Oracle® E-Business Suite

Maintenance Procedures

Release 12.1

Part No. E13675-03

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Oracle E-Business Suite Maintenance Procedures, Release 12.1

Part No. E13675-03

Contents

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- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
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If you find any errors or have any other suggestions for improvement, then please tell us your name, the name of the company who has licensed our products, the title and part number of the documentation and the chapter, section, and page number (if available).

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

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Preface

Intended Audience

Welcome to Release 12.1 of the *Oracle E-Business Suite Maintenance Procedures.*

This guide assumes you have a working knowledge of the following:

- The principles and customary practices of your business area.

- Computer desktop application usage and terminology.

If you have never used Oracle E-Business Suite, we suggest you attend one or more of the Oracle E-Business Suite training classes available through Oracle University.

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

Deaf/Hard of Hearing Access to Oracle Support Services

To reach Oracle Support Services, use a telecommunications relay service (TRS) to call Oracle Support at 1.800.223.1711. An Oracle Support Services engineer will handle technical issues and provide customer support according to the Oracle service request process. Information about TRS is available at http://www.fcc.gov/cgb/consumerfacts/trs.html, and a list of phone numbers is available at http://www.fcc.gov/cgb/dro/trsphonebk.html.

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Structure

1 Maintaining Your System

This chapter contains general procedures for proper maintenance of the Oracle E-Business Suite files and database.

2 Reporting and Tracking

This chapter describes how to use the reporting and tracking features in Oracle E-Business Suite.

3 Troubleshooting

This chapter contains information about using the AD Controller to monitor and resolve issues that may arise when using other AD utilities.

Related Information Sources

This book is included on the Oracle E-Business Suite Documentation Library, which is supplied in the Release 12.1 Media Pack. You can download soft-copy documentation as PDF files from the Oracle Technology Network at http://www.oracle.com/technology/documentation/. The Oracle E-Business Suite Release 12.1 Documentation Library contains the latest information, including any documents that have changed significantly between releases. If substantial changes to this book are necessary, a revised version will be made available on the "virtual" documentation library on My Oracle Support (formerly Oracle*MetaLink*).

If this guide refers you to other Oracle E-Business Suite documentation, use only the latest Release 12.1 versions of those guides.

Online Documentation

All Oracle E-Business Suite documentation is available online (HTML or PDF).

- **Online Help** - Online help patches (HTML) are available on My Oracle Support.

- **PDF Documentation** - See the Oracle E-Business Suite Documentation Library for current PDF documentation for your product with each release. The Oracle E-Business Suite Documentation Library is also available on My Oracle Support and is updated frequently.

- **Release Notes** - For information about changes in this release, including new features, known issues, and other details, see the release notes for the relevant product, available on My Oracle Support.

- **Oracle Electronic Technical Reference Manual -** The Oracle Electronic Technical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and programs for each Oracle E-Business Suite product. This information helps you convert data from your existing applications and integrate Oracle E-Business Suite data with non-Oracle applications, and write custom reports for Oracle E-Business Suite products. The Oracle eTRM is available on My Oracle Support.

Related Guides

You should have the following related books on hand. Depending on the requirements of your particular installation, you may also need additional manuals or guides.

Oracle E-Business Suite Concepts

This book is intended for all those planning to deploy Oracle E-Business Suite Release 12, or contemplating significant changes to a configuration. After describing the Oracle E-Business Suite architecture and technology stack, it focuses on strategic topics, giving a broad outline of the actions needed to achieve a particular goal, plus the installation and configuration choices that may be available.

Oracle E-Business Suite Installation Guide: Using Rapid Install

This book is intended for use by anyone who is responsible for installing or upgrading Oracle E-Business Suite. It provides instructions for running Rapid Install either to carry out a fresh installation of Oracle E-Business Suite Release 12, or as part of an upgrade from Release 11*i* to Release 12. The book also describes the steps needed to install the technology stack components only, for the special situations where this is applicable.

Oracle E-Business Suite System Administrator's Guide Documentation Set

This documentation set provides planning and reference information for the Oracle E-Business Suite System Administrator. *Oracle E-Business Suite System Administrator's Guide - Configuration* contains information on system configuration steps, including defining concurrent programs and managers, enabling Oracle Applications Manager features, and setting up printers and online help. *Oracle E-Business Suite System Administrator's Guide - Maintenance* provides information for frequent tasks such as monitoring your system with Oracle Applications Manager, administering Oracle

E-Business Suite Secure Enterprise Search, managing concurrent managers and reports, using diagnostic utilities including logging, managing profile options, and using alerts. *Oracle E-Business Suite System Administrator's Guide - Security* describes User Management, data security, function security, auditing, and security configurations.

Maintaining Oracle E-Business Suite Documentation Set

This documentation set provides maintenance and patching information for the Oracle E-Business Suite DBA. *Oracle E-Business Suite Maintenance Procedures* provides a description of the strategies, related tasks, and troubleshooting activities that will help ensure the continued smooth running of an Oracle E-Business Suite system. *Oracle E-Business Suite Maintenance Utilities* describes the Oracle E-Business Suite utilities that are supplied with Oracle E-Business Suite and used to maintain the application file system and database. It also provides a detailed description of the numerous options available to meet specific operational requirements. *Oracle E-Business Suite Patching Procedures* explains how to patch an Oracle E-Business Suite system, covering the key concepts and strategies. Also included are recommendations for optimizing typical patching operations and reducing downtime.

Integration Repository

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

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

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

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

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

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

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

1

Maintaining Your System

This chapter contains general procedures for proper maintenance of the Oracle E-Business Suite files and database.

This chapter covers the following topics:

- Managing Files
- Maintaining the Database
- Performing Maintenance Tasks Non-Interactively
- Distributing Processing Tasks
- Managing Server Processes

Managing Files

This section contains information about maintenance tasks associated with Oracle E-Business Suite files.

Generating Product Files:

Requirement

I want to generate missing product files.

Discussion

Every Oracle E-Business Suite product contains generated files, such as form, report, message, and JAR (Java archive) files. Run AD Administration when you suspect generated files are missing. 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.

> **Note:** You do not have to shut down your system to generate files. However, users that are accessing the files being generated (for

example, for Human Resources forms) must log off.

Actions

Perform the following steps:

1. Determine the file types that require generation.

2. Start AD Administration by setting the environment and then entering `adadmin` on the command line.

   > **Note:** For more information, see Setting the Environment in *Oracle E-Business Suite Maintenance Utilities*.

3. From the AD Administration Main menu, go to the Generate Applications Files menu and select the task for the type of files you want to generate, based on the following criteria:

   - When you choose one of the options for generating form or report 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.

     > **Note:** For more information, see Generating Applications Files Tasks in *Oracle E-Business Suite Maintenance Utilities*.

4. Repeat the generation task on each APPL_TOP that contains the files (if the system contains multiple APPL_TOPs).

5. Review the AD Administration log file for warnings or errors.

Adding New Off-Cycle Products:

Requirement

I want to add a product that was released after the last release update pack.

Discussion

Products that are released in between maintenance releases are sometimes referred to as *off-cycle* products. Since these new products do not appear in the OAM License Manager, you must add them to your product list by using AD Splicer. This utility splices the product into the list of existing products that are known to your system. This process makes the product available, so that you can register it as active, and thus,

make it available to the AD maintenance utilities, such as AutoPatch.

Once you splice the product, you use AutoPatch to install all product-related files.

> **Note:** For more information, see AD Splicer in *Oracle E-Business Suite Maintenance Utilities*.

Actions

Perform the following steps:

1. Download the initial product patch from My Oracle Support.

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

    > **Important:** Do *not* apply the patch using AutoPatch.

3. Apply prerequisite patches (if any).

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

4. Create tablespaces (conditional).

    If you initially installed your system with Rapid Install 11.5.10 or later, omit this step.

    If your system was upgraded to Release 11.5.10 from a previous version of Release 11*i*, you may have chosen to continue using the OFA tablespace model. If so, create two tablespaces for each product, one for the product tables and another for the product indexes.

    > **Note:** For more information, see Tablespace Management in *Oracle E-Business Suite Concepts*.

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

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

    > **Caution:** If a newprods.txt already exists from a previous AD Splicer session, rename the existing file before copying the new newprods.txt file. If you need to edit this file, see AD Splicer in

Oracle E-Business Suite Maintenance Utilities.

6. Add the off-cycle product to the list of products.

   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.

7. Run the AD Configuration report (adutconf.sql). Review the list of registered products to verify that the product was spliced properly into the database.

   > **Note:** For more information, see AD Configuration Report in *Oracle E-Business Suite Maintenance Utilities*.

8. Log out and log in again so that the new environment file (UNIX) or environment subkey in the registry (Windows) is used to set up the environment.

   > **Note:** For more information, see Setting the Environment in *Oracle E-Business Suite Maintenance Utilities*.

9. Verify that <PROD>_TOP registry and environment variables are set correctly for the newly spliced off-cycle products.

10. Download and apply the patch that introduces the product functionality.

    The documentation that instructed you to apply this patch using AD Splicer contains information about which patch you need to apply next.

Adding and Maintaining NLS Languages:

Requirement
I want to add an additional language to my existing system.

Discussion
You can add a new language to your Release 12 system at any time after your

installation or upgrade.

> **Note:** For more information, see My Oracle Support Knowledge
> Document 252422.1, *Requesting Translation Synchronization Patches*.

Actions

Perform the following steps:

1. From Oracle Applications Manager, go to License Manager and activate or change your base language to a new one.

2. From AD Administration, run Maintain Multi-lingual Tables (AD Administration Main Menu > Maintain Applications Database Entities Menu).

3. For the language (or languages) you are adding, refer to the Oracle E-Business Suite NLS Release Notes for your current release level to determine if you need to apply any specific NLS patches. If no patches are applicable, skip this step. If you are adding more than one language, and a patch is required for each, you should use AD Merge Patch to create a merged patch.

   > **Note:** For more information, see *Oracle E-Business Suite Patching Procedures* for information about merging NLS patches.

4. Run the Translation Synchronization Patch utility (adgennls.pl). .

   If you have already run the Translation Synchronization Patch utility by following the Oracle E-Business Suite NLS Release Notes as mentioned in Step 3, you can omit this step and step 5.

5. When you are notified that it is available, apply your Translation Synchronization Patch (TSP) for all languages you requested.

6. Install the Release 12 NLS Help, if available (optional).

   > **Note:** For more information, see Oracle E-Business Suite NLS Release Notes.

Requirement

I want to confirm that my NLS language software is current with the latest US patch levels.

Discussion

If your Oracle E-Business Suite system has active languages other than American English, you can bring them up to the current US Applications patch level by using the Translation Synchronization Patch utility. Alternatively, you can individually

download and apply the NLS version of all US patches you have applied to your system. Use AD Merge Patch to create a single patch, and then apply it using AutoPatch.

> **Note:** For more information, see *Oracle E-Business Suite Patching Procedures* for more information about AD Merge Patch.

Actions

Perform the following steps:

1. For details of how to use the Translation Synchronization Utility, follow the instructions in My Oracle Support Knowledge Document 252422.1, *Requesting Translation Synchronization Patches*.

Requirement

I want to check if there are translation updates other than those associated with US patches.

Discussion

There may be updates that enhance your translated software that are not associated with US patches, and therefore, are not included in the updates you received when you requested a Translation Synchronization patch. You can request these updates using the Translation Synchronization Patch utility by selecting the Get Latest Translations check box on the file manifest submission form.

> **Note:** For more information, see My Oracle Support Knowledge Document 252422.1, *Requesting Translation Synchronization Patches*.

Actions

Perform the following steps:

1. Run the Translation Synchronization Patch utility (adgennls.pl).

2. Create a manifest using the form provided in My Oracle Support. When you submit the manifest, click the Get Latest Translations check box option to get translation updates that were made available since the initial Release 12 NLS, in addition to any NLS patches needed to synchronize your NLS patch level with the US patch level.

3. When you are notified that it is available, apply the Translation Synchronization Patch (TSP) for all languages you requested.

Requirement

I want to deactivate a language.

Discussion

Deactivating a language is not supported. Once they have been activated, you must maintain all languages in an NLS system.

Actions

None.

Maintaining Snapshot Information:

Requirement

What is a snapshot, and how do I use it?

Discussion

Snapshots are current views of your system: they are created once, and then updated when appropriate to maintain a consistent view. There are two types of snapshot: APPL_TOP snapshots and global snapshots. An APPL_TOP snapshot lists patches and versions of files in the APPL_TOP. A global snapshot lists patches and latest versions of files in the entire Applications system (that is, across all APPL_ TOPs).

Patch Wizard uses a global snapshot to determine which patches have already been applied. AutoPatch uses an APPL_TOP snapshot to determine if prerequisite patches have been applied to a particular APPL_TOP.

> **Note:** For more information, see Maintain Snapshot Information in
> *Oracle E-Business Suite Maintenance Utilities*.

Actions

If you need to perform any of the Maintain Snapshot tasks, select an option from the Maintain Snapshot Information submenu.

1. Access the Maintain Snapshot Information menu.

   From the AD Administration Main Menu, choose Maintain Applications Files. Then choose Maintain Snapshot Information.

Maintain Snapshot Information Menu

```
            Maintain Snapshot Information
         -------------------------------------------

    1.     List snapshots

    2.     Update current view snapshot

    3.     Create named snapshot

    4.     Export snapshot to file

    5.     Import snapshot from file

    6.     Delete named snapshot(s)

    7.     Return to Maintain Applications Files menu




  Enter your choice [7] : █
```
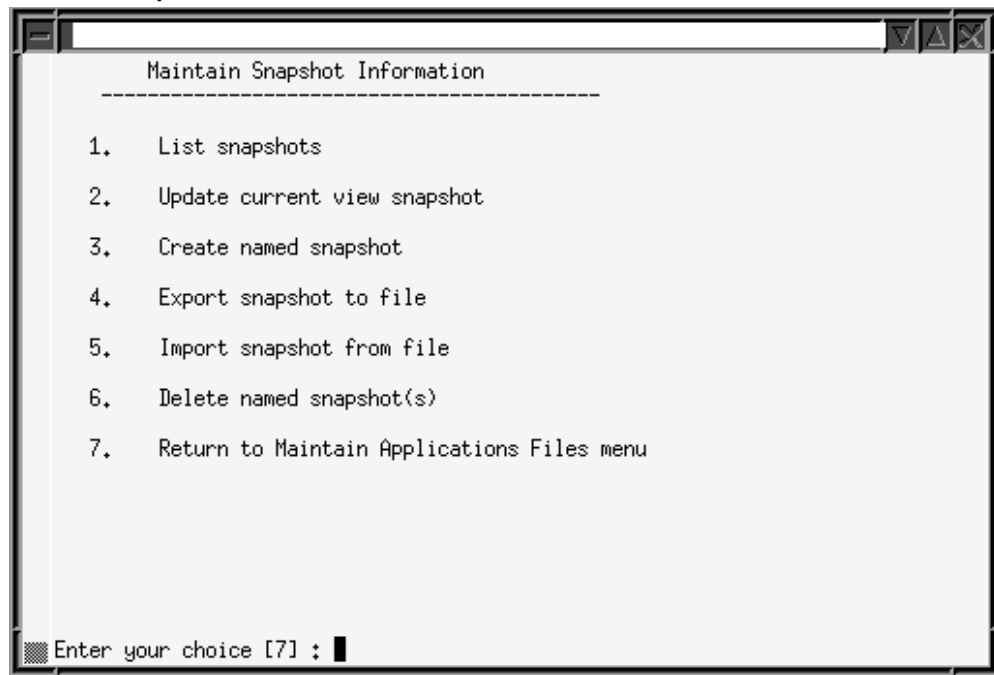
2. Choose an option.

   From this menu, you can:

   • List snapshots (stored in the system)

   • Update current view snapshot (full or partial APPL_TOP and global)

   • Create named snapshot (select a current view snapshot to copy and name)

   • Export snapshot to file (select one to export to a text file)

   • Export snapshot to file (select one to export to a text file)

   • Delete named snapshot (select a snapshot for deletion)

   In addition to the existing snapshots tasks, you can choose to synchronize selected files - a *partial snapshot* - instead of synchronizing all files for the entire APPL_TOP. You would use this option when you have copied only a few files to the APPL_TOP.

   1. Select the Update Current View Snapshot option.

   2. From the snapshot submenu, select one of the following options:

Maintain Current View Snapshot Information Menu

```
┌─────────────────────────────────────────────────────────┬───────┐
│ ─ │                                                     │▽│△│⊠│
├───┴─────────────────────────────────────────────────────┴───────┤
│                                                                  │
│                                                                  │
│  Enter your choice [7] : 2                                       │
│                                                                  │
│                                                                  │
│          Maintain Current View Snapshot Information              │
│         ----------------------------------------                 │
│                                                                  │
│      1.    Update Complete APPL_TOP                              │
│                                                                  │
│      2.    Update JAVA_TOP only                                  │
│                                                                  │
│      3.    Update a PRODUCT_TOP                                  │
│                                                                  │
│      4.    Return to previous Menu                               │
│                                                                  │
│                                                                  │
│                                                                  │
│                                                                  │
│▓▓▓ Enter your choice [4] : █                                     │
└──────────────────────────────────────────────────────────────────┘
```
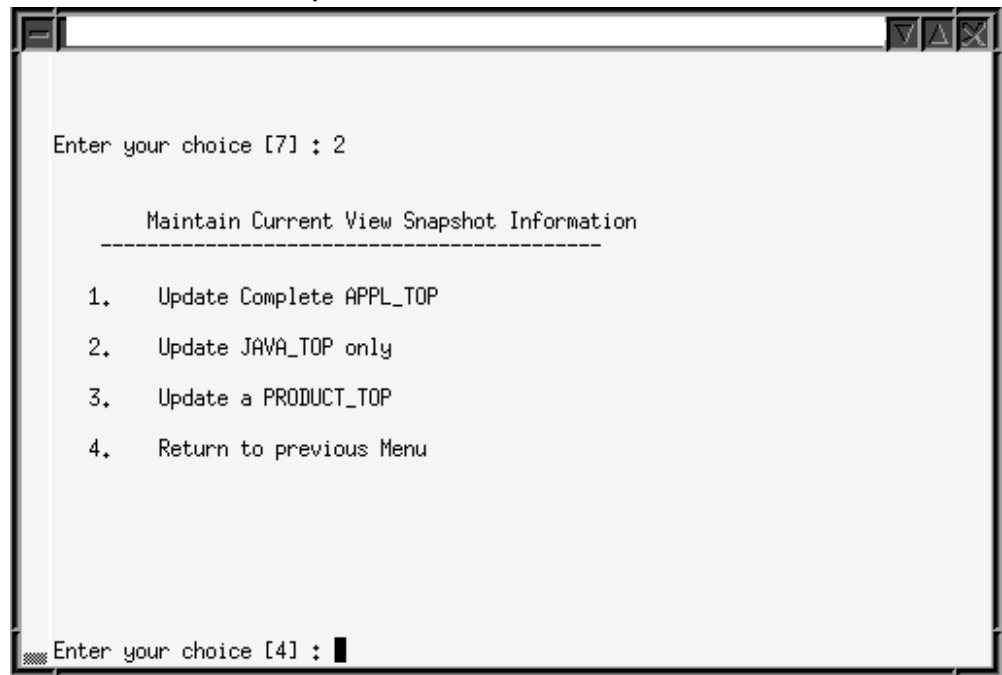
- Update Complete APPL_TOP.

  This is the original functionality of the Update Current View Snapshot option. It synchronizes all the files in your APPL_TOP.

- Update JAVA_TOP only.

  Synchronizes only the files in the JAVA_TOP. At the prompt, enter the path to the JAVA_TOP subdirectory where the files were copied. If the files were copied to more than one directory, press Enter. AD Administration scans the entire JAVA_TOP and updates the information in both the current view and the global view snapshots.

- Update a <PRODUCT>_TOP.

  Synchronizes only the files in a specific <PRODUCT>_TOP. Enter the product abbreviation, then provide the subdirectory information at the prompt.

  Enter the path to a single subdirectory in the <PRODUCT>_TOP. If the files were copied to more than one directory in the <PRODUCT>_TOP, press Enter. AD Administration scans the entire <PRODUCT>_TOP and updates the information in both the current and the global view snapshots.

During a new installation, Rapid Install automatically creates a current snapshot as a baseline. Then, each time you run AutoPatch, it automatically creates a new (updated) snapshot so that the information is current as of the application of the

patch.

> **Tip:** You can update snapshot information using the AD
> Administration task any time you think it necessary. However, the
> process can be time-consuming.

Relinking Product Executables:

Requirement
How do I relink product executables?

Discussion
Relinking executable programs with the Oracle server product libraries keeps them
functioning properly. When you need to relink programs, run the AD Administration
"Relink Applications Programs" task.

> **Note:** For more information, see Relinking Applications Programs in
> *Oracle E-Business Suite Maintenance Utilities*.

Actions
Perform the following steps:

1. Start AD Administration.

   Set the environment and enter `adadmin` on the command line.

   > **Note:** For more information, see Setting the Environment in *Oracle
   > E-Business Suite Maintenance Utilities*.

2. Shut down services.

   When relinking files on a concurrent processing server, shut down the concurrent
   managers. When relinking files on a Forms node, shut down the Forms services.

   > **Note:** For more information, see Stopping and Starting Application
   > Tier Services, page 1-23 in this chapter.

3. Relink programs.

   From the AD Administration Main menu, go to the Maintain Applications Files
   menu. Then choose the "Relink Applications programs" task. For each product,
   choose whether to link all executables or only specific ones.

Relinking AD Executables:

Requirement

How do I relink AD executables?

Discussion

You cannot use AD Administration to relink AD executables. Instead, you run AD Relink. With this command line utility, you can relink several AD utilities with a single command.

AD Relink requires the force= parameter. There is no default for this parameter. You must specify either "n" to relink the executable program only if the dependent libraries or object files are more recent than the current executable program, or "y" to relink regardless of the status of the libraries or object files.

An optional command line argument is backup_mode. Use it to indicate whether you want to back up executables. There are three possible values for backup_mode:

AD Relink backup_mode Values

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

> **Note:** For more information, see AD Relink in *Oracle E-Business Suite Maintenance Utilities*.

Actions

Perform the following steps:

1. Log on as applmgr and set the environment.

   > **Note:** For more information, see Setting the Environment in *Oracle E-Business Suite Maintenance Utilities*.

   Windows users must run %<APPL_TOP>%\relinkenv.cmd, executed from a command window. 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
```

2. Relink files.

Run AD Relink using the appropriate command for your operating system.

UNIX:

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

Windows:

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, list the programs on the command line, separating each with a space and enclosing it in quotations. For example, to relink both AD Controller (adctrl) and AD Administration (adadmin), enter:

UNIX:

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

Windows:

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

To create a backup file (for all executables), use the following syntax:

UNIX:

```
$ adrelink.sh force=y backup_mode=all
```

Compressing, Archiving, and Deleting Files:

Requirement
Which Oracle E-Business Suite files can be safely compressed, archived, or deleted?

Discussion
There are several types of files that can be compressed, archived, or deleted: log and output files, upgrade files, and AutoPatch backup files. However, Oracle recommends this action only if there is no other way to increase available disk space.

> **Caution:** We strongly recommend creating a backup before you delete any files and keeping the backup readily available in case you need to restore files.

Actions
Perform the following tasks, using the commands specific to your operating system.

1. Compress, archive, or delete the following files, according to your operational requirements. The three categories can be treated independently for cleanup purposes.

    - Log and output files.

        You can compress, archive, or delete log and output files created by AD utilities. They are located 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).

        > **Caution:** Log files may contain passwords. Back up these files to a secure location. Do not delete the directories.

    - Upgrade files.

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

        > **Caution:** 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 top subdirectory.

        > **Caution:** Verify that the patch was applied successfully and the patched functionalities are fully tested before you delete backup files.

Maintaining the Database

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

Using System Resources Efficiently:

Requirement
How do I keep optimization statistics up to date?

Discussion

Optimization is the process of choosing the most efficient way to execute a SQL statement. Oracle E-Business Suite Release 12 uses cost-based optimization. By analyzing the "cost" of using each resource, you can keep your system tuned for optimum performance. The optimizer uses actual table statistics to determine the most efficient access paths and join methods for executing SQL statements.

These statistics are gathered when you run the Gather Schema Statistics concurrent program. It is important to run this program after an upgrade and, subsequently, on a regular basis to avoid performance degradation (we recommend once a month). The length of time the statistics in an instance are of any value depends on the amount DML that is done during a period of time. For completely static tables, once may be enough for the life of the table. For tables that are completely reloaded all the time, you must run Gather Schema Statistics more often. Tables loaded during a Data Pull in Demand Planning or Advanced Planning and Scheduling are good examples. OE/OM tables are also constantly updated.

> **Tip:** Based on usage, identify the frequency for gathering all statistics, and the frequency that works best for gathering statistics only for specific products.

Actions

Perform the following steps.

1. Log in to Oracle E-Business Suite 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 E-Business Suite 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.

   > **Note:** For more information, see Cost-Based Optimization in Oracle E-Business Suite in the *Oracle E-Business Suite System Administrator's Guide - Configuration*.

Validating the APPS Schema:

Requirement

How do I verify the integrity of my APPS schema?

Discussion

AD Administration can run a SQL script (advrfapp.sql) against the APPS schema that checks for certain conditions that are undesirable, but will not produce fatal problems. The Validate APPS Schema task executes this script.

You can run this task at any time, but it is most effective if run:

- Immediately after an upgrade

- Before converting to Multi-Org

- After performing an export/import (migration)

- As a part of custom development in the APPS schema

Actions

Perform the following tasks, using the commands specific to your operating system.

1. Start AD Administration.

   Set the environment and enter `adadmin` on the command line.

   > **Note:** For more information, see Setting the Environment in *Oracle E-Business Suite Maintenance Utilities*.

2. Validate APPS schema.

   Select the "Validate APPS schema" task from the Maintain Applications Database Entities menu. Review the output file (<APPS schema name>.lst) for invalid database objects. It is located in $APPL_TOP/admin/<SID>/out (UNIX) or in %APPL_TOP%\admin\<SID>\out (Windows)

   > **Note:** For more information, see Validate APPS Schema in *Oracle E-Business Suite Maintenance Utilities*.

   You can also run this task from SQL*Plus:

   UNIX:

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

   Windows:

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

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

3. Resolve any issues.

The <APPS schema name>.lst file is divided into three sections:

- Issues you *must* fix (not specific to the APPS schema)

- Issues you *must* fix (specific to the APPS schema)

- Issues you may want to address (specific to the APPS schema)

Each section of the file contains instructions for resolving the issues that are listed.

Recreating Grants and Synonyms:

Requirement
How do I recreate grants and synonyms in the APPS schema?

Discussion
In order to maintain database objects, you should check the APPS schema for missing grants and synonyms. Using the AD Administration menu, you can run tasks to validate the APPS schema and then recreate any missing grants and synonyms.

> **Note:** For more information, see Recreate Grants and Synonyms for APPS Schema in *Oracle E-Business Suite Maintenance Utilities*.

Actions
Perform the following steps:

1. Start AD Administration.

Set the environment and enter adadmin on the command line.

> **Note:** For more information, see Setting the Environment in *Oracle E-Business Suite Maintenance Utilities*.

2. Recreate grants and synonyms.

From the Main AD Administration menu, go to the Maintain Applications Database Entities menu. Select the "Recreate grants and synonyms for APPS schema" task.

Compiling Invalid Objects:

Requirement

When should I compile invalid objects?

Discussion

The Oracle database automatically compiles invalid database objects the first time an object is used and during patch application. This action can take some time, so you may want to compile objects before the first use, at a time when you know the system usage is low.

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

- After custom packages are moved to the APPS schema and need to be compiled

- After applying patches that alter packages in the APPS schema

- After validating the APPS schema and identifying invalid objects

Actions

Perform the following tasks, using the commands specific to your operating system.

1. Start AD Administration.

   Set the environment and enter `adadmin` on the command line.

   > **Note:** For more information, see Setting the Environment in *Oracle E-Business Suite Maintenance Utilities*.

2. Compile Applications schema.

   From the Main AD Administration menu, go to the Compile/Reload Database Entities menu. Choose the "Compile APPS schema" task.

Pre-Allocating Space for Packages and Functions:

Requirement

How do I ensure that there is enough space in the System Global Area (SGA) for packages and functions?

Discussion

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

> **Important:** 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.

Actions

Perform the following tasks, using the commands specific to your operating system.

1. Create the appsutil/admin directory in the ORACLE_HOME of the database server, if it does not already exist.

2. Copy ADXGNPIN.sql and ADXGNPNS.sql from the AD_TOP/sql directory of the administration server to this directory.

3. Set the environment to point to the ORACLE_HOME for the database server.

4. On the database server, 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>
```

Listing Objects in the Shared Pool:

Requirement

How can I see a list of objects stored in the 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.

Actions

1. Run the following commands:

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

Performing Maintenance Tasks Non-Interactively

Unless otherwise noted, maintenance tasks described in this book are performed interactively: they require user intervention, primarily in the form of responding to prompts. However, you can schedule certain AD Administration and AD Controller tasks to run with little or no user intervention by running these utilities *non-interactively*: instead of responding to prompts each time you run the task, you specify a file that contains the information necessary to complete the task without user intervention. In such a case, there is no need to monitor the process in order to respond to prompts. The file used is referred to as a *defaults file*.

Scheduling Non-Interactive Maintenance:

Requirement

How do I schedule and run maintenance tasks non-interactively?

Discussion

To set up a non-interactive task, you first create and save a defaults file by running the selected task interactively from the AD Administration menu and adding the defaultsfile=<defaults file name> argument. This causes the information you provide at the prompts, and other information pertinent to that task, to be captured in a file and stored in $APPL_TOP/admin/<SID>/<path>.

> **Tip:** AutoConfig automatically creates a defaults file (adalldefaults.txt) each time it runs. This file can be used as a template to create a customized defaults file. However, we recommend that you create the defaults file as described in this procedure.

Once the defaults file is created, you start the utility from the command line, and specify the name of the defaults file, a log file name, and the number of parallel workers.

The same defaults file can be used to run different AD Administration commands: a single such file can contain all your choices for the different menu options. In order to choose which task the defaults file will run, you also add menu_option=<menu choice> to the utility start command. This overrides any menu-specific key stroke information stored in the defaults file initially, and allows you to use the defaults file for any of the AD Administration menu items. It also ensures that the menu option you intended for the defaults file is always valid, even if the menu items are renumbered or relocated in subsequent releases.

> **Note:** For more information, see Preparing for Non-Interactive Processing in Chapter 4 and Monitoring and Controlling Parallel Processes in Chapter 1 of *Oracle E-Business Suite Maintenance Utilities* for

a list of the menu_option= values.

Actions

Perform the following steps.

1. Create the defaults file.

    Start AD Administration, using the defaultsfile= argument, and specifying the file name and the path to the defaults file. This 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 Main menu, go the appropriate menu and select a maintenance task. As the task runs, respond to all the prompts. You must create a separate defaults file for each task you want to run non-interactively.

    > **Warning:** If you omit any information, AD Administration may not be able to complete the session when you run it non-interactively.

3. Verify that the defaults file exists.

4. Run the AD Administration task non-interactively.

    On the command line, start the utility and specify non-interactive processing and the defaults file name. In addition, supply the name of the log file, the number of parallel workers, and the name of the menu choice.

    For example, to run the "Check DUAL table" task non-interactively, using a defaults file named adadmindef.txt, a log file named adadmin_noninteractive.log, and with 5 workers, you would enter:

    UNIX:

    ```
    $ adadmin interactive=n \
    defaultsfile=$APPL_TOP/admin/testdb1/adadmindef.txt \
    logfile=adadmin_noninteractive.log workers=5 \
    menu_option=CHECK_DUAL
    ```

Windows:

```
C:\> adadmin defaultsfile=%APPL_TOP%\admin\testdb1\adadmindef.txt
logfile=adadmin_noninteractive.log workers=5 interactive=n
menu_option=CHECK_DUAL
```

> **Note:** For more information, see the list of options in Preparing for Non-Interactive Processing in *Oracle E-Business Suite Maintenance Utilities*.

Restarting a Failed Session:

Requirement

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

Discussion

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

Actions

Perform the following tasks, using the commands specific to your operating system.

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=n \
    restart=y menu_option=CHECK_DUAL
    ```

    Windows:

    ```
    C:\> adadmin defaultsfile=%APPL_TOP%\admin\testdb1\adadmindef.txt
    logfile=adadmin_noninteractive.log workers=5 interactive=n restart=y
    menu_option=CHECK_DUAL
    ```

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

Distributing Processing Tasks

Requirement:

How can I run processes concurrently on my multi-node system?

Discussion:

Distributed AD is a parallel processing feature that can further reduce task time by utilizing all available resources in systems that have a shared application tier file system. With Distributed AD, AD Administration and AutoPatch run on one node and direct workers running both on that node and on other nodes in the system.

> **Note:** You must have a shared application tier file system to use Distributed AD.

Actions:

To take advantage of this processing operation, run AD Administration or AutoPatch on the primary node with the command line options.

```
workers=<total number of workers> localworkers=<number of workers on
primary node>
```

This is illustrated in the following two examples.

Example 1

1. To run an AutoPatch session with a total of eight workers and three workers on the primary node, enter the command:

   ```
   $ adpatch workers=8 localworkers=3
   ```

2. Now start an AD Controller session on each of the other nodes with the following command:

   ```
   $ adctrl distributed=y
   ```

3. To start workers 4 through to 8 on a secondary node, enter "4-8" in response to the prompt from AD Controller:

   ```
   Enter the worker range: 4-8
   ```

   > **Note:** Workers must be specified in contiguous numbered blocks. For example, you cannot start workers 4, 6, 8 on one node, and 5, 7, 9 on another.

Example 2

1. To run a total of twelve workers on a three-node system, enter the command:

   ```
   $ adpatch workers=12 localworkers=4
   ```

2. Now start an AD Controller session on the second node, specifying that workers 5-8 should run there:

   ```
   $ adctrl distributed=y
   Enter the worker range: 5-8
   ```

> **Note:** Workers must be specified in contiguous numbered blocks.
> For example, you cannot start workers 4, 6, 8 on one node, and 5, 7,
> 9 on another.

3. Finally, start AD Controller on the third node, specifying that the last four workers (9-12) should run there:

```
$ adctrl distributed=y
Enter the worker range: 9-12
```

Managing Server Processes

When running certain scripts or utilities, you may be directed to stop server processes manually. This section contains information about stopping and starting these processes.

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

Starting and Stopping Application Tier Services:

Requirement
How do I start and stop application tier services?

Discussion
When Rapid Install sets up and configures the server processes, it stores a control script for each process in the $INST_TOP/admin/scripts directory.

Certain maintenance procedures require that you stop one or more services or servers manually, and restart them after you complete the procedure. By running the appropriate script on the command line, along with a stop or start argument, you can stop (or start) a single server process, several processes, or all processes. The following table lists the scripts. The application tier logon is applmgr.

Application Tier Server Process Control Scripts

Server Process	UNIX Script	Windows Script
HTTP (Web) Server: Processes URL requests to execute Forms-based Applications and HTML-based Applications.	`adapcctl.sh`	`adapcctl.cmd`
Concurrent Managers: Read requests for programs and start the appropriate concurrent programs. These scripts require the APPS username and password.	`adcmctl.sh`	`adcmctl.cmd`
Forms (OC4J): These scripts are used to start, stop and check the status of the Forms OC4J instance.	`adformsctl.sh`	`adformsctl.cmd`
Forms (Socket): These scripts are used to start, stop and check the status of the Forms services in Socket Mode.	`adformsrvctl.sh`	`adformsrvctl.cmd`
oacore: These scripts are used to start, stop and check the status of the oacore OC4J instance.	`adoacorectl.sh`	`adoacorectl.cmd`
Oracle Process Manager (opmn): These scripts are used to start, stop and check the status of opmn.	`adopmnctl.sh`	`adopmnctl.cmd`
Start all application tier server processes: These scripts require the APPS username and password.	`adstrtal.sh`	`adstrtal.cmd`
Stop all application tier server processes: These scripts require the APPS username and password.	`adstpall.sh`	`adstpall.cmd`

Actions

Choose the procedure that meets your needs.

To start or stop a single application tier server process (UNIX)

Use a command of the following format:

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

> **Tip:** Many of the relevant scripts also have a 'status' option, which is often useful.

1. Open a terminal window.

2. To stop the Concurrent Processing server (for example), run the adcmctl.sh script with the 'stop' option:

    ```
    % adcmctl.sh stop
    ```

To start or stop a single application tier server process (Windows)

On Windows , services can be started or stopped using the appropriate process control script (command file), or from the Services Control Panel.

Using Process Script

1. Open a command window.

2. To stop the Concurrent Processing server (for example), run the adcmctl.cmd script with the 'stop' option:

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

Using Services Control Panel

1. Go to Start > Administrative Tools and click Services.

2. Select the relevant service in the Services window.

3. Click Start or Stop, as required.

To start all application tier server processes (UNIX)

Use a command of the following format:

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

1. Open a terminal window.

2. Enter the command:

    ```
    $ adstrtl.sh <APPS username</<APPS password>
    ```

To start all application tier server processes (Windows)

Use a command of the following format:

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

1. Open a command window.

2. Enter the command:

   ```
   C:\> adstrtal.cmd <APPS username</<APPS password>
   ```

To stop all application tier server process (UNIX)

Use a command of the following format:

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

1. Open a terminal window.

2. Enter the command:

   ```
   $ adstpall.sh <APPS username</<APPS password>
   ```

To stop all application tier server process (Windows)

Use a command of the following format:

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

1. Open a command window.

2. Enter the command:

   ```
   C:\> adstpall.cmd <APPS username</<APPS password>
   ```

Starting and Stopping Database Tier Services:

Requirement

How do I start or stop 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 Oracle 11*g* database server $ORACLE_ HOME/appsutil/scripts/<CONTEXT_NAME> directory. You use this script to start or stop the Net Services listener process for the database.

Actions

To start or stop the Net Services listener (UNIX)

1. Open a terminal window.

2. Log in as the oracle user on the database server and navigate to the $ORACLE_
   HOME/appsutil/scripts/<CONTEXT_NAME> directory.

3. Enter a command of the form:

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

> **Tip:** Many of the relevant scripts also have a 'status' option, which
> is often useful.

For example, to start the PROD listener, enter:

```
$ addlnctl.sh start PROD
```

> **Note:** For more information, see the *Oracle Net Services
> Administrator's Guide*.

To start or stop the Net Services listener (Windows)

1. As the oracle user, open a command window and navigate to the %ORACLE_
   HOME%\appsutil\scripts\<CONTEXT_NAME> directory.

2. Enter a command of the form:

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

For example, to start the PROD listener, enter:

```
C:\> addlnctl.cmd start PROD
```

> **Note:** For more information, see the *Oracle Net Services
> Administrator's Guide*.

Requirement

How do I start or stop the Oracle database manually?

Discussion

When Rapid Install sets up and configures the server processes during installation, it
creates a script for the database process in the Oracle 11*g* database server $ORACLE_
HOME/appsutil/scripts/<CONTEXT_NAME> directory. You use this script to start or
stop the database on your database tier.

Actions

To start or stop the Oracle database (UNIX)

1. Log in as the oracle user on the database server.

2. Open a terminal window and navigate to the $ORACLE_ HOME/appsutil/scripts/<CONTEXT_NAME> directory.

3. Enter a command of the form:

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

> **Tip:** Many of the relevant scripts also have a 'status' option, which is often useful.

For example, to stop the database using the normal option, you would enter:

```
$ addbctl.sh stop normal
```

To start or stop the Oracle database (Windows)

1. Log in as the oracle user on the database server.

2. Open a command window and navigate to the %ORACLE_ HOME%\appsutil\scripts\<CONTEXT_NAME> directory.

3. Enter a command of the form:

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

For example, to start the PROD listener, enter:

For example, to stop the database using the normal option, you would enter:

```
C:\> addbctl.cmd stop normal
```

2

Reporting and Tracking

This chapter describes how to use the reporting and tracking features in Oracle E-Business Suite.

This chapter covers the following topics:

- Timing Information
- General System Reporting

Timing Information

Use the reports in this section to gather job timing statistics.

Requirement:

How can I monitor the time it takes to complete individual system patching or maintenance sessions?

Discussion:

When you run AD Administration or AutoPatch, they automatically capture timing information about processing sessions that run parallel tasks.

Stored in database tables, this information can be accessed as the *AD Job Timing Report*. You can access the content of this report from either the OAM Timing Reports feature or the command line.

The information captured includes:

- Jobs run successfully on the first try

- Failed jobs that were restarted and then run successfully

- Failed jobs that were skipped

- Time-consuming jobs

- Job timing information

- Summary information about each parallel phase

- Overall timings for each session

- Status of an in-progress patching session

Actions:

Information about timing sessions for both AD Administration and AutoPatch is collected in a single action and can be viewed in Oracle Applications Manager.

> **Note:** For more information about this interface and its contents, see AutoPatch Timing Details and AD Administration Timing Details in *Oracle E-Business Suite Patching Procedures*.

> **Note:** For instructions on running a job timing report manually from the command line during a current session, or for a previous session, see AD Job Timing Report in *Oracle E-Business Suite Maintenance Utilities.*

General System Reporting

Use the reports in this section to gather general system statistics and status information.

Installed Configuration Information:

Requirement

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

Discussion

The AD Configuration script (adutconf.sql) is an SQL script that reports on the configuration of an Oracle E-Business Suite system. You can use the report (adutconf.lst) in troubleshooting, or simply to document the status of your installation. For example, it contains information about undo segments, registered products and schemas, Reporting Currencies settings, and NLS database initialization parameters.

> **Note:** For more information, see AD Configuration Report in *Oracle E-Business Suite Maintenance Utilities*.

Actions

1. Log in as applmgr and set the environment as described in Setting the Environment in Chapter 1 of *Oracle E-Business Suite Maintenance Utilities*.

2. Use the command for your platform to run the 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
```

Identifying File Versions and Translation Levels:

Requirement

I want to obtain information about file versions.

Discussion

When collecting information about your system, perhaps for sending to Oracle Support, you may need to determine the version and translation levels of your files.

Actions

You can obtain version and translation levels of your files by running AD File Identification (`adident`).

> **Note:** For more information, see AD File Identification Report in *Oracle E-Business Suite Maintenance Utilities*.

3

Troubleshooting

This chapter contains information about using the AD Controller to monitor and resolve issues that may arise when using other AD utilities.

This chapter covers the following topics:

- Managing Worker Processes
- Restarting Processes
- Shutting Down and Restarting Managers

Managing Worker Processes

AD Administration and AutoPatch 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.

> **Note:** For more information, see Using Parallel Processing in *Oracle E-Business Suite Maintenance Utilities*.

Reviewing Worker Status:

Requirement
How can I monitor the progress of parallel processing jobs?

Discussion
When AD Administration and AutoPatch process jobs in parallel, they assign jobs to workers for completion. There may be situations that cause a worker to stop processing. AD Controller is a utility you can use to determine the status of workers and manage worker tasks. You use it to monitor the actions or workers and the status of the processing jobs they have been assigned.

> **Note:** For more information, see AD Controller in *Oracle E-Business Suite Maintenance Utilities*.

Actions

To review worker status, perform these steps:

1. Start AD Controller.

   Set the environment and enter `adctrl` on the command line.

   > **Note:** For more information, see Setting the Environment and Monitoring and Controlling Parallel Processes in *Oracle E-Business Suite Maintenance Utilities*.

2. Review worker status.

   Select "Show worker status" from the AD Controller main menu. AD Controller displays a summary of current worker activity. The summary columns are:

   • Control Worker is the worker number

   • Code is the last instruction from the manager to this worker

   • Context is the general action the manager is executing

   • Filename is the file the worker is running (if any)

   The following table describes the types of status that may be assigned to a worker and reported in the Status column.

   Worker Status Values

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.

Status	Meaning
Fixed, Restart	The worker should retry the failed operation now that the problem has been fixed.
Restarted	The worker is retrying a job or has successfully restarted a job (note that the status does *not* change to Running).
Running	The worker is running a job
Wait	The worker is idle.

If the worker status shows as Failed, the problem may need to be fixed before the AD utility can complete its processing. This is described next.

Determining Why a Worker Failed:

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 (adworknnn.log) to determine what caused the failure. These log files are written to APPL_TOP/admin/<SID>/log. You can find the worker log file and copy it to a temporary area so that you can review it. If the job was deferred after the worker failed, there may be no action required on your part.

The first time a job fails, the manager defers the job and assigns a new worker. If the deferred job fails a second time, the manager defers it a second time only if the runtime of the job is less than ten minutes. If the deferred job fails a third time, or if the job's runtime is greater than ten minutes, the job stays at a failed status and the worker waits for intervention.

> **Note:** For more information, see Log and Restart Files in *Oracle E-Business Suite Maintenance Utilities*.

Actions

1. Start AD Controller.

   Set the environment and enter `adctrl` on the command line.

2. Identify the worker that encountered a problem.

   Workers that have encountered problems stop processing jobs and show a status of Failed. Follow the steps in the Reviewing Worker Status, page 3-1 section in this chapter to determine which workers have a status of Failed.

3. Review the 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 this example, the worker could not create the index AP_INVOICES_N11 because it reached the maximum number of extents in the temporary tablespace.

4. Determine how to fix the problem that caused the failure.

Handling a Failed Job:

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, no action may be required.

> **Note:** For more information, see Using Parallel Processing in *Oracle E-Business Suite Maintenance Utilities*.

Actions

Perform the following steps:

1. Set the environment and enter `adctrl` on the command line.

    > **Note:** For more information, see Setting the Environment and Monitoring and Controlling Parallel Processes in *Oracle E-Business Suite Maintenance Utilities*.

2. Identify 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.

3. Review the worker log file.

    Each worker logs the status of tasks assigned to it in adworkxxx.log, where xxx is the worker number. These files are in the $APPL_TOP/admin/<SID>/log directory. For example, adwork001.log for worker 1 and adwork002.log for worker 2. Review adworknnn.log for the failed worker to determine the source of the error.

4. 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.

5. Restart the failed job.

    Choose Option 2 from the AD Controller main menu to tell the worker to restart a failed job.

6. 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:

Requirement

A worker process has been running for a long time. What should I do?

Discussion

When running 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 restart that process manually.

> **Caution:** A process that appears to be hanging could actually just be a long-running job.

To terminate a process, start AD Controller, obtain the ID of the worker, and then stop any hanging processes. Once you make the necessary changes, you can restart the job or worker.

> **Note:** For more information, see Restarting a Failed Worker, page 3-7 in this chapter. See also AD Command Line Utilities and Monitoring and Controlling Parallel Processes in *Oracle E-Business Suite Maintenance Utilities*.

Actions

1. Start AD Controller.

   Set the environment and enter `adctrl` on the command line.

   > **Note:** For more information, see Setting the Environment and Monitoring and Controlling Parallel Processes in *Oracle E-Business Suite Maintenance Utilities.*

2. 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:

   • Check 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.

3. 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 Windows Task Manager (with Ctrl-Alt-Delete or Ctrl-Shift-Esc) to view processes.

4. 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.

5. Stop the hanging process, using the command that is appropriate for your operating system.

6. Fix the issue that caused the worker to hang. Contact Oracle Support Services if you require assistance doing this.

7. Restart the job or the worker.

   See Restarting a Failed Worker, page 3-7 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:

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 restart the worker manually.

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.

Actions
Perform these steps:

1. Start AD Controller.

   Set the environment and enter adctrl on the command line.

> **Note:** For more information, see Setting the Environment and Monitoring and Controlling Parallel Processes in *Oracle E-Business Suite Maintenance Utilities*.

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 menu 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 on the current machine. When prompted, enter the number of the worker that failed.

     > **Caution:** Do not choose Option 6 if the worker process is running. Doing so will create duplicate worker processes with the same worker ID.

   The worker will restart its assigned jobs and spawn the necessary child processes.

Restarting an AD Utility After Machine Failure:

Requirement
While I was running an AD utility, the machine crashed. What is the best way to the restart the utility?

Discussion
Because the manager cannot automatically detect a machine crash, you must manually notify it 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.

Actions
Perform these steps:

1. Start AD Controller

   Set the environment and enter `adctrl` on the command line.

> **Note:** For more information, see Setting the Environment and Monitoring and Controlling Parallel Processes in *Oracle E-Business Suite Maintenance Utilities*.

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 Managers

This section discusses some reasons for shutting down and reactivating managers.

Shutting Down a Manager:

Requirement

How do I stop an AD utility while it is 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 the database during an AutoPatch or AD Administration session.

You should perform this shutdown in an orderly fashion so that it does not affect your data. The best way to do this is to shut down the workers manually so that the AD utility quits in an orderly fashion.

Actions

Perform these steps:

1. Start AD Controller

    Set the environment and enter `adctrl` on the command line.

    > **Note:** For more information, see Setting the Environment and Monitoring and Controlling Parallel Processes in *Oracle E-Business Suite Maintenance Utilities*.

2. Select Option 3 and enter all for the worker number. Each worker stops once it completes or fails its current job.

3. Verify that no worker processes are running. Use the appropriate command for your platform.

UNIX:

```
$ ps -a | grep adworker
```

Windows:

Invoke the Task Manager (with Ctrl-Alt-Delete or Ctrl-Shift-Esc) to view processes.

4. When all workers have shut down, the manager and the AD utility quit.

Restarting a Manager:

Requirement

No workers are running jobs, when they should be doing so. What is 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 and 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.
```

Actions

Complete the following steps for each failed worker:

1. Start AD Controller.

> **Note:** For more information, see Setting the Environment and Monitoring and Controlling Parallel Processes in *Oracle E-Business Suite Maintenance Utilities*.

2. Determine the cause of the error.

Choose Option 1 to view the status. Review the worker log file for the failed worker to determine the source of the error.

3. 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.

4. 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.

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