maintenance Utilities.*

Index

A

B

C

D

E

F

G

H

I

J

L

M

N

O

P

R

S

T

U

W