Oracle® eMail Server

Administrator's Guide

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Oracle eMail Server Administrator's Guide, Release 5.2

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Primary Author: Ginger Tabora

Contributors: Claus Cooper, Vikas Dhamija, Rangan Doreswamy, Sandra Lee, Stefano Montero, Ricardo Rivera, Harvinder Walia, Anthony Ye

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Preface

Intended Audience

The *Oracle eMail Server Administrator's Guide* is intended for anyone who will be planning, configuring, managing, or monitoring Oracle eMail Server. It provides an introduction to the components and concepts of eMail Server and describes the planning, configuring, and management tasks you will perform.

Oracle eMail Server Documentation

Oracle eMail Server documentation is available in HTML and PDF format on the CD-ROM and installs automatically during product installation. Use your Web browser to access **$ORACLE_HOME/doc/es52/index.htm** on your server. The following documents are available:

Oracle eMail Server Administrator's Guide

Oracle eMail Server Release Notes

Oracle eMail Server Installation Guide

Oracle eMail Server Developer's Guide

Notation Conventions

The following notational conventions appear in this manual:

Convention	Description
italic	Italicized type identifies document titles.
`Monospace`	Monospace type indicates commands.
bold	Boldface type indicates script names, directory names, path names, and filenames (for example, the **root.sh** script).
UPPERCASE	Uppercase letters indicate parameters or environment variables (for example, ORACLE_HOME).
. . .	In code examples, vertical ellipsis points indicate that information not directly related to the example has been omitted.
...	In command syntax, horizontal ellipsis points indicate repetition of the preceding parameters. The following command example indicates that more than one input_file may be specified on the command line. `command [input_file ...]`
< >	In command syntax, angle brackets identify variables that the user must supply. The following command example indicates that the user must enter a value for the variable input_file: `command <input_file>`
[ ]	In command syntax, brackets enclose optional clauses from which you can choose one or none. The following command example indicates that the variable output_file is optional: `command <input_file> [output_file]`
{ }	In command syntax, curly brackets indicate that a choice of two or more items separated by a vertical bar or pipe (|). The following command example indicates a choice of either a or b: `command {a | b}`
$	The dollar sign represents the shell prompt in UNIX. [1]

---

[1] In examples, an implied carriage return occurs at the end of each line, unless otherwise noted. You must press the Enter key at the end of a line of input.

1

Administering eMail Server

Oracle eMail Server provides tools to help you perform most administration tasks, including managing processes, directory entries, and databases. You can also use monitor tests and server process logs to monitor the system for potential problems.

Before administering eMail Server, make sure that you have installed eMail Server and the Administration Tool correctly. You must also configure Net8 so that you can connect to the appropriate databases and Guardian controllers.

> **Warning:**   Do not run any eMail Server 5.2 administration tools against earlier versions.

> **See Also:**   *Oracle eMail Server Installation Guide* for more information about installing and configuring the administration tools.

To administer the system, review the following procedures:

- Logging on to the Administration Tool and OOMGR
- Using the Administration Tool Graphical User Interface
- Using the Administration Tool Command-Line Interface
- Administration Tasks Not Available in the Administration Tool
- Using OOMGR
- Managing Text-Based Configuration Files
- Managing Administrative Privileges
- Contacting Oracle Support Services

> **Note:** You must be familiar with the concepts presented in the *Oracle eMail Server Concepts Guide* before proceeding with this Administration Guide.

Logging on to the Administration Tool and OOMGR

When you log on to eMail Server, you connect to the node that you want to administer. You can log on to any node that has a database.

When you log on to any node using the Administration Tool, you will see your entire system topology, including other nodes to which you can also connect. However, it is recommended that you log onto the System Configuration Node to see the most recent changes to the system. Nodes other than the System Configuration Node must wait for configuration information to be replicated from the System Configuration Node so they may not have the most recent system changes.

> **Note:** If you plan to add or remove a domain using the Administration Tool, you should log onto the Domain Configuration Node under which you will create or remove the domain. If you are already logged onto the Administration Tool, you should shut down the Administration Tool and restart it. Then, log on directly to the Domain Configuration Node where you will be creating or removing the domain.

See Also: "Creating a Domain or Subdomain" on page 5-2 and "Deleting a Domain" on page 5-7 for more information.

When you start either the Administration Tool or OOMGR, you will be prompted for the following information:

Username   The username must have administrative privileges.

                         Generally, you will enter the ADMIN username you created during the eMail Server system installation.

Password	The password must correspond to the username.
	Generally, you will enter the password you entered for the ADMIN account during the eMail Server system installation.
Connect_string	connect_string for the node to which you want to connect. This should be the same as the service name that you entered for this node in your **tnsnames.ora** file.
	See Also: *Oracle eMail Server Installation Guide* for more information about this file.
Qualified domain	Complete name of the domain to which you want to connect. If your system has only one domain, you do not need to enter a value.

Using the Administration Tool Graphical User Interface

Use the Administration Tool to configure and maintain your eMail Server system. Because information in the Administration Tool is organized hierarchically, you can easily see the relationships between the nodes, domains, communities, gateways, and processes on your system. You can also use the Administration Tool to maintain user accounts, update directory entries, and monitor your system.

> **Note:**   With the Administration Tool, you can perform about 95% of the administration and system management tasks that you can perform with OOMGR.

> **See Also:**   "Administration Tasks Not Available in the Administration Tool" on page 1-12 for a list of tasks that must be performed using OOMGR.

To begin using the Administration Tool GUI, see the following tasks:

- Starting the Administration Tool GUI
- Navigating in the Administration Tool GUI

Starting the Administration Tool GUI

You start the Administration Tool by connecting to any eMail Server node. From there, you can connect to the rest of the nodes and domains in your system without

having to start a new instance of the Administration Tool, and without having to log out of any of the other nodes. You can connect to a maximum of eighty eMail Server system nodes at once.

> **See Also:** "Logging on to the Administration Tool and OOMGR" on page 1-2 for more information.

Prerequisites

You must have administrative privileges to use the Administration Tool.

> **See Also:** "Managing Administrative Privileges" on page 1-19 for more information.

Steps

The procedure for starting the Administration Tool depends on the platform on which the Administration Tool is installed.

On Windows NT or Windows 95

1. Double-click the Administration Tool icon (**imadm.exe**).

   The tool starts, displaying a left pane and a right pane.

2. In the left pane, click Messaging System.

3. In the Messaging Admin Server Logon dialog box, enter a valid username, password, connect_string, and qualified domain name for your eMail Server system.

   > **See Also:** "Logging on to the Administration Tool and OOMGR" on page 1-2 for descriptions of these variables.

4. Click Logon.

   You can now expand the navigation tree in the left pane and begin using the Administration Tool to monitor and configure your eMail Server system.

On Solaris

1. Define the **ORACLE_HOME** environment variable in the **.login** file (for the C shell) or the **.profile** file (for the Bourne or Korn shell):

   login (C shell)   `setenv ORACLE_HOME <directoryName>`

profile (Bourne or   `ORACLE_HOME=<directoryName>`
Korn shells)   `export ORACLE_HOME`

2. Add the following path to the **PATH** environment variable in the **.login** or **.profile** file:

   `$ORACLE_HOME/bin`

3. At the Solaris prompt, enter the following command:

   `$ imadm`

   The tool starts, displaying a right pane and a left pane.

4. In the left pane, click Messaging System.

5. In the Messaging Admin Server Logon dialog box, enter a valid username, password, connect_string, and qualified domain name for your eMail Server system.

   > **See Also:** "Logging on to the Administration Tool and OOMGR" on page 1-2 for descriptions of these variables.

6. Click Logon.

   You can now expand the navigation tree in the left pane and begin using the Administration Tool to monitor your eMail Server system.

7. To access the on-line help in the Administration Tool graphical user interface, select Help from the menu.

Navigating in the Administration Tool GUI

The Administration Tool provides an easy way to view and manage your eMail Server system. The Administration Tool window is divided into four areas: the menu, toolbar, navigation tree, and right pane.

Menu

The menu is located across the top of the window. It provides quick access to basic tasks that you can perform with eMail Server. For example, you can choose Messaging System->Start All Processes... to start all the server processes that are registered in the system.

Some menu items only appear when you have a specific object selected in the navigation tree. For example, when you select a specific node, the Messaging System menu expands to include the Export command to export data from one node to another.

Toolbar

The toolbar is located below the menu. It provides graphical buttons that you can use to perform tasks that are specific to the object you have selected in the navigation tree. The action performed by a button changes when you select different objects in the navigation tree.

For Example:

When you select Domains in the navigation tree and click (Create), the Add a New Domain dialog box appears. However, if you change your selection in the navigation tree to Communities and click (Create), the Insert Community dialog box appears.

Sometimes buttons only appear when a particular object is selected in the navigation tree. For example, when you select a node in the navigation tree, three new buttons appear. These buttons perform tasks specific to a node, such as Export.

The toolbar also contains arrow buttons that you can use to move through the navigation tree from one object to the next, and it contains a Help button that you can click to see the Online Help.

 Takes you to the parent item in the navigation tree.

 Takes you to the last item that you selected in the navigation tree.

 Returns you to the item that was selected before clicking .

 Opens the Online Help.

Navigation Tree

Located on the left side of the window. It provides a hierarchical view of the objects in your system. You can move through the navigation tree the same way you would move through a directory tree in your operating system's file manager or explorer. Use the following guidelines to move through the hierarchy:

+ before an object name means that the object can be expanded to see the contents. To expand the object, either click the + or double-click the object name.

- before an object name means that the object is already expanded. To hide the object contents, either click the - or double-click the object name.

Tasks in this guide use the standard UNIX directory notation for identifying the object that you should select in the tree.

Example:

If a task says to select *Messaging System/Domains/DOMAIN NAME*, you would expand the Messaging System item, expand the Domains item, and select the name of the domain in which you want to perform the task.

When you select an object, details about the object appear in the right pane of the window.

To perform a task related to an object, you can either choose a menu item, click a toolbar button, or right-click the object name and select a task from the pop-up menu. Some options are not available through the pop-up menu.

Right Pane

Located on the right side of the window. It displays the details about an object selected in the navigation tree. If there are many details, the right pane may be organized into tabs that you click to view the different types of details.

Using the Administration Tool Command-Line Interface

Use the Administration Tool command-line interface to manage your eMail Server system through a command line. Objects in the command line are organized the same way as the GUI so you can navigate through the hierarchy as if it were a directory file system. This command line provides the same functionality as the GUI.

> **Note:** With the Administration Tool, you can perform about 95% of the administration and system management tasks that you can perform with OOMGR.

> **See Also:** "Administration Tasks Not Available in the Administration Tool" on page 1-12 for a list of tasks that must be performed using OOMGR.

To begin using the Administration Tool GUI, see the following tasks:

- Starting the Administration Tool Command-Line Interface
- Guidelines for Using the Administration Tool Command-Line Interface
- Example Tasks Using the Administration Tool Command-Line Interface

Starting the Administration Tool Command-Line Interface

You start the Administration Tool by connecting to any eMail Server node. From there, you can connect to the rest of the nodes and domains in your system without having to start a new instance of the Administration Tool, and without having to log out of any of the other nodes. You can connect to a maximum of eighty eMail Server system nodes at once.

> **See Also:** "Logging on to the Administration Tool and OOMGR" on page 1-2 for more information.

Prerequisites

You must have administrative privileges to use the Administration Tool.

> **See Also:** "Managing Administrative Privileges" on page 1-19 for more information.

Steps

This procedure is the same on Windows NT, Windows 95, and Solaris platforms. The only difference is the filename.

1. To start the Administration Tool command-line interface, open a shell tool (this could be DOS, Bourne, Korn, or any other shell available on your platform).

2. At the prompt, enter one of the following commands:

On Solaris	On Windows 95 or Windows NT
`$ imadml`	`> imadml.exe`

3. At the Admin prompt enter the following command:

```
Admin>logon messaging password=<admin_password> connect=<connect_string>
domain=<qualified_domain>
```

This can be abbreviated:

```
Admin>logon m p=<admin_password> c=<connect_string> d=<qualified_domain>
```

> **See Also:** "Logging on to the Administration Tool and OOMGR"
> on page 1-2 for descriptions of these variables.

4. To view a list of the available commands in the Administration Tool command-line interface, enter the following command:

```
Admin>help
```

> **See Also:** Chapter 21 on page 21-347 for a complete command reference.

Guidelines for Using the Administration Tool Command-Line Interface

The Administration Tool command line provides several commands that you can use to perform any of the tasks that are available in the Administration Tool GUI. You can use these commands alone or in a script. See Chapter 21 on page 21-347 for a complete command reference.

Use the following guidelines when entering any command:

- Property values are case-insensitive and spaces are ignored.

- You can shorten a property name by typing only the first one or more characters that can uniquely identify the property. For example, you can type "mess" to represent Messaging System.

Example Tasks Using the Administration Tool Command-Line Interface

Performing a complete task with the Administration Tool command line involves more than one command. The Administration Tool command line is designed to mirror the structure of the Administration Tool GUI. You can "change directories" through the objects in the navigation tree as if you were navigating through your operating system's file system.

The following examples show how you can move through the navigation tree in the Administration Tool command line to complete common tasks. Each step includes a description of how you would perform the step in the Administration Tool GUI.

> **See Also:**   Chapter 1 on page 1-1 for a complete command reference.

Create a New Location Entry in the Directory

1. Start the command-line tool and log on to the Domain Configuration Node where you want to create the Location entry.

    > **See Also:**   "Starting the Administration Tool Command-Line Interface" on page 1-8 for instructions.

2. Change to the Directory Entries object directory.

    This is equivalent to selecting the Directory Entries object in the navigation tree in the Administration Tool GUI.

    ```
    Admin> cd "Directory Entries"
    ```

3. Run the **new** command.

    This is equivalent to clicking the ＋ (Create) button in the toolbar in the Administration Tool GUI.

    ```
    Admin> new
    ```

4. Change to the New Entry object directory.

    This is equivalent to opening the New Entry dialog box in the Administration Tool GUI.

    ```
    Admin> cd "New Entry"
    ```

5. Set the type of entry to Location.

    This is equivalent to selecting Location from the Type list box in the New Entry dialog box in the Administration Tool GUI.

    ```
    Admin> set type=location
    ```

6. Change to the General object directory.

    This is equivalent to selecting the General tab in the New Entry dialog box in the Administration Tool GUI.

    ```
    Admin> cd General (cd ../1/0)
    ```

7. Set the values for the Location attributes.

This is equivalent to filling in the text boxes in the New Entry dialog box in the Administration Tool GUI.

```
Admin> set name=<location_name> admin=<admin_username> desc="<description>"
parent=<parent_location>
```

> **Note:** If you do not know the administrator name or parent location, you can change to the directory for that object and perform a search.
>
> **See Also:** "Search for a Directory Attribute" on page 1-11 for examples.

8. Commit your changes.

   This is equivalent to clicking the OK button in the New Entry dialog box in the Administration Tool GUI.

   ```
   Admin> commit
   ```

Search for a Directory Attribute

If you are creating or modifying a directory entry, you must specify certain attributes about the entry. If you do not know the attribute, you can search for it.

The following example searches for any parent of the current entry and selects the first returned entry.

```
Admin> cd parent
Admin> find v=%
Admin> select 0
Admin> cd ..
```

Set the Time Zone for a Node

1. Start the command-line tool and log on to the node where you want to change the time zone.

   See Also: "Starting the Administration Tool Command-Line Interface" on page 1-8 for instructions.

2. Change to the **nodes/<nodename>/localinfo** object directory.

This is equivalent to selecting **Messaging System/Nodes/***NODE NAME* in the navigation tree, and then selecting the Local Info tab in the right pane in the Administration Tool GUI.

```
Admin> cd nodes/<nodename>/localinfo
```

3. Set the time zone to a new value.

This is equivalent to selecting a new time zone from the list box in the Local Info tab in the right pane in the Administration Tool GUI.

```
Admin> set timezone="(GMT -08:00)"
```

> **Note:** If you do not know the available time zone values, you can use the **desc** command to see a list of values.

4. Commit your changes.

```
Admin>commit
```

Administration Tasks Not Available in the Administration Tool

In this release, the Administration Tool contains about 95% of the functionality available in OOMGR. The following tasks must be performed through OOMGR:

- Boot a node

    See Also: "boot node" on page 22-5 for more information.

- Display DB space for a node.

    See Also: "Displaying Local Node Information" on page 4-6 for more information.

- Move the System Configuration Node or Domain Configuration Node.

    See Also: "Moving the SCN" on page 4-5 or "Moving a DCN" on page 4-6 for more information.

- Grant, revoke, or check security/ADMIN privileges for directory entries.

> **See Also:** "Granting Access Privileges" on page 13-23 for more information.

- Display or clean up shadow processes.

  > **See Also:** "Displaying Database Shadow Processes" on page 9-8 or "Removing Database Shadow Processes" on page 9-8 for more information.

- Reset the package number expected in the replicator.

  > **See Also:** "Resetting Replicator Package Numbering" on page 15-6 for more information.

Using OOMGR

You can use OOMGR to configure and maintain your eMail Server system and to create scripts to automate frequently performed tasks that do not require your attention. With OOMGR, you can perform the same administration tasks available through the Administration Tool.

Starting OOMGR

Prerequisites

You must have administrative privileges to use the OOMGR.

> **See Also:** "Managing Administrative Privileges" on page 1-19 for more information.

Steps

This procedure is the same on Windows NT, Windows 95, and Solaris platforms.

1. Open a shell tool and enter the following command:

   ```
   $ OOMGR
   ```

2. Enter your username, password, connect_string, and qualified domain name at the appropriate prompts. Or, to avoid the prompts, enter the following command:

   ```
   $ OOMGR <username>/<password>/<connect_string>/<qualified_domain>
   ```

See Also: "Logging on to the Administration Tool and OOMGR" on page 1-2 for descriptions of these variables.

3. To access on-line help from the OOMGR command line, enter one of the following commands:

To perform this task:	Enter this command:	Example:
List available commands	`IOFCMGR>help`	`IOFCMGR>help`
List information about a specific command	`IOFCMGR>help <command>`	`IOFCMGR>help import`
List the attributes associated with a class used with a command	`IOFCMGR>help <command> <class>`	`IOFCMGR>help insert person`

OOMGR Command Guidelines

You enter OOMGR commands from a prompt, much as you enter any command-line commands. You can also create scripts, or batches of OOMGR commands, letting you automate repetitive or after hours tasks.

See Also: "Creating an OOMGR Script File" on page 1-17 or "Running a Script File" on page 1-18. The correct syntax for each OOMGR command is listed in Chapter 22 on page 22-1.

Using Terminating Characters

Each OOMGR command, whether entered alone or in a script, must end with a semicolon(;), except for the following commands:

autocommit	exit	rem
change	help	rollback
commit	host	spool
connect	list	whoami
echo	pause	

Cancelling Commands

If you want to be able to cancel OOMGR commands, you must disable the autocommit command. With this disabled, changes you make to data in your database using OOMGR are not saved until you enter the commit command. If you

determine that changes you have entered are incorrect, you can enter the rollback command to discard all changes you've made since your last commit.

The commands listed in "Using Terminating Characters" on page 1-14 are not saved in the buffer and cannot be rolled back because these commands do not affect the data stored in your database.

Using Quotation Marks In a Command

Some items must be enclosed in quotation marks when entered as part of an OOMGR command. These items are:

- A name with an embedded space. For example: "system administrator"

- A name with an apostrophe or single quote ('). For example: "O'Neil"

- A string with embedded double quotes. Use single quotes (') to enclose such a string. For example, '"HQ"'.

Valid Wildcards

You can use the following wildcards (a symbol that represents any character or character string) in an OOMGR command:

- An underscore (_) matches any single character

- The percent sign (%) matches any string

Example

You want to locate all organization names containing the word "sales." Enter the following:

```
IOFCMGR>fetch organization name = %sales%;
```

Valid Abbreviations

You can abbreviate OOMGR commands when you enter them. You must enter enough of a command to uniquely identify it. For example, to abbreviate the bounce command, you must enter BOU rather than BO because several OOMGR commands begin with BO.

Case Sensitivity

OOMGR commands are not case sensitive, but certain types of data entered using OOMGR are stored in a case-sensitive manner. Generally, data is stored the way you enter it except for:

- The Name attribute of nodes, domains, communities, equipment, and rooms which is stored in upper case.

- The Username attribute of a person which is stored in upper case.

Multi-line Command Statements

You can enter long commands on multiple lines. OOMGR displays a line number each time you press the Enter key. The command will run when you enter a semicolon (;) and press Enter.

Specifying Multi-value Parameters

Some processes require that you enter multi-value parameters. When entering these parameters:

- Use commas to separate items in a list of parameter values.

- When changing the values of a multi-value parameter, you must specify the list of values as you want them to appear.

Examples

- The following command creates the Objsexptd parameter for instance 1 of the DirSync process with the values Person, Alias, and Room:

```
IOFCMGR>register paramvalue
server=DirSync instance=1
parameter=Objsexptd value=Person,Alias,Room;
```

- The following command adds the Location object class to the list of values created in the previous example:

```
IOFCMGR>modify paramvalue
server=DirSync instance=1
parameter=Objsexptd to value=Person,Alias,Room,Location;
```

- The following command removes the Alias class from the list of values:

```
IOFCMGR>modify paramvalue
server=DirSync instance=1
parameter=Objsexptd to value=Person,Room,Location;
```

Basic OOMGR Commands

The following OOMGR tasks will get you started. Commands to complete specific tasks are listed throughout this guide, and a complete command reference is also included

See Also: Chapter 22 on page 22-1.

Table 1–1   Basic OOMGR Tasks

To do this:	Enter:
Exit OOMGR	`IOFCMGR>exit`
Display the most recent command entered	`IOFCMGR>list`
Edit the last command entered	`IOFCMGR>change /<old_information>/<new_ information>`
Run the command in the buffer	`IOFCMGR>run`
Run a script from the OOMGR prompt	`IOFCMGR>execute <script_file_name>`

Creating an OOMGR Script File

Use script files to execute several OOMGR commands at once. You can create a script file with almost any text editor. Simply enter the commands using the correct syntax and valid wildcards. There is no limit to the number of commands in a script file. Then, name and save the file.

> **Note:** To return automatically to the operating system prompt when the script has finished running, enter **exit** as the final command of the file. To remain in OOMGR, do not use **exit** as the final command.

Adding Script Comments (optional)

You can embed comments in the script files you create to explain the purpose of the script and the specific commands it contains.

To add a comment to a script file, type **rem** before a comment.

Displaying Screen Messages (optional)

You can create messages that appear on the screen when specific commands are running during the execution of a script.

To add a screen message to a script file, type **echo** followed by the message you want displayed on the screen.

Running a Script File

To run a script file, enter the following:

```
IOFCMGR>execute <filename>;
```

Managing Text-Based Configuration Files

Although most configuration information for eMail Server is stored in the database, there are some configuration tasks that require you to manually edit text files that are stored in directories located on the host machines. To edit these files, you can use any text-based editor.

The following configuration files are located in ORACLE_HOME/office/config/<node_sid>:

- Sendmail configuration file (**sendmail.cf**)

  Sendmail, the standard UNIX mail transfer agent, uses this file to direct all messages traveling to and from the gateway. See the following tasks for instructions on how to configure the **sendmail.cf** file to work with eMail Server:

  "Registering the SMTP Gateway with Sendmail" on page 7-5

"Rejecting Incoming Spam Messages" on page 7-17

"Preventing Use of the Server as a Mail Relay" on page 7-19

"Configuring Sendmail for to Check for Viruses" on page 7-22

- Gateway configuration file (**unx.cfg**)

  This file specifies the gateway name and password as well as the connect_string for the database so that the gateway can access the eMail Server database. See the following task for instructions on how to configure the **unx.cfg** file:

  "Creating the SMTP Gateway Configuration File" on page 7-3

- Protocol server connection file (**iosps23.cfg** or **iosps27.cfg**)

  This file specifies the number of Net**8** connections between each registered protocol server process and the database. See the following task for instructions on how to configure the **unx.cfg** file:

  "Configuring the Protocol Server Database Connections" on page 10-2

- Protocol server gateway file (**imapd.cfg**)

  This file specifies the gateways that are registered in the system so that the protocol server processes know how to forward messages. See the following task for instructions on how to configure the **unx.cfg** file:

  "Specifying Gateways for the Protocol Servers" on page 10-4

Managing Administrative Privileges

When you installed eMail Server, you were prompted to enter a password for the ADMIN account. The ADMIN account is the system administrator's account (or superuser account) from which you manage objects on a given node. In addition, the ADMIN user can grant administrative privileges to other users, so that they can administer the eMail Server system. The ADMIN account cannot be deleted and always retains "superuser" privileges.

Each time you access the Administration Tool or OOMGR, the tools with which you manage eMail Server, you will be prompted for your username and password. If you are logging into the system using the ADMIN account, you will enter ADMIN as the username, and you will enter the password you established during installation.

If you are not logging into the system as the ADMIN user, you will simply enter your username and password. Only users with administrative privileges can access the administration tools.

You set the administrative password when you create a node. This password is assigned to the user called ADMIN. ADMIN is a system user that cannot be deleted. Even if you revoke the Admin privilege from all users, the ADMIN user retains this privilege.

For security reasons, you should periodically change the ADMIN password.

Steps

This task can only be performed through the OOMGR command-line.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>setpwd admin;
```

OOMGR prompts you for the new password.

3. Enter the new password, then enter the new password again when prompted.

```
Enter new password:
Re-enter password:
```

If the two passwords match, OOMGR displays the message:

```
Password set.
```

Contacting Oracle Support Services

If you require additional help, you can contact Oracle Support Services. Before calling:

❏ Verify your software, database, and environment configurations match those contained in the *Oracle eMail Server Installation Guide*.

❏ Be prepared with your CSI number (if applicable) or full contact details, including any special project information, complete release numbers of eMail Server and associated products, operating system name and version number.

❏ Make note of error code numbers and include a full description of the issue, including:

- **What** did or did not happen?
  For example, the command used and result obtained.

- **When** did it happen?
  For example, during peak system load, or after a certain command.

- **Where** did it happen?
  For example, on a particular system or within a certain procedure or table.

- What is the **extent** of the problem?
  For example, production system unavailable, or moderate impact but increasing with time, or minimal impact and stable.

Keep copies of trace files, core dumps, and redo log files recorded at or near the time of the incident. Oracle Support Services (OSS) may need these to further investigate your problem.

Oracle Support Services can be reached at the following numbers. The hours are detailed in your support contract.

In the USA:

- West Coast: 1 (650) 551-8900

- East Coast: 1 (719) 635-8900

- Cental: 1 (407) 240-8900

In Europe: +44 1344 860160

In Asia: +61 3.924.6060

2

Configuration Checklist

After installing Oracle eMail Server, you must configure the system based on the information specific to your site. Configuring your system involves using the administration tools to perform tasks such as registering processes, subscribing nodes to domains, and setting process parameters. In some cases, you must also run scripts provided by eMail Server and edit special configuration files to specify additional configuration information. Optional configuration steps are clearly marked.

These checklists list the basic tasks that you must complete to get your eMail Server system running for different types of server configurations. These tasks are based on the most common system architectures. Some custom steps might not be included here. If you need additional help configuring your system, contact Oracle Support Services.

You can choose from the following configuration checklists:

- Pre-Configuration Tasks (Required)
- Single-Node Installation
- Three-Tier Installation with Separate Protocol Servers (Optional)
- Member Node Installation (Optional)

Pre-Configuration Tasks (Required)

Pre-configuration tasks are required before configuring your system.

❏ Review the benefits and overview of the system provided in *Oracle eMail Server Concepts Guide.*

❏ Plan your system by determining your requirements and creating a system architecture diagram.

> **See Also:** *Oracle eMail Server Concepts Guide* for more information.

> **See Also:**
>
> *Oracle eMail Server Installation Guide* for instructions.

> **See Also:** Chapter 1, "Administering eMail Server" for more information and instructions.

Single-Node Installation

If you plan to use only one eMail Server node, your node, domain, and community information will be completed during the installation process.

> **See Also:** the *Oracle eMail Server Installation Guide* for more information on configuring these things.

To configure your system, complete the following tasks:

Configure SMTP/MIME

❏ Configure gateways.

❏ Configure MIME attachment types (optional).

❏ Configure rewriting rules.

Configure Messaging Server Processes

❏ Configure messaging server processes.

Configure Protocol Server Processes

❏ Configure the protocol server process parameters.

❏ Configure the protocol server database connections.

❏ Specify gateways for the protocol servers.

❏ Setup support for changing IMAP4 passwords (optional).

Configure Security and Privacy (Optional)

❏ Configure protocol server for SSL (optional).

❏ Obtain an SSL trusted certificate (optional).

❏ Reject incoming spam messages (optional).

❏ Prevent use of the server as a mail relay (optional).

❏ Configure virus-checking (optional).

Start the Processes

❏ Start the guardian process.

❏ Start all registered server and gateway processes.

Install and Configure Oracle Internet Directory or Other LDAP Directory (Optional)

❏ Install Oracle Internet Directory or other LDAP directory.

❏ Configure the LDAP server processes for synchronization.

Configure Optional Items (Optional)

❏ Configure queue clean-up (optional).

❏ Configure queue clean-up (optional).

❏ Configure shared folder hierarchy (optional).

❏ Configure ESPrefs.

Configure System Monitoring

❏ Prepare for system monitoring.

Test Your System Configuration

❏ Configure messaging clients/browsers for testing.

❏ Create test users and send a test message.

Three-Tier Installation with Separate Protocol Servers (Optional)

If you plan to install the protocol server process on a separate, third-tier machine, you must configure certain items specifically for that machine in addition to configuring the eMail Server node.

To configure your system, complete the following tasks:

Configure SMTP/MIME on eMail Server Tier
❑ Configure gateways.

❑ Configure MIME attachment types (optional).

❑ Configure rewriting rules.

Configure Messaging Server Processes on eMail Server Tier
❑ Configure messaging server processes.

Configure Protocol Server Processes on Protocol Server Tier
❑ Configure the protocol server tier.

❑ Configure the protocol server process parameters.

❑ Configure the protocol server database connections.

❑ Specify gateways for the protocol servers.

❑ Setup support for changing IMAP4 passwords (optional).

Configure Security and Privacy (Optional)
❑ Configure protocol server for SSL (optional).

❑ Obtain an SSL trusted certificate (optional).

❑ Reject incoming spam messages (optional).

❑ Prevent use of the server as a mail relay (optional).

❑ Configure virus-checking (optional).

Start Processes on eMail Server Tier
❑ Start the guardian process.

❑ Start all registered server and gateway processes.

Start Processes on Protocol Server Tier

❏ Start the guardian process.

❏ Start all protocol services.

Install and Configure Oracle Internet Directory or Other LDAP Directory (Optional)

❏ Install Oracle Internet Directory or other LDAP directory.

❏ Configure the LDAP server processes for synchronization.

Configure Optional Items (Optional)

❏ Configure queue clean-up (optional).

❏ Configure queue clean-up (optional).

❏ Configure shared folder hierarchy (optional).

❏ Configure ESPrefs.

Configure System Monitoring

❏ Prepare for system monitoring.

Test Your System Configuration

❏ Configure messaging clients/browsers for testing.

❏ Create test users and send a test message.

Member Node Installation (Optional)

If you have designed a multi-node architecture, you will probably be installing some member nodes that have no gateways and no protocol server processes. These nodes will, however, require some node, domain, and community configuration. This configuration checklist assumes that you have already gone through the standard single-node configuration to set up your first node.

See Also: "Single-Node Installation" on page 2-3 for the checklist.

To configure a member node, complete the following tasks:

Configure Nodes, Domains, and Communities
❏   Configure nodes.

❏   Configure communities and commroutes.

Configure Messaging Server Processes
❏   Configure messaging server processes.

Start Processes
❏   Start the guardian process.

❏   Start all registered server and gateway processes.

Configure Optional Items (Optional)
❏   Configure queue clean-up (optional).

❏   Configure queue clean-up (optional).

❏   Configure shared folder hierarchy (optional).

Configure System Monitoring
❏   Prepare for system monitorig.

3

ESPrefs Self Service Utility

eMail Server gives users the ability to change their mail server password, view their folder quotas, set auto-reply templates, send messages to restricted distribution lists, and set server rules using ESPrefs self service utility. The ESPrefs self service utility is a JSP (Java Server Pages) based application which requires a JSP engine. This chapter describes how use the ESPrefs self service utility features.

Logging into the Self Service Utility Pages.

There are two self service utility pages, the Preferences page and the Distribution List page.

Use the following steps to login to the self service utility pages.

1. To login to the Preferences page, use any web browser and connect to the following:

   ```
   http://servername:port/espref/jsp/esLogin.jsp
   ```

2. To login to the Distribution List page, use any web browser and connect to the following:

   ```
   http://servername:port/espref/jsp/esRLogin.jsp
   ```

After you have entered the one of the above URL addresses, Log In screen displays.

1. Enter your Username and Password.

2. Select your Domain from the pulldown box. The Domain field only displays if there is more than one domain. Otherwise, it is not displayed.

3. Click on login. Depending on the url address you entered, either the Preferences or Distribution List page displays.

Using the Preferences Page

Through the Preferences page, you can check your quota, change your mail password, view folder details, and set your auto-reply and auto-forward templates.

Checking the Quota Used

In the Preferences page, the Quota Used is displayed under the Preferences heading. You can see the bar graph representation and the actual number of bytes used.

Changing the Password

Use the following steps to change your mail server password.

1. In the Preferences page, click the Change Password option button.

2. Enter your Old Password in the corresponding field.

3. Enter your New Password in the corresponding field.

4. Confirm your new password in the Confirm Password field and click Ok. The new password for the mail server is now effective.

Viewing the Folder Details

You can view your mail server folder details in the Preferences page by clicking the Get Folder Details option button and clicking Ok. The Folder Details page displays all the folder names and their sizes. To return to the Preferences page, click on your browser's Back button.

Setting the Auto-Reply Template

> **Note:** The availability of the Auto-Reply feature is dependent on the setting your administrator set in the `esPrefs.cfg` file.

Use the following steps to set the Auto-Reply Template.

1. Create an Auto-Reply template by creating a new email message. From the browser's menu, go to File-->New-->Message.

2. Enter the Auto-Reply comments in the body of the message, making sure to specify the subject in the subject field.

3. Save the message as a template by going to File-->Save As-->Template. The template are saved either in the Templates Folder in the server directory or the Templates Folder under the local mail directory. If the template is saved under the local mail directory, the template has to be moved into the server templates directory.

4. Go back to the Preferences page.

5. Select the Set Auto-Reply Template option, choose the template you created from the drop down list, and click Ok.

6. To disable the auto-reply template, select the Set Auto-Reply Template option and choose None from the drop down list, then click Ok.

Setting the Auto-Forward Template

> **Note:** The availability of the Auto-Forward feature is dependent on the setting your administrator set in the `esPrefs.cfg` file.

Use the following steps to set the Auto-Forward Template.

1. Create an Auto-Forward template by creating a new email message. From the browser's menu, go to File-->New-->Message.

2. Enter the Auto-Forward comments in the body of the message, making sure to specify the Subject in the subject field and the forwarding address in the To field.

3. Save the message as a template by going to File-->Save As-->Template. The template will be saved either in the Templates Folder in the server directory Or in the Templates Folder under the local mail directory. If the template is saved under the local mail directory, the template has to be moved into the server templates directory.

4. Go back to the Preferences page.

5. Select the Set Auto-Forward Template option, choose the template you created from the drop down list, and click Ok.

6. To disable the auto-reply template, select the Set Auto-Forward Template option and choose None from the drop down list, then click Ok.

Using the Rules Setting Page

The Rule Setting page enables the user to view, create, edit, delete, and organize rules.

Viewing a Rule

To view a rule, highlight the rule name and the rule description will display in the Rule Details box.

Changing Rule Order

Use the following steps to change the rule order.

1. Highlight the rule, and depending on click on Move Rule Up or Move Rule Down.

2. To save the rule order, click Save Rule Order.

Editing a Rule

Use the following steps to edit a rule.

1. Highlight the rule and click on Edit Rule. The Rule Setting page displays.

2. Edit the rule, and click on OK to save the changes.

Deleting a Rule

To delete a rule, highlight the rule and click Delete Rule.

Creating New Rules

Use the following steps to create a new rule.

1. In the Rule Setting page, click on Create New Rule. The Rule Setting page displays.

2. Enter the rule name in the Rule Name field.

3. Select the conditions from the pulldown boxes. For more conditions, click More Conditions.

4. Select the actions to be performed with the selected conditions and click OK.

Using the Distribution List Page

This distribution list can only be accessed by users who have privileges to send messages using this restricted distribution list.

Use the following steps to send a message to a restricted distribution list.

1. Enter the Distribution List name in the corresponding field.

2. Enter the Cc name(s) in the corresponding field (optional).

3. Enter the Reply To address in the corresponding field.

4. Enter the Subject of the message in the corresponding field.

5. Type in the message in the Message box and click Submit.

4

Managing Nodes

Nodes, or instances, of the eMail Server installation, are the basic building blocks of your eMail Server system. Each node can perform a different role in your system. You assign roles to nodes to optimize your system's performance.

When you first install eMail Server, you create the initial node, called the System Configuration Node (SCN). The SCN stores information about the other system components. The first node is also the Domain Configuration Node (DCN), the node that stores and replicates information about the messaging objects in a domain.

Managing nodes includes the following tasks discussed in this chapter:

- Manually Initializing a Node
- Renaming a Node
- Deleting a Node
- Moving the SCN
- Moving a DCN
- Displaying Local Node Information
- Changing a Node's Time Zone Value (GMT Offset)
- Changing a Node's Default Quota
- Changing a Node's Debug Value

Manually Initializing a Node

If the automatic initialization of a node is disabled for the domain to which you want to add a node, then you must manually initialize the node to create its node record in the database.

Caution: After manually initializing a node, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

See Also: "Using Server Process Logs" on page 17-2 for more information about the replicator log file

Steps for Manually Initializing a Node

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1.   Start OOMGR on the DCN of the parent domain.

2.   Enter one of the following commands at the OOMGR prompt:

If the new node is to be:	Enter the following command:

A member node	`IOFCMGR>boot node node=<node_name>`
	`2>DBconnect=<database_connect_string>`
	`3>DBpassword=<database_password>`
	`4>community=<initial_community>;`
	
	This causes eMail Server to automatically set the member node status to initializing. When the installation is complete, the status changes to initialized.

If the new node is to be:	Enter the following command:

A DCN	`IOFCMGR>boot domain QualifiedName=<`*qualified_name*`>`
	`2>node=<`*node_name*`>`
	`3>DBconnect=<`*database_connect_string*`>`
	`4>DBpassword=<`*database_password*`>`
	`5>community=<`*initial_community*`>;`
	
	This causes eMail Server to automatically enter the new DCN name as the ConfigNode attribute of the new domain.

3. Start OOMGR on the sponsor node.

4. On the sponsor node, check that the new node record has been replicated. To do this, enter the following command at the OOMGR prompt:

`IOFCMGR>fetch node name=<`*node_name*`>;`

5. If the results of the fetch command in step 4 indicate that the database does contain the new node information, run the Configuration Assistant on the computer where the new node will reside.

> **See Also:** *Oracle eMail Server Installation Guide* for more information

During the automatic configuration process, you will be asked to select automatic or manual node definition. Select Manual Node Definition.

Renaming a Node

You can rename a node if you decide to change your node naming conventions.

> **Caution:** After renaming a node, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

> **See Also:** "Using Server Process Logs" on page 17-2 for more information about the replicator log file

Steps for Renaming a Node

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR on the DCN containing the node that you want to rename.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>update node name=<node_name> to name=<new_node_name>;
```

Deleting a Node

You can delete a node if you no longer need it, or if you have moved the node information to another host machine. Deleting a node removes its configuration information from the database, but it does not uninstall the eMail Server software.

Prerequisites to Deleting a Node

1. Before deleting a node, back up the system so that you can restore it in case of difficulty.

2. Export data, such as user accounts, from the node that you are deleting to another node. Refer to "Migrating Directory Accounts to Another Node or Domain" on page 13-28 for instructions.

3. Determine the role the node performs in your system and assign that role to another node using the following guidelines:

Service Node Provides	Action
Node is a DCN	Move the DCN information to another node in the domain. Refer to "Moving a DCN" on page 4-6 for instructions.
Node is an SCN	Move the SCN information to another node in the community. Refer to "Moving the SCN" on page 4-5 for instructions.
Node is a connect node for two or more communities	Either make another node the connect node, or change the message delivery routes so that previously connected communities will remain connected.
	If you do not make one of these changes, a community may be disconnected, preventing communication with the rest of the system.

Steps for Deleting a Node

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name*.

3. In the toolbar, click ✖ (Remove).

In OOMGR

1. Start OOMGR on the DCN containing the node you want to delete.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>delete node name=<node_name>;
```

Moving the SCN

You can move the System Configuration Node (SCN) to another node that is on a more powerful host machine or one that is in a different location. Moving the SCN reassigns the SCN capabilities to another node, and the node that was the original SCN becomes a member node.

> **Caution:**   After moving the SCN, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

> **See Also:**   "Using Server Process Logs" on page 17-2 for more information about the replicator log file

Steps for Moving the SCN

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR on the current SCN.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>move SCN name=<new_SCN_node_name>;
```

Moving a DCN

You can move a Domain Configuration Node (DCN) to another node in the same domain, if you want to change the node that stores the domain information.

Prerequisites to Moving a DCN

Replicate domain information from the current DCN to the new DCN. Refer to "Manually Replicating Directory Data" on page 15-4 for instructions.

> **Caution:** After moving a DCN, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

See Also: "Using Server Process Logs" on page 17-2 for more information about the replicator log file

Steps for Moving a DCN

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR on the current DCN.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>move DCN name=<new_DCN_node_name>;
```

Displaying Local Node Information

You can display information about your local node to see how the node is currently configured, and to determine whether you need to reconfigure the node. The following information is displayed:

- Node name

- Node state

- Version number of eMail Server

- Default quota (disk space assigned to local accounts)

- Time zone (offset from Greenwich Mean Time)

- Patch version level (through OOMGR only)

- Mail version (through OOMGR only)

Steps for Displaying Local Node Information

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name*.

3. In the right pane, select the Local Info tab.

In OOMGR

1. Start OOMGR on the local node.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>show local all;
   ```

Changing a Node's Time Zone Value (GMT Offset)

You may have to change a node's time zone offset from Greenwich Mean Time (GMT) if your time zone changes for any reason. Daylight Savings Time is automatically adjusted by the guardian.

Steps for Changing a Node's Time Zone Value (GMT Offset)

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name*.

3. In the right pane, select the Local Info tab.

4. In the Local Info tab, select the appropriate time zone from the Time Zone list box.

> **See Also:** "GMT Deviations" on page 4-8 for more information about the values to enter

5. Click Apply.

In OOMGR

1. Start OOMGR on the local node in question.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>modify local node=<node_name> to timezone=<GMT_offset>;
```

> **See Also:** "GMT Deviations" on page 4-8 for more information about the values to enter

GMT Deviations

Use the following information to help determine your location's Greenwich Mean Time (GMT) deviation. Make a note of your GMT offset for use during installation.

City	Country	Standard GMT Deviation	with DST Adjustment
Honolulu	USA	-10	None
San Francisco	USA	-8	-7 (April - October)
Mazatlan	Mexico	-7	None
Winnipeg	Canada	-6	-5 (April - October)
New York	USA	-5	-4 (April - October)
Santiago	Chile	-4	-3 (October - April)
Rio De Janeiro	Brazil	-3	-2 (October - April)
Greenwich	England	0	0
Rome	Italy	+1	+2 (April - October)
Cairo	Egypt	+2	+3 (April - October)

City	Country	Standard GMT Deviation	with DST Adjustment
Dubai	UAE	+4	None
Bombay	India	+5.5	None
Dhaka	Bangladesh	+6	None
Saigon	Vietnam	+7	None
Shanghai	China	+8	None
Seoul	South Korea	+9	None
Auckland	New Zealand	+12	+13 (October - April)

Changing a Node's Default Quota

You can change the default disk space quota for storing messages in local accounts on a node. For example, if you need to increase the number of users in your system, you may want to decrease the default quota to have room for more user accounts on a node.

Steps for Changing a Node's Default Quota

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name*.

3. In the right pane, select the Local Info tab.

4. In the Local Info tab, enter the new number of disk space (bytes) in the Default Quota text box.

5. Click Apply.

In OOMGR

1. Start OOMGR on the local node.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>modify local defaultquota=<old_bytes> to defaultquota=<new_bytes>;
```

Changing a Node's Debug Value

You can change the default debug value for an entire node.

Steps for Changing a Node's Debug Value

This task can be only performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR on the local node.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>modify local debug=<old_value> to debug=<new_value>;
```

Changing a Node's State

You can change the state of a node to servers only if you want to prevent additional users from logging on during times of system maintenance such as backing up the database or upgrading the software. Changing the node state does not disconnect users already logged on. When the system maintenance is finished, you can return the state to open (running).

Steps for Changing a Node's State

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name*.

3. In the right pane, select the Local Info tab.

4. In the Local Info tab, choose a state from the Node State list box.

5. Click Apply.

In OOMGR

1. Start OOMGR on the local node.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>modify local <node_name> to state=["servers only" | open];
   ```

5

Managing Domains

A domain is a logical collection of nodes that share the same directory information. The Domain Configuration Node (DCN) is the node that stores directory information for a domain. The DCN replicates directory information to all nodes that are members of its domain.

You can create, delete, and manage the domains that comprise your eMail Server system. Managing nodes includes the following tasks discussed in this chapter:

- Creating a Domain or Subdomain
- Changing Automatic Node Initialization
- Subscribing a Node to a Domain
- Unsubscribing a Node from a Domain
- Deleting a Domain
- Merging Two Domains

Creating a Domain or Subdomain

To create a new domain, you can either designate a DCN while installing a new node, or you can create a subdomain of the DCN to which you are currently connected. When you create a new domain, it becomes a child of the existing domain, which is called the parent.

To create a new domain while installing a node, see the *Oracle eMail Server Installation Guide* for instructions. To create a subdomain, use the following steps.

Prerequisites to Creating a Subdomain

To create a subdomain, you must first log on to the parent domain in which you want to create the subdomain. For example, if you initially log on to the SCN but you want to create a child domain of the DCN which is a different node, you must shut down and restart the Administration Tool and log on to the DCN to create a child domain for that DCN.

Caution: After creating a subdomain, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

See Also: "Using Server Process Logs" on page 17-2 for more information about the replicator log file

---

Caution: Child domains do not receive replicated information from the parent domain. If you want the new domain to receive replicated information, you must subscribe the node on which the new domain resides to the parent domain.

Steps for Creating a Subdomain

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

See Also: "Guidelines for Creating a Subdomain" on page 5-4 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains.

3. In the toolbar, click ➕ (Create).

4. Complete the Add a New Domain dialog box.

   See Also: "Parameters for Creating a Subdomain" on page 5-3 for more information about the values to enter in this command

5. Click OK.

In OOMGR

1. Start OOMGR on the current DCN.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert domain QualifiedName=<qualified_name>
2>ConfigNode=<node_name>
3>AutoInit=[Enabled | Disabled];
```

   See Also: "Parameters for Creating a Subdomain" on page 5-3 for more information about the values to enter in this command

3. Verify that the domain has been added by entering the following command at the OOMGR prompt:

```
IOFCMGR>fetch domain QualifiedName=<qualified_name>;
```

Parameters for Creating a Subdomain

Parameter	Description
AutoInit	Indicates whether the new domain will automatically initialize new nodes. Enter Enabled to automatically initialize nodes; enter Disabled to prevent automatic node initialization.
	See Also: "Changing Automatic Node Initialization" on page 5-4 for more information
ConfigNode	Node name of the DCN for the new domain.

Parameter	Description
QualifiedName	Full domain name including the new child domain and all existing parent domains.
	For example, if the new child domain is acme, and the existing parent domain is com, then the qualified name of the child domain is acme.com.

Guidelines for Creating a Subdomain

- A parent domain can also be a child of another domain.

- In a multidomain system, you can only have one top-level domain that is not a child of another domain. If you want to use multiple top-level domains such as .com and .edu, then you can create a dummy top-level domain such as .world and make the other domains such as .com or .edu subdomains of this dummy domain. To make the dummy domain transparent to the user, enter the name of the new top-level domain as the value for the virtual_domain parameter for the POP3SRV or IMAP4SRV processes. The value of this parameter will then be automatically appended to the user's domain during login and stripped from outgoing addresses.

- The new child domain can be on a new node, or it can be on the same node as the parent domain.

Changing Automatic Node Initialization

When you create a domain, you indicate whether the domain will automatically initialize nodes. Node initialization involves the creation of a new node record in preparation for configuring a new node in an eMail Server system. If the new node is a DCN, node initialization creates the new domain record as well as the node record.

Node initialization can occur automatically or manually. If a domain automatically initializes nodes (when the automatic node initialization parameter is set to enable), then a node record is created when any administrator creates a node with the eMail Server Installer. If a domain does not automatically initialize nodes (when the automatic node initialization parameter is set to disable), then you must create new database records for the new node before the node can be created. Manual initialization ensures that nodes cannot be added to the domain without your consent.

See Also: "Manually Initializing a Node" on page 4-2 for instructions on manually initializing a node

Steps for Changing Automatic Node Initialization

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name*.

3. In the right pane, select Enabled or Disabled from the AutoInit list box.

4. Click Apply.

In OOMGR

1. Start OOMGR on the current DCN.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>update domain QualifiedName=<qualified_name>
2>AutoInit=[Enabled | Disabled];
```

Subscribing a Node to a Domain

You can subscribe a member node of one domain to another domain to provide access to that domain's directory information. Normally, users in a domain only have access to the directory information in their domain. If they need to see directory information for another domain, then you must subscribe their node to the other domain. Keep in mind that subscribing a node to a domain increases the amount of information being replicated between nodes.

> **Caution:** After subscribing a node to a domain, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

See Also: "Using Server Process Logs" on page 17-2 for more information about the replicator log file

Steps for Subscribing a Node to a Domain

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name*.

3. In the toolbar, click ![subscribe icon] (Subscribe).

4. Complete the Subscribe a Node to a Domain dialog box.

5. Click OK.

In OOMGR

1. Start OOMGR on the DCN of the domain to which you want to subscribe the node.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>subscribe domain node=<node_name>;
```

Unsubscribing a Node from a Domain

You can unsubscribe a node from a domain to remove a node's access to another domain's directory information.

Prerequisites to Unsubscribing a Node from a Domain

Before unsubscribing a node from a domain, back up the system so that you can restore it in case of difficulty.

Caution: After unsubscribing a node from a domain, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

> **See Also:**   "Using Server Process Logs" on page 17-2 for more
> information about the replicator log file

Steps for Unsubscribing a Node from a Domain

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name.*

3. In the toolbar, click ▦ (Unsubscribe).

4. Complete the Unsubscribe a Node from a Domain dialog box.

5. Click OK.

In OOMGR

1. Start OOMGR on the DCN of the domain from which you want to unsubscribe the node.

2. Enter the following command at the OOMGR prompt:

    ```
    IOFCMGR>unsubscribe domain node=<node_name>;
    ```

Deleting a Domain

You can delete a domain from your eMail Server system if it is no longer needed.

Prerequisites to Deleting a Domain

1. Before deleting a domain, back up the system so that you can restore it in case of difficulty.

2. Delete any domain that is a child of the domain you want to delete.

3. Unsubscribe all nodes that subscribe to this domain. Refer to "Unsubscribing a Node from a Domain" on page 5-6 for instructions.

> **Caution:**   After deleting a domain, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

See Also: "Using Server Process Logs" on page 17-2 for more information about this log file

Steps for Deleting a Domain

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:**   "Guidelines for Deleting a Domain" on page 5-8 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains.

3. In the right pane, select the Domains Data tab.

4. In the Domains Data tab, select the domain that you want to delete.

5. In the toolbar, click ![x] (Remove).

In OOMGR

1. Start OOMGR on the DCN of the domain that is the parent domain of the domain that you want to delete.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>delete domain QualifiedName=<qualified_name>;
   ```

Guidelines for Deleting a Domain

If you delete a domain, then the aliases and distribution lists that contain the domain structure as part of an address can no longer be used. Also users cannot reply to existing messages sent from a user whose account was created in the deleted domain. You can use address rewriting rules to help route messages whose address have been made invalid by a change in configuration.

See Also: "Creating Gateway Rewriting Rules" on page 7-8 for more information

Merging Two Domains

When you merge two domains, you must delete one domain after migrating the users and other domain information to the remaining DCN. When you merge domains, the number of nodes stays the same, but one of the nodes is no longer a DCN. The remaining DCN inherits some or all of the deleted domain's directory information. Users transferred from the deleted domain inherit any default privileges of the inheriting domain.

Prerequisites to Merging Two Domains

Before merging two domains, back up the system so that you can restore it in case of difficulty.

Steps for Merging Two Domains

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

See Also: "Guidelines for Merging Two Domains" on page 5-10 for more information about performing this task

In the Administration Tool GUI and OOMGR

1. Create new accounts on the DCN of the remaining domain for all accounts you are moving. Refer to Chapter 13, "Managing Directory Information", for instructions.

2. Migrate the user accounts from the old DCN to the new accounts on the remaining DCN. Refer to "Migrating Directory Accounts to Another Node or Domain" on page 13-28 for instructions.

3. Unsubscribe all nodes from the domain you will delete. Refer to "Unsubscribing a Node from a Domain" on page 5-6 for instructions.

4. Subscribe these nodes to the remaining domain. Refer to "Subscribing a Node to a Domain" on page 5-5 for instructions.

5. Create aliases to redirect mail to the new accounts created in step 1.

   This solves two problems:

- Users sending messages or invitations to old accounts will not receive bounced message notices.

- Users who are transferred to the new domain do not have to log in to two accounts to check their messages.

Refer to "Creating a Public Alias" on page 13-17 for instructions.

6. Notify your users of the change to the qualified names of the moved users, specifying when the old accounts will be removed.

7. Remove old accounts and delete the empty domain once the specified time period is over. Refer to Chapter 13, "Managing Directory Information", for instructions on removing old accounts and "Deleting a Domain" on page 5-7 for instructions on deleting a domain.

Guidelines for Merging Two Domains

- You cannot transfer directory information from the domain you intend to delete to the remaining domain by subscribing the DCN of the remaining domain to that of the domain to be deleted. The information is still labeled as information from another domain and is removed when you delete that domain.

- When creating accounts on the remaining domain, you can use the existing names for the objects you move, but the names on the remaining domain will be qualified with a different domain name than the names on the original domain. However, if one of the new accounts has the same name as an existing account, you may have to rename the account.

6

Managing Communities

If you have a multinode system you can define communities to let eMail Server know which nodes can communicate directly with each other. This means that eMail Server can select the best routes for transferring messages and system information.

Use the following tasks discussed in this chapter to manage communities:

- Creating a Community
- Subscribing a Node to a Community
- Creating a Message Delivery Route for a Community
- Displaying Message Delivery Route Information
- Renaming a Community
- Unsubscribing a Node from a Community
- Deleting a Community
- Merging Two Communities
- Assigning Cost to a Node

Creating a Community

You can create a new community if you need to add one or more nodes that do not use the same networking protocol as your existing node(s).

Steps for Creating a Community

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating a Community" on page 6-3 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Routing > Communities.

3. In the toolbar, click ➕ (Create).

4. Complete the Insert Community dialog box.

   > **See Also:** "Parameters for Creating a Community" on page 6-3 for more information about the parameters in this dialog box

5. Click OK.

In OOMGR

1. Start OOMGR on the SCN.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>insert community name=<community_name>
   2>description=<description>;
   ```

   > **See Also:** "Parameters for Creating a Community" on page 6-3 for more information about the parameters available with this command

Parameters for Creating a Community

Parameters	Description
description	Description of the community for the benefit of others who are accessing the system and need to know the purpose of the community.
name	Name of the new community you are creating. Each community should have a different name.

3. After creating the community record, you should complete the following tasks:

   ■   Subscribe at least one node to the community. Refer to "Subscribing a Node to a Community" on page 6-3 for instructions.

   ■   Create a message delivery route (or commroute) between the two communities. Refer to "Creating a Message Delivery Route for a Community" on page 6-4 for instructions.

Guidelines for Creating a Community

If you are creating a connect node, make sure it is a member of each community to which it connects and that it uses the communications protocol of each community that it connects.

> **See Also:** "Subscribing a Node to a Community" on page 6-3 to learn how to

Subscribing a Node to a Community

You must subscribe at least one node to a community to connect the community to your eMail Server system.

> **Caution:**   After subscribing a node to a community, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

> **See Also:** "Using Server Process Logs" on page 17-2 for more
> information about the replicator log file

Steps for Subscribing a Node to a Community

This task can be performed through either the Administration Tool GUI, or the
OOMGR command-line interface.

> **See Also:** "Guidelines for Subscribing a Node to a Community"
> on page 6-4 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Routing > Communities >
   community_name.

3. In the toolbar, click 🖼 (Subscribe).

4. Complete the Subscribe Node dialog box.

5. Click OK.

In OOMGR

1. Start OOMGR on the SCN.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>subscribe community node=<node_name>
   2>DBconnect=<connect_string>
   3>community=<community_name>;
   ```

Guidelines for Subscribing a Node to a Community

If you are creating a connect node, make sure it is a member of each community to
which it connects and that it uses the networking protocols of each community to
which it connects.

Creating a Message Delivery Route for a Community

Message delivery routes (commroutes) specify how information travels from one
community to another. If you do not add message delivery routes to and from a

community, messages and replicator packages cannot be delivered to or sent from the community.

Steps for Creating a Message Delivery Route for a Community

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating a Message Delivery Route for a Community" on page 6-6 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Routing > Message Delivery Routes.

3. In the toolbar, click ![+] (Create).

4. Complete the Add a New Message Delivery Route dialog box.

   > **See Also:** "Parameters for Creating a Message Delivery Route for a Community" on page 6-6 for more information about the parameters in this dialog box

5. Click OK.

In OOMGR

1. Start OOMGR on the SCN.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert commroute
2>sourcecomm=<source_community_name>
3>targetcomm=<target_community_name>
4>connectcomm=<connect_community_name>
5>cost=<cost>;
```

   > **See Also:** "Parameters for Creating a Message Delivery Route for a Community" on page 6-6 for more information about the parameters available with this command

Parameters for Creating a Message Delivery Route for a Community

Parameter	Description
connectcomm	Name of the community to use as the intermediate step to get from the source community to the target community. If the message delivery route you are indicating is a direct route with no intermediate community, enter the name of the target community.
cost (Optional)	Number representing the cost of using this message delivery route. If you specify message delivery route costs, eMail Server automatically chooses the lowest cost message delivery route when sending information. The higher the number, the higher the cost.
sourcecomm	Name of the community from which information is sent.
targetcomm	Name of the community that is the ultimate destination for the information.

Guidelines for Creating a Message Delivery Route for a Community

- To send information back and forth, communities you must have message delivery routes defined in both directions. That is, not only must Community1 know how to get to Community2, but Community2 must know how to get to Community1.

- You can assign optional costs to message delivery routes based on how many communities the information must travel through before reaching its destination. A direct message delivery route should have a lower cost than a message delivery route that requires routing through a second community to reach a third community.

Displaying Message Delivery Route Information

You can display message delivery route information to verify message delivery route settings. This command displays the source community, destination community, connect community, and cost.

Steps for Displaying Message Delivery Route Information

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Routing > Message Delivery Routes.

   The message delivery route information appears in the right pane.

In OOMGR

1. Start OOMGR on the SCN.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>fetch commroute community=<community_name>;
   ```

Renaming a Community

You can change the name of a community, if necessary.

Steps for Renaming a Community

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Routing > Communities > *community_name*.

3. In the right pane, enter the new name in the Name text box.

4. Click Apply.

In OOMGR

1. Start OOMGR on the SCN.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>update community name=<community_name> to name=<new_community_name>;
   ```

Unsubscribing a Node from a Community

You can unsubscribe a node from a community if you want to change the community to which a node is subscribed, or if you are deleting a community.

Prerequisites to Unsubscribing a Node from a Community

Before you unsubscribe a node from a community, determine the services this node provides to the community and assign these services to other nodes.

For example, if the node is a connect node for two or more communities, you must change the message delivery routes so that previously-connected communities remain connected. If you do not change message delivery routes, a community can be disconnected, preventing communication with the rest of the system.

Use the Administration Tool to view the nodes subscribed to a community and to determine the services that a node provides. See the online help in the Administration Tool for more information.

Caution: After unsubscribing a node from a community, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

See Also: "Using Server Process Logs" on page 17-2 for more information about the replicator log file

Steps for Unsubscribing a Node from a Community

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

See Also: "Guidelines for Unsubscribing a Node from a Community" on page 6-9 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Routing > Communities > *community_name.*

3. In the toolbar, click ▨ (Unsubscribe).

4. Complete the Unsubscribe Node dialog box.

5. Click OK.

In OOMGR

1. Start OOMGR on the SCN.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>unsubscribe community node=<node_name>
2>community=<community_name>;
```

Guidelines for Unsubscribing a Node from a Community

Make sure that the node you are unsubscribing from the community is a member of at least one other community. A node must be subscribed to at least one community at all times.

Deleting a Community

There are two reasons to delete communities:

■ When you merge two communities

■ If a group in your company upgrades its equipment and no longer needs to use a certain network protocol

When you delete a community, you remove it from the eMail Server system.

Prerequisites to Deleting a Community

Before you delete a community, unsubscribe all nodes subscribing to this community. Otherwise, you will receive a message that there are still nodes subscribing to this community and the Delete operation will be abandoned. Refer to "Unsubscribing a Node from a Community" on page 6-8 for instructions.

> **Caution:** After deleting a community, wait until the replicator process propagates the change to all other nodes before beginning another configuration task. The replicator log file will return the message "transfer complete" when it is finished replicating.

> **See Also:** "Using Server Process Logs" on page 17-2 for more
> information about the replicator log file

Steps for Deleting a Community

This task can be performed through either the Administration Tool GUI, or the
OOMGR command-line interface.

In the Administration Tool (GUI)

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Routing > Communities >
   community_name.

3. In the toolbar, click ✖ (Remove).

In OOMGR

1. Start OOMGR on the SCN.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>delete community name=<community_name>;
   ```

Merging Two Communities

To merge communities, you must delete one community after subscribing the nodes
of the deleted community to the other.

Steps for Merging Two Communities

This task can be performed through the Administration Tool GUI, the
Administration Tool command-line, and the OOMGR command-line.

> **See Also:** "Guidelines for Merging Two Communities" on page
> 6-11 for more information about performing this task

In the Administration Tool GUI and OOMGR

1. Determine which of the two communities you want to delete.

2. Subscribe each of the nodes in this community to other communities that use
   the same network protocol. Refer to "Subscribing a Node to a Community" on
   page 6-3 for instructions.

3. Delete the empty community. Refer to "Deleting a Community" on page 6-9 for instructions.

Guidelines for Merging Two Communities

You can only merge communities if the nodes that subscribe to those communities use the same network protocol.

Assigning Cost to a Node

Like message delivery routes, nodes have an associated cost that determines which connect node is used when more than one is available. eMail Server automatically chooses the lowest cost node. Therefore, if there are multiple connect nodes between two communities, you can control the connect node chosen by setting the node costs appropriately.

You assign node cost while installing the node. See the *Oracle eMail Server Installation Guide* for more information.

Guidelines for Assigning Cost to a Node

- You assign costs to nodes based on disk space and throughput of the associated computer and the number of nodes it includes. For example, a workstation would have a higher cost than a file server. A computer that includes two large nodes would have a higher cost than another computer of the same type containing only one small node. eMail Server automatically chooses the lowest cost message delivery route.

- Once you have assigned costs, you must be careful to balance duties across your nodes. If a single node provides too many connections, the node performance may decrease.

7

Managing the SMTP Gateway and Sendmail

You can install an SMTP gateway to provide access to other mail systems such as Sendmail, the most common mail transfer agent included with most major UNIX-based Internet hosts that handle e-mail routing.

Configuring a gateway includes the following topics discussed in this chapter:

- Creating an SMTP Gateway
- Creating the SMTP Gateway Configuration File
- Creating the SMTP Gateway Configuration File
- Registering the SMTP Gateway with Sendmail
- Creating Aliases to Redirect Incoming Mail to the SMTP Gateway
- Creating Gateway Rewriting Rules
- Configuring the Gateway for Multibyte Support
- Configuring Multiple SMTP Gateways
- Removing (Deregistering) an SMTP/MIME Gateway
- Storing Messages Encrypted with S/MIME
- Rejecting Incoming Spam Messages
- Preventing Use of the Server as a Mail Relay
- Configuring Sendmail for to Check for Viruses

Creating an SMTP Gateway

You must have at least one SMTP gateway running in your system so that your users can send e-mail to each other. You can use the Configuration Assistant to create your first gateway after you install a node.

> **See Also:** the *Oracle eMail Server Installation Guide* for instructions.

You can also create a gateway manually using the following procedure.

When you create a gateway, eMail Server creates both an incoming and an outgoing gateway process. For example, if your gateway is called GWY1, it would have the processes GWY1_IN for incoming mail, and GWY1 for outgoing mail.

After creating the gateway, you must perform the following tasks manually to complete the gateway configuration:

- Create a gateway configuration file to specify how to connect to the database. Refer to "Creating the SMTP Gateway Configuration File" on page 7-3 for instructions.

- Register the gateway with Sendmail so that Sendmail knows how to forward incoming messages to the gateway. Refer to "Registering the SMTP Gateway with Sendmail" on page 7-5 for instructions.

> **Caution:** After you create a gateway, do not try change the name. Instead, you must delete the gateway record and enter a new one with the correct name. Renaming the gateway in the Administration Tool could cause errors.

> **See Also:** Chapter 9, "Managing Processes", for more information about gateway processes

Steps for Creating an SMTP Gateway

This task can be done automatically by using the Configuration Assistant, or it can be done manually by using the Administration Tool GUI or the OOMGR command-line interface.

> **See Also:** the *Oracle eMail Server Installation Guide* for instructions on using the Configuration Assistant.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name* > Gateways.

3. In the toolbar, click (Create).

4. Complete the Add a New Gateway dialog box.

   You will use the gateway name and password that you specify here when create the gateway configuration file (unx.cfg). If you do not specify a password, the default is `welcome`.

   > **See Also:** "Creating the SMTP Gateway Configuration File" on page 7-3 for more information

5. Click OK.

The new gateway appears under Gateways in the navigation tree. If you expand the new gateway, you will see the two gateway processes that were created. These processes also appear under Nodes > *node_name* > Processes > Instances > *gateway_instance*.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>insert gateway name=<gateway_name> node=<node_name> kind=SMTP
   ```

Creating the SMTP Gateway Configuration File

After you create a gateway, you must create a gateway configuration file, unx.cfg, to specify the gateway name and password as well as the connect string for the database so that the gateway can access the eMail Server database. Each set of incoming and outgoing gateway processes needs a separate configuration file.

Prerequisites to Creating the SMTP Gateway Configuration File

Before creating the gateway configuration file, you must create a gateway. Refer to "Creating an SMTP Gateway" on page 7-2 for instructions.

Steps for Creating the SMTP Gateway Configuration File

This task must be done manually using a text editor.

1. Use any text editor to create a file named

   `$ORACLE_HOME/office/config/node_sid/unx.cfg`

2. Enter the gateway name(s), password(s), and connect_string(s) for the database in the unx.cfg file as follows:

   gateway password connect_string

Parameter	Description
gateway	Name of the gateway.
password	Password of the gateway process.
connect_string	The connect_string for the mail node. This must be the same value as the one used during node installation.

Add one line per node in the system. The first connect_string is used to fetch the gateway parameters. The following connect_strings are used to deliver mail. The gateway tries to determine the home node for the recipient and delivers the mail directly to that node. If it cannot determine the home node or if the mail is addressed to recipients on multiple nodes, the mail is delivered to the default node. The default node is specified by the second connect_string in the config file. If there is only one connect_string in the file, then it is used for both fetching parameters and delivering mail.

> **See Also:** "Creating an SMTP Gateway" on page 7-2 for more information if you do not know the gateway name and password

Registering the SMTP Gateway with Sendmail

After creating the gateway configuration file, you must register the gateway with Sendmail, the standard UNIX mail transfer agent that handles all messages traveling to and from the Internet. To register the gateway with Sendmail, you must specify gateway information in the sendmail.cf file so that Sendmail knows how to forward messages coming in from the Internet.

> **Note:** You may use any version of Sendmail supplied with your operating system. If you do not have Sendmail, you can download it from ftp.sendmail.org. For documentation on Sendmail, visit the Sendmail Web site at
>
> `http://www.sendmail.org`

> **Note:** The Sendmail file may require configuration steps in addition to those provided here, depending on how many gateways you are using, and the complexity of your system. See the documentation for your version of Sendmail for more information.

> **Note:** Oracle Support Services can only provide information for the basic Sendmail configuration required to receive messages. For more complex configurations, contact the distributor of your Sendmail program.

Prerequisites to Registering the SMTP Gateway with Sendmail

Before registering the SMTP/MIME gateway with Sendmail, you should complete the following tasks:

- "Creating an SMTP Gateway" on page 7-2
- "Creating the SMTP Gateway Configuration File" on page 7-3

Steps for Registering the SMTP Gateway with Sendmail

This task must be done manually using a text editor.

1. Use any text editor to modify the sendmail.cf file (usually located in either /etc/ or /etc/mail/) by adding the following information about the SMTP/MIME mailer to the end of the file:

   Mofcmail, [tab] P=<*$ORACLE_HOME*>/bin/ofcuto, F=rlSsDCFMPpmn, S=10, R=20, [tab]A=ofcuto – <*$ORACLE_HOME*> <ORACLE_SID> –f <*config_file*> – $g $a $b $f $x ($u)

Replace	With
Mofcmail	This tells Sendmail to run the eMail Server mailer. The mailer delivers the message to the Gateway process, which then inserts the message in the eMail Server database. You may want to specify a different mailer name. See the Sendmail documentation for more information about mailers.
<$ORACLE_HOME>	Enter the full path for your $ORACLE_HOME directory.
<ORACLE_SID>	Enter the value for Oracle sid of your database.
[tab]	Press the Tab key where indicated by [tab] instead of the space bar.
<config_file>	Name of the gateway configuration file. The default filename is unx.cfg.
	See Also: "Creating the SMTP Gateway Configuration File" on page 7-3 for more information about the SMTP gateway configuration file

2. In the system-dependent section of the sendmail.cf file, add one of the following entries to the second-to-last entry of ruleset 0 before the local names line:

   ```
   ## eMail Server: Hook to eMail Server mailer
   ##
   R$+.ofcmail[tab][tab]$#ofcmail $:$1[tab]{tab]eMail Server passoff
   ```

   or

   ```
   ## eMail Server: Hook to eMail Server mailer
   ##
   R$+.OFCMAIL[tab][tab]$#ofcmail $:$1[tab][tab]eMail Server passoff
   ```

3. In the list of trusted users in the sendmail.cf file, add the username for the owner of the eMail Server $ORACLE_HOME directory. Trusted users such as root, daemon, and uucp generally begin with a "T":

```
T root daemon uucp <eMail Server_owner>
```

4. Create a frozen version of the sendmail.cf file. If your version of Sendmail does not support the frozen version, changes to the sendmail.cf file take effect when the Sendmail daemon starts. To create a frozen version of the file, open a shell tool and enter the following command:

```
$ /usr/lib/sendmail -bz
```

5. If you want to automatically start Sendmail when you reboot the machine, modify the /etc/rc.local file by adding a line with the location of the Sendmail daemon (usually /usr/lib/sendmail). This guarantees delivery of messages waiting to be sent from SMTP/MIME mail to eMail Server.

6. After modifying the sendmail.cf file and the rc.local file, restart Sendmail as the root user.

On Windows NT, refer to the Windows NT documentation for instructions.

On Solaris, use the following procedure:

1. To locate the Process ID of the existing Sendmail, enter the following command:

```
$ ps -ef|grep sendmail
```

2. To terminate the Sendmail process, enter the following command:

```
$ kill -9 <process_id>
```

3. To restart Sendmail, enter the following:

```
$ /usr/lib/sendmail -bd -q30m
```

7. Set up aliases to redirect incoming mail to the gateway. Refer to "Creating Aliases to Redirect Incoming Mail to the SMTP Gateway" on page 7-7 for instructions.

Creating Aliases to Redirect Incoming Mail to the SMTP Gateway

If the sendmail configuration file is set up as described in "Registering the SMTP Gateway with Sendmail" on page 7-5, then incoming messages must be addressed using the following format:

```
userid.mailer_name@domain
```

To address messages using the standard Internet naming conventions (userid@domain), you can create an alias for each user ID that maps the user ID to userid.mailer_name. To do this add the following line to the end of sendmail alias file (usually /etc/mail/aliases):

```
userid: userid.mailer_name
```

Variable	Description
userid	User name of the eMail Server user as defined in the eMail Server directory. Refer to "Displaying a Directory Entry" on page 13-3 for instructions on finding user names.
mailer_name	Name of the mailer specified in the Sendmail.cf file. If you use the example provided in step 2 of "Registering the SMTP Gateway with Sendmail" on page 7-5, the mailer name is ofcmail.

Note: If you do not use the procedure in "Registering the SMTP Gateway with Sendmail" on page 7-5 to configure the gateway for Sendmail, then you may need to use another procedure for setting up aliases. For documentation on Sendmail, go to the Sendmail Web site at

```
http://www.sendmail.org
```

Creating Gateway Rewriting Rules

You can create rewriting rules to redirect message routing and to manage addressing details, such as gateways. Rewriting rules search for addresses containing certain patterns of characters and modify the addresses in some way. These rules are used primarily to interpret messages sent through the Internet.

Steps for Creating Gateway Rewriting Rules

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

See Also: "Guidelines for Creating Gateway Rewriting Rules" on page 7-11 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name* > Rewriting Rules.

3. In the toolbar, click ➕ (Create).

4. Complete the Rewriting Rule dialog box.

> **See Also:** "Parameters for Creating Gateway Rewriting Rules" on page 7-10 for more information about the parameters in this dialog box

5. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert rule ruleno=<rule_number>
2>pattern=<pattern>
3>result=<result>
4><description>;
```

> **See Also:** "Parameters for Creating Gateway Rewriting Rules" on page 7-10 for more information about the parameters available with this command

Example: To create a pair of rules that leave correct addresses untouched and add the necessary gateway name to incorrect addresses, you might create the following rules:

```
ruleno=10 pattern=%:% result=%0:%1 description=any address that already
specifies SMTP: is left the way it is

ruleno=20 pattern=%@% result=SMTP.anywhere.com:%0@%1 description=any address
that has @ gets SMTP:anywhere.com added to the beginning
```

Parameters for Creating Gateway Rewriting Rules

Parameter	Description
`<description>` (Optional)	Description of the rule. The maximum length is 255 characters.
`pattern`	Pattern that you want to search for in the addresses. The maximum length is 255 characters.
	Use the percent sign (%) as a wildcard to represent part of an address.
	For example, suppose you have:
	Address: unix2:jdoe@acme.com Rule Pattern: unix%:%
	The first % in the rule pattern represents everything between "unix" and the colon (in this case, "2"). The second % represents everything after the colon (in this case, "jdoe@acme.com").
`result`	How you want to change addresses that fit the rule pattern. The maximum length is 255 characters.
	Use the percent sign followed by a digit (%0, %1, etc.) to represent the wildcard specified in the pattern. In the result, the % signs are numbered to indicate which % from the pattern to which you are referring.
	For example, suppose you have:
	Address: unix2:jdoe@acme.com Rule Pattern: unix%:% Rule Result: unix%0.acme.com:%1
	In the rule result, %0 represents the first wildcard identified in the pattern (in this case, "2"). %1 represents the second wildcard identified in the pattern (in this case, "jdoe@acme.com").
	This rule inserts "acme.com" between "unix2" and "jdoe@acme.com". The result creates the address "unix2.acme.com:jdoe@acme.com".
`ruleno`	Sequence number of the rule. Rules are applied in order. Only the first rule with a pattern that matches the address is applied.

Guidelines for Creating Gateway Rewriting Rules

- Before creating rewriting rules, you should be familiar with the gateway addressing format. For mail that is passed from eMail Server to the SMTP/MIME mail account, use this format:

`<gateway_name>:<foreign_address>`

Parameter	Description
`<gateway_name>`	Name of the gateway process entered when creating the gateway record. See "Creating an SMTP Gateway" on page 7-2 for more information.
`<foreign_address>`	SMTP mailbox address of the recipient. This must adhere to the rules governing SMTP mail addresses.

For example, if the name of the gateway is `unix2.domain1` and the SMTP mailbox of the recipient address is `jsmith@acme.com`, you would address the message:

`unix2.domain1:jsmith@acme.com`

- For mail sent from the SMTP mail account to eMail Server, the *suffix* *.mailer_name* (the name you assigned the SMTP/MIME gateway mailer in the sendmail.cf file) must be added to the user's username. If you use the example provided in step 2 of "Registering the SMTP Gateway with Sendmail" on page 7-5, the mailer name is `ofcmail`, and you would use the following format for the user name:

`<username.ofcmail>@<internet_address>`

Parameter	Description
`<username>`	A valid eMail Server address. This address may be the user's full address (username.domain_name) or any valid public alias or distribution list.
`<internet_address>`	The Internet address of the Internet host to which the message is going. Internet addresses for commercial organizations usually use the convention company_name.com.

- Rules apply only to messages and invitations sent from the node in which you define the rules.

■ Rules are applied sequentially, starting with Rule 1. Only one rule is applied to each address. The rule applied to an address is the first rule having a pattern that matches the address.

Configuring the Gateway for Multibyte Support

The eMail Server SMTP/MIME Gateway supports Japanese, Chinese, and Korean multibyte character encoding for incoming and outgoing mail.

To configure the character encoding for SMTP/MIME gateway, you must perform the following tasks:

■ Specifying the Language to Support

■ Specifying the Character Set and Encoding Types

Specifying the Language to Support

Modify the ExecArguments parameter value, `-n nls-lang`, for the incoming gateway process to specify the language that you want the gateway to support.

Steps for Configuring the Gateway for Multibyte Support

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name* > Gateways > *gateway_name* > *gateway_process_in*.

3. In the right pane, enter the following command in the Executable Arguments text box:

    `'-f <config_file> -n <nls_lang>'`

    See Also: "Variables for Configuring the Gateway for Multibyte Support" on page 7-13 for more information about the parameters in this dialog box

4. Click Apply.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>modify process server=<gateway_name_in.text>
2>instance=<instance_number> to execarguments='-f <config_file>
3>-n <nls_lang>';
```

> **See Also:** "Variables for Configuring the Gateway for Multibyte Support" on page 7-13 for more information about the parameters available with this command

Variables for Configuring the Gateway for Multibyte Support

Variable	Description
`<config_file>` (Optional)	Name of the gateway configuration file (optional). **See Also:** "Creating the SMTP Gateway Configuration File" on page 7-3 for more information about this file
`<gateway_name_in>`	Name of the inbound gateway.
`<instance_number>` (OOMGR only)	Instance of the gateway to process incoming mail.
`<nls_lang>`	NLS_LANG value consisting of three parts: language, territory, and character set. The syntax is: `Language_Territory.Charset` For example: `Japanese_Japan.JA16EUC` `Korean_Korea.KO16KSC5601` `Chinese_China.ZHT16BIG5` **See Also:** "Supported Languages and Character Sets" on page 7-14 for a complete list of Asian languages and character sets supported

Specifying the Character Set and Encoding Types

After creating a gateway, you need to modify the following three process parameters of the SMTP/MIME gateway:

- `default_charset`, the default encoding type for outbound and inbound messages

- `default_textencoding`, the default encoding type of message encoding

- `default_hdrencoding`, the default encoding type for the MIME header

Refer to "Specifying Multi-value Parameters" on page 1-16 for instructions on how to ____.

> **See Also:** "Gateway Process Parameters" on page 11-4 for more information about the parameters

Example:

- `default_charset iso-2022-JP`

- `default_textencoding 7bit`

- `default_hdrencoding B` (`B` specifies base64 and `Q` indicates quoted-printable.)

Supported Languages and Character Sets

The following table lists the database character sets and the character encoding for Japanese, Chinese, and Korean languages that are supported by the SMTP/MIME gateway.

Language Encoding	Database Character Set	Encoding Method	Character Size
Japanese	JA16SJIS	ISO-2022-JP	7-bit
	JA16EUC	ISO-2022-JP	7-bit
Simplified Chinese	ZHS16CGB231280	HZ-GB-2312	7-bit
	ZHS16CGB231280	HZ-GB2312-80	7-bit
	ZHS16CGB231280	CN-GB	8-bit
	ZHS16CGB231280	ISO-2022-CN	7-bit
	ZHS16CGB231280	ISO-2022-CN-EXT	7-bit
Traditional Chinese	ZHT32EUC	BIG5	8-bit
	ZHT32EUC	CN-BIG5	8-bit
	ZHT32EUC	ISO-2022-CN	7-bit

Language Encoding	Database Character Set	Encoding Method	Character Size
	ZHT32EUC	ISO-2022-CN-EXT	7-bit
	ZHT16BIG5	CN-BIG5	8-bit
	ZHT16BIG5	BIG5	8-bit
	ZHT16BIG5	ISO-2022-CN	7-bit
	ZHT16BIG5	ISO-2022-CN-EXT	7-bit
Korean	KO16KSC5601	ISO-2022-KR	7-bit

Configuring Multiple SMTP Gateways

If you want to run multiple gateways on one node to distribute the workload or specify different parameters for different gateways such as the language parameters, then you must register and configure additional instances of the gateway process. This procedure assumes that you've already registered and configured one gateway process.

> **Note:** Configuring multiple gateways may require additional configuration of Sendmail. Refer to the Sendmail documentation for more information about how to configure it for multiple gateways.

1. In $ORACLE_HOME/office/config/node_sid, create a gateway configuration file for each additional gateway. Name the new files unx2.cfg, unx3.cfg, etc.

   See Also: "Creating the SMTP Gateway Configuration File" on page 7-3

2. You may want to specify a different mailer name for the new gateway in the sendmail.cf file.

   See Also:

   - "Registering the SMTP Gateway with Sendmail" on page 7-5 for more information about the mailer

   - Sendmail documentation for more information about mailers.

3. Set the configuration file name to the new inbound mail server by setting the ExecArguments parameter for the gateway process to:

```
execarguments='-f <config_file>'
```

Refer to "Setting a Parameter for a Registered Process" on page 9-15 for instructions.

Removing (Deregistering) an SMTP/MIME Gateway

When you install an SMTP/MIME Gateway, you register the gateway with sendmail, the standard UNIX mail transfer agent. If you want to remove a gateway from your eMail Server system, you must deregister the gateway before deleting it. Deregistering the gateway removes the gateway's processes. If you do not deregister the gateway, ghost processes will continue. These processes must then be stopped manually. The Administration Tool automatically deregisters before deleting the gateway.

Steps for Removing (Deregistering) an SMTP/MIME Gateway

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name* > Gateways > *gateway_name.*

3. In the toolbar, click (Remove).

In OOMGR

1. Start OOMGR.

2. Deregister the gateway by entering the following command at the OOMGR prompt:

```
IOFCMGR> deregister gateway name=<gateway_name>
```

3. Delete the gateway by entering the following command at the OOMGR prompt:

```
IOFCMGR> delete gateway name=<gateway_name>
```

Storing Messages Encrypted with S/MIME

Messages being sent through the gateway can be stored in either encoded, or decoded format. This is important of you want to support the S/MIME standard for verifying the authenticity of a client. You can specify this format by modifying the `store_body` parameter.

Decoded format means that a message is broken down into parts, such as the header and body, decoded, and then stored in different database tables. Most clients understand how to retrieve decoded messages from these tables. However, if you are supporting S/MIME, messages with digital signatures will lose their signatures so authentication verification cannot happen.

Encoded format means that the gateway stores the message exactly as it is received in encoded format. This preserves encryption and digital signatures for S/MIME, but this format is currently only understood by the IMAP4 and POP3 protocol servers. Other clients may not be able to retrieve these messages.

You also have the option to save messages in both encoded and decoded formats to support all types of clients, but this can significantly increase the amount of database space used to save messages.

See Also:

- *Oracle eMail Server Understanding and Planning Guide* for more information about S/MIME.

- "Gateway Process Parameters" on page 11-4 for more information about the `STORE_BODY` parameter.

Rejecting Incoming Spam Messages

You can configure Sendmail 8.8 or higher to reject unwanted junk mail (spam) from e-mail addresses and domains that you specify. When you do this, the unwanted messages are not delivered and are automatically returned to the sender.

> **Note:** You must have Sendmail 8.8 to use the antispam features. If you do not have Sendmail 8.8, you can download it from
>
> ```
> ftp.sendmail.org
> ```
>
> For documentation on Sendmail 8.8, go to the Sendmail Web site at
>
> ```
> http:// www.sendmail.org.
> ```

Steps for Rejecting Incoming Spam Messages

This task must be done manually using a text editor.

1. Log in as root.

2. Use any text editor to create the following files:

   - /etc/mail/Spammers for rejecting e-mail addresses

   - /etc/mail/SpamDomains for rejecting entire domains

3. In the /etc/mail/Spammers file, list all of the e-mail addresses for users whose messages you want to reject, with one address on each line.

   For example:

   ```
   ckent@acme.com
   llane@acme.com
   jolsen@acme.com
   ```

4. In the /etc/mail/SpamDomains file, list all of the domains with messages you want to reject, with one domain on each line.

   For example:

   ```
   acme.com
   acme-pro.com
   junkmail.com
   ```

5. Use any text editor to open your sendmail.cf file (usually located in either /etc/ or /etc/mail/).

6. Add the following lines at the beginning of the sendmail.cf file:

   ```
   #Files to keep spammers information
   F{SpamDomains} /etc/mail/SpamDomains
   F{Spammers} /etc/mail/Spammers
   ```

7. Add the following lines at the end of the sendmail.cf file:

```
##################################################
############  STOP THE SPAMMERS  ############
##################################################

Scheck_mail
R${Spammers}              $#error $@ 5.7.1 $:     "550 We don't accept junk mail"
R<${Spammers}>            $#error $@ 5.7.1 $:     "550 We don't accept junk mail"
R<${Spammers}.>           $#error $@ 5.7.1 $:     "550 We don't accept junk mail"
R$*                       $: $>3 $1
R$*<$*@${SpamDomains}.>$* $#error $@ 5.7.1 $:     "550 We don't accept junk mail from your domain"
R$*<$*@${SpamDomains}>$*  $#error $@ 5.7.1 $:     "550 We don't accept junk mail from your domain"
```

> **Note:** You must press the Tab key where indicated by [tab] to separate the columns in this file.

8. Kill the Sendmail process and start it again.

On Windows NT, see the Windows NT documentation for instructions.

On Solaris:

1. To locate the Process ID of the existing Sendmail, enter the following command:

```
$ ps –ef|grep sendmail
```

2. To terminate the Sendmail process, enter the following command:

```
$ kill –9 <process_id>
```

3. To restart Sendmail, enter the following:

```
$ /usr/lib/sendmail –bd –q30m
```

Preventing Use of the Server as a Mail Relay

You can configure Sendmail 8.8 or higher to prevent junk-mail senders from using your server machine as a mail relay to forward unwanted spam messages by only delivering messages to or from a local machine.

Steps for Preventing Use of the Server as a Mail Relay

This task must be done manually using a text editor. There are two methods for completing this task.

Method 1: Preventing use of the server as a mail relay when the Sendmail resides on a machine that is also the mail server in a system and handles all user messages

1. Use any text editor to open your sendmail.cf file (usually located in either /etc/ or /etc/mail/).

2. Add all the hostnames and nicknames of your machine to the Cw line found at the beginning of the sendmail.cf file.

   For example:

   ```
   Cw acme us.acme.com acme-sun acme-sun.us.acme.com
   ```

3. Add the following lines at the end of the sendmail.cf file:

   ```
   Scheck_rcpt
   R$* [tab] $: $>3 $1
   R$+<@$=w>$* [tab] $@ok
   R$+<@$=w.>$* [tab] $@ok
   R$+<@$=w.LOCAL>$* [tab] $@ok
   R$* [tab] $#error $@ 5.7.1 $: [tab] "550 we do not support relaying"
   ```

   > **Note:** You must press the Tab key where indicated by [tab] to separate the columns in this file.

4. Kill the Sendmail process and start it again.

   On Windows NT, see the Windows NT documentation for instructions.

   On Solaris:

   1. To locate the Process ID of the existing Sendmail, enter the following command:

      ```
      $ ps -ef|grep sendmail
      ```

   2. To terminate the Sendmail process, enter the following command:

      ```
      $ kill -9 <process_id>
      ```

   3. To restart Sendmail, enter the following:

```
$ /usr/lib/sendmail -bd -q30m
```

Method 2: Preventing use of the server as a mail relay when Sendmail resides on a machine that acts as a gatekeeper for an internal network of machines

An internal machine will be considered as an outsider by the gatekeeper. eMail Server uses a more complicated check_rcpt rule set example to handle this situation:

1. Log in as root.

2. Use any text editor to open the file /etc/mail/LocalIP.

3. In the file, add the maximal common parts of the IP addresses of all of the internal machines, with one address on each line (include 127.0.0.1 for your local host).

   For example:

   ```
   130.35.9
   130.35.10
   127.0.0.1
   ```

4. Use any text editor to open your sendmail.cf file (usually located in either /etc/ or /etc/mail/).

5. Add the following line at the beginning of the sendmail.cf file:

   ```
   F{LocalIP} /etc/mail/LocalIP
   ```

6. Add the following lines at the end of the sendmail.cf file:

   ```
   Scheck_rcpt
   # first: get client addr
   R$+ [tab] $: $(dequote "" $&{client_addr} $) $| $1
   R0 $| $* [tab] $@ ok [tab] no client addr: directly invoked
   R$={LocalIP [tab] $* $| $* [tab] $@ ok
   # not local, check rcpt
   R$* $| $* [tab] $: $>3 $2
   # remove local part, maybe repeatedly
   R$+ [tab] $:$>removelocal $1
   # still something left?
   R$*<@$+>$* [tab] $#error $@ 5.7.1 $: 550 we do not support relay
   Sremovelocal
   # remove RelayTo part (maybe repeatedly)
   R$*<@$=w>$* [tab] $: $>removelocal $>3 $1 $3
   R$*<@$=w.LOCAL>$* [tab] $: $>removelocal $>3 $1 $3
   R$*<@$*>$* [tab] $@ $1<@$2>$3
   ```

```
# dequote local part
R$- [tab] $: $>3 $(dequote $1 $)
R$*<@$*>$* [tab] $: $>removelocal $1<@$2>$3
```

> **Note:** You must press the Tab key where indicated by [tab] to sep-
> arate the columns in this file.

7. Kill the Sendmail process and start it again.

   On Windows NT, see the Windows NT documentation for instructions.

   On Solaris:

   1. To locate the Process ID of the existing Sendmail, enter the following
      command:

      ```
      $ ps -ef|grep sendmail
      ```

   2. To terminate the Sendmail process, enter the following command:

      ```
      $ kill -9 <process_id>
      ```

   3. To restart Sendmail, enter the following:

      ```
      $ /usr/lib/sendmail -bd -q30m
      ```

Configuring Sendmail for to Check for Viruses

If you are using virus-checking software with Sendmail, configure it as necessary.

> **See Also:** *Oracle eMail Server Release Notes* for more information
> about supported virus-checking software

8

Managing MIME Attachment Types

To exchange multimedia messages with MIME-compliant systems, you can configure your gateway to make sure messages and attachments are mapped to the correct types. In addition, if you will be exchanging messages and message attachments with a non-MIME-compliant system, you can set up a gateway that performs special encoding and decoding.

In most cases, the default MIME configuration will be sufficient for your needs. If you need to customize your MIME configuration, use the following tasks discussed in this chapter:

- Creating an Attachment Type
- Creating a MIME Attachment Map
- Updating a MIME Attachment Map
- Mapping MIME Attachment Types Using Converters

> **See Also:** Chapter 23, "MIME Text Encoding and Decoding", to learn more about encoding and decoding

Creating an Attachment Type

eMail Server uses information about attachment types to start the program that created the file when the user downloads the attachment. eMail Server provides some predefined attachment types. In addition, you can define new attachment types. When you add an attachment type, you must first add a generic type, then an attachment type of the same name that is platform-specific.

Steps for Creating an Attachment Type

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > Attachment Types.

3. In the toolbar, click ![+] (Create).

4. Complete the Add a New Attachment Type dialog box.

    See Also: "Parameters for Creating an Attachment Type" on page 8-3 for more information about the parameters in this dialog box

5. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

    ```
    IOFCMGR>insert attachtype
    2>name=<attachment_name>
    3>type=<attachment_type>
    4>platform=<user_platform>
    5>binary=[Y | N]
    6>description="<description>"
    7>command="<launch_command>";
    ```

    See Also: "Parameters for Creating an Attachment Type" on page 8-3 for more information about the parameters available with this command

Parameters for Creating an Attachment Type

Parameter	Description
binary	Indicates whether the attachment data is binary.
command	Command required to launch the appropriate application and open the attachment. The maximum length is 255 characters.
	The launch command consists of three parts:
	■ The command to start the application. For example, "word" for Microsoft Word.
	■ A symbol (% or %f) representing the name of the temporary file that is opened to display the attachment. This file is deleted when the user closes the attachment.
	■ A symbol (%o) representing the name of the operating system on which the original message was created.
	For example, if you use a text editor named "EDIT" that takes a filename as its first parameter, the launch command for attachments using this editor would be EDIT %f.
description (Optional)	Description of the attachment type. Although this is not a mandatory attribute, you should include a description because eMail Server displays this text when listing the available attachment types for your users. The maximum length is 255 characters.
name	Name of the attachment type. The maximum length is 30 characters.
oisinfo (Optional)	Information used to write the attachment to a file for a given operating system. For example, on Windows NT, this might be the file extension. The maximum length is 255 characters.

Parameter	Description
platform	Platform on which your users will be viewing their messages. This parameter lets you set up different attachment types for each platform being used. For example, opening a text file requires one command on an MS-Windows machine and a different command on a Macintosh machine. Valid values are Block Mode, MS-Windows, Charmode, Open Look, GENERIC, Presentation Manager, Macintosh, X-UNIX, Motif, X-VMS, and MS-DOS.
type	A unique numeric identifier that you assign to the attachment type. Valid values are numbers between 10000 and 32000. (Numbers between 1 and 9999 are reserved.)

Creating a MIME Attachment Map

The MIME standard has established conventions and names for many common attachment types, such as GIFs, PostScript documents, or formatted spreadsheets. When you install eMail Server, many of these standard MIME types are automatically mapped to their corresponding types in eMail Server so that the attachment types can pass through the SMTP/MIME gateway immediately. You can change these existing MIME-type mappings or create new ones.

Prerequisites to Creating a MIME Attachment Map

Before creating a MIME attachment type, review the default attachment types to be sure one does not exist.

> **See Also:** "Default MIME Attachment Type Mappings" on page 8-5 for more information

Steps for Creating a MIME Attachment Map

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > Attachment Maps.

3. In the toolbar, click + (Create).

4. Complete the Add a New Attachment Map dialog box.

> **See Also:** "Parameters for Creating an Attachment Type" on page 8-3 for more information about the parameters in this dialog box

5. Click OK.

In OOMGR

1. Start OOMGR on the DCN of the domain to which you want to subscribe the node.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert attachmap gateway=<gateway_type>
2>foreigntype=<foreign_attachment>
3>localtype=<defined_type>
4>description='<description>';
```

Default MIME Attachment Type Mappings

The following table lists the standard MIME attachment types that are automatically mapped to eMail Server attachment types during installation. Some of these types may only be available on certain platforms.

Type ID	eMail Server Type	Binary	MIME Type
0	TEXT	N	text/plain
1	BIN	Y	application/octet-stream
2	HTML	N	text/html
5	EXEC	Y	unmapped
25	ORABROWSE	Y	unmapped
26	ORABOOK	Y	unmapped
50	AUDIO	Y	audio/basic

Type ID	eMail Server Type	Binary	MIME Type
53	WINSOUND	Y	audio/x-wav
61	TIFF	Y	image/tiff
62	GIF	Y	image/gif
63	PCX	Y	unmapped
64	G3FAX	Y	image/g3fax
65	PICT	Y	application/x-macpict application/x-pict
66	JFIF	Y	image/jpeg
67	XBM	Y	image/x-xbitmap image/x-xbm
68	BMP	Y	unmapped
70	POSTSCRIPT	N	application/postscript
71	ENCPS	N	unmapped
80	BITMAP	Y	unmapped
90	ZIP	Y	application/zip
91	QUICKTIME	Y	video/quicktime
92	MPEG	Y	video/mpeg
104	AMIPRO	Y	unmapped
105	WP	Y	application/wordperfect5.1
110	MWORD	Y	application/msword
111	EXCEL	Y	unmapped
120	123	Y	unmapped
130	EZ	Y	unmapped
131	DBASE	Y	unmapped
132	ACROBAT	Y	application/pdf
145	POWERPOINT	Y	unmapped

Updating a MIME Attachment Map

You can update a MIME attachment map if any of the information, such as the gateway type or foreign attachment type, changes.

Steps for Updating a MIME Attachment Map

This task can be only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>update attachmap gateway=<gateway_type>
2>foreigntype=<foreign_attachment>
3>localtype=<defined_type>
4>description='<description>';
```

Mapping MIME Attachment Types Using Converters

Some MIME attachment types may not have corresponding eMail Server attachment types. In this case, you can use a converter to map a MIME attachment type to an eMail Server attachment type. A converter is a program that converts and maps a MIME attachment type to an eMail Server attachment type, and vice versa.

If you can map a MIME attachment type either with or without a converter, then you should select the method that does not use a converter.

For example, eMail Server attachment type 67 (XBM) maps to MIME types image/x-xbitmap and image/x-xbm. If the mapping for eMail Server attachment type XBM to MIME type image/x-xbm is created first (on the DCN), an attachment of type XBM will be transmitted as an image/x-xbm MIME part with no type conversion.

A format converter should perform bidirectional data conversion. In other words, if you select a specific converter to map a MIME type to an eMail Server type, use the same converter to map the eMail Server type to the MIME type.

Converter programs cannot be used for multipart/<multipart-subtype> MIME types. The gateway ignores these attachment type mappings.

If you use an external converter, it must:

■   Accept input from stdin.

- Write output to stdout.

- Write errors to stderr.

In addition, the following must hold true:

- The first argument supplied by the gateway to the converter, can be either -D or -E. Other arguments can be configured and they will appear after this argument. When the first argument is -D, the converter performs MIME-to-eMail Server conversion or decoding. When this argument is -E, the converter performs eMail Server-to-MIME conversion or encoding.

- The output of a format converter in the eMail Server-to-MIME direction is 7-bit ASCII.

To define the full pathname to the format converter, use the Converter parameter. If a relative pathname is specified, then the gateway assumes the path is relative to $ORACLE_HOME/bin.

To configure the external attachment format converters, use the `insert attachmap` command.

Example: Mapping Mac-binhex40 to eMail Server Type 7

The following is an example using a converter for inbound messages. The example defines a mapping between MIME-type application/mac-binhex40 and eMail Server type 7. When the gateway receives an application/mac-binhex40 body part in an inbound MIME message, it sends the data through the /oracle/bin/ofc_bh40.sh -D filter. The filter output is inserted into eMail Server as attachment of type 7.

```
IOFCMGR>insert attachmap gateway=smtp
2>foreigntype=application/mac-binhex40 localtype=7
3>converter=/oracle/bin/ofc_bh40.sh
4>description='converter for macbin <-> mac-binhex40';
```

When an external converter exits or terminates inbound messages with an error, the original MIME body part is inserted as the attachment type defined in the `default_type` process parameter. Data that cannot be converted is prepared with an X-Orcl-Comments header, indicating that the gateway has failed to convert the data. The comment is followed by the original Content-type and Content-Transfer-Encoding headers and the data.

Example: Mapping X-uuencode to eMail Server Type 1

The following is an example using a converter for outbound messages. The example defines a mapping between MIME type application/x-uuencode and eMail Server type 1.

```
IOFCMGR>insert attachmap gateway=unix
2>foreigntype=application/x-uuencode localtype=1
3>converter=/oracle/bin/ofc_uu.sh
4>description='converter for uuencode/decode';
```

The gateway sends the contents of a type 1 attachment in an outbound message through the /oracle/bin/ofc_uu.sh -E filter. The filter output becomes the data of an application/x-uuencode MIME body part in the outbound message.

The SMTP/MIME gateway assumes the output of an external type converter is 7-bit ASCII, which does not require further transfer encoding. In the outbound MIME message, the 7-bit content transfer encoding is used.

When an attachment type conversion program fails, the attachment is sent as an application/octet-stream MIME part, and the base64 content transfer encoding is used.

9

Managing Processes

The eMail Server system consists of several types of processes that run in the background to perform functions such as delivering e-mail and scheduling messages.

Managing the processes includes such common tasks as starting and stopping processes and setting parameter values.

Managing processes includes the following tasks discussed in this chapter:

- Displaying the Guardian Process Status
- Starting the Guardian Process
- Registering a New Process
- Starting a Registered Process
- Displaying Process Status Information
- Displaying Database Shadow Processes
- Removing Database Shadow Processes
- Refreshing a Process
- Removing a Registered Process
- Shutting Down a Registered Process
- Shutting Down the Guardian Process
- Displaying Process Parameters
- Modifying a Default Process Parameter
- Setting a Parameter for a Registered Process
- Reverting a Registered Parameter to the Default Value

- Modifying Process Properties

- Creating a Time Slice in a Process Default Schedule

- Modifying a Time Slice in a Process Default Schedule

- Removing a Time Slice from a Process Default Schedule

- Overriding a Default Time Slice for a Process Instance Schedule

- Modifying a Time Slice for a Process Instance Schedule

- Reverting a Process Instance Time Slice to the Default Value

> **See Also:** Chapter 11, "Process Parameter Reference" for a
> discussion of the eMail Server processes and how they work

Displaying the Guardian Process Status

Before you can view or control the guardian process using the Administration Tool, you must tell the tool where the guardian is by specifying the guardian service name. The guardian service name can be found in the tnsnames.ora file on the client where the Administration Tool is installed.

> **See Also:** *Oracle eMail Server Installation Guide* for more information about this file

Steps for Displaying the Guardian Process Status

This task can only be performed through the Administration Tool GUI.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Guardians > *guardian_instance*.

3. In the right pane, enter the guardian service name in the Service text box.

4. Click Apply.

The guardian process status appears in the right pane. If the guardian is running, then it appears in blue in the navigation tree. If it is not running, then it appears in black.

Starting the Guardian Process

You must start the guardian process before you can start the rest of the eMail Server processes, including the gateway processes, protocol server processes, and LDAP server processes.

Prerequisites to Starting the Guardian Process

- Before starting the guardian using the Administration Tool, you must specify the guardian service name to tell the tool where to find the guardian process. Refer to "Displaying the Guardian Process Status" on page 9-3 for instructions.

- Make sure the guardian process is not already running. In the Administration Tool, a running process appears in blue in the navigation tree. If it is not running, then it appears in black.

> **Caution:** If you stop the guardian process, then it will
> automatically stop all processes under its control that are currently
> running. When you start it back up, it will attempt to start all the
> processes that were running before it stopped. If you do not want a
> process to be started again when you start the guardian process,
> then you should stop that process before stopping the guardian
> process. Refer to "Shutting Down a Registered Process" on page
> 9-11 for instructions.

Steps for Starting the Guardian Process

This task can be performed through either the Administration Tool GUI, or through
a standard shell tool.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* >
   Guardians > *guardian_instance*.

3. In the toolbar, click ![Startup icon] (Startup).

In a Shell Tool

1. Open a shell tool on the machine or node containing the guardian process that
   you want to start.

2. Enter the following command at the shell prompt:

   ```
   $ ofcguard start connect=<connect_string> instance=<instance_number>
   ```

   The connect string and instance number are optional. If you are starting the
   guardian process on a separate protocol server tier, then you must specify the
   connect string for the node where the protocol server processes will be
   administered and the Guardian ID for that guardian.

   > **See Also:** "Logging on to the Administration Tool and OOMGR"
   > on page 1-2 for more information about the connect string

Registering a New Process

When a node is created, the eMail Server installation program registers one instance
of each process type. You can register additional instances of some process types,

such as postman or replicator processes, to help a node run more efficiently. For example, if your users send many messages around noon each day, then you can create additional postman processes that run during that time to handle the extra message traffic. After you register a process, you must start it before it can perform the desired tasks.

Steps for Registering a New Process

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances.

3. In the toolbar, click ➕ (Register).

4. Complete the Register an Instance Process dialog box.

> **See Also:** "Common Process Parameters" on page 11-2 for more information about the parameters in this dialog box

5. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>register process server=<process_name>
2>instance=<instance_number>
3>DefaultStartup=[Enabled | Disable]
```

> **See Also:** "Common Process Parameters" on page 11-2 for more information about the parameters available with this command

Starting a Registered Process

Starting or restarting a node does not start the processes. You must start the processes explicitly.

Prerequisites to Starting a Registered Process

■ Start the guardian process if it is not already started. Refer to "Starting the Guardian Process" on page 9-3 for instructions.

■ Make sure the process is not already running. In the Administration Tool, a running process appears in blue in the navigation tree. If it is not running, then it appears in black.

In OOMGR, display the process status. Refer to "Displaying Process Status Information" on page 9-7 for instructions.

Steps for Staring a Registered Process

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. Perform one of the following actions:

To perform this task:	Follow these steps:
Start one process instance	1. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance*. 2. In the toolbar, click ![Startup icon] (Startup).
Start all registered processes on a node	In the menu, select Message System > Start All Processes...

In OOMGR

1. Start OOMGR.

2. Enter one of the following commands at the OOMGR prompt:

To perform this task:	Use this command:

Start one process instance	`IOFCMGR>startup server=<process_name>`
	`2>instance=<instance_number>;`
	
	Example: To start a single postman process, you would use this command:
	
	`IOFCMGR>startup server=postman`
	`2>instance=1;`

Start all registered processes on a node	`IOFCMGR>startup all;`

> **See Also:** for more information about the parameters available with this command

Displaying Process Status Information

You can display the following status information for registered processes:

- Process name and instance number

- Database session ID

- Operating system process ID

- Last wakeup time

Steps for Displaying Process Status Information

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes.

3. In the right pane, select the Running Processes tab. A running process appears in blue. If it is not running, then it appears in black.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>display processes;
   ```

Displaying Database Shadow Processes

You can list all database shadow processes that are running on the node. Shadow processes are subprocess created by the database. If a client does not exit the system properly, then some database shadow process may be left running on the system and should be removed.

Steps for Displaying Database Shadow Processes

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>display shadows user=<username>;
   ```

   See Also: "Parameters for Displaying Database Shadow Processes" on page 9-8 for more information about the values to enter

Parameters for Displaying Database Shadow Processes

Parameter	Description
user	The username associated with the connection that you think may have unneeded shadow processes.

Removing Database Shadow Processes

You can remove all database shadow processes that are not associated with a messaging client because shadow processes often remain if the client does not exit the system properly.

Steps for Removing Database Shadow Processes

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>cleanup shadows;
```

Refreshing a Process

You should refresh a process if you change a parameter value while the process is running. Refreshing a process causes it to read its parameters again and then to restart using the new parameters.

Prerequisites to Refreshing a Process

Make sure the process is running. In the Administration Tool, a running process appears in blue in the navigation tree. If it is not running, then it appears in black.

Steps for Refreshing a Process

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. Perform one of the following actions:

To perform this task:	Follow these steps:
Refresh one process	**1.** In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance*. **2.** In the toolbar, click (Restart).
Refresh all processes on a node	In the menu, select Message System > Re-Activate All Processes...

In OOMGR

1. Start OOMGR.

2. Enter one of the following commands at the OOMGR prompt:

To perform this task:	Use this command:
Refresh one process	`IOFCMGR>refresh server=<process_name>` `2>instance=<instance_number>;`
Refresh all processes on a node	`IOFCMGR>refresh all;`

> **See Also:** "Common Process Parameters" on page 11-2 for more information about the parameters available with this command

Removing a Registered Process

You can remove a process instance if you no longer use the process. Removing a process removes the process parameters and all other related information from the system.

Steps for Removing a Registered Process

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance*.

3. In the toolbar, click ▓ (Deregister).

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

    `IOFCMGR>deregister process server=<process_name> instance=<instance_number>;`

Do not deregister a process with `instance=0`. This is the set of default parameters for the process type.

> **See Also:** "Common Process Parameters" on page 11-2 for more information about the parameters available with this command

Shutting Down a Registered Process

You can shut down either a single process, or all processes on a node. When you shut down all processes on a node, you:

- Stop all active processes, except the guardian

- Prevent any inactive processes from starting until you restart that process, or all processes

Prerequisites to Shutting Down a Registered Process

Make sure the process is running. In the Administration Tool, a running process appears in blue in the navigation tree. If it is not running, then it appears in black.

Steps for Shuttung Down a Registered Process

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. Perform one of the following actions:

To perform this task:	Follow these steps:
Shut down one process	1. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance*.
	2. In the toolbar, click ![Shutdown icon] (Shutdown).
Shut down all eMail Server processes on a node	In the menu, select Message System > Stop All Processes...

In OOMGR

1. Start OOMGR.

2. Enter one of the following commands at the OOMGR prompt:

To perform this task:	Use this command:
Shut down one process	`IOFCMGR>shutdown server=<process_name> instance=<instance_number>;`
Shut down all eMail Server processes on a node	`IOFCMGR>shutdown all;`

> **See Also:** "Common Process Parameters" on page 11-2 for more information about the parameters available with this command

Shutting Down the Guardian Process

You can shut down the guardian process, if necessary. Shutting down the guardian process shuts down all running process under the guardian's control.

Prerequisites to Shutting Down the Guardian Process

Before shutting down the guardian process using the Administration Tool, make sure the process is running. In the Administration Tool, a running process appears in blue in the navigation tree. If it is not running, then it appears in black.

If you cannot see the guardian process in the navigation tree, then refer to "Displaying the Guardian Process Status" on page 9-3.

> **Caution:** If you stop the guardian process, then it will automatically stop all processes under its control that are currently running. When you start it backup, it will attempt to start all the processes that were running before it stopped. If you do not want a process to be started again when you start the guardian process, then you should stop that process before stopping the guardian process. Refer to "Shutting Down a Registered Process" on page 9-11 for instructions.

Steps for Shutting Down a Guardian Process

This task can be performed through either the Administration Tool GUI, or a standard shell tool.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Guardians > *guardian_instance*.

3. In the toolbar, click ⬚ (Shutdown).

In a Shell Tool

1. Open a shell tool on the machine or node containing the guardian process that you want to start.

2. Enter the following command at the shell prompt:

```
$ ofcguard stop connect=<connect_string> instance=<instance_number>
```

The connect string and instance number are optional. If you are stopping the guardian process on a separate protocol server tier, then you must specify the connect string for the node where the protocol server processes will be administered and the Guardian ID for that guardian.

> **See Also:** "Logging on to the Administration Tool and OOMGR" on page 1-2 for more information about the connect string

Displaying Process Parameters

You can display the parameters and their current settings (both default and specific for each process registered on this node) for all processes or a particular type of process.

Steps for Displaying Process Parameters

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance.*

3. In the right pane, select the Parameters tab.

In OOMGR

1. Start OOMGR.

2. Enter one of the following commands at the OOMGR prompt:

To perform this task:	Use this command:
Display parameters for all processes	`IOFCMGR>show process all;`
Display parameters for a specific type of process	`IOFCMGR>show process server=<process_name>;`
Display parameters for a specific registered process	`IOFCMGR>show process server=<process_name> instance=<instance_number>;`

See Also: "Common Process Parameters" on page 11-2 for more information about the parameters available with this command

Modifying a Default Process Parameter

You can modify the default parameters that are used when you register a new process. The instance number for default processes is always 0.

Steps for Modifying a Default Process Parameter

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Defaults > *process_name* > Parameters > *parameter_name.*

3. In the right pane, enter the new parameter value in the Value text box.

4. Click Apply.

> **See Also:** Chapter 11, "Process Parameter Reference", for more information about the parameters in this dialog box

5. Refresh all the registered processes that use the default setting that you modified. Refer to "Refreshing a Process" on page 9-9 for instructions.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>modify paramvalue server=<process_name> instance=0
2>parameter=<parameter_name>
3>to value=<new_value>;
```

> **See Also:** Chapter 11, "Process Parameter Reference", for more information about the parameters available with this command

3. Refresh all the registered processes that use the default setting that you modified. Refer to "Refreshing a Process" on page 9-9 for instructions.

Setting a Parameter for a Registered Process

You can set a parameter for a specific registered process when the default value is not appropriate. The first time you set a parameter, you have to register the parameter value. If you want to change the value again later, then you can use the command to modify a registered parameter value.

Steps for Setting a Parameter for a Registered Process

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance* > Parameters > *parameter_name*.

3. Perform one of the following actions:

To perform this task:	Follow these steps:
Set a parameter value for the first time, making it independent of the default values for that process type.	1. In the toolbar, click ![+] (Create). 2. In the dialog box, enter the new parameter value in the Value text box. 3. Click OK.
Change a parameter value that has already been set once using the register command.	1. In the right pane, enter the new parameter value in the Value text box. 2. Click Apply.

See Also: Chapter 11, "Process Parameter Reference", for more information about the parameters in this dialog box

In OOMGR

1. Start OOMGR.

2. Enter one of the following commands at the OOMGR prompt:

To do this:	Enter this command:

Set a parameter value for the first time, making it independent of the default values for that process type.	`IOFCMGR>register paramvalue server=<process_name>`
	`2>instance=<instance_number>`
	`3>parameter=<parameter_name>`
	`4>value=<new_value>;`

Change a parameter value that has already been set once using the register command.	`IOFCMGR>modify process server=<process_name>`
	`2>instance=<instance_number>`
	`3>parameter=<parameter_name>`
	`4>to value=<new_value>;`

See Also: Chapter 11, "Process Parameter Reference", for more information about the parameters available with this command

Reverting a Registered Parameter to the Default Value

You can remove parameter values for registered processes. Removing the registered parameter values for a process reverts that process to the default parameters.

Steps for Reverting a Registered Parameter to the Default Value

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance* > Parameters > *parameter_name*.

3. In the toolbar, click (Remove).

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>deregister paramvalue server=<process_name>
2>instance=<instance_number>
3>parameter=<parameter_name>;
```

You cannot revert instance 0 of any process to the default parameters because this instance contains the default process settings.

> **See Also:** Chapter 11, "Process Parameter Reference", for more information about the parameters available with this command

Modifying Process Properties

You can modify some of the properties that describe processes, including the `execArguments`, `guardianID`, and `defaultStartUp` properties.

> **See Also:** "Common Process Parameters" on page 11-2 for more information about these properties and why you might want to change them

Steps for Modifying Process Properties

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance*.

3. In the right pane, select the Properties tab.

4. In the Properties tab, enter the new information in the text box for the property that you want to change.

5. Click Apply.

> **See Also:** "Common Process Parameters" on page 11-2 for more information about the parameters in this dialog box

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>modify paramvalue server=<process_name>
2>instance=<instance_number>
3><property_name>=<value>;
```

> **See Also:** "Common Process Parameters" on page 11-2 for more information about the parameters available with this command

Creating a Time Slice in a Process Default Schedule

You can add a time slice (also called a time detail record) to a default process schedule to indicate a period of time during which the process is either active or passive. When you register a new process instance, it automatically inherits the default process schedule, including all the default time slices.

Steps for Changing a Time Slice in a Process Default Schedule

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating a Time Slice in a Process Default Schedule" on page 9-19 for more information about performing this task

In the Administration Tool GUI

1. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Defaults > *process_default* > Schedules.

2. In the toolbar, click ➕ (Create).

3. Complete the Register Time dialog box.

> **See Also:** "Schedule Parameters" on page 11-3 for more information about the parameters in this dialog box

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>register paramtime server=<process_name>
2>instance=0
3>starttime=<integer between 0 and 23>
4>duration=<whole number of hours>
5>state=[A | P]
6>sleeptime=<number of minutes>;
```

> **See Also:** "Schedule Parameters" on page 11-3 for more information about the parameters available with this command

Guidelines for Creating a Time Slice in a Process Default Schedule

- You cannot create more than one time slice with the same start time. Instead, change the duration of the existing time slice.

- The time slices in a process default schedule must always add up to at least a full 24-hour period.

- In the Administration Tool, you cannot remove a time slice if it leaves the schedule with less than 24 hours. Therefore, you must first add one or more time slices that overlap the existing time slices. Then, you can remove the time slices you no longer need.

For example, if you have one time slice that starts at 0 (midnight) and runs for 24 hours, and you want to change it to two time slices that start at 0 (midnight) and 12 (noon) and run for 12 hours each, then use the following procedure:

- Create a new time slice that starts at 12 (noon) and runs for 12 hours. You now have two overlapping time slices adding up to 36 total hours (the original 24-hour slice, plus the new 12-hour slice).

- Change the running time of the time slice that starts at 0 (midnight) from 24 hours to 12 hours. You now have two time slices adding up to 24 total hours (the 12-hour slice created to run from noon until midnight, plus the 12-hour slice modified to run from only midnight until noon).

When finished, the sum of all the time slices should not exceed 24 hours. You should also make sure that your final time slices do not overlap.

Modifying a Time Slice in a Process Default Schedule

You can change a time slice (also called a time detail record) in a default process schedule to modify the period of time during which the process is either active of passive. When you register a new process instance, it automatically inherits the default process schedule, including all the default time slices.

Steps for Modifying a Time Slice in a Process Default Schedule

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Modifying a Time Slice in a Process Default Schedule" on page 9-21 for more information about performing this task

In the Administration Tool GUI

1. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Defaults > *process_default* > Schedules > *time_slice*.

2. In the right pane, enter the new information in the appropriate text box.

> **See Also:** "Schedule Parameters" on page 11-3 for more information about the parameters in this dialog box

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>modify paramtime server=<process_name>
2>instance=0 starttime=<integer>
3>to sleeptime=<minutes>;
```

> **See Also:** "Schedule Parameters" on page 11-3 for more information about the parameters available with this command

Guidelines for Modifying a Time Slice in a Process Default Schedule

- You cannot change the start time of a time slice. Instead, you can remove the time slice and create a new one with the appropriate start time.

- You cannot create more than one time slice with the same start time. Instead, change the duration of the existing time slice.

- The time slices in a process default schedule must always add up to at least a full 24-hour period.

- In the Administration Tool, you cannot remove a time slice if it leaves the schedule with less than 24 hours. Therefore, you must first add one or more time slices that overlap the existing time slices. Then, you can remove the time slices you no longer need.

  For example, if you have one time slice that starts at 0 (midnight) and runs for 24 hours, and you want to change it to two time slices that start at 0 (midnight) and 12 (noon) and run for 12 hours each, then use the following procedure:

  - Create a new time slice that starts at 12 (noon) and runs for 12 hours. You now have two overlapping time slices adding up to 36 total hours (the original 24-hour slice, plus the new 12-hour slice).

  - Change the running time of the time slice that starts at 0 (midnight) from 24 hours to 12 hours. You now have two time slices adding up to 24 total hours (the 12-hour slice created to run from noon until midnight, plus the 12-hour slice modified to run from only midnight until noon).

  When finished, the sum of all the time slices should not exceed 24 hours. You should also make sure that your final time slices do not overlap.

Example of Modifying a Time Slice in a Process Default Schedule

Suppose a postman process has the following schedule:

StartTime	Duration (Hr.)	SleepTime (Min.)	State (Active/Passive)
0 (midnight)	2	15	Active
2	2	15	Passive
4	2	15	Active
6	18	15	Passive

To run this postman with a 10-minute sleep time between the first two work cycles instead of 15, enter the following command:

```
IOFCMGR>modify paramtime server=monitor instance=1 starttime=0 to sleeptime=10;
```

Removing a Time Slice from a Process Default Schedule

You can remove a time slice (also called a time detail record) from a default process schedule to delete a period of time during which the process is either active of passive. When you register a new process instance, it automatically inherits the default process schedule, including all the default time slices.

Steps for Removing a Time Slice from a Process Default Schedule

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** for more information about performing this task

In the Administration Tool GUI

1. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Defaults > *process_default* > Schedules > *time_slice*.

2. In the toolbar, click (Remove).

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>deregister paramtime server=<process_name>
2>instance=0
3>starttime=<start_time>;
```

Guidelines for Removing a Time Slice from a Process Default Schedule

- The time slices in a process default schedule must always add up to at least a full 24-hour period.

- In the Administration Tool, you cannot remove a time slice if it leaves the schedule with less than 24 hours. Therefore, you must first add one or more time slices that overlap the existing time slices. Then, you can remove the time slices you no longer need.

  For example, if you have one time slice that starts at 0 (midnight) and runs for 24 hours, and you want to change it to two time slices that start at 0 (midnight) and 12 (noon) and run for 12 hours each, then use the following procedure:

  - Create a new time slice that starts at 12 (noon) and runs for 12 hours. You now have two overlapping time slices adding up to 36 total hours (the original 24-hour slice, plus the new 12-hour slice).

  - Change the running time of the time slice that starts at 0 (midnight) from 24 hours to 12 hours. You now have two time slices adding up to 24 total hours (the 12-hour slice created to run from noon until midnight, plus the 12-hour slice modified to run from only midnight until noon).

  When finished, the sum of all the time slices should not exceed 24 hours. You should also make sure that your final time slices do not overlap.

Overriding a Default Time Slice for a Process Instance Schedule

Process schedules control when a process instance runs and for how long. Each process schedule is made up of one or more time slices (also called time record details) that add up to a 24-hour period. When you register a new process instance, it automatically inherits the default process schedule, including all the default time slices. You can override a default time slice by registering a time slice for the process instance schedule.

Steps for Overriding a Default Time Slice for a Process Instance Schedule

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Overriding a Default Time Slice for a Process Instance Schedule" on page 9-24 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance* > Schedules.

3. In the toolbar, click ➕ (Register).

4. Complete the Register Time dialog box.

> **See Also:** "Schedule Parameters" on page 11-3 for more information about the parameters in this dialog box

5. In the Administration Tool, time slices that use the default values appear in black. Time slices that override the default values appear in blue.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>register paramtime server=<process_name>
2>instance=<instance_number>
3>starttime=<integer between 0 and 23>
4>duration=<whole number of hours>
5>state=[A | P]
6>sleeptime=<number of minutes>;
```

> **See Also:** "Schedule Parameters" on page 11-3 for more information about the parameters available with this command

Guidelines for Overriding a Default Time Slice for a Process Instance Schedule

- Define your time slices so that they do not overlap. Overlapping time slices can cause unpredictable behavior.

- Once you create a time slice, you cannot change the start time. To change the start time, you must delete the time slice and add a new one.

- The time slices in a process instance schedule must always add up to at least a full 24-hour period.

- In the Administration Tool, for a process instance, you cannot create a new time slice that overlaps another process instance time slice. However, you can create a new time slice that overlaps or has the same start time as a default time slice. When you create a new time slice that overrides the default values, the remaining default time slices for that instance automatically change their values so that they do not overlap with the new time slices.

- If you want to configure the sleeptime in seconds instead of minutes, then you must modify the Executable Arguments (ExecArguments) property for the postman and gateway process instances as follows:

```
Executable Arguments = '-s N'
```

where N represents the number of seconds.

Refer to "Modifying Process Properties" on page 9-17 for instructions.

Modifying a Time Slice for a Process Instance Schedule

You can modify schedules for registered process instances if you want to change the duration of a time slice (also called time record details), its sleep time, or whether it is passive or active. You cannot modify the start time of a time slice.

Steps for Modifying a Time Slice for a Process Instance Schedule

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Modifying a Time Slice for a Process Instance Schedule" on page 9-26 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance* > Schedules > *time_slice*.

3. In the right pane, enter the new information in the appropriate text box.

> **See Also:** "Schedule Parameters" on page 11-3 for more information about the parameters in this dialog box

4. Click Apply.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>modify paramtime server=<process_name>
2>instance=<instance_number> starttime=<integer>
3>to sleeptime=<minutes>;
```

> **See Also:** "Schedule Parameters" on page 11-3 for more information about the parameters available with this command

Guidelines for Modifying a Time Slice for a Process Instance Schedule

- You cannot change the start time of a time slice.

- Define your time slices so that they do not overlap. Overlapping time slices can cause unpredictable behavior.

- For a process instance, you cannot change a time slice that uses the default values. In the Administration Tool, time slices that use the default values appear in black. Time slices that override the default values appear in blue.

- The time slices in a process instance schedule must always add up to at least a full 24-hour period. When you modify time slices, you may need to remove or create other time slices to ensure that the records account for a full 24-hour period.

- In the Administration Tool, for a process instance, you cannot change a process instance time slice that overlaps another process instance time slice. However, you can change a process instance time slice that overlaps or has the same start time as a default time slice. When you change a process instance time slice that overrides the default values, the remaining default time slices for that instance automatically change their values so that they do not overlap with the new time slices.

- If you want to configure the sleeptime in seconds instead of minutes, then you must modify the Executable Arguments (ExecArguments) property for the postman and gateway process instances as follows:

```
Executable Arguments = '-s N'
```

where N represents the number of seconds.

Refer to "Modifying Process Properties" on page 9-17 for instructions.

Example of Modifying a Time Slice for a Process Instance Schedule

Suppose a postman process has the following schedule:

StartTime	Duration (Hr.)	SleepTime (Min.)	State (Active/Passive)
0 (midnight)	2	15	Active
2	2	15	Passive
4	2	15	Active
6	18	15	Passive

To run this postman process with a 10-minute sleep time between the first two work cycles instead of 15, enter the following command:

```
IOFCMGR>modify paramtime server=monitor
2>instance=1 starttime=0
3>to sleeptime=10;
```

Reverting a Process Instance Time Slice to the Default Value

You can revert a time slice (also called time record details) for a registered process instance to the default value by deregistering the time slice for that instance.

Steps for Reverting a Process Instance Time Slice to the Default Value

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Reverting a Process Instance Time Slice to the Default Value" on page 9-28 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance* > Schedules > *time_slice.*

3. In the toolbar, click ❌ (Deregister).

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>deregister paramtime server=<process_name>
2>instance=<instance_number>
3>starttime=<start_time>;
```

Guidelines for Reverting a Process Instance Time Slice to the Default Value

- The time slices in a process instance schedule must always add up to at least a full 24-hour period.

- For a process instance, you cannot deregister a time slice that uses the default values. In the Administration Tool, time slices that use the default values appear in black. Time slices that override the default values appear in blue.

10

Managing Protocol Server Processes

The protocol server processes transfer e-mail from the eMail Server database to the user's e-mail client or browser. When you install a node or protocol server tier, you can run the Configuration Assistant to set up the initial configuration. If you do not want to use the Configuration Assistant, then you can use the following procedures discussed in this chapter to modify the configuration manually:

- Configuring the Protocol Server Database Connections
- Specifying Gateways for the Protocol Servers
- Configuring Protocol Servers for SSL
- Obtaining an SSL Trusted Certificate
-

Configuring the Protocol Server Database Connections

To use the protocol server processes, you must configure the number of Net8 connections between each registered protocol server process and the database. To do this, you must edit the protocol server configuration files manually. There are separate configuration files for POP3 and IMAP4 protocol servers. These configuration files are created during the installation using default parameters.

Steps for Configuring the Protocol Server Database Connections

This task can be done either automatically by using the Configuration Assistant, or manually by using a text editor. For instructions on how to use the Configuration Assistant, refer to the *Oracle eMail Server Installation Guide*.

1. Use any text editor to open the configuration file that you want to update on the machine where the protocol servers are installed.

    The name of the configuration file is specified with the `confm` parameter in the protocol server process parameters. The default file names are:

    $ORACLE_HOME/office/config/node_sid/iosps23.cfg for the POP3SRV process

    $ORACLE_HOME/office/config/node_sid/iosps27.cfg for the IMAP4SRV process

    > **See Also:** "SPS Process Parameters (Common to both IMAP4 and POP3)" on page 11-42 for more information about the `confm` parameter

2. Add the following line at the bottom of the configuration file to configure the Net8 connections:

    <connect_string> <minimum_connections> <maximum_connections> <increment> <timeout> <domain>

    > **See Also:** "Variables for Configuring the Protocol Server Database Connections" on page 10-3 for more information about the parameters in this file

3. If you want to use different parameters for different registered protocol server processes (for example, because one instance of a protocol server uses more database connections than the other), you can create more than one

configuration file and change the `confm` process parameter for that registered protocol server process instance.

> **See Also:**
>
> - "SPS Process Parameters (Common to both IMAP4 and POP3)" on page 11-42 for more information about the `confm` parameter
> - "Setting a Parameter for a Registered Process" on page 9-15 for more instructions on changing a parameter

Variables for Configuring the Protocol Server Database Connections

Variable	Description
`connect_string`	Connect string used to access database.
`increment`	Number of new database connections to start when the existing connections are all used. For example, an increment of 3 means that three new connections will be started each time the server needs additional connections. New connections cannot exceed the number specified for the `maximum_connections` parameter.
`maximum_connections`	Maximum number of Net8 connections from the protocol server to the database. On Solaris, the value for this parameter plus the `maxclt` parameter in the IMAP4SRV/POP3SRV process parameters should be less than 1000. **See Also:** "SPS Process Parameters (Common to both IMAP4 and POP3)" on page 11-42 for more information about the `maxclt` parameter
`minimum_connections`	Minimum number of Net8 connections from the protocol server to the database.
`timeout`	Amount of time (in seconds) to wait before releasing a connection that is not being used.
`domain`	Used as the users home node for that domain. This enables the IMAP server to service multiple domains.

Example of Configuring the Protocol Server Database Connections

The following example shows a file with a line added at the bottom using the SFNode1 connect string with a minimum of 10 connections, maximum of 100

connections, increments of 2 new connections at a time, and a timeout after 120 seconds (this information appears in the last line of the file displayed in **bold**):

```
# This is the default configuration file for SPS connect strings.
# Line started with "#" is comment.
# Spaces and tabs are used as delimiters between fields in a line.
# Parameters for one connect string have to be in the same line.
# The format of parameters of a connect string is:
# connect_string  minimum_connections maximum_connections increment timeout
# For example:
# im-sun.world  10 100 5 100
# Add real connect strings and their parameters after this.
SFNode1 10 100 2 120
```

Specifying Gateways for the Protocol Servers

You must specify the gateways that are registered in the system so that the protocol server processes know how to forward messages. You must add the gateway information to a configuration file that is created during the installation process.

Steps for Specifying Gateways for the Protocol Servers

This task can be done either automatically by using the Configuration Assistant, or manually by using a text editor. For instructions on how to use the Configuration Assistant, refer to the *Oracle eMail Server Installation Guide*.

1. Use any text editor to open the $ORACLE_HOME/office/config/node_ sid/imapd.cfg file on the node where the protocol servers are installed.

2. At the bottom of the file, add a new line with the following parameters using the format shown in the file comments:

```
unixgwy=<gateway_name>
unixgwy=<gateway_name>
```

> **See Also:** "Parameters for Specifying Gateways for the Protocol Servers" on page 10-5 for more information about the parameters available for this file

Parameters for Specifying Gateways for the Protocol Servers

Parameter	Description
`unixgwy`	Gateway name to strip from message header addresses.
	You can repeat this entry as many times as needed for all your gateways.

Configuring Protocol Servers for SSL

If you configure protocol server process for SSL encryption, all messages transferred from the server to the client will be encrypted.

Steps for Configuring Protocol Servers for SSL

This task can be done either automatically by using the Configuration Assistant, or manually by using the Administration Tool GUI or the OOMGR command-line interface. For instructions on how to use the Configuration Assistant, refer to the *Oracle eMail Server Installation Guide*.

1. Determine whether you will support only SSL messages, or both SSL and non-SSL messages.

   ■ If you decide to support SSL only, you can configure your existing protocol server processes to be dedicated to SSL. Go to the next check box.

   ■ If you decide to support both SSL and non-SSL, then you should leave the existing protocol server processes for non-SSL and register one new POP3SRV process and one IMAP4SRV process to be dedicated to SSL. Refer to "Registering a New Process" on page 9-4 for instructions.

2. To dedicate the protocol server processes and listener process to SSL, configure the following parameter value for each instance of the IMAP4SRV, POP3SRV, and IOLISTENER processes that you want to handle SSL-encrypted messages:

Parameter	Value
`flags`	Enter 64 to set the SSL bit.
	See Also: "IMAP4SRV Process Parameters (IMAP4-Specific)" on page 11-32 or "POP3SRV Process Parameters (POP3-Specific)" on page 11-38 for more information about the `flags` parameter

Refer to "Setting a Parameter for a Registered Process" on page 9-15 for instructions.

3. Refresh the IOLISTENER process so that it starts using the new settings. Refer to "Refreshing a Process" on page 9-9 for instructions.

Obtaining an SSL Trusted Certificate

Before you can begin sending messages encrypted in SSL, you must use the eMail Server Wallet Manager to generate a public/private key pair and then obtain a trusted certificate. To obtain the certificate, you must send a certificate request file to a Certification Authority. When you receive the certificate, you must store it with the private key in the database. Once this is done, any SSL-enabled client can send and receive secure messages from the certified server.

Steps for Obtaining an SSL Trusted Certificate

This task can be done either automatically by using the Configuration Assistant, or manually by using a text editor and a shell tool. For instructions on how to use the Configuration Assistant, refer to the *Oracle eMail Server Installation Guide*.

1. Use any text editor to create a certificate request information file named $ORACLE_HOME/office/admin/reqinfo.txt.

Note: You must have a separate certificate for each host machine with protocol server processes, but you may use the same certificate for all protocol server processes on the same machine (both POP3 and IMAP4).

---

2. In the certificate request information file that you created, enter the following specific information about your site:

Common-Name:	Your Internet domain name.
Organization:	Your company name.
Organization Unit:	Your organization within your company.
Country:	Country in which your company resides.
State:	U.S. state in which your company resides. If you are outside the U.S., enter the appropriate country code.

`Webmaster:`	Your name, or the name of the person who should be contacted regarding the certificate.
`Phone:`	Phone number of the person listed as Webmaster.

The Wallet Manager uses the information in this file to generate a certificate request file later.

Figure 10–1   Sample reqinfo.txt File

```
Common-Name: acme.com
Organization: Acme Corp.
Organization Unit: eMail Server
Country: US
State: California
Webmaster: C Kent <ckent@acme.com>
Phone: 800-555-5555
```

3. Run the Wallet Manager to generate the public/private key pair and the certificate request file.

   Enter the following command at the shell prompt:

   ```
   $ORACLE_HOME/bin/mhzwalletmgr -gc
   ```

4. Respond to the prompts the Wallet Manager displays:

   ```
   Oracle eMail Server Wallet Manager Version 4.3 Production
   Please input certificate password:
   Please input the password again:
   Wallet manager finished successfully
   ```

   > **Note:**   The certificate password is used to encrypt the private key file.

   The Wallet Manager generates two files:

   - Private key that has been encrypted and then encoded with the password requested by the Wallet Manager. This file is called $ORACLE_HOME/office/admin/pvtkey.txt

■ Certificate request file that you send to the Certification Authority to obtain the trusted certificate. This file is called $ORACLE_HOME/office/admin/certreq.txt

Figure 10–2   Sample certreq.txt File

```
Webmaster: C Kent <ckent@acme.com>
Phone: 800-555-5555
Server: Oracle Corporation Certificate Request Utility 4.3
Common-name: acme.com [Hostname for server where POP3/IMAP4 are running]
Organization Unit: eMail Server
Organization: Acme Corp.
State: California
Country: US
-----BEGIN NEW CERTIFICATE REQUEST-----
MIIBaDCB8wIBADBuMQswCQYDVQQGEwJVUzETMBEGA1UECBMKQ2FsaWZvcm5pYTEV
MBMGA1UEChQMT3JhY2xlIENvcnAuMRQwEgYDVQQLFAtJbnRlck9mZmljZTEdMBsG
A1UEAxQUd2luZHVwLnVzLm9yYWNsZS5jb20wfDANBgkqhkiG9w0BAQEFAANrADBo
AmEAwAfsuKOQgPFY6gLuB0rNbhdBfMiL5Reyx+qwFLllbkzxDdLrOrqEOfri7kk2
YT0ugVR1QrNhyekPVVa0GkB+QYMdPgiXYSwzJjdMGUxdshrrhIdSXufaIJQeCIvK
MnCjAgMBAAGgADANBgkqhkiG9w0BAQQFAANhAJC5hNuC7LCzlH91M1+qalXltjus
sduMBKFxB14+y!MgX07L3HM6GNIeP2E/z17xDU4ygSZF5Cwsy5Bcb6I94m/Gora+7
6gF7mRq+Z1e6EoENtC+RK2v7LPjm+ZhPzW5i5g==
-----END NEW CERTIFICATE REQUEST-----
```

Figure 10–3   Sample pvtkey.txt File

```
-----BEGIN ENCRYPTED PRIVATE KEY-----
MIICCDAaBgkqhkiG9w0BBQMwDQQIHCqcuR+NQCACAQUEggHonUln5gOWliN70kXC
5PY+W9IM/6foeGYvlbe1T/IKroJpcSqmPF1tSZVnMWDTJN7wCU4530ZiEEoQEkrF
Iur4tXAEYsv9M/MYmD0TYUBR2tQIXVFr/dVs0MfF2Yz649XtMgIDQ8sTImnP1jjs
P/Emx+hJk+PCMl5wYQGeNgT1yYVexdsrAOkdS2TLFT6XkkoB7+2E5pFSHfqeAGqj
gDKYQ8dFBlWZmqY18gkqKjVwjEovv+iT3/rPmheVM822JYgK9Qsi5r/Z4IONZaAZ
K/s4a7heQUa5hqLJsguIevM5x32oGsKFS5f77pj3SD2uX5p9fRJ7Yf1LKLVawN0P
AZs4SsPpG9n3IrEkwFhaCQHj+2xjm7YvafpRftPnHa68Hlb6JephPEkWUdTfWtic
tCOiyAMuOJpwLBEMjCwdfRyDKfN3uX+w/wJzikT5Aug2ZxdSVEyEgexhvtNDFHMv
CBgKggLrvy+sl0eD0KFO9n3QcgChOKjwEMnRUhCeAqmOlUkE9cUHdDbWhAsOs/7M
C+j/vbs2cl98eUdYOyQO6273GB0ERTFrCPuprsMljviu2M+tpGtNOfnvkAf09L40
3o3EM7h1LYhBCzEW+xnLT88Lw3eernLNl9NgfE+E5NRlCsfG0ZaSokyF+IA=
-----END ENCRYPTED PRIVATE KEY-----
```

5. Send the certreq.txt file to the Certificate Authority of your choice to obtain a trusted certificate. Each Certificate Authority has a different procedure for

obtaining a trusted certificate. For example, you can go to the VeriSign, Inc. Web site at

```
http://digitalid.verisign.com/
```

and request a trial Server ID (trusted certificate) that you can use to test your system. To obtain your trusted certificate, follow the instructions provided by your Certificate Authority.

Figure 10–4   Sample Trusted Certificate

```
-----BEGIN CERTIFICATE-----
MIICMTCCAdsCEA3fXhQyL7meioPDZLUco/4wDQYJKoZIhvcNAQEEBQAwgakxFjAU
BgNVBAoTDVZlcmlTaWduLCBJbmMxRzBFBgNVBAsTPnd3dy52ZXJpc2lnbi5jb20v
cmVwb3NpdG9yeS9UZXN0Q1BTIEluY29ycC4gQnkgUmVmLiBMaWFiLiBMVEQuMUYw
RAYDVQQLEz1Gb3IgVmVyaVNpZ24gYXV0aG9yaXplZCB0ZXN0aW5nIG9ubHkuIE5v
IGFzc3VyYW5jZXMgKEMpVlMxOTk3MB4XDTk4MDUyOTAwMDAwMFoXDTk4MDYxMjIz
NTk1!OVowbjELMAkGA1UEBhMCVVMxEzARBgNVBAgTCkNhbGlmb3JuaWExFTATBgNV
BAoUDE9yYWNsZSBDb3JwLjEUMBIGA1UECxQLSW50ZXJuZXJmZpY2UxHTAbBgNVBAMU
FHdpbmR1cC51cy5vcmFjbGUuY29tMHwwDQYJKoZIhvcNAQEBBQADawAwaAJhAMi1
Yz56AT4jwZ3kCzoVK11XIHysugMKmrj2NG7mkpCwC1VDYiMgHB8c9Qlbdi7yVygs
hB/NSR2kMGJzZVHUQIoblUC2b5T36S7irlpVUrigm0VpWiR5LRly0ToayIJ4TwID
AQABMA0GCSqGSIb3DQEBBAUAA0EAVu/Jk8o5k2Ms6luFIIGR/KMmRaXWU8PxCZi+
99oZCjdlfjJdCTyzivHlxXK8sfYUnS8O2hXqgRQ10lfzuZIz6A==
-----END CERTIFICATE-----
```

6. Copy and paste the following items into the wallet file, $ORACLE_
    HOME/office/admin/sslcerts.txt:

    ■ Private key from the pvtkey.txt file (including the BEGIN PRIVATE KEY
       and END PRIVATE KEY lines)

    ■ Trusted certificate from the certificate authority message (including the
       BEGIN CERTIFICATE and END CERTIFICATE lines)

Figure 10–5   Sample sslcerts.txt File

```
-----BEGIN ENCRYPTED PRIVATE KEY-----
MIICCDAaBgkqhkiG9w0BBQMwDQQIHCqcuR+NQCACAQUEggHonUln5gOWliN70kXC
5PY+W9IM/6foeGYvlbe1T/IKroJpcSqmPF1tSZVnMWDTJN7wCU4530ZiEEoQEkrF
Iur4tXAEYsv9M/MYmD0TYUBR2tQIXVFr/dVs0MfF2Yz649XtMgIDQ8sTImnP1jjs
P/Emx+hJk+PCM15wYQGeNgT1yYVexdsrAOkdS2TLFT6XkkoB7+2E5pFSHfqeAGqj
gDKYQ8dFBlWZmqY18gkqKjVwjEovv+iT3/rPmheVM822JYgK9Qsi5r/Z4IONZaAZ
K/s4a7heQUa5hqLJsguIevM5x32oGsKFS5f77pj3SD2uX5p9fRJ7Yf1LKLVawN0P
AZs4SsPpG9n3IrEkwFhaCQHj+2xjm7YvafpRftPnHa68Hlb6JephPEkWUdTfWtic
tCOiyAMuOJpwLBEMjCwdfRyDKfN3uX+w/wJzikT5Aug2ZxdSVEyEgexhvtNDFHMv
CBgKggLrvy+sl0eD0KFO9n3QcgChOKjwEMnRUhCeAqmO1UkE9cUHdDbWhAsOs/7M
C+j/vbs2c198eUdYOyQO6273GB0ERTFrCPuprsM1jviu2M+tpGtNOfnvkAf09L40
3o3EM7h1LYhBCzEW+xnLT88Lw3eernLNl9NgfE+E5NRlCsfG0ZaSokyF+IA=
-----END ENCRYPTED PRIVATE KEY-----
-----BEGIN CERTIFICATE-----
MIICMTCCAdsCEA3fXhQyL7meioPDZLUco/4wDQYJKoZIhvcNAQEEBQAwgakxFjAU
BgNVBAoTDVZlcmlTaWduLCBJbmMxRzBFBgNVBAsTPnd3dy52ZXJpc2lnbi5jb20v
cmVwb3NpdG9yeS9UZXN0N0Q1BTIEluY29ycC4gQnkgUmVmLiBMaWFiLiBMVEQuMUYw
RAYDVQQLEz1Gb3IgVmVyaVNpZ24gYXV0aG9yaXplZCB0ZXN0aW5nIG9ubHkuIE5v
IGFzc3VyYW5jZXMgKEMpVlMxOTk3MB4XDTk4MDUyOTAwMDAwMFoXDTk4MDYxMjIz
NTk1!OVowbjELMAkGA1UEBhMCVVMxEzARBgNVBAgTCkNhbGlmb3JuaWExFTATBgNV
BAoUDE9yYWNsZSBDb3JwLjEUMBIGA1UECxQLSW50ZXXJPZmZpY2UxHTAbBgNVBAMU
FHdpbmRlcC51cy5vcmFjbGUuY29tMHwwDQYJKoZIhvcNAQEBBQADawAwaAJhAMi1
Yz56AT4jwZ3kCzoVK11XIHysugMKmrj2NG7mkpCwC1VDYiMgHB8c9Q1bdi7yVygs
hB/NSR2kMGJzZVHUQIoblUC2b5T36S7irlpVUrigm0VpWiR5LRly0ToayIJ4TwID
AQABMA0GCSqGSIb3DQEBBAUAA0EAVu/Jk8o5k2Ms6luFIIGR/KMmRaXWU8PxCZi+
99oZCjd1fjJdCTyzivHlxXK8sfYUnS8O2hXqgRQ10lfzuZIz6A==
-----END CERTIFICATE-----
```

7. For security purposes, you should store the contents of the sslcerts.txt file in the database. To do this, you must run the Wallet Manager again. (If you do not want to store the contents of the sslcerts.txt file in the database, go to step 8.)

Enter one of the following commands at the shell prompt:

To perform this task:	Use this command:
Store a certificate for a POP3 protocol server only	`$ORACLE_HOME/bin/mhzwalletmgr -sc POP3SRV <connect_string> <filename>`
Store a certificate for a IMAP4 protocol server only	`$ORACLE_HOME/bin/mhzwalletmgr -sc IMAP4SRV <connect_string> <filename>`

To perform this task:	Use this command:
Store a certificate for both IMAP4 and POP3 protocol servers	`$ORACLE_HOME/bin/mhzwalletmgr -sc POP3SRV IMAP4SRV <connect_string> <filename>`

Parameter	Description
`connect_string`	Connect string used to access database.
	See Also: "Configuring the Protocol Server Database Connections" on page 10-2 for more information.
`filename`	$ORACLE_HOME/office/admin/sslcerts.txt

The Wallet Manager will prompt you for the eMail Server `ADMIN` user password and for the password used to encrypt the private key (the private key password was specified in step 4).

After storing the sslcerts.txt file in the database, the Wallet Manager will rewrite the file located in $ORACLE_HOME/office/admin to be empty. This will destroy the unprotected versions of the private key and trusted certificate for added security.

8. If you do not want to store the contents of the sslcerts.txt file in the database, complete the following tasks:

   - Verify that the `certificate` parameter for the POP3SRV and IMAP4SRV processes refers to the sslcerts.txt text file that you created in step 6.

   - Run the Wallet Manager to set the password used to encrypt the private key so that the POP3 and IMAP4 protocol server processes can read the private key data. Enter the following command at the shell prompt:

     ```
     $ $ORACLE_HOME/bin/mhzwalletmgr -sp [POP3 | IMAP4] <connect_string>
     ```

     See Also: "SPS Process Parameters (Common to both IMAP4 and POP3)" on page 11-42 for more information about the `certificate` parameter

11

Process Parameter Reference

You can configure many process parameters to customize your eMail Server system. See Chapter 9, "Managing Processes", for more information about managing processes and changing process parameters.

The following process parameters, discussed in this chapter, are available:

- Common Process Parameters
- Gateway Process Parameters
- LDAP Server Process Parameters
- Messaging Server Process Parameters
- Protocol Server Process Parameters

Common Process Parameters

There are some parameters that are available for all types of processes. For example, name and instance are common parameters or properties that describe each registered process instance. Schedules that specify when and how long the process run are also parameters that are common to all process types.

Common Process Parameters

The following parameters are properties that describe the processes. You can specify these properties when you register a process instance, or you can modify them later, if necessary.

Parameter	Description and Values
defaultStartUp	Indicates whether to start this process when you issue a startup all command.
	Valid values:
	Enabled (start this process on the startup all command)
	Disabled (do not start this process on the startup all command)
execArguments	Pass command-line arguments to a process in this field.
guardianID	Instance number of the guardian process that controls this process.
instance	Instance number of the registered process. When numbering instances, remember that each node has a set of instances registered during installation. These are all registered instance 1 (for example, postman1). Each registered process of a particular type (for example, postman) must have an instance number that is unique on the node where it is registered. You can, however, use the same instance number for different types of processes (postman1 and replicator1), and you can use the same instance number for processes on different nodes.
	Valid values:
	0 (represents the default set of parameters for a process)
	1 to 99 (represent registered process instances)
server	Process type, such as postman or replicator.

OOMGR provides initial values for these common process parameters. However, OOMGR does not maintain inherited defaults for them. Therefore, default and instance-level settings do not apply to the common parameters.

Schedule Parameters

Schedule parameters determine when and for how long a process runs. The four time parameters are grouped into records called time slices that each represent one or more hours of a day.

Each process can have between 1 and 24 time slices. You can specify one time slice that covers 24 hours, or multiple time slices that each represent one or more hours. However, the time slices you define for each process must cover exactly 24 hours.

Each time slices consists of three or four parameters, depending on whether the process is active during the time interval the time slice covers. The following parameters are available:

Parameter	Description and Values
duration	Number of hours an active or passive period lasts.
sleepTime	Number of minutes the process sleeps after completing one work cycle in an active period. Specify Sleeptime in a time slice only when status is A (active).
startTime	Time the process begins an active or passive (inactive) period. *Valid values:* 0 to 23 (integers: 0 represents midnight, 23 represents 11PM)
state	Indicates whether the period is an active or passive period. *Valid values:* A (active) P (passive)

Guidelines for Using Schedule Parameters

Some processes do not use schedules because they are constantly available. The protocol server processes (IMAP4SRV, IOLISTENER, and POP3SRV) run whenever a client makes a connection. Likewise, the LDAP server processes (IOLDAP, IOODSSYNC, and ODSIOSYNC) run whenever the directories are updated and require synchronization. If you set schedules for these processes, they will be ignored.

Gateway Process Parameters

Parameter	Description and Values
cfgparamfilename	This parameter is reserved for future use.
content_ disposition	Specifies how attachments are presented to the recipient. Adheres to RFC1806 syntax and semantics. *Valid values:* inline (presents attachments inline as part of the message body) attachment (present attachments as external attachments; if any other value is specified, the gateway assumes attachment) *Default value:* attachment
default_charset	Default character set for text objects. *Valid values:* Refer to "Configuring the Gateway for Multibyte Support" on page 7-12 for a complete list of available character sets. *Default Value:* iso-8859-1
default_encoding	Default transfer encoding method for binary body parts when none is specified. Not case sensitive. *Valid values:* Standard transfer encoding methods are base64, quoted-printable, 7bit, 8bit, and binary. Non-standard encoding methods can also be used. **See Also:** "Configuring the Method for Encoding MIME Content" on page 23-2 for more information about these values. *Default value:* base64

Parameter	Description and Values
default_ textencoding	Defines the content transfer encoding method used to encode text body parts of outbound messages. *Valid values:* Standard transfer encoding methods are base64, quoted-printable, 7bit, 8bit, and binary. Non-standard encoding methods can also be used. **See Also:** "Configuring the Method for Encoding MIME Content" on page 23-2 for more information about these values. *Default value:* `quoted-printable`
default_type	Type ID for the default attachment type for unmapped MIME type attachments on inbound messages. Also used if attachment type converter or decoder for content transfer encoding fails. *Valid values:* **See Also:** "Creating a MIME Attachment Map" on page 8-4 for a list of attachment Type IDs. *Default value:* `1`
do_uudecode	Specifies whether the gateway should automatically decode the data encoded with UUENCODE. *Valid values:* `0` (do not automatically decode) `1` (automatically decode) *Default value:* `1`
do_uuencode	Specifies whether the gateway should encode binary data. It creates RFC-1521 compliant messages, but for 8-bit body parts, the gateway codes and specifies a content-Transfer-Encoding: x-uuencode header. *Valid values:* `0` (do not encode binary data) `1` (encode binary data) *Default value:* `1`

Parameter	Description and Values
domSuffix	String attached to incomplete eMail Server sender address (addresses that do not contain @ or !) and unqualified receipt addresses. *Default value:* Null
log_level	Log message level. **See Also:** "Using Server Process Logs" on page 17-2 for information about locating and reading log files. *Valid values:* 0 (no logging) 1 (error messages only) 2 (minimum information and warnings) 3 (medium information) 4 (maximum information) 5 (debugging information) *Default value:* 2
prefixgwy	Adds the gateway name to each inbound address so that the receiver can reply automatically. If you have created a rewriting rule that performs this function, do not use this parameter. *Valid values:* 0 (does not remove qualified domain identifiers) 1 (removes qualified domain identifiers) *Default value:* 0
send_summary	Type ID for the default eMail Server attachment type for unmapped MIME types on inbound messages. Also the attachment type used if an attachment type converter of decoder for content transfer encoding fails. *Valid values:* **See Also:** "Creating a MIME Attachment Map" on page 8-4 for a list of attachment Type IDs. *Default value:* 1

Parameter	Description and Values
store_body	Specifies whether the gateway should store the body parts encoded, decoded, or both. *Valid values:* 1 (encoded) 2 (decoded) 3 (both encoded and decoded) 4 (store S/MIME) 5 (store S/MIME) If this is set to 2 (decoded), then Oracle InterOffice clients, including SDK-based clients, will not be able to read messages. If this is set to 4 (store S/MIME), then messages are encoded, all others are decoded. If this is set to 5 (store S/MIME), then messages are both in encoded and decoded format, all others are decoded. *Default value:* 2
store_shell	Specifies whether the gateway should store the message shell with the body part information. *Valid values:* 0 (does not store message shell) 1 (stores message shell) *Default value:* 1
stripgwytkns	Specifies whether to remove the recipient prefix from the Reply-to and Sender name fields. For example, UNIX: user.com becomes user.com. *Valid values:* 0 (does not remove qualified domain identifiers) 1 (removes qualified domain identifiers) *Default value:* 1

Parameter	Description and Values
stripqualname	Specifies whether to remove qualified domain identifiers from the Reply-to, Sender, and Recipient fields. If domSuffix is not null, the domSuffix is appended. If domSuffix is null, the qualified domain identifiers are NOT removed, even if this value is set to 1.
	Valid values:
	0 (does not remove qualified domain identifiers)
	1 (removes qualified domain identifiers)
	Default value:
	1

LDAP Server Process Parameters

The LDAP server processes synchronize directory data between the eMail Server directory and Oracle Internet Directory, or any other LDAP directory. Each of these processes have specific parameters that you can configure to define how the processes work.

Forward Synchronization

The forward synchronization server has a new parameter called the MIGRATED_OBJECT_TYPE, that specifies the object type to be synchronized for a particular instance of the server. In the performance perspective, the new version of the server also manipulates the database table IOLM_SYNCLOG to significantly shorten the process time.

In the new version of the server, an administrator can specify one of the following object types to synchronize for a particular instance of the server in the newly added parameter. The available object types are:

- person
- domain
- location
- organization
- equipment
- room
- role

- alias

- dl

If an administrator wants to synchronize all object types for a particular instance of the server, they can leave the parameter value to null. The following is an example of running two instances of forward synchronization server.

When two instances of the forward synchronization servers are running at the same time with instance=1 picks up all object types, while instance=2 picks up ONLY 'dl'. With the new version of the server, in order to prevent deadlock, instance=1 server is supposed to pick up all objects. However, before doing it, instance=1 server checks if any other instance of the server is picking up any particular object type for synchronization. If so, instance=1 server picks up all object types EXCEPT the one(s) that are being processed by other instance(s). In this example, instance=1 server picks up all object types EXCEPT object type 'dl' because instance=2 server is set to pick up object type 'dl'.

Another new feature in the new version of the server is manipulationof the database table IOLM_SYNCLOG. Everytime a migration operation(INSERT, UPDATE, or DELETE) is performed, one row is inserted into the database table IOLM_SYNCLOG.

Considering the following situation: for a particular object, an INSERT operation, multiple (say, 10 of them) UPDATE operations, and a DELETE operation rows have been inserted into the IOLM_SYNCLOG table before an instance of the server wakes up and performs the synchronization. With the enhancement, the forward synchronization server first looks at the IOLM_SYNCLOG table to see if some rows can be trimmed off before performing the migration.

In this example, because an INSERT and a DELETE operation for a particular object exists at the same time, the server shouldn't really have to do anything except deleting all the rows for the particular object in the IOLM_SYNCLOG table.

The followings are the situations and the corresponding solutions that

can actually save the process time:

- When there are one INSERT and one DELETE rows of a particular object instance in the IOLM_SYNCLOG table, the server deletes all the rows related to it.

- When there are no INSERT, but multiple UPDATEs, and one DELETE, all the UPDATE rows are deleted.

- When there are one INSERT and multiple UPDATEs, and no DELETE, all the UPDATE rows are deleted.

- When there are only multiple UPDATEs, the server deletes all rows except one.

These few case could significantly reduce the process time, especially when the case that a DL will get updated so often within a certain period of time.

Forward Synchronization Parameters

The following forward synchronization parameters are available:

Parameter	Description and Values
database_type	Type of database. Do not change this value. *Default value:* iofc
debug_level	Sets the IOLDAP logging level. *Valid values:* 0 (no logging) 1 (trace function calls) 2 (debug packet handling) 4 (heavy trace debugging) 8 (connection management) 16 (print out packets sent and received) 32 (search filter processing) 64 (configuration file processing) 128 (access control list processing) 256 (stats log connections/operations/results) 512 (stats log entries sent) 1024 (print communication with the back end) 2048 (print entry parsing debugging) 65535 (enable all debugging) If you want to set more than one type of logging, then use the sum of the values for each type of logging that you want. For example, to see trace function calls (1) and debug packet handling (2), add their values (1+2) to get a value of 3. *Default value:* 0 (no logging)

Parameter	Description and Values
dit_root	Specifies the relative location of the directory in the global directory namespace. Each LDAP process services a certain portion of the directory namespace, and each namespace has a parent namespace. In eMail Server, the namespace that the directory serves does not have a parent namespace, so this value is always null.
	Default value:
	Null
ldap_admin_passwd (Required)	Specifies the password for the administration account created when you install Oracle Internet Directory (or other LDAP directory).
ldap_admin_login (Required)	Specifies the name of the administration account created when you install Oracle Internet Directory (or other LDAP directory).
	Valid values:
	cn=<*account*>
	For example, if your account is called orcladmin, then this value would be:
	cn=orcladmin
ldap_guest_login	Specifies the name of the guest account created when you install Oracle Internet Directory (or other LDAP directory).
	Valid values:
	cn=<*account*>
	For example, if your account is called guest, then this value would be:
	cn=guest
ldap_guest_passwd	Specifies the password for the guest account created when you install Oracle Internet Directory (or other LDAP directory).
ldap_repl_dn	Specifies the name of the replication account created when you install Oracle Internet Directory (or other LDAP directory).
	Valid values:
	cn=<*account*>
	For example, if your account is called repl, then this value would be:
	cn=repl
ldap_repl_passwd	Specifies the password for the replication account created when you install Oracle Internet Directory (or other LDAP directory).

Parameter	Description and Values
ldap_supplier (Required)	Specifies the TCP/IP host name of the machine where Oracle Internet Directory (or other LDAP directory) is running.
ldap_supplier_ port (Required)	Specifies the port on which Oracle Internet Directory (or other LDAP directory) is running. *Valid values:* 0 to 99999 *Default value:* 389
max_concurrent_ conn	Sets a limit to the number of LDAP connections that can be made to an IOODSSYNC process at a time. *Valid values:* 0 to 64 *Default value:* 10
nls_language	NLS language and character set. *Default value:* AMERICAN_AMERICA.US7ASCII
referral	Specifies the location of an LDAP server that may be able to find the entry that was queried if IOLDAP cannot locate the entry in an LDAP request. (Oracle Internet Directory does not currently support referrals. If you are using Oracle Internet Directory, then do not change the default value of this parameter.) For example, ldap://ldap.itd.umich.edu
resulting_ migrated_domain	Domain structure after migration. *Default value:* Null For example, if your current domain is us.oracle.com and the new domain is mydomain.com, this parameter value would be: dc=mydomain, dc=com

Parameter	Description and Values
`resulting_dl_ migrated_domain`	DL Domain structure after migration. *Default value:* Null For example, if you want to put a 'dl' in a separate part of the DIT, the parameter value would be: `dc=dlcontainer, dc=mydomain, dc=com`

`suffix` (Required)	Specifies the domain of the eMail Server node. Verify that this parameter is set correctly for your site. If the parameter is not set correctly, then the directory searches will fail.
	
	Valid values:
	
	`dc=<domain>, dc=<domain> ...`
	
	For example, if your domain is `us.oracle.com`, then this value would be:
	
	`dc=us, dc=oracle, dc=com`

Reverse Synchronization Parameters

The following reverse synchronization parameters are available:

Parameter	Description and Values
database_type	Type of database. Do not change this value. *Default value:* iofc
debug_level	Sets the IOLDAP logging level. *Valid values:* 0 (no logging) 1 (trace function calls) 2 (debug packet handling) 4 (heavy trace debugging) 8 (connection management) 16 (print out packets sent and received) 32 (search filter processing) 64 (configuration file processing) 128 (access control list processing) 256 (stats log connections/operations/results) 512 (stats log entries sent) 1024 (print communication with the back end) 2048 (print entry parsing debugging) 65535 (enable all debugging) If you want to set more than one type of logging, then use the sum of the values for each type of logging that you want. For example, to see trace function calls (1) and debug packet handling (2), add their values (1+2) to get a value of 3. *Default value:* 0 (no logging)

Parameter	Description and Values
`dit_root`	Specifies the relative location of the directory in the global directory namespace. Each LDAP process services a certain portion of the directory namespace, and each namespace has a parent namespace. In eMail Server, the namespace that the directory serves does not have a parent namespace, so this value is always null.
	Default value:
	Null
`ldap_admin_ passwd` (Required)	Specifies the password for the administration account created when you install Oracle Internet Directory (or other LDAP directory).
`ldap_admin_login` (Required)	Specifies the name of the administration account created when you install Oracle Internet Directory (or other LDAP directory).
	Valid values:
	`cn=<account>`
	For example, if your account is called `orcladmin`, then this value would be:
	`cn=orcladmin`
`ldap_changelog_ filter` (Required)	Specifies the change log object class filter.
	Valid values:
	(&(objectclass=changeLogEntry)(server=<server_ name>)(changeNumber>=%d)) Changelog filter for Oracle Internet Directory only.
	(&(objectclass=changeLogEntry)(changeNumber>=%d)) Changelog filter for other LDAP directories.
	Default value:
	(&(objectclass=changeLogEntry)(server=<server_ name>)(changeNumber>=%d))
`ldap_guest_login`	Specifies the name of the guest account created when you install Oracle Internet Directory (or other LDAP directory).
	Valid values:
	`cn=<account>`
	For example, if your account is called `guest`, then this value would be:
	`cn=guest`

Parameter	Description and Values
`ldap_guest_passwd`	Specifies the password for the guest account created when you install Oracle Internet Directory (or other LDAP directory).
`ldap_repl_dn`	Specifies the name of the replication account created when you install Oracle Internet Directory (or other LDAP directory).
	Valid values:
	`cn=<account>`
	For example, if your account is called `repl`, then this value would be:
	`cn=repl`
`ldap_repl_passwd`	Specifies the password for the replication account created when you install Oracle Internet Directory (or other LDAP directory).
`ldap_supplier` (Required)	Specifies the TCP/IP host name of the machine where Oracle Internet Directory (or other LDAP directory) is running.
`ldap_supplier_port` (Required)	Specifies the port on which Oracle Internet Directory (or other LDAP directory) is running.
	Valid values:
	`0` to `99999`
	Default value:
	`389`
`max_concurrent_conn`	Sets a limit to the number of LDAP connections that can be made to an `IOODSSYNC` process at a time.
	Valid values:
	`0` to `64`
	Default value:
	`10`
`nls_language`	NLS language and character set.
	Default value:
	`AMERICAN_AMERICA.US7ASCII`

Parameter	Description and Values
`referral`	Specifies the location of an LDAP server that may be able to find the entry that was queried if IOLDAP cannot locate the entry in an LDAP request. (Oracle Internet Directory does not currently support referrals. If you are using Oracle Internet Directory, then do not change the default value of this parameter.) For example, `ldap://ldap.itd.umich.edu`
`resulting_` `migrated_domain`	Domain structure after migration. *Default value:* Null For example, if your current domain is `us.oracle.com` and the new domain is `mydomain.com`, this parameter value would be: `dc=mydomain, dc=com`

`suffix`
 	
(Required)
	Specifies the domain of the eMail Server node. Verify that this parameter is set correctly for your site. If the parameter is not set correctly, then the directory searches will fail.
	
	Valid values:
	
	`dc=<domain>, dc=<domain> ...`
	
	For example, if your domain is `us.oracle.com`, then this value would be:
	
	`dc=us, dc=oracle, dc=com`

Messaging Server Process Parameters

The messaging server processes perform the basic functions of handling messages and information in the eMail Server system. Each of these processes has specific parameters that you can configure to define how the processes work.

Collector Process Parameters

> **Note:** The collector process was previously known as the Garbage collector process.

The following collector process parameters are available:

Parameter	Description and Values
billinfo_kept	Specifies the number of days message billing data is kept. *Valid Values:* 0 to 365 (365 days equals one year) *Default value:* 45
directory	Specifies whether the process removes unneeded internal replicator items. *Valid values:* 0 (does not remove unneeded internal replicator items) 1 (removes unneeded internal replicator items) *Default value:* 1
event_kept	Number of days to retain calendar events. *Valid Values:* 0 to 1825 (1825 days equals five years) *Default value:* 180
log_kept	Number of days to retain internal log messages. *Valid Values:* 0 to 365 (365 days equals one year) *Default value:* 10

Parameter	Description and Values
log_level	Log message level. **See Also:** "Using Server Process Logs" on page 17-2 for information about locating and reading log files. *Valid values:* 0 (no logging) 1 (error messages only) 2 (minimum information and warnings) 3 (medium information) 4 (maximum information) 5 (debugging information) *Default value:* 2
mail_collect	Specifies whether this process collects unreferenced messages. *Valid values:* 0 (does not collect unreferenced messages) 1 (collects unreferenced messages) *Default value:* 1
mail_expiry	Specifies whether this process removes expired messages. *Valid values:* 0 (does not remove expired messages) 1 (removes expired messages) *Default value:* 1
mail_pruning	Specifies whether this process identifies unreferenced messages. *Valid values:* 0 (does not identify unreferenced messages) 1 (identifies unreferenced messages) *Default value:* 1

Parameter	Description and Values
ops_mode	Specifies whether the collector process will be running in the Oracle Parallel Server environment. If this parameter is enabled, then the collector only processes messages originating from the same node. Enabling this parameter can increase performance, but is not required.
	See Also: Oracle Parallel Server documentation for more information about this environment
	Valid values:
	0 (disables OPS)
	1 (enables OPS)
	Default value:
	0
qstats_kept	Specifies how many days queue statistics will be kept in the system. Specifying a shorter number of days may save some disk space, but specifying a longer number of days will give you a more accurate view of the system snapshot from the monitor/statistics server process.
	Valid values:
	0 to 365 (365 days equals one year)
	Default value:
	45
recipient	Specifies whether to remove original recipient information from existing messages by the collector process. This parameter should be kept at the default value of 0. If your system's postman delivery is slow due to frequently receiving messages with a large recipient list, then you can turn on this option to improve system performance.
	Valid values:
	0 (no original recipient information will be deleted)
	1 (all original recipient information in all messages will be deleted)
	Default value:
	0

Parameter	Description and Values

registration	Specifies whether this process cleans up obsolete registration entries of eMail Server processes in the database as a result of an abnormal shutdown.
	
	Valid values:
	
	    0 (does not clean up registration records)
	
	    1 (cleans up registration records)
	
	Default value:
	
	    1

replog_kept	Specifies how many days the replication log will be kept in the system. The replication log keeps track of changes to directory entries and other information that needs to be replicated. If the replicator process is not running for an extended period, then you might want to increase the number of days this log is kept so that the replicator can process the information when it is running again. If the replicator process runs regularly, then it should be sufficient to use the default value.
	
	Valid values:
	
	    0 to 1825 (**1825 days equals five years**)
	
	Default value:
	
	    5

scheduler	Specifies whether this process cleans up events.
	
	Valid values:
	
	    0 (does not clean up events)
	
	    1 (cleans up events)
	
	Default value:
	
	    1

search_cache	Enabling this parameter means that the collector process will clean up all Oracle ConText search cache data.
	
	Valid values:
	
	    0 (does not clean up Oracle ConText search cache)
	
	    1 (cleans up Oracle ConText search cache)
	
	Default value:
	
	    1

Parameter	Description and Values
shadow_processes	Specifies whether this process cleans up inactive database shadow processes. *Valid values:* 0 (does not clean up inactive database shadow processes) 1 (cleans up inactive database shadow processes) *Default Value:* 0
V1_mail	Relevant only if this process runs on a node containing the V1-V2 gateway. Specifies whether this process collects V1 garbage messages, or if this process runs on the V1-V2 gateway node. *Valid values:* 0 (does not collect V1 garbage messages or run on the V1-V2 gateway node. 1 (collects V1 garbage messages and runs on the V1-V2 gateway node. *Default value:* 0

Guardian Process Parameters

The guardian process, ofcguard, does not have parameters to set.

Monitor Process Parameters

The following monitor process parameters are available:

Parameter	Description and Values
log_level	Log message level. **See Also:** "Using Server Process Logs" on page 17-2 for information about locating and reading log files. *Valid values:* 　　0 (no logging) 　　1 (error messages only) 　　2 (minimum information and warnings) 　　3 (medium information) 　　4 (maximum information) 　　5 (debugging information) *Default value:* 　　2
no_prob_msg_subj	Subject line for a "No problem" report. *Default value:* 　　eMail Server System Status
no_prob_recips	Specifies who receives no-problem notifications. The account name in this field receives reports when the monitor does not find any problems. *Valid values:* 　　Any addressable account name in your directory. Be sure to include the qualified domain. *Default value:* 　　ORAPOST.*<domain>*
prob_msg_subj	Subject line for a problem report. *Default value:* 　　eMail Server System Alert

Parameter	Description and Values
`prob_recips`	Specifies who receives problem notifications. The account name in this field receives reports of any problems the monitor finds.
	Valid values:
	Any addressable account name in your directory. Be sure to include the qualified domain.
	Default value:
	`ORAPOST.<domain>`

Postman Process Parameters

The following postman process parameters are available:

Parameter	Description and Values
`auto_reply_ history`	Number of days between automatic replies being generated from a recipient to the same sender, preventing the problem of multiple automatic messages to one user.
	For example, suppose Amy Johnson is on vacation for a week and sets up an Auto Reply message. Any message sent to her or to groups or lists of which she is a member triggers the Auto Reply message. The value of `auto_reply_history` determines how often any user receives Amy's Auto Reply message, solving the problem of one person receiving several Auto Reply messages from Amy within the time you specify.
	Valid values:
	`0` to `365` (365 days equals one year)
	Default value:
	`7`

Parameter	Description and Values

delivery_stats	Specifies whether delivery statistics information is collected. This information is used by the statistics server for a detailed statistics gathering. Setting this parameter may slow down postman process performance because of the additional work being done by the process.
	
	See Also: "Scripts for Message-Billing Data Collection" on page 20-2 for more information
	
	Valid values:
	
	    0 (disables delivery statistics collection)
	
	    1 (enables delivery statistics collection)
	
	Default value:
	
	    0

local_delivery	Specifies whether this process handles messages destined for local users.
	
	Valid values:
	
	    0 (disables local delivery)
	
	    1 (enables local delivery)
	
	Default value:
	
	    1

log_level	Log message level.
	
	See Also: "Using Server Process Logs" on page 17-2 for information about locating and reading log files.
	
	Valid values:
	
	    0 (no logging)
	
	    1 (error messages only)
	
	    2 (minimum information and warnings)
	
	    3 (medium information)
	
	    4 (maximum information)
	
	    5 (debugging information)
	
	Default value:
	
	    2

oma_notify_type	This parameter is reserved for future use.
ops_id	This parameter is reserved for future use.

Parameter	Description and Values
ops_mode	Specifies whether the postman process will be running in the Oracle Parallel Server environment. If this parameter is enabled, then the postman only processes messages originating from the same node. You should enable this parameter to increase performance if every OPS node has the same number of postman processes running. If you disable this parameter, then you will have more flexibility in which processes are running on which nodes, but there will be a decrease in performance. **See Also:** Oracle Parallel Server documentation for more information about this environment *Valid values:* 0 (disables OPS) 1 (enables OPS) *Default value:* 0
postmaster	Specifies who receives problem notifications when a message is returned to the sender, and when a message is placed in the Dead Message queue. The account name in this field receives reports of any problems the monitor finds. *Valid values:* Any addressable account name in your directory. Be sure to include the qualified domain. *Default value:* ORAPOST.*<domain>*
recv_billing	Specifies whether billing information should be collected whenever a message is received. Setting this parameter may slow down postman process performance because of the additional work being done by the process. **See Also:** "Scripts for Message-Billing Data Collection" on page 20-2 for more information. *Valid values:* 0 (disables billing information collection on received messages) 1 (enables billing information collection on received messages) *Default value:* 0

Parameter	Description and Values
remote_delivery	Specifies whether this process handles messages destined for remote users.
	Valid values:
	0 (disables remote delivery)
	1 (enables remote delivery)
	Default value:
	1
return_delay	Number of days a message remains in an outbound queue to a remote node. If the message is not delivered within this time period, then the postman returns it to the sender.
	Valid values:
	0 to 365 (365 days equals one year)
	Default value:
	3
rte_tab_refresh	Number of postman cycles this process waits before checking the route table for updated or new routing information. The postman also checks the route table each time you start or refresh this process.
	Valid values:
	0 to 8192
	Default value:
	60
sead_msg_kept	Number of days a message is held in this node's Dead Message queue before the collector removes it.
	Valid values:
	1 to 365 (365 days equals one year)
	Default value:
	5

Parameter	Description and Values
send_billing	Specifies whether billing information should be collected whenever a message is sent. Setting this parameter may slow down postman process performance because of the additional work being done by the process. **See Also:** "Scripts for Message-Billing Data Collection" on page 20-2 for more information. *Valid values:* 0 (disables billing information collection on sent messages) 1 (enables billing information collection on sent messages) *Default value:* 0
V1_gateway	Specifies whether this process acts as a V1-V2 gateway. *Valid values:* 0 (disables V1-V2 gateway tasks) 1 (enables V1-V2 gateway tasks) *Default value:* 0
V1_package_size	Maximum number of messages sent at one time through the V1-V2 gateway from Oracle Mail to eMail Server. *Valid values:* 0 to 8192 *Default value:* 50
workspace	Size in bytes of the postman's allocated work buffer. This buffer is set aside for the postman when you start eMail Server and determines the number of messages a postman process can handle simultaneously. *Valid values:* 25000 to 1000000 *Default value:* 65536

Guidelines

Postman processes can perform local delivery and remote delivery of new e-mail. You might decide to register two instances of the postman process and configure them as follows:

- postman1 to handle only local delivery (Local_Delivery=1, Remote_Delivery=0)

- postman2 to handle remote delivery (Remote_Delivery=1, Local_Delivery=0)

Replicator Process Parameters

The following replicator process parameters are available:

Parameter	Description and Values
log_level	Log message level.
	See Also: "Using Server Process Logs" on page 17-2 for information about locating and reading log files.
	Valid values:
	0 (no logging)
	1 (error messages only)
	2 (minimum information and warnings)
	3 (medium information)
	4 (maximum information)
	5 (debugging information)
	Default value:
	2
log_scan_ interval	Number of minutes between creating packages.
	Valid values:
	1 to 2000
	Default value:
	10

Parameter	Description and Values
max_log_scan_size	Maximum number of data records in replog before creating a package. *Valid values:* 1 to 2000 *Default value:* 100
max_package_size	Maximum number of data records per package created by this replicator. *Valid values:* 10 to 2000 *Default value:* 400
max_retry_attempt	Maximum number of attempts to deliver a given package. *Valid values:* 1 to 10 *Default value:* 2
retry_interval	Number of minutes between package delivery attempts. *Valid values:* 1 to 2000 *Default value:* 30

Guidelines

You should not register more than one replicator process on a node because the replicator must process packages sequentially, and multiple replicator processes could cause the packages to get out of order.

During the day when your users are sending messages back and forth and performing other eMail Server tasks, you probably want your replicator processes to respond quickly to any directory changes you make and not clog the network with large packages of information. To achieve these goals:

- Set log_scan_interval to a short time, about five minutes, to make sure that directory changes are propagated quickly.

- Set `max_package_size` to 200 objects to avoid network problems.

When you process large directory updates at night, such as synchronizing with a large system, your goal is speed. In this situation, try the following parameter settings:

- Set `log_scan_interval` to 15 or 20 minutes to let information build up in the replog.

- Set `max_log_scan_size` to at least half the size of the maximum packet to create large packages of directory information.

- Set `max_package_size` to 400 to 600 objects for smaller servers, or 1000 to 2000 objects for larger servers to move the information through the eMail Server system efficiently.

When you are installing a new node, you should temporarily change the parameters for the replicator processes on the SCN or DCN of the domain to which the new node will subscribe. In this situation your goal is speedy delivery of the directory information the new node requires. You are not as concerned with reliability because:

- You know that the network connection to the node is up.

- Waiting for package acknowledgments is slower than correcting problems as you transfer the information.

The recommended parameter changes during node installation are:

- Set `max_package_size` to 1000 objects to speed up the transfer.

- Set `max_retry_attempt` to 2 to let you handle problems after two attempts to send the same package.

- Set `retry_interval` to 1 minute to reduce the wait between the replicator's two attempts to send a package.

Statistics Process Parameters

The following statistics process parameters are available:

Parameter	Description and Values
`log_level`	Log message level.
	See Also: "Using Server Process Logs" on page 17-2 for information about locating and reading log files.
	Valid values:
	`0` (no logging)
	`1` (error messages only)
	`2` (minimum information and warnings)
	`3` (medium information)
	`4` (maximum information)
	`5` (debugging information)
	Default value:
	`2`
`prob_recips`	Specifies who receives problem notifications. The account name in this field receives reports of any problems the Statistics process finds.
	Valid values:
	Any addressable account name in your directory. Be sure to include the qualified domain.
	Default value:
	`ORAPOST.<domain>`

Protocol Server Process Parameters

The protocol server processes route messages to the Internet Messaging database. The SPS process parameters are common to both types of protocol server processes. In addition, each of these processes has specific parameters that you can configure to define how the processes work.

IMAP4SRV Process Parameters (IMAP4-Specific)

The following IMAP4SRV process parameters are available for IMAP4 protocol server processes only:

Parameter	Description and Values
address_suffix	E-mail address suffix to be added to addresses that have had the domain name stripped. This is used only when communicating with messages from Oracle InterOffice clients because they do not use standard addressing formats. **See Also:** the domain parameter for more information *Valid values:* Any address suffix. For example, if address_suffix=@acme.com, then the address jdoe would have the suffix added to look like jdoe@acme.com. *Default value:* Null
admin_url	URL from your Web site where Netscape 4.0.x users can go to change their password. For other clients, you must provide a link to this URL in your Web site. **See Also:** "" on page 10-11 for more information. *Valid values:* Any valid URL. For example: http://anywhere.com/newpass.html *Default value:* Null
apprx_size	Specifies whether the approximate message size is used rather than the exact size. Calculating the approximate size is more efficient, but some clients do not accept approximate sizes for messages. See the documentation for the clients that your users will be using to determine whether or not you can use approximate sizes. *Valid values:* Y (uses approximate sizes) N (does not use approximate sizes) *Default Value:* Y

Parameter	Description and Values
cache_size	Cache size.
	Valid values:
	small (caches only the last accessed message in the user's current folder)
	medium (caches all unseen messages in the user's current folder)
	large (caches all the messages in the user's current folder)
	Default Value:
	small
check_quota	Specifies whether the user's disk space usage will be compared against the user's quota. If the usage exceeds the quota, no new e-mail will be retrieved. eMail Server will send an alert to the client indicating that the quota is exceeded. The user's quota is specified in the user's directory entry.
	See Also: "Creating an eMail Server User Account" on page 13-4 for more information
	Valid values:
	Y (checks against the user's quota)
	N (does not check against the user's quota)
	Default Value:
	N
default_charset	Default character set for text objects.
	Valid values:
	Refer to "Configuring the Gateway for Multibyte Support" on page 7-12 for a complete list of available character sets.
	Default Value:
	iso-8859-1

Parameter	Description and Values
domain	This parameter specifies the default domain name to use if there is no `qualified_domain` specified with the address. This parameter must be the same as the domain the IMAP user belongs to. **See Also:** the `address_suffix` parameter for more information *Valid values:* Any domain name that is currently defined in your system, such as `acme.com`. *Default value:* Null
gnmail_intvl	Specifies how often the user will receive new e-mail, in seconds. This parameter sets the new e-mail interval for the entire system and prevents the system from being overloaded by users checking for e-mail too often. Users cannot override this value. If the user's client software has a button that they click to get new e-mail, this actually checks for e-mail only after the specified interval has passed. *Valid values:* `60` (minimum; there is no maximum) *Default Value:* `120`
hdr_encoding	Specifies the method used to encode non-ASCII characters in the message header according to the MIME standard. *Valid values:* `Q` (quoted-printable) `B` (base64) **See Also:** "Configuring the Method for Encoding MIME Content" on page 23-2 for more information about these encoding methods *Default Value:* `Q`

Parameter	Description and Values
log_level	Log message level. **See Also:** "Using Server Process Logs" on page 17-2 for information about locating and reading log files *Valid values:* 0 (no logging) 1 (error messages only) 2 (minimum information and warnings) 3 (medium information) 4 (maximum information) 5 (debugging information) *Default value:* 2
store_body	Specifies whether the gateway should store the body parts encoded, decoded, or both. Oracle InterOffice clients, including SDK-based clients, can only read messages in decoded format, but if you want to use S/MIME for authenticating digital signatures of clients, you must store messages encoded. *Valid values:* 1 (encoded) 2 (decoded) 3 (both encoded and decoded) *Default value:* 2
text_encoding	Defines the content transfer encoding method used to encode text body parts of outbound messages. *Valid values:* Standard transfer encoding methods are base64, quoted-printable, 7bit, 8bit, and binary. Non-standard encoding methods can also be used. **See Also:** "Configuring the Method for Encoding MIME Content" on page 23-2 for more information about these values *Default value:* quoted-printable

Parameter	Description and Values
virtual_domain	Defines a dummy top-level domain. Use this parameter if you want to support multiple top-level domains, such as .com and .edu. The virtual domain is automatically appended to the user's domain for incoming messages, and it is stripped from outgoing messages. For example, you might create a domain called .world and then specify that domain for the virtual_domain parameter. Then, you can create subdomains .world such as .edu.world and .com.world. *Valid Values:* Any domain name that is currently defined in your system, such as .world. *Default Value:* Null

IOLISTENER Process Parameters

The following IOLISTENER process parameters are available:

Parameter	Description and Values
diagport	Port number for the eMail Server Probe. **See Also:** "Monitoring Protocol Server Processes" on page 17-13 for more information on the Probe *Default value:* 5010
flags	Specifies flags to set SSL and debug. *Valid values:* 0 (no flags) 32 (disables thread handle traps) 64 (enables SSL) 128 (frees database connections locked by client threads) If you want to set more than one type of flag, use the sum of the values for each type of flag that you want. For example, to enable SSL (64) and free database connections (128), add their values (64+128) to get a value of 192. *Default value:* 0 (no flags)

Parameter	Description and Values
log_level	Log message level.
	See Also: "Using Server Process Logs" on page 17-2 for information about locating and reading log files
	Valid values:
	0 (no logging)
	1 (error messages only)
	2 (minimum information and warnings)
	3 (medium information)
	4 (maximum information)
	5 (debugging information)
	Default value:
	2
maxsvr	Maximum number of protocol server process instances that can be running.
	Valid values:
	1 to 1000
	Default value:
	1000

POP3SRV Process Parameters (POP3-Specific)

The following POP3SRV process parameters are available for POP3 protocol server processes only:

Parameter	Description and Values
address_suffix	E-mail address suffix to be added to addresses that have had the domain name stripped. This is used only when communicating with messages from Oracle InterOffice clients because they do not use standard addressing formats. **See Also:** the domain parameter for more information *Valid values:* Any address suffix. For example, if address_suffix=@acme.com, then the address jdoe would have the suffix added to look like jdoe@acme.com. *Default value:* Null
default_charset	Default character set for text objects. *Valid values:* Refer to "Configuring the Gateway for Multibyte Support" on page 7-12 for a complete list of available character sets *Default Value:* iso-8859-1
delete_allowed	Delete messages from the INBOX, if specified by the client. *Valid values:* yes (deletes messages) no (does not delete messages) *Default value:* no

Parameter	Description and Values
domain	This parameter specifies the default domain name to use if there is no `qualified_domain` specified with the address.
	For Oracle InterOffice clients, this domain name will also be stripped from addresses when displaying the message.
	For example, if `domain=acme.com`, then the address `jdoe.acme.com` would be stripped of the domain to look like `jdoe`. Then, the `address_suffix` parameter is added to the address to look like `jdoe@acme.com`.
	See Also: the `address_suffix` parameter for more information
	Valid values:
	Any domain name that is currently defined in your system, such as `acme.com`.
	Default value:
	Null
hdr_encoding	Specifies the method used to encode non-ASCII characters in the message header according to the MIME standard.
	Valid values:
	`Q` (quoted-printable)
	`B` (base64)
	See Also: "Configuring the Method for Encoding MIME Content" on page 23-2 for more information about these encoding methods
	Default Value:
	`Q`

Parameter	Description and Values

log_level	Log message level.
	
	See Also: "Using Server Process Logs" on page 17-2 for information about locating and reading log files.
	
	Valid values:
	
	    0 (no logging)
	    1 (error messages only)
	    2 (minimum information and warnings)
	    3 (medium information)
	    4 (maximum information)
	    5 (debugging information)
	
	Default value:
	
	    2

retrieval	Specifies whether to retrieve unread messages or all messages.
	
	Valid values:
	
	    Unread (retrieve only unread messages)
	    All (retrieve all messages)
	
	Default value:
	
	    All

text_encoding	Defines the content transfer encoding method used to encode text body parts of outbound messages. *Valid values:* Standard transfer encoding methods are base64, quoted-printable, 7bit, 8bit, and binary. Non-standard encoding methods can also be used. **See Also:** "Configuring the Method for Encoding MIME Content" on page 23-2 for more information about these values *Default value:* quoted-printable

Parameter	Description and Values
virtual_domain	Defines a dummy top-level domain. Use this parameter if you want to support multiple top-level domains, such as .com and .edu. The virtual domain is automatically appended to the user's domain for incoming messages, and it is stripped from outgoing messages.
	For example, you might create a domain called .world and then specify that domain for the virtual_domain parameter. Then, you can create subdomains to .world such as .edu.world and .com.world.
	Valid Values:
	Any domain name that is currently defined in your system, such as .world.
	Default Value:
	Null

SPS Process Parameters (Common to both IMAP4 and POP3)

You can use the scalable protocol server (SPS) process parameters to specify information that is common to all protocol server process parameters. The following SPS process parameters are available for both IMAP4SRV and POP3SRV processes:

Parameter	Description and Values
certificate	Name of the file that contains the SSL trusted certificate (do not type the .txt extension).
	This file is located in the $ORACLE_HOME/office/admin directory.
	Default value:
	sslcerts
confnm	Name of the configuration file that defines the number of database connections per instance (do not type the .cfg suffix).
	This file is located in the $ORACLE_HOME/office/config/node_sid directory.
	If all protocol server process instances have the same parameters, they can share the same configuration file. If they have different parameters, you should create different files.
	Default values:
	iosps27 (IMAP4 clients)
	iosps23 (POP3 clients)

Parameter	Description and Values
flags	Specifies flags to set SSL and debug.
	Valid values:
	0 (no flags)
	32 (disables thread handle traps)
	64 (enables SSL)
	128 (frees database connections locked by client threads)
	If you want to set more than one type of flag, use the sum of the values for each type of flag that you want. For example, to set SSL (64) and free database connections (128), add their values (64+128) to get a value of 192.
	Default value:
	0 (no flags)
maxclt	Maximum number of client connections to this protocol server process instance.
	Valid values:
	1 to 900
	On Solaris, the value for maxclt plus the value for maximum_connections in the iosps*.cfg file should be less than 1000.
	See Also: Chapter 9, "Managing Processes" for more information about the maximum_connections parameter
	Default value:
	900
port	Port number for incoming messages.
	Default values:
	143 (IMAP4 clients)
	110 (POP3 clients)
	These default values are the standard ports used for the specified protocol servers, but you can change them, if necessary.

Parameter	Description and Values
sslport	SSL port number for incoming messages.
	Default values:
	993 (IMAP4 clients)
	995 (POP3 clients)
	These default values are the standard SSL ports used for the specified protocol servers, but you can change them, if necessary.

12

Managing Shared Folders

You can create shared folders to provide a discussion medium and an archive for messages relating to a particular topic. Users with access privileges can browse through the history of messages on the topic and post messages into the shared folder. Shared folders have a `subscribe` property, which can be used to show or hide the folder (and its children) in the hierarchy.

This chapter includes the following topics:

- Configuring the Shared Folder Hierarchy
- Adding a Shared Folder
- Replicating Shared Folders Manually
- Displaying Shared Folder Access Privileges
- Granting Access Privileges
- Revoking Access Privileges
- Shared Folder Class Attributes

Configuring the Shared Folder Hierarchy

Before you can create shared folders, you must set up the folder hierarchy and specify the nodes to which the shared folders must be replicated. You must configure the shared folder hierarchy before creating any shared folders in the system. After this is done, you only need to reconfigure the shared folder hierarchy if you add or change nodes to which you want the shared folders replicated.

Steps for Configuring the Shared Folder Hierarchy

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

1. Establish a folder naming convention and determine your shared folder hierarchy.

2. On each node to which you want to replicate the shared folder hierarchy (not the actual content), create a user account to accept the replication information. Even though the shared folder is not an actual person, it must have a user account and a home node specified.

    For example, if you want to replicate shared folders to node A, node B, and node C, create a user account with the name NodeA on node A, and so on. Refer to "Creating an eMail Server User Account" on page 13-4 for instructions.

3. Create a distribution list called Public_Folder_Nodes. Add the names of all the user accounts you just created on the nodes to which the shared folder hierarchy is being replicated. (You must use the name Public_Folder_Nodes for this distribution list.)

    For example, if you created accounts NodeA, NodeB, and NodeC, you would add these three names to the distribution list. Refer to "Creating a Public Distribution List" on page 13-19 for instructions.

4. Add your shared folders. Refer to "Adding a Shared Folder" on page 12-3 for instructions.

5. Grant user privileges to the folders, as needed. Refer to "Granting Access Privileges" on page 12-8 for instructions.

Adding a Shared Folder

You can add a shared folder to provide a common place to store messages that more than one person might need to access.

Prerequisites to Adding a Shared Folder

Before adding shared folders, you must configure the folder hierarchy and replication. Refer to "Configuring the Shared Folder Hierarchy" on page 12-2 for instructions.

Steps for Adding a Shared Folder

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Adding a Shared Folder" on page 12-4 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name* > Shared Folders.

3. In the toolbar, click (Create).

4. Complete the Add a New Shared Folder dialog box.

   > **See Also:** "Shared Folder Class Attributes" on page 12-12 for a complete list of the Public Distribution List attributes and their descriptions

5. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert folder name=/<folder_name> daysKept=<days_kept>
description='<description>' defaultAccess=[open | restricted]
distList="<distribution_list_from_step2>";
```

This command displays a portion of the available attributes.

> **See Also:** "Shared Folder Class Attributes" on page 12-12 for a complete list of the Public Distribution List attributes and their descriptions

Example: Assuming that the distribution lists have already been created, to add the folder #ProjectXInfo to a node, enter the following command:

```
IOFCMGR>insert folder name=/#ProjectXInfo daysKept=60
description='Shared Project X information'
distList="dl_#ProjectXInfo";
```

Guidelines for Adding a Shared Folder

- The Name and DefaultAccess attributes are required.

- The forward slash key (/) serves as a separator to specify subfolders. For example, /#X/#Y is a public folder named #Y that is a child of the public folder named #X. Make sure that you add the parent folder before adding any child folders.

- Before shared folders can be created from the messaging client, you must create a top or root-level shared folder. This folder defines the replication attributes of the shared folder and specifies, through folder grants, the users who can create subfolders.

- When bootstrapping a new node to the system, replicate the folder hierarchy required on the new node before updating Public_Folder_Nodes to include the new node. This avoids synchronization problems caused when folders are replicated to the new node before it receives its folder hierarchy.

- Before you create shared folders, you should establish a folder naming convention. Use the following suggestions as a guideline for naming your folders:

Public Folder Account Names	Use "sf_" followed by the node name. For example, the Shared Folder account name for "nodeA" would be "sf_nodeA."
Distribution List Names	Use "dl_" followed by the Public Folder name. For example, the distribution list for the Public Folder /Humor would be "dl_Humor."

Folder Names   Shared folders and private folders should not have the same name. If a shared and a private folder with the same name exist, only the private folder can be viewed. To differentiate shared folders from private folders, either prefix the folder name with a special character or append an identifying string to the end of the folder name.

For example, if your naming convention is to use the "#" symbol as the identifying public folder prefix, the public folder "East_Coast_Sales" would have the name "#East_Coast_Sales." If your naming convention is to append the string "(public)" as the identifying public folder string, the public folder "East_Coast_ Sales" would have the name "East_Coast_ Sales_(public)."

Replicating Shared Folders Manually

If you created a shared folder account on each node to which you replicated shared folders and created a public distribution list on the DCN containing the name of each shared folder account, then shared folder replication should happen automatically.

However, on occasion you may need to manually resynchronize folder hierarchies and folder contents.

Steps for Replicating Shared Folders Manually

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name* > Shared Folders > *folder_name*.

3. In the toolbar, click (Replicate).

4. Complete the Manually Replicate a Shared Folder dialog box.

5. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>replicate to node=<node_name> class=folder object=<object_name>;
   ```

Example: This syntax resynchronizes the contents of a folder to a node (dinner) participating in folder replication:

```
IOFCMGR>replicate to node=dinner class=folder object=/folder1/folder2;
```

Example: The following resynchronizes the shared folder hierarchy to a new node participating in folder replication (lunch). In this example, folder replication starts at the root level. The optional object attribute can be used to resynchronize particular subtrees of a shared folder hierarchy.

```
IOFCMGR>replicate to node=lunch class=tree object=root;
IOFCMGR>replicate to node=lunch class=tree object=/folder1/folder2
```

Replicate-to-file does not support these classes or the object option.

Displaying Shared Folder Access Privileges

You can display a user's information to check if the user has administrative privileges for a shared folder.

Steps for Displaying Shared Folder Access Privileges

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>check user=<username> item=<folder_name>;
   ```

Example: To check the privileges that the user jdoe has for the /folder1/f2/f3 folder, enter the following command:

```
IOFCMGR>check user=jdoe item=/folder1/f2/f3
```

The following results appear:

```
Privileges    Grantee       Class       Item
----------    -------       ------      -----
----DVMC      jdoe          person      /folder1/f2/f3

l    may list objects in directory browser
s    may address message to object
s    may save listing of object from directory browser
a    has administrative privileges over domain
d    may discover folder hierarchy from client
v    may view folder contents
m    has moderator privileges on folder
c    may create child folders

Lower case characters indicate inherited privileges.
Upper case characters indicate explicit privileges.
```

The first line of the results contains the following information:

Column	Description
Privileges	Letters representing each privilege that the user has been granted. These letters are displayed in the order of the privileges list that appears at the end of the results of the `check` command. This list displays all the possible privileges for both directory entries and shared folders. However, the only privileges that are used for shared folders are the last five: `a` represents the `admin` privilege. This gives the user or class permission to perform any administrative operation on the entries in a given domain. `d` represents the `discover` privilege. This gives the user permission to view the folder hierarchy. `v` represents the `contents` privilege. This gives the user permission to read and post messages in a folder. `m` represents the `moderate` privilege. This gives the user permission to create and delete messages in a folder. `c` represents the `child` privilege. This gives the user permission to create or delete child folders (subfolders). If the user does not have a particular privilege, there is a dash. Lowercase letters indicate privileges that have been inherited. For example, a user account could inherit privileges from the role to which it belongs. Uppercase letters indicate explicit privileges assigned to the particular user.
Grantee	Name of the user whose privileges are displayed.
Class	Name of the class to which the Grantee belongs. For example, if you are checking user privileges, this class would be `person`.
Item	Name of the folder for which the user or class has privileges. For example, if you are checking the privileges that the user `jdoe` has for the `/folder1/f2/f3` folder, the item would be `/folder1/f2/f3`.

Granting Access Privileges

The individual user who sends, forwards, or replies to a message with a post to a shared folder can delete that post from the shared folder. Users can be granted additional access privileges to shared folders.

Steps for Granting Access Privileges

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Granting Access Privileges" on page 12-10 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name* > Shared Folders > *folder_name.*

3. In the toolbar, click (Grant).

4. Complete the Grant Access Privileges dialog box.

> **See Also:** "Shared Folder Access Privileges" on page 12-13 for a list of the parameters in this dialog box

5. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>grant user=<username> item="<folder_name>" priv=<privilege>;
   ```

   > **See Also:** "Shared Folder Access Privileges" on page 12-13 for a list of parameters available with this command

Example: To grant `admin` privileges for the East_Coast_Sales folder to account Fran King with domain information `us.corp.hq`, enter the following command:

```
IOFCMGR> grant user=fking.us.corp.hq item="/#East_Coast_Sales" priv=admin;
```

> **See Also:** "GRANT" on page 22-24 for additional variations on the `grant` command

Guidelines for Granting Access Privileges

■   When you grant a privilege, it is added to the other privileges that the user already has. Granting a privilege does not override the privileges that the user already has. For example, if a user has the `child` privilege, and you grant that user the `discover` privilege, the user still has the `child` privilege. If you want to restrict access to certain folders for a user, you should first revoke that user's current privileges and then grant the privileges that you want the user to have.

> **See Also:**   for instructions on how to revoke privileges

■   You can grant `admin` privileges to any eMail Server account. Any account with `admin` privileges for a shared folder can delete any message from that shared folder.

■   When granting `admin` privileges, keep the following in mind:

–   If you do not fully qualify the eMail Server account name, the current domain information is automatically appended to the account.

–   You can grant `admin` privileges to an account on another node.

–   The user class is assumed to be a `person` object.

–   You must specify one user name at a time. You cannot specify a distribution list.

–   By default, everyone can access all public folders. Granting the `admin` privilege to a user causes the new privilege to mask out the default privileges so that the user no longer has access to the subfolders. To work around this issue, grant the user's `admin` privileges before creating the subfolders.

Revoking Access Privileges

You can revoke any privileges from a user for a specific folder.

Steps for Revoking Access Privileges

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Revoking Access Privileges" on page 12-11 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Domains > *domain_name* > Shared Folders > *folder_name*.

3. In the toolbar, click ![Revoke icon] (Revoke).

4. Complete the Revoke Access Privileges dialog box.

   > **See Also:** "Shared Folder Access Privileges" on page 12-13 for more information about the privileges in this dialog box

5. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>revoke priv=<privilege> user=<username> item="<folder_name>";
   ```

   > **See Also:** "Shared Folder Access Privileges" on page 12-13 for more information about the privileges available with this command

Example: To revoke `admin` privileges for the Technical_Specifications folder from Ron Gomez, enter the following command:

```
IOFCMGR>revoke priv=admin user=rgomez item="/#technical specifications";
```

Guidelines for Revoking Access Privileges

When you grant a privilege, it is added to the other privileges that the user already has. Granting a privilege does not override the privileges that the user already has. For example, if a user has the `child` privilege, and you grant that user the `discover` privilege, the user still has the `child` privilege. If you want to restrict access to certain folders for a user, you should first revoke that user's current privileges and then grant the privileges that you want the user to have.

Shared Folder Class Attributes

The following Shared Folder class attributes are available:

Attribute	Type (Length Limit)	Description
created	date	Date the folder was created. Read only.
daysKept	number	Number of days a message is kept in the folder before it is automatically deleted.
defaultAccess	character (255)	The initial user access to the folder. Valid values are open or restricted. The default value is open which means that all users on nodes to which the folder is replicated have access to the folder. If this value is set to restricted, then only users assigned privileges by the system administrator can access the folder.
description	character (80)	A description of the folder contents. Although this is an optional attribute, it is a good idea to enter a description for each shared folder you create.
distList	character (80)	Name of the distribution list associated with the folder. This list contains the account names that receive folder messages.
modified	date	Date the folder was last modified. eMail Server changes this date each time a message is added to, or deleted from, the folder. Read only.
name (Required)	character (30)	Name of the folder. This is the key attribute for a folder, and the only required attribute.
numberOfMessages	number	Number of messages in the folder. Read only.
opened	date	Date the folder was last opened. Read only.
size	number	Size of the folder in bytes. Read only.

Shared Folder Access Privileges

You can grant the following privileges:

Privilege	Description
admin	The user has all administrative privileges, including all of those listed in this table, and can change the access list on the folder.
child	The user can create or delete a subfolder (child folder) in this folder.
contents	User can read and post to messages in the folder.
discover	The user may see and open the folder, but may not view the contents.
moderate	The user can create and delete messages in the folder.

13

Managing Directory Information

To send e-mail to coworkers, schedule rooms and equipment, create e-mail distribution lists, and assign user aliases, you must have a comprehensive and accurate directory. Tasks for managing directory information include adding and modifying directory entries.

You should add, modify, and delete directory entries in the eMail Server Directory, rather than in Oracle Internet Directory, or any other LDAP directory. The eMail Server Directory is synchronized with Oracle Internet Directory (or other LDAP directory) by the LDAP server processes.

The following topics describe how to manage the eMail Server Directory:

- Displaying a Directory Entry
- Creating an eMail Server User Account
- Creating a User for a Foreign E-mail System
- Creating a User Without E-mail
- Setting a User's Password
- Creating a Location
- Creating a Room Entry
- Creating an Organization Entry
- Creating a Role Entry
- Creating an Equipment Entry
- Creating a Public Alias
- Creating a Public Distribution List
- Creating a Public Template

- Displaying Access Privileges
- Granting Access Privileges
- Revoking Access Privileges
- Deleting a Directory Entry
- Migrating Directory Accounts to Another Node or Domain

> **See Also:**
>
> - Chapter 15, "Managing Replication", for more information about synchronizing these two directories
> - The Oracle Internet Directory documentation for information about updating O*i*D entries
> - The *Oracle eMail Server Release Notes* for more information about the third-party LDAP-based directories that can be used with eMail Server

Displaying a Directory Entry

You can display any entry in your eMail Server Directory to verify information or determine whether information should be updated. You can display one item, selected items of a certain type, or all items of a certain type. The Administration Tool and OOMGR always display the information for all of the entries that meet your specifications.

Steps for Displaying a Directory Entry

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the right pane, select the domain and node that you want to search.

4. In the Search In list box, select the type of directory entry that you want to display.

5. Enter your search criteria.

6. Click Search.

The results of the search appear in the lower portion of the right pane.

In OOMGR

1. Start OOMGR on the node containing the directory information that you want to display.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>fetch <class> <attribute>=<value>;
   ```

   > **See Also:** "FETCH" on page 22-22 for additional variations of this command

Example: To display the information about user `bhayden`, enter the following command:

```
IOFCMGR>fetch person username=bhayden;
```

Creating an eMail Server User Account

To create an e-mail account for an eMail Server user, you must insert a `person` entry in the directory. Refer to "Creating a User for a Foreign E-mail System" on page 13-6 or "Creating a User Without E-mail" on page 13-7 for instructions on creating accounts for people who are not eMail Server users. The user's INBOX and other standard folders are created automatically on the node you specify as the user's home node (the `uanode` attribute).

Steps for Creating an eMail Server User Account

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating an eMail Server User Account" on page 13-5 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click ➕ (Create).

4. In the New Entry dialog box, select Person from the Type list box.

5. In the General tab, select eMail Server Account from the Kind list box.

6. Complete the rest of text boxes in the dialog box.

> **See Also:** "Person Class Attributes" on page 14-4 for more information about the values to enter

7. Click OK.

In OOMGR

1. Start OOMGR on the node that is going to be the user's home node or e-mail host.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert person username=<username>
2>lastname=<last_name> firstname=<first_name> password=<password>
3>employeeID=<employee_id> workphone="<work_phone>"
```

```
4>office=<work_location> homeaddress="<home_address>"
5>homecity="<home_city>" homestate=<home_state>
6>homezip=<home_zip> homecountry=<home_country> homephone="<home_phone>"
7>birthday=<birth_date> language=<language> mailstop=<work_mailstop>
8>manager=<manager_username> primaryrole="<role>"
9>primaryorg=<org> osname=<os_username> uanode=<home_node>;
```

This command displays a portion of the available attributes.

> **See Also:** "Person Class Attributes" on page 14-4 for a complete
> list of attributes for the person class

Example: To create an eMail Server account for Amy Johnson with an e-mail account
on hq_unix, enter the following command:

```
IOFCMGR>insert person username=ajohnson
2>lastname=johnson firstname=amy password=changethis
3>employeeID=1887 workphone="415.555.3232"
4>office=HQ_Bldg homeaddress="456 Delmonico Circle"
5>homecity="San Francisco" homestate=California
6>homezip=94335 homecountry=US homephone="415.555.6755"
7>birthday=8/12/64 language=English mailstop=600
8>manager=bhayden primaryrole="Project Manager"
9>primaryorg=Design osname=ajohnson uanode=hq_unix;
```

Guidelines for Creating an eMail Server User Account

- The following attributes are required:

    - username

    - password

    - uanode (name of home node)

- The following attributes are automatically assigned default values:

    - kind (default is Oracle)

    - status (default is open)

    - quota (default is the quota value established for the node; refer to
      "Manually Initializing a Node" on page 4-2 for instructions for changing
      this quota)

- Any information that you enter about a person is accessible to other users in the domain. It is useful to enter details such as phone number, address, or location for all users so that the information is available in the eMail Server Directory.

- You must create the location entries before you can enter the work location for the office attribute. Refer to "Creating a Location" on page 13-10 for instructions.

Creating a User for a Foreign E-mail System

To create an account for a user who uses a foreign e-mail system other than eMail Server, you can insert a person entry in the directory. This means that your eMail Server users can exchange messages with the foreign users. You can define the same information for your foreign users as you do for your eMail Server users.

Steps for Creating a User for a Foreign E-mail System

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating a User for a Foreign E-mail System" on page 13-7 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click ➕ (Create).

4. In the New Entry dialog box, select Person from the Type list box.

5. In the General tab, select Foreign Mail System Account from the Kind list box.

6. Complete the rest of text boxes in the dialog box.

> **See Also:** "Person Class Attributes" on page 14-4 for more information about the values to enter

7. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert person username=<username>
2>foreignstring=<qualified_foreign_username>
3>lastname=<last_name> firstname=<first_name>
4>homephone="<home_phone>" homefax="<home_fax>"
5>workphone="<work_phone>";
```

This command displays a portion of the available attributes.

> **See Also:** "Person Class Attributes" on page 14-4 for a complete list of the person attributes and their descriptions

Example: To add the contractor Glen Newell to the headquarters domain, enter the following command:

```
IOFCMGR>insert person username=gnewell
2>foreignString=UNIX:newell@designco.com
3>lastname=newell firstname=glen
4>homephone="415.555.8564" homefax="415.555.2341"
5>workphone="415.555.2121";
```

Guidelines for Creating a User for a Foreign E-mail System

- The following attributes are required:

    - username

    - foreignString

- Any information that you enter about a person is accessible to other users in the domain. It is useful to enter details such as phone number, address, or location for all users so that the information is available in the eMail Server Directory.

- You must create the location entries before you can enter the location attribute. Refer to "Creating a Location" on page 13-10 for instructions.

Creating a User Without E-mail

To create an account for someone who does not use e-mail, you can insert a person entry in the directory. This is useful if you want to include someone without e-mail

in a meeting invitation, or if you want to make the names and phone numbers of outside contacts available in your directory.

Steps for Creating a User Without E-mail

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating a User Without E-mail" on page 13-9 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click ➕ (Create).

4. In the New Entry dialog box, select Person from the Type list box.

5. In the General tab, select Non-Emailable Account from the Kind list box.

6. Complete the rest of text boxes in the dialog box.

   > **See Also:** "Person Class Attributes" on page 14-4 for more information about the values to enter

7. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>insert person username=<username> homephone="<home_phone>";
   ```

   This command displays a portion of the available attributes.

   > **See Also:** "Person Class Attributes" on page 14-4 for a complete list of the person attributes and their descriptions

Example: To add Frank Lawson, the local representative for your company's health plan who does not use e-mail, enter the following command:

```
IOFCMGR>insert person username=flawson homephone="650.555.3172";
```

Guidelines for Creating a User Without E-mail

- The `username` attribute is required. You can also enter values for logical attributes, such as `homecity` and `workphone`.

- Any information that you enter about a person is accessible to other users in the domain. It is useful to enter details such as phone number, address, or location for all users so that the information is available in the eMail Server Directory.

Setting a User's Password

You can set or change users' passwords if they forget them, or if the password needs to be change for security reasons.

Steps for Setting a User's Password

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Setting a User's Password" on page 13-10 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the right pane, search for the user for whom you want to set the password. Refer to "Displaying a Directory Entry" on page 13-3 for instructions.

4. In the search results, double-click the appropriate user name.

5. In the Person dialog box, select the Advanced tab.

6. Under the Advanced tab, select the General tab.

7. In the General tab, enter the new password in the Password text box and in the Confirm Password text box.

8. Click OK.

In OOMGR

1. Start OOMGR on the user's home node.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>setpwd user name=<username>
```

3. When you are prompted for the new password, enter the new password.

4. When you are prompted to verify the new password, enter the new password a second time.

Guidelines for Setting a User's Password

You must set a user's password on the user's home node.

Creating a Location

You can create `location` entries for places within your company. For example, the headquarters building for Global Business Services, Inc. could be a location. Users can use the `location` entries to send messages to all users in a particular location.

Steps for Creating a Location

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating a Location" on page 13-11 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click ![+] (Create).

4. In the New Entry dialog box, select Location from the Type list box.

5. Complete the rest of text boxes in the dialog box.

    > **See Also:** "Location Class Attributes" on page 14-2 for more information about the values to enter

6. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert location name="<location_name>"
2>administrator=<admin_username>
3>description="<description>";
```

This command displays a portion of the available attributes.

> **See Also:** "Location Class Attributes" on page 14-2 for a complete
> list of the location attributes and their descriptions

Example: To add the location HQ Bldg in Minneapolis, enter the following
command:

```
IOFCMGR>insert location name="HQ Bldg"
2>administrator=lsennett
3>description="headquarters building in Minneapolis";
```

Guidelines for Creating a Location

- The name attribute is required.

- Locations can be hierarchical, meaning you can create locations within
  locations. However, each child location can belong to only one parent location.
  Use the parent attribute to specify a parent location.

- You must create the location entries before you can enter the location
  attributes in the person, room, and equipment entries.

Creating a Room Entry

You can create room entries for designated areas within a location. For example, an
office, conference room, or lab could be represented by a room entry.

> **Note:** Users with clients that support the XAPIA-CSA scheduling
> standard can schedule meetings or other events in rooms.

Steps for Creating a Room Entry

This task can be performed through either the Administration Tool GUI, or the
OOMGR command-line interface.

See Also: "Guidelines for Creating a Room Entry" on page 13-13 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click (Create).

4. In the New Entry dialog box, select Room from the Type list box.

5. Complete the rest of text boxes in the dialog box.

> **See Also:** "Room Class Attributes" on page 14-8 for more information about the values to enter

6. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert room name="<room_name>"
2>administrator=<admin_username> type="<room_type>"
3>location=<location> capacity=<capacity>
4>description="<description>"
5>uanode=<home_node>;
```

This command displays a portion of the available attributes.

> **See Also:** "Room Class Attributes" on page 14-8 for a complete list of the room attributes and their descriptions

Example: To add the Concourse Room to the Eastern Region domain, enter the following command:

```
IOFCMGR>insert room name="Concourse Room"
2>administrator=lshea type="conference room"
3>location=ER_Bldg capacity=12
4>description="Eastern Region Meeting Room"
5>uanode=ny_unix;
```

Guidelines for Creating a Room Entry

- The `name` attribute is required.

- If you want the room to be available for scheduling meetings, you must specify the `uanode` attribute.

- You must create the `location` entries before you can enter the `location` attribute. Refer to "Creating a Location" on page 13-10 for instructions.

Creating an Organization Entry

You can create an `organization` entry to group people within your system. Organizations differ from locations because they do not represent physical regions. For example, a Sales Organization may have locations throughout the world.

Steps for Creating an Organization Entry

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating an Organization Entry" on page 13-14 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click (Create).

4. In the New Entry dialog box, select Organization from the Type list box.

5. Complete the rest of text boxes in the dialog box.

> **See Also:** "Organization Class Attributes" on page 14-3 for more information about the values to enter

6. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert organization name=<organization_name> parent=<parent_org>
2>manager=<mgr_username> administrator=<admin_username>
3>costcenter=<cost_center> mailstop=<work_mailstop>
4>description="<description>"
5>address="<address>" city="<city>"
6>state=<state> zip=<zip_code> country=<country>
7>phone="<phone_number>" faxnumber="<fax_number>";
```

This command displays a portion of the available attributes.

> **See Also:** "Organization Class Attributes" on page 14-3 for a
> complete list of the organization attributes and their descriptions

Example: To add a Design Organization, enter the following command:

```
IOFCMGR>insert organization name=Design parent=HN_Groups
2>manager=ajohnson administrator=lsennett costcenter=123
3>mailstop=600 description="Headquarters Design group"
4>address="111 Commerce Avenue" city="Houston"
5>state=California zip=78632 country=US
6>phone="888.555.2222" faxnumber="888.555.1111";
```

Guidelines for Creating an Organization Entry

- The `name` attribute is required.

- You can create an organizational hierarchy after the enterprise model. For
  example, in the Global Business Services Inc. system, each office is divided into
  three organizations: Sales, Design, and Legal. In the Houston office, these three
  organizations belong to the organization named HN_Groups. HN_Groups is
  part of the qualified name for each group, distinguishing it from the same
  group in the other offices. You could create the following organizations:

  - organization 1: HN_Groups (all divisions)

  - organization 2: Sales

  - organization 3: Design

  - organization 4: Legal

Creating a Role Entry

You can create `role` entries to group people who perform a certain function within
the enterprise. For example, Manager and Lead Designer are two roles in the Global

Business Services Inc. system. You can use roles as another means of identifying users and to create dynamic distribution lists.

Steps for Creating a Role Entry

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating a Role Entry" on page 13-16 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click (Create).

4. In the New Entry dialog box, select Role from the Type list box.

5. Complete the rest of text boxes in the dialog box.

   > **See Also:** "Role Class Attributes" on page 14-7 for more information about the values to enter

6. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert role name="<role_name>"
2>description="<description>";
```

This command displays a portion of the available attributes.

> **See Also:** "Role Class Attributes" on page 14-7 for a complete list of the role attributes and their descriptions

Example: To add a role called Project Manager, enter the following command:

```
IOFCMGR>insert role name="Project Manager"
2>description="A Project Manager leads the product
```

```
3>development, and supervises one or more people.";
```

Guidelines for Creating a Role Entry

- The `name` attribute is required.

- A person can be associated with only one role.

Creating an Equipment Entry

You can create an `equipment` entry to define any resource, such as a projector, that the people in your enterprise can share. Once a piece of equipment is defined in the eMail Server Directory, your users can use eMail Server to schedule the use of the equipment.

> **Note:** Users with clients that support the XAPIA-CSA scheduling standard can schedule an `equipment` entry for meetings or other events.

Steps for Creating an Equipment Entry

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click ➕ (Create).

4. In the New Entry dialog box, select Equipment from the Type list box.

5. Complete the rest of text boxes in the dialog box.

   > **See Also:** for more information about the values to enter

6. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert equipment name=<equipment_name>
2>location="<location>" administrator=<admin_username>
3>type="<equipment_type>"
4>movable={yes | no} uanode=<home_node>;
```

This command displays a portion of the available attributes.

> **See Also:** "Equipment Class Attributes" on page 14-2 for a
> complete list of the equipment attributes and their descriptions

Example: To enter data about a projector at the Houston office of Global Business
Services, Inc., enter the following command:

```
IOFCMGR>insert equipment name=projector_1
2>location="WR_Bldg" administrator=lsennett
3>type="slide projector"
4>movable=yes uanode=HQSUN1;
```

Guidelines for Creating an Equipment Entry

- The `name` attribute is required.

- If you want the equipment to be available for scheduling, you must specify the
  home node (`uanode` attribute).

- You must create the `location` entries before you can enter the `location`
  attribute. Refer to "Creating a Location" on page 13-10 for instructions.

Creating a Public Alias

You can create public aliases as short identifiers for people or other entries in the
directory. You can use aliases to make it easier for your users to find other users and
resources, such as rooms or equipment, and address messages to them. You can also
use a public alias to temporarily reroute e-mail for a person whose account is being
moved from one node to another.

Steps for Creating a Public Alias

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating a Public Alias" on page 13-19 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click + (Create).

4. In the New Entry dialog box, select Public Alias from the Type list box.

5. Complete the rest of text boxes in the dialog box.

   > **See Also:** "Public Alias Class Attributes" on page 14-6 for more information about the values to enter

6. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert alias name=<alias_name>
2>address=<actual_address> description="<description>";
```

This command displays a portion of the available attributes.

> **See Also:** "Public Alias Class Attributes" on page 14-6 for a complete list of the public alias attributes and their descriptions

Example: To add a public alias for the fourth floor conference room in the 400HQ building, enter the following command:

```
IOFCMGR>insert alias name=Blue_Room
2>address=400HQ description="Name used by fourth-floor
3>users for the blue conference room on the fourth floor.";
```

Guidelines for Creating a Public Alias

- The `address` and `name` attributes are required.

- The `address` attribute must be the name of an entry or account that currently exists in this domain. Therefore, you cannot add an address that contains a gateway (for example, `ckent@acme.com`). If you want to create an alias for a user that contains a gateway, then you must create a foreign user account. Refer to "Creating a User for a Foreign E-mail System" on page 13-6 for instructions.

- You can create a public alias to represent `equipment`, `location`, `organization`, `person`, public distribution list, `role`, and `room` entries.

Creating a Public Distribution List

You can create a public distribution list for a list of users who should logically receive the same e-mail messages. A public distribution list has the same advantages that a role or an organization has because one message can be delivered to an entire group without having to specify individual user names. You can also use public distribution lists to replicate shared folders.

> **See Also:** "Replicating Shared Folders Manually" on page 12-5 for more information

Steps for Creating a Public Distribution List

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating a Public Distribution List" on page 13-20 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click ➕ (Create).

4. In the New Entry dialog box, select Public Distribution List from the Type list box.

5. Complete the rest of text boxes in the dialog box.

> **See Also:** "Public Distribution List Class Attributes" on page 14-7
> for more information about the values to enter

6. Click OK.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>insert dl name=<list_name>
2>member=<item1>, <item2>, <item3>, ... ;
```

This command displays a portion of the available attributes.

> **See Also:** "Public Distribution List Class Attributes" on page 14-7
> for a complete list of the public distribution list attributes and their
> descriptions

Example: To add the public distribution list `HK_all` to the Hong Kong domain,
enter the following command:

```
IOFCMGR>insert dl name=HK_all
2>member=rgraham, pwong, jho, gchan, dwalden,
3>ccharles, amurray, bnash, jshu, lshipley;
```

Guidelines for Creating a Public Distribution List

- The `name` attribute is required.

- You can create a public distribution list for all people working on a particular
  project, all people who have a certain role in the company, or any other group of
  people or entries that your users might need to contact.

- Items you include on a list must have entries in your directory. However, the list
  is not restricted to usernames or aliases. You can include `equipment`,
  `location`, `organization`, `person`, public alias, `role`, and `room` entries.

Creating a Public Template

You can create a public template to use as the electronic equivalent of a printed
form. Users can use public templates to request information and services in a
consistent manner.

Prerequisites to Creating a Public Template

The first step in creating a public template is to create a private template. To create a private template, you must have a client that supports creating server-side templates.

Steps for Creating a Public Template

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

> **See Also:** "Guidelines for Creating a Public Template" on page 13-21 for more information about performing this task

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the toolbar, click (Create).

4. In the New Entry dialog box, select Public Template from the Type list box.

5. Complete the rest of text boxes in the dialog box.

6. Click OK.

In OOMGR

1. Start OOMGR on the DCN.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>publish template owner=<username>
2>oldname=<private_template_name>
3>[newname=<new_template_name>];
```

Guidelines for Creating a Public Template

All users with clients that support creating templates can create their own private templates for personal use. Only the system administrator can convert a private template to a public template, making it available to all users.

Displaying Access Privileges

You can display the access privileges of users, organizations, and roles, to determine what kind of administrative or other system-use privileges they have.

Steps for Displaying Access Privileges

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR.

2. Enter one of the following commands at the OOMGR prompt:

To perform this task:	Use this command:
Check a user's privileges	`IOFCMGR>check user=<`*username*`>` `2>item=<`*item*`>;`

Check an organization's privileges	`IOFCMGR>check user=<`*org_name*`>`
	`2>userclass=organization`
	`3>item=<`*item*`>;`

Check a role's privileges	`IOFCMGR>check user=<`*role_name*`>`
	`2>userclass=role`
	`3>item=<`*item*`>;`

See Also: for additional variations on this command

Example: To check the privileges that the user `llane` has for the `ckent` directory entry, enter the following command:

```
IOFCMGR>check user=llane item=ckent
```

The following results appear:

```
Privileges   Grantee      Class       Item
----------   -------      ------      -----
LSS-----     llane        person      ckent

l   may list objects in directory browser
s   may address message to object
s   may save listing of object from directory browser
a   has administrative privileges over domain
d   may discover folder hierarchy from client
v   may view folder contents
m   has moderator privileges on folder
c   may create child folders

Lower case characters indicate inherited privileges.
Upper case characters indicate explicit privileges.
```

The first line of the results contains the following information:

Column	Description
Grantee	Name of the user whose privileges are displayed.
Class	Name of the class to which the Grantee belongs. For example, if you are checking user privileges, this class would be `person`.
Item	Name of the item for which the user has privileges. For example, if you are checking the privileges that the user `llane` has for the `ckent` user account, the item would be `ckent`.

Granting Access Privileges

You can grant privileges to any directory entry such as a `person` or an `organization`, providing that entry with certain administrative or other system-use abilities.

Steps for Granting Access Privileges

This task can only be performed through the OOMGR command-line interface.

See Also: "Guidelines for Granting Access Privileges" on page 13-25 for more information about performing this task

In OOMGR

1. Start OOMGR.

2. Enter one of the following commands at the OOMGR prompt:

To perform this task:	Use this command:
Privileges	Letters representing each privilege that the user has been granted. These letters are displayed in the order of the privileges list that appears at the end of the results of the `check` command. This list displays all the possible privileges for both directory entries and shared folders. However, the only privileges that are used for directory entries are the first four:
	`l` represents the `list` privilege. This gives the user or class permission to view a class of entries, such as the `organization` class, in eMail Server.
	`s` represents the `send` privilege. This gives the user or class permission to send messages to collective addressable entries (public distribution lists, `roles`, `locations`, and `organizations`).
	`s` represents the `save` privilege. This gives the user or class permission to save and print the results of directory searches.
	`a` represents the `admin` privilege. This gives the user or class permission to perform any administrative operation on the entries in a given domain.
	If the user does not have a particular privilege, there is a dash.
	Lowercase letters indicate privileges that have been inherited. For example, a user account could inherit privileges from the role to which it belongs. Uppercase letters indicate explicit privileges assigned to the particular user.
Grant a user privileges	`IOFCMGR>grant user=<user>` `2>item=<item_name	all>` `3>priv=<admin	list	send	save>;`

To perform this task:	Use this command:

Grant an organization privileges	`IOFCMGR>grant userclass=organization`
	`2>item=<organization_name | all>`
	`3>priv=<admin | list | send | save>;`

Grant a role privileges	`IOFCMGR>grant userclass=role`
	`2>item=<role_name | all>`
	`3>priv=<admin | list | send | save>;`

See Also:

- for additional variations on this command

- for more information about the values to enter

Parameters for Granting Access Privileges

You can grant the following access privileges:

Privilege	Access Description
`admin`	Perform any administrative operation on the entries in a given domain.
`send`	Send messages to collective addressable entries (public distribution lists, `roles`, `locations`, and `organizations`).
`save`	Save and print the results of directory searches.
`list`	View a class of entries, such as the `organization` class, in eMail Server.

Guidelines for Granting Access Privileges

- When you grant a privilege, it is added to the other privileges that the user already has. Granting a privilege does not override the privileges that the user already has. For example, if a user has the `child` privilege, and you grant that user the `discover` privilege, the user still has the `child` privilege. If you want to restrict access to certain folders for a user, you should first revoke that user's current privileges and then grant the privileges that you want the user to have.

> **See Also:** "Revoking Access Privileges" on page 13-26 for instructions on how to revoke privileges

- You can grant `admin` privileges to any eMail Server account.
- When granting `admin` privileges, keep the following in mind:
  - If you do not fully qualify the eMail Server account name, the current domain information is automatically appended to the account.
  - You can grant `admin` privileges to an account on another node.
  - The user class is assumed to be a `person` object.
  - You must specify one user name at a time. You cannot specify a distribution list.
  - By default, everyone can access all public folders. Granting the `admin` privilege to a user causes the new privilege to mask out the default privileges so that the user no longer has access to the subfolders. To work around this issue, grant the user's admin privileges before creating the subfolders.

Revoking Access Privileges

You can revoke privileges to users, organizations, and roles, taking away their administrative or other system-use abilities.

Steps for Revoking Access Privileges

This task can only be performed through the OOMGR command-line interface.

> **See Also:** "Guidelines for Revoking Access Privileges" on page 13-27 for more information about performing this task

In OOMGR

1. Start OOMGR.
2. Enter one of the following commands at the OOMGR prompt:

To perform this task:	Use this command:

Revoke a user privileges	`IOFCMGR>revoke user=<user>`
	`2>item=<item_name | all>`
	`3>priv=<admin | list | send | save>;`

Revoke an organization privileges	`IOFCMGR>revoke userclass=organization`
	`2>item=<organiztion_name | all>`
	`3>priv=<admin | list | send | save>;`

Revoke a role privileges	`IOFCMGR>revoke userclass=role`
	`2>item=<role_name | all>`
	`3>priv=<admin | list | send | save>;`

See Also:

- for additional variations on this command

- for more information about the values to enter

Guidelines for Revoking Access Privileges

- A privilege must be revoked in the same way it was granted. For example, a user may have access to a public distribution list through his role. Revoking the send privilege for the person will not prevent the user from sending to the list. To prevent the user from sending to the list, the send privilege must be revoked from the user's role, or the user's role must be changed.

- When you grant a privilege, it is added to the other privileges that the user already has. Granting a privilege does not override the privileges that the user already has. For example, if a user has the child privilege, and you grant that user the discover privilege, the user still has the child privilege. If you want to restrict access to certain folders for a user, you should first revoke that user's current privileges and then grant the privileges that you want the user to have.

   See Also: for instructions on how to grant privileges

Deleting a Directory Entry

You can delete any entry that you no longer want to appear in your eMail Server Directory.

Steps for Deleting a Directory Entry

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Directory Entries.

3. In the right pane, search for the entry that you want to delete. Refer to "Displaying a Directory Entry" on page 13-3 for instructions.

4. In the search results, select the appropriate entry.

5. In the toolbar, click (Remove).

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>delete <class> <key_attribute>=<value>
```

Example: To delete user `rlindberg`, enter the following command:

```
IOFCMGR>delete person username=rlindberg;
```

Migrating Directory Accounts to Another Node or Domain

You can move a directory account (users, rooms, or equipment) from one node to another, or from one domain to another. For example, you might want to move a group of user accounts to another home node if the node they are on is getting full. Or, if a user moves from a US office to a European office, you might need to move the user from `us.acme.com` to `eu.acme.com`. You can also change both the user's node and domain.

When you migrate accounts using the Administration Tool, eMail Server automatically creates accounts on the new node or domain using the same

usernames as the old accounts. Then it renames the accounts on the old node or domain to username_old. When using OOMGR to migrate accounts, you must create and rename accounts manually.

Steps for Migrating Directory Accounts to Another Node or Domain

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. Select Message System > Account Migration... from the menu.

   The Migration wizard appears. You can use this wizard to move one or more directory accounts to a new node or domain.

   > **See Also:**   The online help in the Administration Tool for more information about using the Migration wizard

In OOMGR

This procedure explains how to use OOMGR to move a directory entry to another node in the same domain.

1. Start OOMGR on the DCN for the domain containing the two nodes.

2. Add the suffix _old to the existing directory entry that you want to move.

   Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>update <class> <key_attribute>=<value>
   2>to <key_attribute>=<value_old>;
   ```

3. Create a new entry for the old entry, recreating all the attributes of the original one, except the uanode attribute. Enter the new home node for the uanode parameter.

   Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>insert <class> <key_attribute>=<value>
   2>uanode=<new_node>
   ```

4. Export the new entry to a file. You must create and name a file for each entry you are exporting. Add the suffix Info to the file.

Enter the following command at the OOMGR prompt:

```
IOFCMGR>export <filename>Info;
IOFCMGR>fetch person username=<value_old>;
IOFCMGR>export end;
```

5. Move the export file to the new node. Options for moving the file include:

   ▪ Use a file transfer program such as FTP if there is a direct connection.

   ▪ Copy the file to a storage medium and load it onto the new computer.

   ▪ Send the file as a text attachment in an eMail Server message.

6. Start OOMGR on the new node.

7. Add the data to the directory, specifying the name of the export file you just created.

   Enter the following command at the OOMGR prompt:

```
IOFCMGR>import filename=<filename> owner=<value>;
```

Example: To move Bill Hayden's account from `sf_unix1` to `sf_unix2`, use the following procedure:

1. On the `sf_unix1` node, rename Bill Hayden's account to `bhayden_old`:

```
IOFCMGR>update person username=bhayden to username=bhayden_old;
```

2. Create a new record named `bhayden` with the new home node called `sf_unix2`:

```
IOFCMGR>insert person username=bhayden uanode=sf_unix2
```

   Note: This example shows only the first two lines of this command, reflecting the change of home nodes and leaving out the other attributes and the semicolon that signals the end of the command.

3. On the `sf_unix1` node, export his old information to a file:

```
IOFCMGR>export bhaydenInfo;
IOFCMGR>fetch person username=bhayden_old;
IOFCMGR>export end;
```

4. FTP the export file to the new node and start OOMGR on the new node.

5. Import Bill Hayden's information:

```
IOFCMGR>import filename=bhaydenInfo owner=bhayden;
```

14

Directory Class Attribute Reference

This section lists the attributes that you can set for classes in the eMail Server Directory.

You can set the following types of attributes, described in this chapter:

- Equipment Class Attributes

- Location Class Attributes

- Organization Class Attributes

- Person Class Attributes

- Public Alias Class Attributes

- Public Distribution List Class Attributes

- Role Class Attributes

- Room Class Attributes

> **See Also:** Chapter 13, "Managing Directory Information", for more information about how to use these attributes

Equipment Class Attributes

Equipment Class Attributes

The following `equipment` class attributes are available:

Attribute	Type (Length Limit)	Description
administrator	character (255)	User name of the person who schedules the equipment. Enter the qualified user name if the user is defined in another domain.
description	character (255)	Brief description of the equipment.
foreignString	character (255)	Fully qualified name of the foreign system account.
kind	character	Type of messaging system account. Valid values are `Oracle` (default) or `foreign`.
location	character (80)	Where the piece of equipment is based. Location is a directory entry, and must be a location defined within the eMail Server system.
movable	character	Whether the piece of equipment is movable. Valid values are `yes` or `no`.
name (Required)	character (30)	Name of the equipment. This is a required attribute and a key field.
status	character	Status of the eMail Server account for the equipment. Valid values are `open` (default) or `disconnected`.
type	character (30)	Kind of equipment, such as projector.
uanode (Required)	character (30)	Node on which the equipment's account resides. This is a required attribute.

Location Class Attributes

The following `location` class attributes are available:

Attribute	Type (Length Limit)	Description
administrator	character (255)	User name of the person to contact for information about the location. Enter the qualified user name if the user is defined in another domain.

Attribute	Type (Length Limit)	Description
description	character (255)	Brief description of the location. Although this attribute is not required, it is a good idea to provide a description to document your system.
name (Required)	character (80)	name of the location. This is a mandatory field and is also a key field.
parent	character (80)	Parent location, if any, to which this location belongs.

Organization Class Attributes

The following organization class attributes are available:

Attribute	Type (Length Limit)	Description
address	character (255)	Street address of the organization.
administrator	character (255)	User name of the person who can provide information about the organization and the people in it. Enter the qualified user name if the user is defined in another domain.
city	character (30)	City in which the organization is located.
costCenter	character (30)	Internal billing identification for the organization.
country	character (30)	Country in which the organization is located.
description	character (255)	Brief description of the organization.
faxNumber	character (30)	Fax number for the organization.
mailStop	character (30)	Internal mail address of the organization.
manager	character (255)	User name of the person in charge of the organization. Enter the qualified user name if the user is defined in another domain.
name (Required)	character (80)	Organization name. Name is required and a key field.
parent	character (80)	Parent organization to which this organization belongs, if any.

Attribute	Type (Length Limit)	Description
phone	character (80)	Phone number for the organization. This is probably the administrator's phone number.
state	character (30)	State in which the organization is located.
zip	character (30)	Organization's ZIP code.

Person Class Attributes

The following person class attributes are available:

Attribute	Type (Length Limit)	Description
birthday	character (30)	Person's birthday.
employeeID	character (30)	Person's employee number or code. The contents of this field are company-specific. eMail Server does not assign this identifier.
firstName	character (80)	Person's first name.
foreignString	character (255)	Fully qualified name of the foreign system account.
homeAddress	character (255)	Home street address.
homeCity	character (30)	City in which the person lives.
homeCountry	character (30)	Country in which the person lives.
homeFax	character (30)	Person's home fax number.
homePhone	character (30)	Person's home phone number.
homeState	character (30)	State in which the person lives.
HomeZip	character (30)	ZIP code in which the person lives.
kind	character	Type of eMail Server account. Valid values are Oracle or foreign.
language	character (30)	Native language, or a second language, that the person speaks.
lastName	character (80)	Person's family name or surname.

Attribute	Type (Length Limit)	Description

ldap_ userSuffix	character (30)	Location of the user in the LDAP directory information tree. This person's entry must be synchronized also.
		
		Example:
		
		```insert person username=USER1```
		```lastname=bla ...LdapUserSuffix=?```
		```dc=ldap1, dc=com?;```

mailStop	character (30)	Mailstop within the enterprise.
manager	character (255)	User name of the person's manager. Enter the qualified user name if the manager is defined in another domain.
middleName	character (80)	Person's middle name.
nickName	character (30)	Alternate name for the person. For example, for Sandra Smith, you might create the nickname Sandy.
office	character (80)	Site or building where the person works. Location is an eMail Server Directory entry. The Office location you enter must be defined within your system.
osname	character (30)	Name of the person's operating system account. This value defaults to user name. If you define osname, eMail Server notifies this name if, for example, new e-mail arrives when the person is not logged in to eMail Server.
password	character (30)	eMail Server password for the person.
primaryOrg	character (255)	Group or division to which the person belongs. Organization is a directory entry. Therefore, the possible values for this field are the organizations that exist within the system. Enter the qualified organization name if the organization is defined in another domain.
primaryRole	character (255)	Main job the person performs, or the person's title. Role is a directory entry. Therefore, the possible values for this field are the roles that exist in the enterprise's system. Enter the qualified role name if the role is defined in another domain.

Attribute	Type (Length Limit)	Description
status	character	Status of this eMail Server account. Valid values are open or disconnected. eMail Server ignores this attribute if the person uses a different system for e-mail, or does not use an e-mail system.
storageQuota	status	Space, in bytes, allotted for user's account.
uanode	character (30)	Home node, the node containing the user's e-mail account.
username (Required)	character (30)	User name you assign to the person. If the person is an eMail Server user, the name is assigned to the person's eMail Server account. It can be the same as the user name for the person's operating system account. This is a required attribute and a key field. Do not use parentheses ( ) in the username. Also, the username cannot end with a period (.).
workPhone	character (30)	Person's work phone number.
cfcurrentst	character (30)	Reserved for future use.
cfdesktopsetup	character (30)	Reserved for future use.
cfprefserver	character (30)	Reserved for future use.
cfworkstaddr	character (30)	Reserved for future use.
cfworkstname	character (30)	Reserved for future use.
wfnotifinsched	character (30)	Reserved for future use.
wfnotiflang	character (30)	Reserved for future use.
wfnotifpref	character (30)	Reserved for future use.
wfnotifterrit	character (30)	Reserved for future use.
wfprticipst	character (30)	Reserved for future use.

Public Alias Class Attributes

The following public alias class attributes are available:

Attribute	Type (Length Limit)	Description
address (Required)	character (1020)	Address, username, or addressable entry name that the alias represents. This is a required attribute. Do not use parentheses ( ) in the address.
description	character (255)	Description of the alias.
name (Required)	character (80)	Alias name to use in addressing messages and invitations. This is a required attribute and a key field.

Public Distribution List Class Attributes

The following public distribution list class attributes are available:

Attribute	Type (Length Limit)	Description
description	character (255)	Description of the list.
member	character (255)	Name of an entry on the list. There is one instance of this field for each entry on the list. For example, if there are 10 entries on a list, there are 10 instances of the member field, each of which can be up to 255 characters long.
name (Required)	character (80)	Name of the public distribution list. This is a required attribute and a key field. Do not use parentheses ( ) in the name.
owner	character (80)	Specifies the owner of the list. The owner for all public distribution lists is public. You cannot change this value.

Role Class Attributes

The following role class attributes are available:

Attribute	Type (Length Limit)	Description
description	character (255)	Brief description of the role.
name (Required)	character (80)	Role name. This is a required key field.

Room Class Attributes

The following `room` class attributes are available:

Attribute	Type (Length Limit)	Description
administrator	character (255)	User name of the person who schedules the room. Enter the qualified user name if the user is defined in another domain.
capacity	number	Number of people the room holds.
description	character (255)	Brief description of the room.
foreignString	character (255)	Fully qualified name of the room's account if the room is available through a different e-mail system.
kind	character	Type of messaging system account. Valid values are `Oracle` (default) or `foreign`.
location	character (80)	eMail Server-defined location in which the room is located.
name (Required)	character (80)	Name of the room. This is a required attribute and a key field.
status	character	Status of the room account. Valid values are `open` (default) or `disconnected`.
type	character (30)	Type of room, such as a conference room, auditorium, or dining area.
uanode	character (30)	Home node on which the room's account resides.

15

Managing Replication

Replication involves periodically copying domain information from an SCN or DCN to other nodes in the system or domain so that the nodes have access to the same information. Configuration information, such as routing information, is replicated from the SCN to all other nodes in the system. Directory information is replicated from a DCN to member nodes and the nodes subscribed to it.

Replication occurs automatically. You can use the following tasks described in this chapter to monitor and manage replication:

- Checking Replicator Status
- Manually Replicating Directory Data
- Resetting Replicator Package Numbering

Checking Replicator Status

Check the status of the replicator process to monitor the transfer of directory and node information from the DCN to the nodes subscribed to it.

Steps for Checking Replicator Status

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

See Also:

- "Troubleshooting for Checking Replicator Status" on page 15-3 for more information about troubleshooting the performance of this task

- "Understanding the Replicator Process Status" on page 15-3 for more information about how to interpret the results of the replicator process status

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes.

3. In the right pane, select one of the following tabs:

Replicator Queue	To display the number of inbound and outbound packages in the replicator queue
Replicator Activities	To display the state of the processes involved in the replication
Replicator Folders	To display the contents of the replication folders such as the corrupted folder.

In OOMGR

1. Start OOMGR on the DCN.

2. Enter one of the following commands at the OOMGR prompt:

To perform this task:	Use this command:
Check replicator state	`IOFCMGR>display replicator activity;`
Check replicator folders	`IOFCMGR>display replicator folders;`
Check replicator package status	`IOFCMGR>display replicator;`

Troubleshooting for Checking Replicator Status

- If the monitor tests show that the replicator process log table is too big, then check to see if the local replicator process is running. To check the size of the replicator process log table, check the results of the `REPLOG_TOO_BIG` test.

- If packages remain unacknowledged for a long time, then make sure that the replicator and postman processes on the receiving node are running. To check the number of unacknowledged packages, check the results of the `REPL_UNACKED` test. Also, check to make sure there are no problems with the network or the computers.

- Examine the replicator process log file for additional information about any problems that may have occurred.

    See Also:

    - "Running the Monitor Tests and Statistics Tasks" on page 17-8 for instructions on how to run the `REPLOG_TOO_BIG` and the `REPL_UNACKED` monitor tests

    - Chapter 17, "Monitoring and Troubleshooting", for more information about the monitor tests

    - "Using Server Process Logs" on page 17-2 for more information about the log file

Understanding the Replicator Process Status

The following sections are displayed when you check the replicator process status:

- Outbound Packages

    All domains listed in the Outbound Packages status section are domains for which this eMail Server node is the DCN.

Outbound package status can be either `sent` or `ack`(nowledged). `Sent` indicates that the package was sent. `Ack` indicates that the destination node has acknowledged receiving the package.

The Outbound Packages status section displays:

- Recently acknowledged packages.

- Packages that have been sent but not yet acknowledged.

■ Inbound Packages

Domains listed in the Inbound Packages status section are domains to which the node subscribes.

Inbound package status can be either `received` or `executed`. `Received` indicates this node has received the package. `Executed` indicates that the changes contained in the package have been implemented.

The Inbound Packages status section displays:

- Recently executed packages.

- Packages received but not yet executed.

Manually Replicating Directory Data

You can manually replicate information to a node if the replicator process is not running or not accessible. For example, the network connection to a particular node could be down.

You have two choices for manual replication. You can:

■ Send eMail Server information to a node in the form of a replicator package.

■ Copy (replicate) eMail Server information to a file, transfer the file to the node that needs the information, then replicate the information from the file to the node's database.

Replicating by Manually Sending a Replicator Package to a Node

You can replicate information to a single node if you only want the information to go to one node.

Steps for Replicating by Manually Sending a Replicator Package to a Node

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR on the DCN.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>replicate to node=<node_name> class={<class_name> | all};
```

> **See Also:** "Parameters for Replicating by Manually Sending a Replicator Package to a Node" on page 15-5 for more information about the parameters available with this command

Example: To replicate the `person` class to the `intmsg2` node, enter the following command:

```
IOFCMGR>replicate to node=intmsg2 class=person;
```

Parameters for Replicating by Manually Sending a Replicator Package to a Node

Parameters	Description
class	Name of the specific class you want to manually replicate. For example, you could replicate the person class to copy user name information to a node.
node	Name of the node to which you want to replicate information.

Replicating by Manually Transferring a File

You can replicate node information with a file by replicating the information to a file, transferring the file to another node, and then replicating from the file you just transferred.

Steps for Replicating by Manually Transferring a File

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR on the DCN.

2. Create a replication file. Enter the following command at the OOMGR prompt:

```
IOFCMGR>replicate to file=<file_name> class={<class_name> | all};
```

3. Transfer the file to the node on which replication will occur.

4. Replicate the information from the file you transferred to the node. Enter the following command at the OOMGR prompt:

```
IOFCMGR>replicate from file=<file_name>;
```

> **See Also:** "Parameters for Replicating by Manually Transferring a File" on page 15-6 for more information about the parameters available with this command

Parameters for Replicating by Manually Transferring a File

Parameter	Description
class	Name of the specific class you want to manually replicate. For example, you could replicate the person class to copy user name information to a node.
file	Name of the file to which you want to replicate information. You can enter any filename.

Resetting Replicator Package Numbering

You can reset the replicator package numbering to force the replicator process to accept a package that has a number that does not match the next expected package. For example, if a package was not delivered due to network problems, you might need to reset the package numbering to skip the package that cannot be delivered.

Steps for Resetting Replicator Package Numbering

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR on the DCN.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>reset replicator;
```

This command causes the replicator process to accept the next package sent, regardless of number. The replicator process resets its sequencing starting with the number of the first package it receives.

16

Managing Queues

Each eMail Server node has messaging queues that contain messages waiting for delivery, rerouting, garbage collection, or some other messaging function. Using OOMGR, you can monitor and control the message queues and the messages they contain to ensure the smooth delivery of messages and optimize system performance.

This chapter contains the following topics:

- Displaying a List of Message Queues on a Node
- Displaying a List of Messages in a Queue
- Suspending a Message
- Restarting a Suspended Message
- Removing (Bouncing) a Message
- Emptying the Dead Message Queue
- Rerouting a Queue
- Suspending a Queue
- Restarting a Suspended Queue

Displaying a List of Message Queues on a Node

You can display a list of message queues to see what queues are available on a local node and to determine the queue ID for a particular queue.

Steps for Displaying a List of Message Queues on a Node

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1.   Start the Administration Tool GUI.

2.   In the navigation tree, select Messaging System > Nodes > Queues.

3.   In the right pane, select the Queue List tab.

In OOMGR

1.   Start OOMGR on the node with the queue list that you want to display.

2.   Enter the following command at the OOMGR prompt:

```
IOFCMGR>display queue;
```

Displaying a List of Messages in a Queue

You can display a list of the messages in any of the message queues to see what messages are in a particular queue and to determine the message ID for a particular message in that queue.

Prerequisites to Displaying a List of Messages in a Queue

The Administration Tool updates the queue display periodically based on a poll rate that you can set. Refer to the online help in the Administration Tool for instructions on setting the poll rate or polling the queues manually.

Steps for Displaying a List of Messages in a Queue

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > Queues > *queue_name.*

3. In the right pane, select the Messages tab. Active messages appear in blue. Suspended messages appear in black.

In OOMGR

1. Start OOMGR on the local node.

2. Determine the queue ID of the queue that you want to display. Refer to "Displaying a List of Message Queues on a Node" on page 16-2 for instructions.

3. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>display message queueid=<queue_ID>;
   ```

Suspending a Message

You can suspend the transmission of a single message if that message is causing trouble.

Steps for Suspending a Message

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > Queues > *queue_name.*

3. In the right pane, select the Messages tab.

4. In the Messages tab, select the message that you want to suspend.

5. In the toolbar, click (Suspend Message).

In OOMGR

1. Start OOMGR on the node with the queue containing the message that you want to suspend.

2. Determine the queue ID of the queue containing the message that you want to suspend. Refer to "Displaying a List of Message Queues on a Node" on page 16-2 for instructions.

3. Determine the message ID of the message that you want to suspend.

> **See Also:** "Displaying a List of Messages in a Queue" on page 16-2 for instructions.

4. Enter the following command at the OOMGR prompt:

```
IOFCMGR>suspend message queueid=<queue_ID> msgid=<message_ID>;
```

Restarting a Suspended Message

Once you have solved the problem that caused you to suspend a message, you should restart the message so that it can be processed.

Steps for Restarting a Suspended Message

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > Queues > *queue_name*.

3. In the right pane, select the Messages tab.

4. In the Messages tab, select the message that you want to restart.

5. In the toolbar, click (Activate Message).

In OOMGR

1. Start OOMGR on the node with the queue containing the message that you want to restart.

2. Determine the queue ID of the queue containing the message that you want to restart. Refer to "Displaying a List of Message Queues on a Node" on page 16-2 for instructions.

3. Determine the message ID of the message that you want to restart. Refer to "Displaying a List of Messages in a Queue" on page 16-2 for instructions.

4. Enter the following command at the OOMGR prompt:

```
IOFCMGR>resume message queueid=<queue_ID> msgid=<message_ID>;
```

Removing (Bouncing) a Message

If you cannot solve the problem with an active message that is having trouble in either a remote or gateway queue, you can remove or bounce the message from the queue. When you bounce a message, the sender of the message receives a non-delivery message containing the reason that the message cannot be sent.

Prerequisites to Removing (Bouncing) a Message

Before bouncing a message, make sure the message is active. You cannot bounce suspended messages. In the Administration Tool, active messages appear in blue and suspended messages appear in black. Refer to "Restarting a Suspended Message" on page 16-4 for instructions.

Steps for Removing (Bouncing) a Message

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > Queues > *queue_ name*.

3. In the right pane, select the Messages tab.

4. In the Messages tab, select the message that you want to bounce.

5. In the toolbar, click (Bounce Message).

In OOMGR

1. Start OOMGR on the node with the queue containing the message that you want to bounce.

2. Determine the queue ID of the queue containing the message that you want to bounce. Refer to "Displaying a List of Message Queues on a Node" on page 16-2 for instructions.

3. Determine the message ID of the message that you want to bounce. Refer to "Displaying a List of Messages in a Queue" on page 16-2 for instructions.

4. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>bounce queueid=<queue_ID> msgid=<message_ID>;
   ```

Emptying the Dead Message Queue

You should check and empty the Dead Message queue periodically, so that it does not continue to grow over time. You can automate this task by setting the `deadMsgHold` parameter for the postman process so that dead messages are automatically removed by the collector process after the specified number of days.

> **See Also:** "Postman Process Parameters" on page 11-24 for more information about the `deadMsgHold` parameter

Rerouting a Queue

If a remote queue becomes blocked by a message, you should reroute the messaging traffic directed to that queue before you suspend it to determine the problem. This procedure only works with a remote queue.

Prerequisites to Rerouting a Queue

1. Change the message delivery routes so that the blocked route is not the lowest-cost route. Refer to "Creating a Message Delivery Route for a Community" on page 6-4 for instructions.

   Wait until the replicator process propagates the change before beginning another configuration task.

   The time necessary to propagate the information depends on the replicator and postman process schedules, and on the number of nodes through which the information must travel. Refer to "Checking Replicator Status" on page 15-2 for instructions.

2. Check to be sure the new message delivery route information has reached the node with the blocked queue by displaying the message delivery route information for that node. Refer to "Displaying Message Delivery Route Information" on page 6-6 for instructions.

3. On the node with the blocked queue, refresh each instance of the postman process so that they will use the new message delivery route information. Refer to "Refreshing a Process" on page 9-9 for instructions.

Steps for Rerouting a Queue

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > Queues > *queue_name*.

3. In the toolbar, click (Reroute Queue).

4. In the dialog box, enter the name of the queue to which messages should be rerouted in the Target Queue text box.

5. Click OK.

In OOMGR

1. Start OOMGR on the node with the blocked queue.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>reroute sourceq=<blocked_queueID> targetq=<alternate_queueID>;
   ```

Suspending a Queue

You can suspend a queue to help you isolate a message delivery problem, or stop messages from going to a node that is not running. You can suspend the submission, remote, and gateway queues.

Prerequisites to Suspending a Queue

Before suspending a queue, reroute the messaging traffic directed to the queue that you want to suspend. Refer to "Rerouting a Queue" on page 16-6 for instructions.

Steps for Suspending a Queue

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > Queues > *queue_name*.

3. In the toolbar, click 🗟 (Suspend Queue).

In OOMGR

1. Start OOMGR on the node where you want to suspend the queue.

2. Determine the queue ID of the queue that you want to suspend. Refer to "Displaying a List of Message Queues on a Node" on page 16-2 for instructions.

3. Enter the following command at the OOMGR prompt:

```
IOFCMGR>suspend queue queueid=<queue_ID>;
```

Restarting a Suspended Queue

Once you have solved the problem that caused you to suspend a queue, you should restart the queue.

> **Note:** Restarting a queue does not activate any message in that queue that you explicitly suspended. Refer to "Restarting a Suspended Message" on page 16-4 for instructions on reactivating a suspended message.

Steps for Restarting a Suspended Queue

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > Queues > *queue_name*.

3. In the toolbar, click (Activate Queue).

In OOMGR

1. Start OOMGR on the node with the suspended queue.

2. Determine the queue ID of the queue that you want to restart. Refer to "Displaying a List of Message Queues on a Node" on page 16-2 for instructions.

3. Enter the following command at the OOMGR prompt:

    ```
    IOFCMGR>resume queue queueid=<queue_ID>;
    ```

17

Monitoring and Troubleshooting

eMail Server provides several tools and reports to assist you in monitoring and troubleshooting your messaging system. Using the Administration Tool or OOMGR, you can monitor the operation of your eMail Server system. These tools offer a wide variety of tests that you can run automatically to monitor message flow and database space usage and report any system problems.

This chapter contains the following information on using those tools and generating reports:

- Using Server Process Logs
- Using the OEM eMail Server Capacity Monitoring Pack
- Using Monitoring Reports
- Monitoring Messages in the ORAPOST Account
- Running the Monitor Tests and Statistics Tasks
- Activating the Monitor Tests
- Specifying the Tasks for the Statistics Process
- Deactivating a Monitor Test
- Checking All Tablespaces on a Node
- Checking Space Used by an Individual User
- Monitoring Protocol Server Processes
- Unlocking the User's INBOX

> **See Also:** Chapter 18, "Monitor Test Reference", for a complete listing of the available tests

Using Server Process Logs

The eMail Server server process logs provide a continuously running account of system operations and events. They contain entries for all normal operations and for all errors that occur. Log files are useful for monitoring system performance, but unlike monitor reports, the information is not sent to a user account so you must check the log files periodically to identify problems.

Finding the Log Files

All log files are located in $ORACLE_HOME/office/log / <node_ sid>.

The log filename format is *<hostname_server>_<process_name><instance_number>*.log, where *hostname_server* is the name of the host computer for the database, *process_ name* is the process type, and *instance_number* is the number of the process instance you're checking.

Following are examples of the process log file names for instance 1 of each process. The database has the SID *acme* and is located on the *acmehost* computer.

Process Type	Log Filename
collector	acme_acmehost_collector01.log
(previously called Garbage Collector)	
guardian	acme_acmehost_guardian01.log
monitor	acme_acmehost_monitor01.log
postman	acme_acmehost_postman01.log
replicator	acme_acmehost_replicator01.log
statistics	acme_acmehost_statistics01.log

> **See Also:**   The *Oracle eMail Server Installation Guide* for more information about the tnsnames.ora file

Setting the Log Level

Most processes have parameters where you can specify the level of logging you want to see in the log files. eMail Server provides standards for log levels, but keep in mind that these standards are applied to the processes in different ways. For example, some processes may require only the first two log levels, or two processes

may display different types of information displayed for log level 3 (medium information).

Log Level	Description
0	No logging
1	Error messages only
2	Minimum information and warnings
3	Medium information
4	Maximum information
5	Debugging information

See Also: Chapter 11, "Process Parameter Reference", for more information about setting the log level parameter for a specific process

Note: When setting log levels, remember that error messages and other types of information are appended to the log file for the entire time that a process is running. As log files increase in size, they can become difficult to manage, and they can become quite large. You may choose to archive the log files periodically.

Reading the Log Files

eMail Server provides standards for reporting messages in log files so that you can easily find and interpret the information you need to monitor your system effectively.

The standards are different for different types of messages, but all messages contain a time stamp and type code. The type code indicates to which log level the message belongs. You can use this information to determine whether the log level for a parameter is displaying the type of information you want to see. The type codes are as follows:

Type Code	Log Level	Description
ERR	1	Error messages only

Type Code	Log Level	Description
INF	2	Minimum information and warnings
DIAG	3 and 4	Medium or Maximum information
DBG	5	Debugging information

For example, if the log level for a postman process is set to 4, the log file will display messages containing the ERR, INF, and DIAG codes.

Normal Operation Messages

Log messages reporting normal operations contain the date, time, type code, and description of the log entry.

For example:

```
11/16 18:13:23 INF: Guardian process started.
```

Error Messages

Error messages that appear in the log files contain the date, time, type code, component ID, error number, and description of the log entry.

For example:

```
11/16 18:13:23 ERR ORA-942: Table or view does not exist
```

To display a cause and action for this error message, you can enter the following command at the command line (make sure ORACLE_HOME is set correctly first):

```
$ oerr ora 942
```

The error number (in this example, ORA-942) corresponds to the errors listed in Chapter 19, "Error Codes and Messages". The component ID indicates which server process experienced the error.

User Action Messages

Log messages that reflect user actions for the protocol server processes such as the POP3SRV process and the IMAP4SRV process contain the date, time, type code, user ID, thread ID, description of the log entry.

For example:

```
11/16 18:13:23 INF jdoe.10: Login succeeded
```

Using the OEM eMail Server Capacity Monitoring Pack

eMail Server provides a monitoring pack that tracks the capacity of the system through Oracle Enterprise Manager (OEM). The monitoring pack displays the length of message queues and number of concurrent IMAP server connections in a series of charts.

> **Note:** Oracle Enterprise Manager with the Diagnostics Pack must be installed prior to using the eMail Server capacity monitoring pack.
>
> **See Also:** *Oracle eMail Server Installation Guide* for more information.

To use the eMail Server capacity monitoring pack, you must first configure your system.

1. Shut down the Oracle agent:

   ```
   lsnrctl dbsnmp_stop
   ```

2. Start all eMail Server processes.

   ```
   IOFCMGR> startup all:
   ```

3. Restart the Oracle agent:

   ```
   lsnrctl dbsnmp_start
   ```

4. Start Oracle Enterprise Manager

5. From the Oracle Enterprise Manager Console Administrator screen, select Navigator --> Discover Nodes. The Discovery Wizard screen displays.

6. In Step1 of the Specify Nodes screen, enter the hostname of the system where eMail Server is installed and select Next. The Progress screen displays.

7. Verify that the information displayed is correct and select Finish. A confirmation screen displays.

8. From the Oracle Enterprise Manager Console Administrator screen, expand the Mail Servers folder. Your mail servers should be displayed.

9. Select a mail server and select Tools --> Diagnostics Pack --> Performance Manager. This launches the Performance Manager application.

10. From the Oracle Performance Manager screen, expand IMAP or Message Queue.

> **Note:** The IMAP Connection Chart can only be used with mail servers with names beginning with IMAP_ . The Message Queue Length Chart can be used with all other mail servers.

11. Select IMAP Connection Chart or Message Queue Length.

- If you select IMAP Connection Chart, the Selected Data Sources section will display a list of message stores.

- If you select Message Queue Length, the Selected Data Sources section will display message queues.

12. Once the Data Sources have been selected, select Show Chart. The selected chart displays.

> **See Also:** *Oracle Enterprise Manager Administrator's* Guide for more information on Oracle Enterprise Manager.

Using Monitoring Reports

eMail Server provides a default user account called ORAPOST that receives error messages from the monitor reports and statistic tasks and notifications regarding messages that could not be sent. This is a standard user account, so you can check the messages using the same client software that your users use to check their messages. You can also change the recipient account by modifying certain process parameters.

Monitor reports identify problem areas and suggest ways to avoid possible problems, such as low disk space, before they occur. You can choose from a wide variety of monitoring reports to help you keep your system running smoothly.

You select tests from the list provided, and specify how often to run them. Once the tests are run, the monitor sends a report. Monitor reports are sent as e-mail messages to an account that you specify (the default is ORAPOST). You can save these messages, write them to a file, print them, or do anything with them that you can do with an e-mail message.

See Also:

- "Monitoring Messages in the ORAPOST Account" on page 17-8 for more information about changing the ORAPOST account

- "Running the Monitor Tests and Statistics Tasks" on page 17-8 for more information on monitor tests and statistics tasks

Monitoring Messages in the ORAPOST Account

Messages from the monitor and statistics processes are directed to a user account in your directory called ORAPOST. If there are no problems, the monitor sends a "No Problem" report to this account. A No Problem report is a blank message with a subject line that you specify in the goodSubj parameter for the monitor process. If a test discovers a problem or potential problem, the monitor sends a "Problem" report to this account. Problem reports contain information about any problems found, as well as suggestions for fixing the problems. Problem reports consist of subreports that correspond to particular tests.

The ORAPOST account also receives messages from the postman process.

You can change the user account to which this information is sent by modifying the postmaster parameter for the postman process, or the probRecips and noProbRecips parameters for the monitor and statistics processes.

You can view the ORAPOST account by logging on to the system with a messaging client as you would for any other user. You can change the password for the ORAPOST account by changing the password attribute for the ORAPOST directory entry. Refer to "Setting a User's Password" on page 13-9 for instructions.

> **See Also:** Chapter 9, "Managing Processes", for more information about changing parameters

Running the Monitor Tests and Statistics Tasks

You must run the monitor and statistics processes to collect data and run the tests used to create reports. The monitor process checks message flow and database space usage, and the statistics process collects information about delivery time and database space usage that is used by the monitor tests to create reports.

You can start the monitor and statistics processes and run them at configurable intervals, or you can use the following instructions to see immediate results in the Administration Tool.

> **See Also:** "Starting a Registered Process" on page 9-5 for more information about the configurations of the monitor and statistics processes

Steps for Running the Monitor Tests and Statistics Tasks

This task can only be performed through the Administration Tool GUI.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name*.

3. In the menu, choose Message System > Diagnose...

4. In the Diagnose dialog box, select the node you want to diagnose from the Node list box.

5. Click the Start Diagnosis button.

6. Click Yes, then OK in the confirmation boxes.

7. Wait for the diagnostic tests to complete.

8. When you see the message "Background command is complete!", click OK.

    The results appear in the Diagnose dialog box. The Test Fail? column contains an X for any tests that failed.

    > **See Also:** Chapter 18, "Monitor Test Reference", for more information about the monitor test results

Activating the Monitor Tests

After selecting the tests you want to run, you must activate the tests. Once activated, the tests run automatically whenever the monitor process is running.

> **See Also:** Chapter 18, "Monitor Test Reference", for a complete list of the available tests

Prerequisites to Activating the Monitor Tests

In the Administration Tool, you must run the statistics tasks and monitor tests once before you can activate a monitor test. Refer to "Running the Monitor Tests and Statistics Tasks" on page 17-8 for instructions.

Steps for Activating the Monitor Tests

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name*.

3. In the right pane, select the Monitor Tests Results tab.

4. In the Monitor Tests Results tab, double-click the test that you want to activate.

5. In the dialog box, select Yes from the Active list box.

6. Click OK.

In OOMGR

1. Start OOMGR.

2. For each test that you want to activate, enter the following command at the OOMGR prompt:

```
IOFCMGR>modify monitor name=<test_name> to active=Y;
```

Specifying the Tasks for the Statistics Process

You can specify which tasks you want the statistics process to perform and how often these tasks are performed.

> **Note:** The statistics process only gathers data for the tests that are active. Refer to "Activating the Monitor Tests" on page 17-9 for instructions on activating tests.

Steps for Specifying the Tasks for the Statistics Process

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR.

2. For each task that you want to perform, enter the following command at the OOMGR prompt:

```
IOFCMGR>modify statistics name=<task_name>
2>to active=Y frequency=<task_performance_interval_in_minutes>;
```

3. If you want to cancel a task that is already active, enter the following command at the OOMGR prompt:

```
IOFCMGR>modify statistics name=<task_name> to active=N;
```

See Also: "Task Names of the Statistics Process" on page 17-11 for more information about the values to enter

4.   If the statistics process was running when you made these changes, refresh the process so that the changes can take effect. Refer to "Refreshing a Process" on page 9-9 for instructions.

Task Names of the Statistics Process

The statistics process can perform the following tasks:

Task Name	Description:
segments	Gathers information for the database space tests, except the tablespace_full and tablespace_frag tests.
free_space	Gathers information for the database space tests, except the tablespace_full and tablespace_frag tests.
tablespaces	Gathers information for the tablespace_full and tablespace_frag tests.
queues	Gathers information for the queue_status test.
delivery	Gathers information for the message flow tests, except the queue_status test.

Deactivating a Monitor Test

You can deactivate a test if you no longer want it to run automatically.

See Also: Chapter 18, "Monitor Test Reference", for a complete list of the available tests

Steps for Deactivating a Monitor Test

This task can be performed through either the Administration Tool GUI, or the OOMGR command-line interface.

In the Administration Tool GUI

1.   Start the Administration Tool GUI.

2.   In the navigation tree, select Messaging System > Nodes > *node_name*.

3.   In the right pane, select the Monitor Tests Results tab.

4. In the Monitor Tests Results tab, double-click the test that you want to deactivate.

5. In the dialog box, select No from the Active list box.

6. Click OK.

In OOMGR

1. Determine which test you want to deactivate. To see which tests are currently activated, use SQL*Plus to query the om_mon_test table. The Active column in this table contains a Y if the test is active.

2. Start OOMGR.

3. Enter the following command at the OOMGR prompt:

```
IOFCMGR>modify monitor name=<test_name> to active=N;
```

Checking All Tablespaces on a Node

In addition to the information available through the database space tests, you can also check all tablespaces on a given node. This procedure displays the bytes used, bytes free, and the maximum free extents for each tablespace.

> **See Also:** "Database Space Tests" on page 18-4 for information on database space tests

Steps for Checking All Tablespaces on a Node

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR>display db_space;
```

Checking Space Used by an Individual User

In addition to the information available through the database space tests, you can also check the space used by an individual user.

> **See Also:** "Database Space Tests" on page 18-4 for information on database space tests

Steps for Checking Space Used by an Individual User

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

   ```
   IOFCMGR>display quota user=<username>
   ```

Monitoring Protocol Server Processes

Protocol server tests probe the listener to retrieve run-time information about the protocol server processes. You can use this information to determine whether eMail Server is configured for optimal performance. For example, if you notice that some of the database connections are not being used regularly, you can lower the minimum number of connections for the protocol server and reduce the memory usage.

> **See Also:** "Understanding the Probe Results" on page 17-15 for information about how to interpret the listener probe results

Prerequisites to Monitoring Protocol Server Processes

Before running the listener probe, determine what kind of information you want to see. The following information is available:

Connections	Displays information about the protocol server process connections with the database
Users	Displays information about the users connected to the protocol server processes
Shared Memory Info	Displays information about how much memory all protocol server processes are using

Steps for Monitoring Protocol Server Processes

This task can be performed through either the Administration Tool GUI, or through a telnet session.

In the Administration Tool GUI

1. Start the Administration Tool GUI.

2. In the navigation tree, select Messaging System > Nodes > *node_name* > Processes > Instances > *process_instance* > Running Hosts > *host_name*.

3. In the right pane, select the tab for the type of information you want to monitor.

4. In the toolbar, click (Probe).

   You can click this button whenever you want to refresh the information in the right pane.

In a Telnet Session

1. Open a shell tool.

2. Enter the following command at the shell prompt:

   ```
   $ telnet <server> <diagport>
   ```

   The default `diagport` is `5010`.

   You should see something like the following:

   ```
   Trying 111.11.1.111...
   Connected to <server>.
   Escape character is '^]'.
   usage: probe <class_ID> <instance_ID> [action=dbinfo | clientinfo | all]
   probe 0 0 action=shminfo
   ```

   > **See Also:** "IOLISTENER Process Parameters" on page 11-37 for more information about the `diagport` parameter

3. To use the listener probe, enter one of the following commands:

To perform this task:	Enter this command:
Display database connection information	`probe <class_ID> <instance_ID> action=dbinfo`

To perform this task:	Enter this command:
Display client connection information	`probe <class_ID> <instance_ID> action=clientinfo`
Display both database and client connection information	`probe <class_ID> <instance_ID> action=all`
Display shared memory information	`probe 0 0 action=shminfo`
	Shared memory information is for all protocol server processes, so you must enter zeros for the class ID and instance ID.

See Also: "Parameters for Monitoring Protocol Server Processes" on page 17-15 for more information about the parameters available with this command

Parameters for Monitoring Protocol Server Processes

Use the following values when running the Probe through a telnet session:

Value	Description
class_ID	Unique server identification
	Valid values:
	27 IMAP4
	23 POP3
instance_ID	Instance number of the protocol server process you want to check

Understanding the Probe Results

The following example shows typical results of the `probe` command for displaying database connection information (`probe <class_ID> <instance_ID> action=dbinfo`).

```
Tue May 19 11:53:34 1998
Database: msgdata
  Con  Audsid    St   Access#   T#   F#   UserName.ThreadId   XCur FCur
  ---  --------  --   -------   --   --   ----------------    ---- ----
  0    18275860  0    3875      0    0    llane5.43
  1    18275862  5    1154      1    0    ckent1.12           112
```

```
2    18275863  1   398      0   1   jolsen2.143                    27
3    18275864  0   4        0   0   bwayne1.12
4    18275866  0   0        0   0
5    18275867  0   0        0   0
6    18275868  0   0        0   0
7    18275869  0   0        0   0
8    18275870  0   0        0   0
```

These results show that there are eight connections to the `msgdata` database. It also shows runtime usage information about these connections.

Database Connections

The following parameters appear in the listener probe output for database connection information (`probe <class_ID> <instance_ID> action=dbinfo`).

Parameter	Description
access#	Number of times this connection is accessed for SQL processing.
audsid	Auditing session identifier used by the database.
con	Unique number assigned to the connection for record keeping.
f#	Number of active database fetches.
fcur	List of eMail Server cursor IDs that have active fetches.
st	Connection state. *Valid values:* 1 Locked 2 Dynamic connection 4 Active transaction If there are multiple states, then the values are added together. For example, a connection that is locked and an active transaction would have a state of 5.
t#	Number of active database transactions.
username.threadId	Most recent user and protocol server thread that accessed this connection.
xcur	eMail Server cursor ID that started the transaction.

Users

The following parameters appear in the listener probe output for client connection information (probe `<class_ID>` `<instance_ID>` `action=clientinfo`).

Parameter	Description
cur	eMail Server cursorid associated with the user.
database	Connect string for the database to which the user is connected.
ip_address	IP address associated with the user.
key	Unique number assigned to the user for record keeping.
login_time	Last time a database connection was accessed.
session_ID	Auditing session identifier used by the database.
username.threadId	User and protocol server thread that accessed a connection.

Shared Memory

The following parameters appear in the listener probe output for shared memory information (probe 0 0 `action=shminfo`).

Parameter	Description
class	Protocol server process class ID.
	Valid values:
	27 IMAP4
	23 POP3
instance	Instance ID for the protocol server process.
load	Number of active client connections for this instance of the protocol server process.
max_cli	Maximum number of clients that can connect to this instance of the protocol server process.
pid	UNIX process ID number for this instance of the protocol server process.

Parameter	Description
port_ID	Port receiving incoming messages for this instance of the protocol server process.
	Default values:
	143 IMAP4 clients
	110 POP3 clients
status	Status of this instance of the protocol server process.
	Valid values:
	active
	conn_lost

Unlocking the User's INBOX

If a client is disconnected from the e-mail server unexpectedly, the user's INBOX may be locked so the user cannot access it after logging in again.

Steps for Unlocking the User's INBOX

This task can only be performed through SQL*Plus.

In SQL*Plus

1. Use SQL*Plus to connect to the database as user OO.

2. Run the $ORACLE_HOME/admin/rsql/OM_inboxlock.sql script.

3. When the script asks for the user name, enter the user name for the user who has the locked INBOX. The script hangs if the user's INBOX is locked by another session. The script also returns the session ID (SID) number. Write down this number to use in step 6.

4. To release the INBOX, open another shell tool and use SQL*Plus to connect to the database as user SYS.

5. Run the $ORACLE_HOME/admin/rsql/OM_inboxlockrel.sql script.

6. When the script asks for the session ID, enter the SID from step 3.

   The script tells you what SQL statement to use to unlock the INBOX. In the following example, 11 represents the SID, and 2474 is the serial number.

   ```
   ALTER SYSTEM KILL SESSION '11, 2474';
   ```

7. Enter the SQL statement from step 6 (`ALTER SYSTEM KILL SESSION '11, 2474';`). This removes the lock so the user can access the INBOX.

8. Commit your changes and exit from all SQL*Plus sessions.

18
Monitor Test Reference

The following tests, described in this chapter, are available for monitoring and testing your eMail Server system:

- Configuration Tests
- Database Space Tests
- Directory Service Tests
- Message Flow Tests
- Process Tests

Configuration Tests

eMail Server provides configuration tests that check your system for configuration problems, such as the presence of two SCNs.

> **Note:** Generally, when an error report is produced, you should contact your customer support representative.

Test Name	Condition for Which it Checks
BAD_CM_TO_CM	Pairs of communities that have no message delivery routes connecting them
BAD_CR_CONN	Message delivery routes that have invalid connect communities
BAD_CR_SRC	Message delivery routes that have invalid source communities
BAD_CR_TGT	Message delivery routes that have invalid target communities
BAD_DCNS	Domains with invalid DCN names
BAD_NODE_COMNTY	Nodes that subscribe to invalid communities
BAD_NODE_DOMAIN	Nodes that subscribe to invalid domains
BAD_PARENTS	Domains with invalid parent domains
BAD_PATH_CMNTY	Paths that refer to invalid communities
BAD_PATH_NODE	Paths that refer to invalid nodes
BAD_ROUTE_PATH	Routes with invalid path nodes
BAD_ROUTE_SRC	Routes with invalid source nodes
BAD_ROUTE_TGT	Routes with invalid target nodes
EMPTY_CMNTY	Communities to which no nodes subscribe
MULTIPLE_SCN	Nodes that are designated as the SCN if there are more than one
NO_NODE_TO_NODE	Missing routes from the local node to other nodes
NO_PATH_IN_CMNTY	Nodes that have no path to a community to which they subscribe

Sample Reports Created by Configuration Tests

The following are examples of reports created by the configuration tests.

BAD_CM_TO_CM
There are no community routing records with (source, target) = (COMM_1, COMM_2)

BAD_CR_CONN
Community Routing record 765432 references an invalid connect community 234765

BAD_CR_SRC
Community Routing record 765432 references an invalid source community 276543

BAD_CR_TGT
Community Routing record 765432 references an invalid target community 237654

BAD_DCNS
Domain DOM3.DOM2.DOM1 has an invalid confignode (654123)

BAD_NODE_COMNTY
Node NODE_6 (612345) is subscribed to the invalid community 126543

BAD_NODE_DOMAIN
Node NODE_6 (612345) is subscribed to the invalid domain 165432

BAD_PARENTS
Domain DOM3.DOM2.DOM1 has an invalid parent (123654)

BAD_PATH_CMNTY
Path = 615243 refers to the invalid community = 612354

BAD_PATH_NODE
Path = 615243 refers to the invalid node = 612543

BAD_ROUTE_PATH
Route = 345678 refers to an invalid path 876354

BAD_ROUTE_SRC
Route = 345678 refers to an invalid source node 876543

BAD_ROUTE_TGT
Route = 345678 refers to an invalid target node 876534

EMPTY_CMNTY
Community COMM_4 has no nodes subscribed to it

MULTIPLE_SCN

Node NODE_1 (651234) claims to be an SCN

Node NODE_6 (612345) claims to be an SCN

NO_NODE_TO_NODE

Current node has no route records with node NODE_2 (234567) as target

NO_PATH_IN_CMNTY

Node NODE_8 (987654) has no path for community = 456789

Database Space Tests

Database space tests look for fragmented tablespaces, full tables, and other potential table problems.

Test Name	Condition for Which it Checks
NEW_EXTENT	Segments that have had new extents added since the last report
NEXT_TOO_BIG	Segments for which the next extent is larger than the space available
NEXT_TOO_SMALL	Segments for which the NEXT_EXTENT size seems inappropriate
SEGMENT_FULL	High pairs of PCTUSED and PCTFREE values
TABLESPACE_FRAG	Fragmented tablespaces
TABLESPACE_FULL	Tablespaces that are more than 75% full
TOO_MANY_EXTENTS	Segments approaching the operating system-dependent limit on the number of extents used

Sample Reports Created by Database Space Tests

The following are examples of reports created by the database space tests.

NEW_EXTENT

The following is a list of segments that have been allocated a new extent since last checked. #=number of extents.

Node:	Segment:	#:	Num added:	Report date:	Prior date:
OFFICE	OM_STAT_SEGMENT	2	1	27-JAN-93	12-AUG-92

NEXT_TOO_BIG

The following is a list of segments for which the next extent is larger than the space available. If the current extent fills, YOUR SYSTEM WILL STOP. To avoid this, add a file to the tablespace immediately. Then, compact the tablespace.

Node:	Tablespace:	Segment:	Last Extended:	K needed:	K avail.:
OASUN1	OFC_INDB	OM_BODY_K	22-JAN-93	2048	832
OASUN1	OM_EXT_PR	OM_EXT_PR	22-JAN-93	978	832
OASUN1	OFC_INDS	OM_INSTP_	21-JAN-93	1466	1300

NEXT_TOO_SMALL

The following is a list of segments growing by more than one extent every nine days or by fewer than one extent every fifty days. Change the NEXT_EXTENT parameter as suggested below.

KEY: #=num extents; Last=date last extended; Curr=current size; Next=next extent size; Sugg=suggested next extent; Max=maximum size

Node:	Segment:	#:	Last:	Curr(K):	Next(K):	Sugg(K):	Max(K):
OFFICE	M_BODY	32	09-DEC-92	16524	600	1348	4532

SEGMENT_FULL

The following is a list of segments for which the PCT_USED plus PCT_FREE totals more than 85. To maximize performance, reduce one or both values.

Node:	Segment:	% Used:	% Free:	Total %:
OASUN1	OM_BODY_K	60	30	90

TABLESPACE_FRAG

The following is a list of tablespaces that contain more than 75 non-contiguous fragments after garbage collection. The number of compacted fragments counts each group of contiguous fragments as one fragment. Within each tablespace, identify the problem tables by their high number of extents. Move them into a separate tablespace, or compact the existing tablespace.

Node:	Tablespace:	Compacted fragments:	Total fragments:
OFFICE	OFFICE	293	554
OASUN1	OFC_INDS	1388	96.49

TABLESPACE_FULL

The following is a list of tablespaces that are more than 75% full. Add new files, or compact the tablespaces.

Node:	Tablespace:	K used:	K available:	% full:
OASUN1	OFC_INDB	58876	1280	97.87
OASUN1	OFC_INDS	38180	1388	96.49

TOO_MANY_EXTENTS

The following is a list of segments for which the number of extents is approaching the system-dependent limit. If this number reaches the limit, YOUR SYSTEM WILL STOP. To avoid this, compact the problem segments. Or, use the MAX_EXTENTS parameter to override the limit on a table-by-table basis.

Node:	Segment:	Last Extended:	Num extents:	Max extents:	Extents/wk:
OASUN1	OM_BODY_K	21-JAN-93	70	99	.197
OASUN1	OM_INST_R	21-JAN-93	89	99	.251

Directory Service Tests

eMail Server provides directory service tests that check your system for configuration problems, such as empty distribution lists.

Test Name	Condition for Which it Checks
CLASSID_CHECK	Class IDs that have no global ID
DSSALL_CHECK	Whether ALL has a global ID
EMPTY_LISTS	Empty distribution lists
MISSING_OBJECTS	Missing eMail Server tables, views, synonyms, sequences, or indexes

Test Name	Condition for Which it Checks
REPLOG_TOO_BIG	Whether the number of entries in the replicator log is more than four times the number set in `logScanSize`
REPL_UNACKED	The number of unacknowledged packages if there is more than one

Sample Reports Created by Directory Service Tests

The following are examples of reports created by the directory service tests.

CLASSID_CHECK
Missing GlobalID for class 123456

DSSALL_CHECK
Missing GlobalID for "All"

EMPTY_LISTS
Distribution List LIST_3 (654321) has no elements

MISSING_OBJECTS
Missing SCHEDULE from schema: OAGRP.VACATION_TIME

REPLOG_TOO_BIG
Too many unpackaged rows in the replog 400

REPL_UNACKED
Package outstanding for DOMAIN_7 to DOMAIN_5 package no. 721

Message Flow Tests

eMail Server provides message flow tests that check your system for configuration problems, such as nodes with long distribution times.

Test Name	Condition for Which it Checks
DELIV_NODE	Nodes with long delivery times to the local node
DELIV_TOTAL_REC	Long delivery times for all messages received by the local node
QUEUE_STATUS	Oldest queued message

Sample Reports Created by Message Flow Tests

The following are examples of reports created by the message flow tests.

DELIV_NODE

The following is a list of delivery statistics for nodes from which this node has received less than 90% of sent messages in under 5 minutes.

Source Node:	Average (min):	Tot. msgs:	% 15 min:	% 5 min:	% 1 min:	% 30 sec
Bob	100	865	94.5	85.3	71.4	58.6

DELIV_TOTAL_REC

This node has received less than 90% of its messages in under 5 minutes.

Average (min):	Tot. msgs:	% 15 min:	% 5 min:	% 1 min:	% 30 sec
100	865	94.5	85.3	71.4	58.6

QUEUE_STATUS

Queue Status:

Node: OASUN1 Oldest of 10 SUBMISSION msgs was 10 hours old on 28-JAN-98 10:34

Gateway: INTEROFFICE on node INTEROFFICE backed up delivering 4 msgs since 27-JAN-98 23:26

Summary: Node INTEROFFICE Backed up sending 4 msgs to INTEROFFICE since 27-JAN-98 23:26

Process Tests

eMail Server provides process tests that check your system for process problems, such as missing data accounts.

Test Name	Condition for Which it Checks
NO_REPL	Missing database account for the replicator
NO_SCHED	Missing database account for the scheduler
PROCESS_TIME	Last wake and sleep times for server processes

Sample Reports Created by Process Tests

The following are examples of reports created by the process tests.

NO_REPL
Replicator account does not exist or is not an Oracle account

NO_SCHED
Scheduler account does not exist or is not an Oracle account

PROCESS_TIME

Last wake and sleep times for server processes.

Process:	Instance:	Last Wake:	Last Sleep:	Current Time:
Postman	1	23-JAN-98 18:30	23-JAN-93 19:30	23-JAN-98 20:00
Postman	2	NOT ACTIVE	NOT ACTIVE	23-JAN-98 20:00
Collector	1	23-JAN-98 00:30	23-JAN-98 06:30	23-JAN-98 20:00

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Error Codes and Messages

Error codes and messages may appear in any part of eMail Server. Users may see them in the end-user interface, and administrators may see them in the administrative tools and process logs.

Sometimes, more than one error will be displayed. A list of error messages is called an error stack. The bottommost error in the stack is typically the cause of the error.

> **Note:** The error stack may contain error messages from other Oracle products that eMail Server uses, such as the Oracle8i Universal Data Server and Net8. When these additional errors appear, refer to the documentation for the given product.

This chapter includes component-specific errors, listed in numerical order. The error codes are divided into the following groups:

- Messaging Server Messages
- Public/Shared Folder Error Messages
- IMAP Messages
- POP3 Messages
- SMTP/MIME Gateway Messages

Messaging Server Messages

DA-10505 Could not start server processes.

Cause: IM manager could not signal the guardian process.

Action: The guardian process may not be running or there may be problems with the `dbms_alarm` package. Check the guardian process log file to ensure it is receiving requests from IM manager.

DA-10506 Could not shut down server processes.

Cause: IM manager could not signal the guardian process.

Action: The guardian process may not be running or there may be problems with the `dbms_alarm` package. Check the guardian process log to ensure it is receiving requests from IM manager.

DA-10528 You entered invalid information: @1

Cause: An incorrect value was specified on the command line.

Action: Abort command.

DA-10529 You entered an attribute that is not a key attribute: @1

Cause: Wrong attribute specified as key attribute of class.

Action: Abort command.

DA-10554 You specified attributes that cannot be inserted: @1

Cause: Non-insertable attributes specified in command.

Action: Abort command.

DA-10555 You specified attributes that cannot be updated: @1

Cause: Non-updatable attributes specified in command.

Action: Abort command.

DA-10603 You supplied an invalid attribute name: @1

Cause: An incorrect attribute was specified on the command line.

Action: Abort command.

DA-10621 National language support initialization failed.

Cause: Problems encountered when trying to start up NLS support.

Action: Contact Oracle Support Services.

DA-**10622 You supplied an invalid username/password. Login failed.**
>   **Cause:** Directory login failed.
>
>   **Action:** Retry with different user name or password.

DA-**10623 Could not start process due to problems accessing memory.**
>   **Cause:** Memory allocation problems found during process startup.
>
>   **Action:** Contact Oracle Support Services.

DA-**10624 Could not shut down process due to problems accessing memory.**
>   **Cause:** Memory allocation problems found during process shutdown.
>
>   **Action:** Contact Oracle Support Services.

DA-**10625 Could not start a process due to errors in the message facility.**
>   **Cause:** Problems encountered when starting up externalized message support.
>
>   **Action:** Contact Oracle Support Services.

DA-**10626 Could not shut down a process due to errors in the message facility.**
>   **Cause:** Problems encountered when cleaning up externalized message support.
>
>   **Action:** Contact Oracle Support Services.

DA-**10627 Could not start Guardian process.**
>   **Cause:** Problems with spawning guardian process.
>
>   **Action:** Contact Oracle Support Services.

DA-**10628 Could not shut down the Guardian process.**
>   **Cause:** Problems with stopping guardian process.
>
>   **Action:** Contact Oracle Support Services.

DA-**10629 Could not start the Guardian process because the startup timed out.**
>   **Cause:** Startup protocol to guardian process timed out.
>
>   **Action:** Abort command.

DA-**10630 Could not shut down the Guardian process because the shutdown timed out.**
>   **Cause:** Shutdown request to guardian process timed out.
>
>   **Action:** Abort command. Contact Oracle Support Services.

DA-10631 You specified an invalid class: @1
    Cause: Bad class name entered in command line or batch mode.
    Action: Abort command.

DA-10632 You specified an invalid queue identifier.
    Cause: Bad queue ID.
    Action: Abort command.

DA-10633 Internal-queue management error.
    Cause: Bad queue ID.
    Action: Abort command.

DA-10634 Message cannot be processed.
    Cause: Bad queue ID.
    Action: Abort command.

DA-10635 Invalid source queue identifier.
    Cause: Bad queue ID.
    Action: Abort command.

DA-10636 Internal-Unexpected classid: @1
    Cause: Unknown or unexpected class ID passed to an internal routine.
    Action: Abort command.

DA-10637 Mandatory field missing: @1
    Cause: Necessary field in command not specified.
    Action: Abort command.

DA-10638 You specified an invalid option: @1
    Cause: Option to command not specified or invalid option specified.
    Action: Abort command.

DA-10639 Internal-Invalid option number: @1
    Cause: Invalid option found in command logic.
    Action: Abort command. Contact Oracle Support Services.

DA-**10640 You cannot use the show command with this class.**

Cause: Invalid class given to show command.

Action: Abort command.

DA-**10641 Internal**-**Null Object identifier encountered.**

Cause: A null object ID was incorrectly passed to a procedure call.

Action: Abort command.

DA-**10642 Internal**-**Mandatory attribute missing.**

Cause: A null attribute ID was incorrectly passed to a procedure.

Action: Abort command.

DA-**10643 Internal**-**Config node of this domain not found.**

Cause: Configuration node information lost in database.

Action: Abort command.

DA-**10644 Referenced object does not exist: @1**

Cause: Object not found in database.

Action: Abort command.

DA-**10645 Internal**-**SCN of this domain not found.**

Cause: SCN node information lost in database.

Action: Abort command. Contact Oracle Support Services.

DA-**10646 Missing key attribute: @1**

Cause: Key attribute of class missing from specified attributes.

Action: Abort command.

DA-**10647 Internal**-**Key attribute not found: @1**

Cause: Key attribute of class missing in procedure call.

Action: Abort command. Contact Oracle Support Services.

DA-**10648 The attribute you specified does not belong to class: @1**

Cause: Incorrect attributes specified to command.

Action: Abort command.

DA-10649 Invalid target queue identifier.

    Cause: Bad queue ID.

    Action: Abort command.

DA-10650 Parameters cannot be deregistered from this server.

    Cause: User tried to deregister a parameter from a standard server.

    Action: Abort command.

DA-10651 Parameters cannot be registered with this server.

    Cause: User tried to register a new parameter with a standard server.

    Action: Abort command.

DA-10652 Null attribute value specified: @1

    Cause: User tried to specify an attribute with a null value.

    Action: Abort command.

DA-10653 Internal-Min and Max values stored incorrectly.

    Cause: The minimun and maximum values of a parameter from the database are inconsistent.

    Action: Abort command. Contact Oracle Support Services.

DA-10654 You must supply an option for this task.

    Cause: You must specify an option for command.

    Action: Abort command.

DA-10655 Typed passwords do not match. Password unchanged.

    Cause: User incorrectly typed confirming password while using the `setpwd` command.

    Action: Abort command.

DA-10656 Internal-Database account information does not exist.

    Cause: Database account and password information stored improperly.

    Action: Abort command. Contact Oracle Support Services.

DA-10657 Internal-Database grant failed. Password unchanged.

    Cause: SQL statement to change actual database password failed.

    Action: Abort command. Contact Oracle Support Services.

DA-**10658 Internal-Attribute value could not be found in database: @1**

   Cause: An expected attribute value could not be found in directory tables.

   Action: Abort command. Contact Oracle Support Services.

DA-**10659 No processes are currently running.**

   Cause: User tried to `refresh all` processes while there were none running.

   Action: Abort command.

DA-**10660 Process currently not running.**

   Cause: User tried to refresh a stopped process.

   Action: Abort command.

DA-**10662 Internal-Null value specified to procedure.**

   Cause: Internal procedure encountered unexpected null value.

   Action: Abort command. Contact Oracle Support Services.

DA-**10663 You have entered an ambiguous command.**

   Cause: User didn't type enough characters to specify a unique command.

   Action: Abort command.

DA-**10664 You cannot use the reserved word ADMIN.**

   Cause: User tried to use the keyword `ADMIN` in a command.

   Action: Abort command.

DA-**10665 Invalid command.**

   Cause: User entered unrecognized command.

   Action: Check for possible typing error.

DA-**10670 Referenced object contains a bad gateway name: @1**

   Cause: One of the fields in command has a bad gateway name.

   Action: Abort command.

DA-**10671 Referenced object contains a bad domain name: @1**

   Cause: One of the fields in command has a bad domain name.

   Action: Abort command.

DA-10672 Referenced object has an ambiguous name: @1

Cause: One of the fields in the command refers to multiple objects.

Action: Abort command.

DA-10673 Referenced object does not have the correct class: @1

Cause: One of the fields in the ommand refers to an object of incorrect type.

Action: Abort command.

DA-10674 Internal-Name resolution procedures failed.

Cause: Internal name resolution procedures returned invalid result.

Action: Abort command. Contact Oracle Support Services.

DA-10678 Parameter min values must be less than their max values.

Cause: User tried to enter a minimum value for a parameter that was greater than its maximum value.

Action: Abort command.

DA-10682 Min and max values are not allowed for this type.

Cause: Minimum and maximum values were entered for a string or date type.

Action: Abort command.

DA-10683 The time period you specified overlaps those in the database.

Cause: User tried to enter times which overlap one another.

Action: Abort command.

DA-10684 The sleep time value extends beyond the duration you specified.

Cause: User tried to enter a sleep time greater than the duration of the process.

Action: Abort command.

DA-10685 Referenced object is not unique: @1

Cause: Object is not unique in database.

Action: Abort command.

DA-10686 The command you specified is too long.

Cause: Command is too long.

Action: Abort command.

DA-**10687 You specified an invalid value. Please use Y or N.**

    Cause: User tried to specify something other than Y (yes) or N (no).

    Action: Abort command.

DA-**10688 Internal-Process Token not found in database.**

    Cause: Internal routine could not find a process parameter description.

    Action: Contact Oracle Support Services.

DA-**10693 You specified mis-matching quotes in your command.**

    Cause: User specified an incorrect number of quotes.

    Action: Abort command.

DA-**10694 You specified a name with incorrect quoting syntax: @1**

    Cause: User incorrectly specified quotes in an attribute.

    Action: Abort Command.

DA-**10695 You specified an incomplete command.**

    Cause: Unexpected end of line encountered.

    Action: Abort Command.

DA-**10696 Internal-Token was truncated to fit buffer.**

    Cause: Parsed token was truncated to fit internal buffer.

    Action: Contact Oracle Support Services.

DA-**10697 Internal-Error found in data dictionary.**

    Cause: The information contained within the data dictionary is corrupted.

    Action: Contact Oracle Support Services.

DA-**10698 You must specify the DL name first for this operation.**

    Cause: The user entered other attributes before specifying DL name.

    Action: Abort command.

DA-**10699 You must use double quotes to quote attribute values.**

    Cause: The user used single quotes (') to quote an attribute value.

    Action: Abort command.

DA-10700 You must provide DL members for this operation.
　　Cause: The user omitted DL members in attribute list.
　　Action: Abort command.

DA-10701 The times you specified do not cover a 24 hour period.
　　Cause: User specified process times that totaled less than 24 hours.
　　Action: Abort command.

DA-10702 You cannot delete the last member of a DL. Delete the DL instead.
　　Cause: User tried to delete the last member of a DL.
　　Action: Abort command.

DA-10703 A @ already exists with this name. Please use a different name.
　　Cause: Objects must be uniquely named within a domain.
　　Action: Use a different name.

DA-10704 You can only delete a domain from the parent domain.
　　Cause: User deletes a domain which is not a child domain of current domain.
　　Action: Abort command.

DA-10705 You must install a node before subscribing.
　　Cause: User subscribe a node which has status initializing.
　　Action: Abort command.

DA-10706 The process instance you specified does not exist.
　　Cause: User tried to perform an operation on a non-existant process.
　　Action: Abort action.

DA-10731 You cannot deregister default parameter values.
　　Cause: User tried to deregister instance 0 of a process, which represents the default process settings.
　　Action: Abort command.

Public/Shared Folder Error Messages

DA-10801 The synctype class on this node cannot be managed via IOFCMGR.
　　Cause: SyncTypes from 2.1.9 aren't compatible with 2.1.15 IOFCMGR.
　　Action: Use option 4 of the master.rsc script with `ofcins`.

DA-**10802 Synchronization type 0 is a reserved type and cannot be changed.**
    Cause: User tried to register, deregister, or modify a `SyncID` of 0.
    Action: User should use another identifier.

DA-**10804 You cannot specify this privilege for this type of object.**
    Cause: User tried to specify an incorrect security privilege for an object.
    Action: User should look up the appropriate privileges for that object.

DA-**10805 You currently cannot move folders through folder hierarchies.**
    Cause: User tried to move a folder to a different level in the hierarchy.
    Action: User can only rename folders under the same hierarchy.

DA-**10810 Internal-Attribute value truncated in dalqtv().**
    Cause: Long string given for attribute value.
    Action: Use a shorter string.

DA-**10811 Internal-Buffer too small in dalqtv().**
    Cause: Internal coding error.
    Action: Contact Oracle Support Services.

DA-**10813 Could not generate system address of node for request.**
    Cause: A database error prevented construction of a node system account address used when sending a replication request.
    Action: Contact Oracle Support Services.

DA-**10823 Invalid database password. Database password was not changed.**
    Cause: An invalid password was specified with the `setpwd` command.
    Action: Make sure you have entered a password that meets password requirements. Database passwords may not contain multibyte characters.

IMAP Messages

25001, Login Error for user %s. Error %d\n
    Cause: Oracle database errors.
    Action: Refer to error stack for Oracle database errors.

25007, Get new mail failed. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25008, Fetch header attributes failed. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25009, Failed to get fid for %s. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25010, Failed to create folder %s. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25011, Fail in search. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25012, Failed to get header info. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25013, Failed to rename folder (fid = %d) to %s. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25014, Failed to mark message (msgid = %d, fid = %d) read. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25015, Failed to set instance flag (msgid = %d, fid = %d). Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25016, Failed for (msgid = %d, fid = %d). Error# %d\n

>**Cause:** Oracle database errors.

>**Action:** Refer to error stack for Oracle database errors.

25017, Failed to insert subscribed folder %s. Error# %d\n

>**Cause:** Oracle database errors.

>**Action:** Refer to error stack for Oracle database errors.

25018, Failed to delete subscribed folder %s. Error# %d\n

>**Cause:** Oracle database errors.

>**Action:** Refer to error stack for Oracle database errors.

25019, Failed to get list of subscribed folders matching pattern %s. Error# %d\n

>**Cause:** Oracle database errors.

>**Action:** Refer to error stack for Oracle database errors.

25020, Failed to set msg uids for folder %d. Error# %d\n

>**Cause:** Oracle database errors.

>**Action:** Refer to error stack for Oracle database errors.

25021, Failed to update folder %d access date. Error# %d\n

>**Cause:** Oracle database errors.

>**Action:** Refer to error stack for Oracle database errors.

25022, Failed to list folder %d. Error# %d\n

>**Cause:** Oracle database errors.

>**Action:** Refer to error stack for Oracle database errors.

25023, Failed at counting number of unread msgs in folder %d. Error# %d\n

>**Cause:** Oracle database errors.

>**Action:** Refer to error stack for Oracle database errors.

25024, Failed to get next_uid in folder %d. Error# %d\n

>**Cause:** Oracle database errors.

>**Action:** Refer to error stack for Oracle database errors.

25025, Failed to move %d message(s) from src fldr (fid = %d) to dest fldr (fid = %d). Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25026, Failed to create hierarchical folders %s. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25027, Failed to delete %d message(s) from src fldr (fid = %d). Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25028, Failed to get connection string. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25029, failed to get message shell. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25030, Error in opening mailbox - %s\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

25031, Could not retrieve folder id. Error# %d\n

Cause: Oracle database errors.

Action: Refer to error stack for Oracle database errors.

POP3 Messages

Error while reading socket.\n

Cause: The client closed the socket already.

Action: No action needed.

Failed to open user's Inbox.\n

Cause: Oracle API error.

Action: Check the database errors in the error stack.

Failed to determine user's connect string.\n

> **Cause:** User record does not exist in the database.

> **Action:** Default user connect strings are retrieved from the first database in the configuration file, make sure that all users accounts are accessible in that database.

SMTP/MIME Gateway Messages

All Oracle error messages related to the SMTP/MIME gateway are written to two log files. Errors that occur when e-mail is sent from eMail Server to SMTP/MIME Mail are written to the following log file named $ORACLE_ HOME/office/log/*<node_sid>/<hostname_server>_<gateway_name><instance_ number>*.log, where *<hostname_server>* is the name of the host on which the gateway runs.

Errors that occur when e-mail is sent from SMTP/MIME Mail to eMail Server are written to the following log file $ORACLE_HOME/office/log/ *<node_sid>/<hostname_server>_<gateway_name_In><instance_number>*.log.

> **Note:** The SMTP/MIME gateway error messages do not have numbers associated with them.

24000, 0, Gateway exited with error %d\n

> **Cause:** Gateway exited.

> **Action:** Check error number.

24004, 0, Error %d inserting extended header.\n

> **Cause:** Failed to insert extended header record.

> **Action:** Check the Oracle error.

24005, 0, Error logging on: mhlon config error %d\n

> **Cause:** Gateway log on failed.

> **Action:** Check gateway configuration and unx.cfg file.

24006, 0, Error logging on: mhlon temporary error %d\n

> **Cause:** Gateway log on failed.

> **Action:** Check the Oracle error.

24011, 0, Invalid recipient(s): %s\n
> **Cause:** Recipients listed are invalid.
>
> **Action:**   Change the recipients.

24012, 0, No valid recipients, exited.\n
> **Cause:** No valid recipients.
>
> **Action:**   Use valid recipients.

24014, 0, At least 5 special args req'd, only %d supplied.\n
> **Action:**   Check the arguments.

24015, 0, Initialization error %d: getting message ID failed\n
> **Cause:** Failed to get a new message ID from database.
>
> **Action:**   Consult the database administrator.

 Failed to create a new header structure.
> **Action:**   Check the disk space.

24017, 0, Error %d: inserting header failed\n
> **Cause:** Failed to insert header information.
>
> **Action:**   Check the Oracle error.

24018, 0, Error %d: posting message failed\n
> **Cause:** Failed to post the message and commit.
>
> **Action:**   Check the Oracle error.

24019, 0, Routing loop detected.\n
> **Cause:** Message is routed in a loop.
>
> **Action:**   Break the loop.

24020, 0, Error %d: validating recipient failed\n
> **Cause:** Recipient is not valid.
>
> **Action:**   Check the recipient.

24021, 0, Error %d: inserting body failed\n
> **Cause:** Failed to insert body.
>
> **Action:**   Check the Oracle error.

24033, 0, mhwigr error %ld: inserting recipients failed\n

Cause: Failed to insert recipients into the database.

Action: Check the Oracle error.

24038, 0, No header information found ... cleaning up\n

Cause: Failed to retrieve header information for a message.

Action: Consult the database administrator.

24042, 0, Error in fopen() of %s\n

Cause: Failed to open a file.

Action: Check the file path, name, permission, and disk space.

24043, 0, Error in fclose() of %s\n

Cause: Failed to close a file.

Action: Check the file path, name, and permission.

24044, 0, Error in fdopen() of file descriptor %d\n

Cause: Failed to open a file.

Action: Check the file path, name, permission, and disk space.

24067, 0, System had been shut down or restarted. Exit.\n

Cause: Failed to get database state.

Action: Consult the database administrator.

24080, 0, Sending Return Message Failed: %ld.\n

Cause: Failed to send return message.

Action: Check the Oracle error.

24081, 0, Error getting body or attachment (mhrgXX): %ld\n

Cause: Failed to get the body or attachment.

Action: Check the Oracle error in the error message.

24082, 0, Error getting recipients (mhwgrr): %ld\n

Cause: Failed to get the recipients.

Action: Check the Oracle error in the error message.

24095, 0, Error getting extended header %ld.\n
> **Cause:** Failed to get the extended header.
>
> **Action:**   Check the Oracle error in the error message.

24096, 0, Error opening sendmail pipe.\n
> **Cause:** Failed to open the sendmail pipe.
>
> **Action:**   Check the permissions on the sendmail executable in ⁄usr⁄lib.

24097, 0, mhroim error %ld: opening included message failed.\n
> **Cause:** Failed to open the included message.
>
> **Action:**   Check the Oracle error in the error message.

24182, 0, System error in child process, %s, errno=%d\n
> **Cause:** System error.
>
> **Action:**   Make sure that the process exists and has execute permissions.

24183, 0, System error in decoder1 process, %s, errno=%d\n
> **Cause:** System error.
>
> **Action:**   Make sure that the process exists and has execute permissions.

24184, 0, System error in decoder2 process, %s, errno=%d\n
> **Cause:** System error.
>
> **Action:**   Make sure that the process exists and has execute permissions.

24302, 0, tempnam() returned NULL.\n
> **Cause:** Failed to generate a temporary name for the decoded file.
>
> **Action:**   Check permissions for the temporary directory.

24303, 0, Error opening file %s.\n
> **Cause:** Failed to open a file.
>
> **Action:**   Check the file path, name, permission, and disk space.

24304, 0, Error writing %s bytes to %s.\n
> **Cause:** Failed to write to a file.
>
> **Action:**   Check the file path, name, permission, and disk space.

24305, 0, Error reading from %s.\n

> **Cause:** Failed to read from a file.

> **Action:** Check the file path, name, and permission.

24306, 0, Error flushing data to temporary file %s\n

> **Cause:** Failed to flush a file.

> **Action:** Check the file path, name, permission, and disk space.

SSL Messages

19001 Fail to add certificate from the database.

> **Cause:** The SSL trusted certificate was not found in the database.

> **Action:** After requesting the certificate, you must run the Wallet Manager to store the certificate in the database. Refer to "Obtaining an SSL Trusted Certificate" on page 10-6 for instructions.

19002 Fail to set SSL protocol version to %d.

> **Cause:** The SSL protocol version is invalid.

> **Action:** Check to see if the protocol version is one of the allowable SSL protocol versions.

19003 Fail to set SSL protocol side to %d.

> **Cause:** The SSL protocol side is incorrect.

> **Action:** The SSL protocol side must be either SSL_ServerSide or SSL_ClientSide.

19004 Fail to set request client certificate to %d.

> **Cause:** The request client certificate flag is invalid.

> **Action:** Make sure the client certificate flag is valid.

19005 Fail to set IO Reference to socket %d.

> **Cause:** The parameters are invalid.

> **Action:** Make sure the parameters are valid.

19006 Fail to establish handshake with the client.

> **Cause:** This error can be caused by a variety of situations.

> **Action:** Refer to the SSL Plus documentation for information about establishing handshake with a client.

19007 Fail to initialize SSL context.
    Cause: This is an internal error.
    Action: Contact Oracle Support Services.

19008 Fail to set SSL allocation callback function.
    Cause: This is an internal error.
    Action: Contact Oracle Support Services.

19009 Fail to set SSL free callback function.
    Cause: This is an internal error.
    Action: Contact Oracle Support Services.

19010 Fail to set SSL reallocation callback function.
    Cause: This is an internal error.
    Action: Contact Oracle Support Services.

19011 Fail to set SSL random object callback function.
    Cause: This is an internal error.
    Action: Contact Oracle Support Services.

19012 Fail to set SSL time callback function.
    Cause: This is an internal error.
    Action: Contact Oracle Support Services.

19013 Fail to set SSL time convertion callback function.
    Cause: This is an internal error.
    Action: Contact Oracle Support Services.

19014 Fail to set SSL read callback function.
    Cause: This is an internal error.
    Action: Contact Oracle Support Services.

19015 Fail to set SSL write callback function.
    Cause: This is an internal error.
    Action: Contact Oracle Support Services.

19016 Fail to set SSL check certificate chain callback function.

Cause: This is an internal error.

Action: Contact Oracle Support Services.

19017 Fail to create random reference.

Cause: This error can be caused by a variety of situations.

Action: Refer to the SSL Plus and BSAFE documentation for information about how to handle this error.

19018 Fail to set SSL random reference callback function.

Cause: This is an internal error.

Action: Contact Oracle Support Services.

19019 Fail to allocate space for the MHZ context.

Cause: This is a memory allocation problem which could be caused by memory corruptions.

Action: Contact Oracle Support Services.

19020 Fail to allocate space for the SSL context.

Cause: This is a memory allocation problem which could be caused by memory corruptions.

Action: Contact Oracle Support Services.

19021 Fail during SSL initialization.

Cause: Unable to initialize the SSL context or to set the SSL callback functions.

Action: Examine the errors returned by mhzsd to pinpoint the problem.

19022 Fail to create algorithm object.

Cause: This is a BSAFE error.

Action: Refer to the BSAFE documentation for information about how to handle this error.

19023 Fail to create key object.

Cause: This is a BSAFE error.

Action: Refer to the BSAFE documentation for information about how to handle this error.

19024 Fail to create public key object.

    Cause: This is a BSAFE error.

    Action: Refer to the BSAFE documentation for information about how to handle this error.

19025 Fail to set algorithm information.

    Cause: This is a BSAFE error.

    Action: Refer to the BSAFE documentation for information about how to handle this error.

19026 Fail to initialize the algorithm object.

    Cause: This is a BSAFE error.

    Action: Refer to the BSAFE documentation for information about how to handle this error.

19027 Fail to generate key pair.

    Cause: This is a BSAFE error.

    Action: Refer to the BSAFE documentation for information about how to handle this error.

19028 Fail to set export private key.

    Cause: This is a BSAFE error.

    Action: Refer to the BSAFE documentation for information about how to handle this error.

19029 Fail to add CA certificates.

    Cause: Unable to add the CA certificates into the SSL context.

    Action: Examine the errors returned by mhzaddtcerts to pinpoint the problem.

19030 Fail to configure DH parameters.

    Cause: Unable to configure the Diffie-Hellman parameters.

    Action: Examine the errors returned by mhzdhparams to pinpoint the problem.

19031 Fail to set SSL session reference.

    Cause: This is an internal error.

    Action: Contact Oracle Support Services.

19032 Fail to add an RSA commercial CA root self-signed certificate.

Cause: This error can be caused by memory allocation problems or ASN certificate parsing problems.

Action: Refer to the SSL Plus documentation for information about how to handle this error.

19033 Fail to add a class1 root self-signed certificate. ID = 1.

Cause: This error can be caused by memory allocation problems or ASN certificate parsing problems.

Action: Refer to the SSL Plus documentation for information about how to handle this error.

19034 Fail to add a class2 root self-signed certificate. ID = 2.

Cause: This error can be caused by memory allocation problems or ASN certificate parsing problems.

Action: Refer to the SSL Plus documentation for information about how to handle this error.

19035 Fail to add a class3 root self-signed certificate. ID = 3.

Cause: This error can be caused by memory allocation problems or ASN certificate parsing problems.

Action: Refer to the SSL Plus documentation for information about how to handle this error.

19036 Fail to add a class4 root self-signed certificate.

Cause: This error can be caused by memory allocation problems or ASN certificate parsing problems.

Action: Refer to the SSL Plus documentation for information about how to handle this error.

19037 Fail to create algorithm object.

Cause: This is a BSAFE error.

Action: Refer to the BSAFE documentation for information about how to handle this error.

19038 Fail to set algorithm info.

Cause: This is a BSAFE error.

Action: Refer to the BSAFE documentation for information about how to handle this error.

19039 Fail to initialize key agreement.

Cause: This is a BSAFE error.

Action: Refer to the BSAFE documentation for information about how to handle this error.

19040 Fail to set anonymous DH parameters.

Cause: This is an internal error.

Action: Contact Oracle Support Services.

19041 Fail to read %d bytes from socket.

Cause: This could be a socket error or a blocking error.

Action: Check the client to see if it is still active. The client may close the socket during timeout.

19042 Fail to write %d bytes to socket.

Cause: This could be a socket error or a blocking error.

Action: Check the client to see if it is still active. The client may close the socket during timeout.

19043 SSL Debugging. This is not an error.

Cause: This is not an error message.

Action: No action required.

Collector Process Messages

OAO-14702, 0, Collector: logon to the database failed.

Cause: The server was unable to establish a connection to the database.

Action: Check whether the database is online, or whether the connection string is correct.

OAO-14704, 0, System is not in run state!the node is being shut down, no server can be running.

Action: Wait until the node has started up and restart the server

OAO-14705, 0, Failed to get system state.

Cause: This is a generic database error.

Action: Check and fix the related Oracle database error.

OAO-14706, 0, Process registration failed with error %ld.

Cause: This is a generic database error.

Action: Check and fix the related Oracle database error.

OAO-14708, 0, System has been shut down or restarted.

Cause: System has been shut down or restarted.

Action: Shut down the process previously started and try again.

OAO-14709, 0, Failed to fetch timing parameters.

Cause: This is a generic database error.

Action: Check and fix the related Oracle database error.

OAO-14716, 0, Failed to initialize the date context.

Cause: The error is due to insufficient memory.

Action: Close some applications and try again.

OAO-14720, 0, Failed to initialize cursor context.

Cause: The error is due to insufficient memory.

Action: Close some applications and try again.

OAO-14721, 0, Failed to read a process parameter (ID=%d) from the database.

Cause: This is a generic database error.

Action: Check and fix the related Oracle database error.

OAO-14775, 0, Cleaning up Oracle*Mail V1 messages failed with error %ld.

Cause: This is a generic database error.

Action: Check and fix the related Oracle database error.

OAO-14790, 0, Initializing mail context failed with error %ld.

Cause: The error is due to insufficient memory.

Action: Close some applications and try again.

Guardian Process Messages

14825 Login failed with error %ld

Cause: The guardian server process was not able to log into the database.

Action: Check the DS layer login error and fix accordingly.

14827 Error %ld registering process.

   Cause: This is a generic database error.

   Action: Check and fix the related Oracle database error.

14828 Error allocating process table cache.

   Cause: There is not enough memory to hold the process table cache.

   Action: Close some applications and try again.

14829 Error %ld generating process parameters.

   Cause: This is usually caused by missing message files.

   Action: Make sure ORACLE_HOME is set correctly.

14830 Error %ld spawning child process.

   Cause: This is usually caused by incorrect executable file attributes.

   Action: Make sure ORACLE_HOME is set correctly and the root.sh script was executed after installation to ensure that the correct executable file exist and permissions are set correctly. Refer to the *Oracle eMail Server Installation Guide* for instructions on how to run the root.sh script.

14831 Error checking died child processes.

   Cause: The guardian server process failed when trying to wait on a child process.

   Action: Contact Oracle Support Services.

14832 Unknown child process ID returned

   Cause: The guardian server process retrieved an unknown child process ID.

   Action: Contact Oracle Support Services.

14843 Failed to terminate guardian process.

   Cause: This is usually caused by the guardian server process not being able to log into or out of the database correctly.

   Action: Make sure ORACLE_HOME is set correctly.

14847 Receiving database alert failed with error %ld.

   Cause: This is usually caused by the database being shutdown abruptly.

   Action: Check to see if the database is online.

14848 Sending database alert failed with error %ld.

Cause: This is usually caused by the database being shutdown abruptly.

Action: Check to see if the database is online.

14849 Performing OOMGR's request failed with error %ld.

Cause: This is an internal error.

Action: Contact Oracle Support Services.

14850 Restarting child process failed with error %ld.

Cause: This is usually caused by a failed response from waiting on the child process.

Action: Contact Oracle Support Services.

14854 Some packages are not pinned successfully with error %ld.

Cause: Some of the packages were not loaded into the database successfully.

Action: Contact Oracle Support Services. The system should still function correctly.

14855 Pinning PL/SQL packages failed with error %ld.

Cause: This is a generic database error.

Action: Check and fix the related Oracle database error.

14857 Cannot execute package dbms_shared_pool.

Cause: Either the package is missing or the grant is not there.

Action: Reload the package dbms_shared_pool from $ORACLE_ HOME/rdbms/admin if the package is missing or corrupted, or grant `execute` permission of `dbms_shared_pool` package to the role `OO_USER`.

14859 Oracle error %ld updating guardian status.

Cause: Usually this is a generic database error.

Action: Check and fix the related Oracle database error.

14860 Failed to start up guardian process.

Cause: This can be caused by either a database error when retrieving updating guardian status, or a forking child process failed because of operating system problems such as reaching the process limit.

Action: If it is a database error, then check and fix the related Oracle database. If it is an operating system problem, then kill some processes in the system.

14861 Registering database alert failed with error %ld.
> **Cause:** Usually this is a generic database error.
>
> **Action:** Check and fix the related Oracle database error.

Postman Error Messages

OMD-11200, 0, oman: Failed to load parameters from database. Error=%d
> **Cause:** A parameter doesn't exist in the database, or it has the wrong parameter ID or type.
>
> **Action:** Check the previous error message.

OMD-11201, 0, oman: Oracle error %ld occurred while fetching daemon state.
> **Cause:** Fail to get daemon state information from tables ds_proctime and ds_configinfo.
>
> **Action:** Check the cause and action of the Oracle error given in the error message.

OMD-11202, 0, oman: Error %ld fetching the route table
> **Cause:** Fail to get route table for current node from tables ds_route and ds_path.
>
> **Action:** Check previous error message in the log.

OMD-11203, 0, oman: Oracle error %ld occurred while registering daemon process
> **Cause:** Failure to insert the registration record into table ds_registration.
>
> **Action:** Check the cause and action of the Oracle error given in the error message.

OMD-11208, 0, oman: Oracle error %ld occurred while deleting obsolete instances.
> **Action:** Check the previous error message.

OMD-11209, 0, oman: Error occurred while forwarding messages
> **Action:** Check the previous error message.

OMD-11211, 0, oman: Error occurred during local delivery.
> **Action:** Check previous error message in the log.

OMD-11213, 0, oman: Error occurred while processing notify queue.

Action: Check previous error message in the log.

OMD-11214, 0, oman: Oracle error %ld occurred in V1->V2 delivery.

Action: Check the cause and action of the Oracle error given in the error message.

OMD-11216, 0, oman: Error occurred during remote delivery.

Action: Check previous error message in the log.

OMD-11228, 0, POSTMAN: Failed to log into database. Error = %ld.

Cause: Incorrect connect string, server name, or password.

Action: Check database availability and correctness of connect string, server name and password. Check the next error message in the log file for more information.

OMD-11232, 0, oman: Failed to initialize the date context. Error = %ld.

Cause: Fail to allocate memory or fail to find a subsystem context.

Action: Make sure there is enough memory. Check if subsystem context list is initialized correctly.

OMD-11235, 0, POSTMAN: Fail to initialize cursor management environment. Error = %ld.

Cause: Fail to allocate memory.

Action: Increase available memory.

OMD-11238, 0, POSTMAN: Failed inserting log structure into context area.

Cause: Fail to allocate memory.

Action: Increase available memory.

OMD-11270, 0, Failed to decrypt remote rolestring, error=%ld.

Cause: A DS error occurred.

Action: Use `oerr` to check the returned ds error.

OMD-11271, 0, Failed to parse rolestring, error=%ld .

Action: Check next error message in the log.

OMD-11310, 0, ompmdam: Error %ld fetching msg %ld from message file.
    Cause: Error occurred while reading a message from a message file.

    Action: Check if the message file exists and if the environmental variable `ORACLE_HOME` is set correctly.

OMD-11360, 0, ompmssm: Error %ld fetching postmaster recipient.
    Action: Check the next error message in your log file for more information.

OMD-11363, 0, Missing PL/SQL package, skipping this test.
    Cause: A PL/SQL package is missing in the database.

    Action: Check the next error message in your log file for more information.

OMD-11407, 0, Mail client pl/sql package is not loaded.
    Cause: A PL/SQL package is not loaded to the database.

    Action: Check the next error message in your log file for more information.

OMD-11421, 0, ompnpfa: Error %ld encountered while processing msg.
    Action: Check the next error message in your log file for more information.

OMD-11471, 0, ompnrls: Error %ld encountered processing the msg.
    Action: Check the next error message in your log file for more information.

OMD-11472, 0, MAIL_RULES package is not loaded.
    Cause: `MAIL_RULES` package is not loaded.

    Action: Load the package into the database.

OMD-11503, 0, Oracle error %ld updating global Ids.
    Action: Check the next error message in your log file for more information.

OMD-11551, 0, omtmini: error occurred while fetching local. dead-message-hold.
    Action: Check the next error message in your log file for more information.

OMD-11552, 0, omtmini: error occurred while fetching remote-node return delay.
    Action: Check the next error message in your log file for more information.

OMD-11553, 0, omtmini: error occurred while fetching postmaster recipient
    Action: Check the next error message in your log file for more information.

OMD-11554, 0, omtmflg: error occurred while fetching postman flags.
    Action: Check the next error message in your log file for more information.

OMD-11555, 0, omtmini: error occurred while fetching route-table refresh
   Action: Check the next error message in your log file for more information.

OMD-11556, 0, omtmini: error occurred while fetching V12 package size
   Action: Check the next error message in your log file for more information.

OMD-11557, 0, omtmini: error occurred while fetching auto-reply history exp
   Action: Check the next error message in your log file for more information.

OMD-11558, 0, omtmini: error occurred while fetching notification type
   Action: Check the next error message in your log file for more information.

OMD-11559, 0, omtmini: error occurred while fetching partition Id
   Action: Check the next error message in your log file for more information.

OMD-11600, 0, omtpdlv: error occurred while fetching the next target hop
   Action: Check the next error message in your log file for more information.

OMD-11602, 0, omtpdlv: unknown destination path %ld ... skipping.
   Cause: Fail to get information of given path from database.
   Action: Check the previous error message in your log file for more information.

OMD-11605, 0, omtpdlv: failed to get a local lock on path %ld
   Action: Check the previous error message in your log file for more information.

OMD-11607, 0, omtpdlv: failed to relock path %ld.
   Action: Check the previous error message in your log file for more information.

OMD-11611, 0, omtpdlv: error occurred while connecting to hop %ld
   Cause: Failure of allocating memory or Oracle error.
   Action: Check the previous error message in your log file for more information if it's not likely to be memory problem.

OMD-11615, 0, omtpdlv: oracle error occurred on REMOTE node.
   Action: Check the next error message in your log file for more information.

OMD-11616, 0, omtpdlv: returned %ld from omtpbnc bouncing msgs.
   Action: Check the previous error message in your log file for more information.

OMD-11618, 0, omtpdlv: failed to get a lock on the remote om_out.
  Action: Check the previous error message in your log file for more information.

OMD-11624, 0, omtplck: PL/SQL error occurred while invoking mail_srvr.LOCK_ REMOTE_SRVRS.
  Action: Check the next error message in your log file for more information.

OMD-11625, 0, omtplck: oracle error occurred while invoking remote lock procedure.
  Action: Check the next error message in your log file for more information.

OMD-11648, 0, omtpret: error occurrde while sending returned msg.
  Cause: Oracle error occurred.

  Action: Check the previous error message in the log file for more information.

OMD-12029, 0, omtmini: error occurred while fetching trace flag.
  Action: Check the next error message in your log file for more information.

OMD-12030, 0, omtmini: error occurred while fetching statistics flag.
  Action: Check the next error message in your log file for more information.

OMD-12031, 0, omtmini: error occurred while fetching send billing flag
  Action: Check the next error message in your log file for more information.

OMD-12032, 0, omtmini: error occurred while fetching receive billing flag
  Action: Check the next error message in your log file for more information.

OMD-12033, 0, POSTMAN: failed to set cache size for cursor management
  Cause: Out of memory.

  Action: Increase available memory. Please report a bug if there is enough memory.

OMD-12034, 0, omtmdin: Failed to move message %ld in folder %ld to D queue
  Action: Check the next error message in your log file for more information.

OMD-12035, 0, omtmdrc: Failed to delete recipients for message %ld from om_ recipient.
  Action: Check the next error message in your log file for more information.

OMD-12036, 0, omtmgdi: Failed to fetch new delivery_id from om_dlv_seq.
    Action: Check the next error message in your log file for more information.

OMD-12037, 0, omtmgli: Failed to get a new local message ID from om_id_seq.
    Action: Check the next error message in your log file for more information.

OMD-12038, 0, omtmgpi: Failed to get information for path %ld.
    Action: Check the next error message in your log file for more information.

OMD-12039, 0, omtmgrn: Failed to fetch recipients for message %ld with delivery ID %ld.
    Action: Check the next error message in your log file for more information.

OMD-12040, 0, omtmgrs: Failed to fetch route table size.
    Action: Check the next error message in your log file for more information.

OMD-12041, 0, omtmibd: Failed to insert body records for message %ld
    Action: Check the next error message in your log file for more information.

OMD-12042, 0, omtmihd: Failed to insert header records into om_header for message %ld.
    Action: Check the next error message in your log file for more information.

OMD-12043, 0, omtmiin: Failed to insert instance record into om_instane for message %ld in folder %ld.
    Action: Check the next error message in your log file for more information.

OMD-12045, 0, omtminx: Failed to get information from om_cur_node.
    Action: Check the next error message in your log file for more information.

OMD-12046, 0, omtmirr: Failed to insert recipients into om_recipient for next hop %ld.
    Action: Check the next error message in your log file for more information.

OMD-12047, 0, omtmist: Failed to insert statistics into om_stat.
    Action: Check the next error message in your log file for more information.

OMD-12048, 0, omtmlbi: Failed to log billing information.
    Action: Check the next error message in your log file for more information.

OMD-12049, 0, omtpdlv: error occurred while clearing out om_ids.
    Action: Check the next error message in your log file for more information.

OMD-12050, 0, omtpdlv: error occurred while inserting messages into om_ids for path %ld.
    Action: Check the next error message in your log file for more information.

OMD-12051, 0, omtpdlv: error occurred while creating inclusion chain in om_local_out.
    Action: Check the next error message in your log file for more information.

OMD-12052, 0, omtpdlv: error occurred while clearing out in om_local_out
    Action: Check the next error message in your log file for more information.

OMD-12053, 0, omtpdlv: error occurred while deleting from om_recipient for path %ld
    Action: Check the next error message in your log file for more information.

OMD-12054, 0, omtpdlv: error occurred while deleting from om_ids.
    Action: Check the next error message in your log file for more information.

OMD-12055, 0, omtpdlv: error occurred while deleting from om_local_out.
    Action: Check the next error message in your log file for more information.

OMD-12056, 0, omtpdlv: error occurred while committing changes.
    Action: Check the next error message in your log file for more information.

OMD-12057, 0, omtplor: error occurred while acquiring object lock from path %ld.
    Action: Check the next error message in your log file for more information.

OMD-12058, 0, omtpulo: error occurred while updating om_lock with delivery ID %ld for path %ld.
    Action: Check the next error message in your log file for more information.

OMD-12059, 0, omtpilr: error occurred while inserting a om_lock record for path %ld.
    Action: Check the next error message in your log file for more information.

OMD-12061, 0, omtpbnc: error occurred while bouncing messages with size greater than %ld for path %ld.
Action: Check the next error message in your log file for more information.

OMD-12062, 0, omtpbnc: error occurred while fetching affected recipients for bounced message %ld of path %ld.
Action: Check the next error message in your log file for more information.

OMD-12063, 0, omtpcro: error occurred while inserting %ld records into remote om_out.
Action: Check the next error message in your log file for more information.

OMD-12064, 0, omtpcro: error occurred while fetching %d records from om_out.
Action: Check the next error message in your log file for more information.

OMD-12065, 0, omtpdat: error occurred while fetching %d records from om_datae.
Action: Check the next error message in your log file for more information.

OMD-12066, 0, omtpdat: error occurred while fetching %d records from om_data.
Action: Check the next error message in your log file for more information.

OMD-12067, 0, omtpdat: error occurred while inserting %d records into remote om_datae.
Action: Check the next error message in your log file for more information.

OMD-12068, 0, omtpdat: error occurred while inserting %d records into remote om_data.
Action: Check the next error message in your log file for more information.

OMD-12069, 0, omtpdin: error occurred while deleting remote message instances.
Action: Check the next error message in your log file for more information.

OMD-12070, 0, %s: no enough space for even one record.
Cause: Workspace isn't big enough for one record.
Action: Increase parameter workspace when starting up the postman process.

OMD-12071, 0, omtphdr: error occurred while fetching %d records from om_header.
Action: Check the next error message in your log file for more information.

OMD-12072, 0, omtphdr: error occurred while inserting %d records into remote om_header.
Action: Check the next error message in your log file for more information.

OMD-12073, 0, omtpmov: error occurred while fetching %d records from local node.
Action: Check the next error message in your log file for more information.

OMD-12074, 0, omtpmov: error occurred while inserting %d records into remote node.
Action: Check the next error message in your log file for more information.

OMD-12075, 0, omtpret: error occurred while fetching type of message %ld from om_header.
Action: Check the next error message in your log file for more information.

OMD-12076, 0, omtpret: error occurred while moving message %ld to dead folder.
Action: Check the next error message in your log file for more information.

OMD-12077, 0, omtpret: error occurred while returning undelivered messages
Action: Check the next error message in your log file for more information.

OMD-12078, 0, omtpurc: error occurred while updating remote om_recipient.mta_ node with delivery ID %ld.
Action: Check the next error message in your log file for more information.

OMD-12079, 0, omtmggi: error occurred while fetching gateway information.
Action: Check the next error message in your log file for more information.

OMD-12080, 0, Error occurred while initializing daemon context.
Action: Check the next error message in your log file for more information.

OMD-12081, 0, Oracle error %ld occurred while fetching sleeping infomation.
Action: Check the next error message in your log file for more information.

OMD-12083, 0, omptdlv: error occurred while invalidating om_recipient records with out corresponding om_instance records.
Action: Check the next error message in your log file for more information.

Monitor Process Messages

23004 Server login to the database failed with error %ld

Cause: Log in to database failed.

Action: Make sure that you are using the correct user name and password. Also use `oerr` to check the returned error number.

23008 Error getting node state

Cause: An error occurred while getting database status.

Action: Check the Oracle error messages that follow this message.

23009 Registering server process failed with error %ld

Cause: An error occurred while registering a process.

Action: Check the Oracle error messages that follow this message.

23010 System has been shut down or restarted. Exiting...

Cause: The system is not available.

Action: Make sure the system is running.

23011 Error fetching timing parameters.

Cause: An error occurred while retrieving process timing information.

Action: Check the Oracle error messages that follow this message.

23014 Invalid class id specified

Cause: An incorrect class ID was used.

Action: Use a correct class ID: monitor process = 5, statistics process =6. You can prevent this type of error by using the Administration Tool to perform your task.

23017 Cleaning up process registration failed with error %ld

Cause: An error occurred while clearing daemon process registration.

Action: Check the Oracle error messages that follow this message.

23021 Error getting process ID

Cause: Failed to get the current process ID.

Action: Contact Oracle Support Services.

23022 Error getting hostname

Cause: Failed to get the current host name.

Action: Contact Oracle Support Services.

23023 Error %ld initializing cursor manager context

Cause: This is usually caused by not having enough memory.

Action: Close some applications and try again.

23050 Get parameters failed

Cause: Failed to get monitor process parameter from the database.

Action: Check the Oracle error messages that follow this message.

23100 Statstics process encountered error %ld

Cause: The statistics process has errors.

Action: Check other specific errors that describe the problem in detail.

23101 Error %ld getting sleep time

Cause: Failed to get sleep time from the database.

Action: Check the Oracle error messages that follow this message.

23106 Monitor process encountered error

Cause: The monitor process has errors performing one of its tasks.

Action: Check other specific errors that describe the problem in detail.

23120 Monitor work buffer allocation error.

Cause: This is usually caused by not having enough memory.

Action: Close some applications and try again.

23124 Creating report message failed with error %ld

Cause: An error occurred while creating a message.

Action: Check the Oracle error messages that follow this message.

23125 Failed to read message file.

Cause: An error occurred while reading a message file.

Action: Check to see if the message file exists. Also make sure that ORACLE_
HOME is set correctly and make sure that the version is correct.

23417 Statistics SQL Statement Failed with error %ld

    Cause: An Oracle error occurred.

    Action: Use `oerr` to check the Oracle error message.

20

eMail Server Scripts

eMail Server provides scripts that help you automate routine tasks, such as collecting or replicating data. This chapter contains information on scripts for use with the eMail Server system, including:

- Scripts for Message-Billing Data Collection
- Parameters for Billing
- System Wide Virus Removal Script
- Bounce Back Messages Script (over recipient quota)

Scripts for Message-Billing Data Collection

eMail Server collects and stores information about the number and type of messages processed (sent) by the servers, and the number of messages received by users during a given time period. Using this data, you can create reports detailing items such as:

- Number of messages sent from your eMail Server system
- Number of messages sent by each user on your eMail Server system
- Number of messages received by your eMail Server system
- Number of messages received by each user on your eMail Server system
- Number of messages returned to each user on your eMail Server system
- Number of addresses sent by each user on your eMail Server system
- Average number of addresses for a message
- Average size message body sent
- Average size message header sent
- Average size message body received
- Average size message header received

To begin collecting billing data, you must set the `delivery_stats`, `send_billing`, `recv_billing` parameters of the postman process. The postman process manages your system's message routing tables and collects information about message traffic.

The Collector process automatically deletes data older than the number of days specified in the `gc_billinfo_kept` parameter of the collector process. The default value is 45 days.

> **See Also:** "Parameters for Billing" on page 20-4 for more information about setting the parameters available for billing

Activating Billing Information for Messages Sent

To begin collecting information about the messages sent to your eMail Server system, enable the `send_billing` parameter of the postman process. The default vaule of this parameter is `0` (diabled).

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR> register paramvalue server=postman
2>instance=<instance_value> parameter=send_billing value=1;
```

> **See Also:** "Parameters for Billing" on page 20-4 for more information about other parameters available for billing

Activating Billing Information for Messages Received

To begin collecting information about the messages received by your eMail Server system, enable the `recv_billing` parameter of the postman process. The default vaule of this parameter is `0` (diabled).

This task can only be performed through the OOMGR command-line interface.

In OOMGR

1. Start OOMGR.

2. Enter the following command at the OOMGR prompt:

```
IOFCMGR> register paramvalue server=postman
2>instance=<instance_value> parameter=recv_billing value=1;
```

> **See Also:** "Parameters for Billing" on page 20-4 for more information about other parameters available for billing

Viewing Billing Information for Messages Sent and Received

After you activate billing, the eMail Server system begins to collect billing data. You can retrieve the data using SQL scripts which query the views `om_billing_sent_messages` and `om_billing_received_messages`.

The following table shows the fields in the `om_billing_sent_messages` view:

Field Name	Type
TIMESTAMP	date
SENDER_NAME	varchar2 (limit of 255 characters)
MSG_ID	number

Field Name	Type
MSG_SIZE	number
MSG_TYPE	number
PRIORITY	number
LOCAL_RECIPS	number
REMOTE_RECIPS	number
GATEWAY_RECIPS	number

The following table shows the fields in the `om_billing_received_messages` view:

Field Name	Type
TIMESTAMP	date
SENDER_NAME	varchar2 (limit of 255 characters)
MSG_ID	number
PRIORITY	number
MSG_TYPE	number
RECIPIENT_NAME	not null; varchar2 (limit of 30 characters)
RECEIPIENT_LOCAL_ID	number
REMOTE_RECIPS	number
GATEWAY_RECIPS	number

Parameters for Billing

Parameter	Description and Values
billinfo_kept	Specifies the number of days message billing data is kept. *Valid Values:* 0 to 365 (365 days equals one year) *Default value:* 45

Parameter	Description and Values
delivery_stats	Specifies whether delivery statistics information is collected. This information is used to collect billing information. Setting this parameter may slow down postman process performance because of the additional work being done by the process.
	Valid values:
	0 (disables delivery statistics collection)
	1 (enables delivery statistics collection)
	Default value:
	0
recv_billing	Specifies whether billing information should be collected whenever a message is received. Setting this parameter may slow down postman process performance because of the additional work being done by the process.
	Valid values:
	0 (disables billing information collection on received messages)
	1 (enables billing information collection on received messages)
	Default value:
	0
send_billing	Specifies whether billing information should be collected whenever a message is sent. Setting this parameter may slow down postman process performance because of the additional work being done by the process.
	Valid values:
	0 (disables billing information collection on sent messages)
	1 (enables billing information collection on sent messages)
	Default value:
	0

System Wide Virus Removal Script

Oracle eMail Server comes with a PL/SQL package to help administrators identify and remove specific messages system wide based on its sender, subject or attachment name. A script is also provided to use this package interactively through SQLPLUS. The most useful application of this script is to remove virus infected messages in the system. This package provides option to specify the time range within which the virus infected message has been entering the system, as well

as an option to copy all these messages to a folder instead of deleting them immediately.

To use the SQLPLUS script, locate the file virusscr.sql under $ORACLE_ HOME/office/admin/rsql, edit the file using a text editor and follow the instructions inside the comments (comments are text preceded by '--') to customize the script for your environment. It is recommended a backup copy of the original file is made for future references. After editing the script, run SQLPLUS as user oo.

Example: SQLPLUS session script when running the script virusscr.sql

```
SQL> @virusscr
Message attribute(subject/attachment/sender)[subject]: attachment
Pattern: ILoveYou
End date(DD-MON-YYYY)[today]: 01-JAN-2000
Number of days until end date[1]: 30
Action(delete/move)[delete]: move
Folder name[/Infected]: /Wastebasket
old  18:    v_range := to_number('&&dayrange');
new  18:    v_range := to_number('30');
old  20:    IF '&&endday' = 'sysdate' THEN
new  20:    IF '01-JAN-2000' = 'sysdate' THEN
...
PL/SQL procedure successfully completed.
```

By default the script output to a log file /tmp/virus.log, which can be customized by editing the virusscr.sql file manually.

Example: log file output

```
10/20 17:04:13 INF: Processing message in range 16085 - 16085
10/20 17:04:13 INF: Deleted 10 messages
10/20 17:04:13 DIA: Finished processing messages beyond 11085
```

If "move" is the chosen operation, all messages deleted by this script will also be copied into the target folder.

Bounce Back Messages Script (over recipient quota)

Server side rules is a feature of eMail Server that allows users, administrators or application developers to set up rules and filters for incoming email messages. Administrators can greatly benefit from this feature by setting up a variety of

system wide email pocilies as rules, thereby greatly customize the server bevahior to suit the need of your particular requirements.

eMail Server comes with an example of such script, which can be used to set up a system wide rules to bounce back any incoming message if the recipient is over quota, thereby enforcing a hard quota policy. To use this script, locate the file bouncemsg.sql under $ORACLE_HOME/office/admin/rsql, run it using SQLPLUS as user oo.

Example: Script Output

```
SQL>@bouncemsg
Select rule management action item:(new/delete/disable/enable)[new]: new
Select action for over-quota messages(bounce/delete/both)[both]: both
old   7:    IF '&&sel' = 'new' THEN
new   7:    IF 'new' = 'new' THEN
...
PL/SQL procedure successfully completed.
```

> **See Also:**   the *Oracle eMail Server Developer's Guide* for more information on how to programmatically use server side rules.

21

Administration Tool Command Line Reference

This chapter contains an entry for each command available in the Administration Tool command-line interface. Each command is followed by a brief description of its purpose. In addition, the proper syntax, keywords, and command parameters are provided. Refer to "Using the Administration Tool Command-Line Interface" on page 1-7 for general instructions on how to start and use the Administration Tool command-line interface.

alias

Use `alias` to create an alias that you can use as a regular command. The alias can accept arguments and perform multiple commands.

Syntax

```
alias <aliasName> "<command1>;<command2>..."
```

Guidelines

The first argument is represented by *command1* in the command. The second argument is *command2*. The commands of an alias may contain other aliases that have already been created.

Example

To create an alias (`showchild`) that changes to an object in the navigation tree (`cd`) specified by an argument (`bluesky`) that the user enters when executing the alias, and then displays the child objects of the specified object (`ls`):

```
Admin> alias showchild "cd bluesky;ls;"
```

To use the alias to display the child objects of messaging:

```
Admin> showchild messaging
```

See Also:

cd

Use cd to move to a different object in the navigation tree (similar to changing directories in your operating system's file system).

Syntax

cd or cd /	Change to admin root (admin root is represented by a /).
cd *<path>*	Change to an object path.
cd *<indexNumber>*	Change to an object in the navigation tree, use the object index number.
	Note: To find the object index number, use cd to change to the parent object and use ls to display the child objects. The object index number is displayed in brackets [ ] next to the child object.
cd nextPage	Change to the next step in a wizard.
	This is equivalent to clicking the Next button in a GUI wizard.

Example

To change to the /messaging object:

```
Admin> cd /messaging
```

commit

Use `commit` to save all the changes that you have made for the current object.

Syntax

```
commit
```

Example

To commit a new location object:

```
Admin> set name=HQ1 admin=jdoe desc="Headquarters Building 1" parent=HQ
Admin> commit
```

See Also: "set" on page 21-369

desc

Use `desc` to display the properties for the current object, including property names, descriptions and possible values if there are limitations.

Syntax

`desc`	Display all property names, descriptions, and possible values for the current object.
`desc <prop1> <prop2>...`	Display specific properties for the current object.

echo

Use `echo` to display arguments that you specify on the next line.

Syntax

`echo`	Display a blank line.
`echo <arg1> <arg2>...`	Display arguments that you specify.

execfile

Use `execfile` to read and execute one line at a time from a file that you specify. You can use this to execute Administration Tool command-line scripts (you cannot use this command to execute OOMGR scripts).

Syntax

```
execfile <filename>
```

Example

To open the `commandFile` file and execute each line in the file as a command:

```
Admin> execfile commandFile
```

exit

Use exit to disconnect, or log off, from the database and exit the command-line tool.

Syntax

```
exit
```

find

Use `find` to search the directory for a directory entry.

Syntax

```
find <prop1>=<value1> <prop2>=<value2>...
```

Example

To find a person entry with the first name beginning with `J` and an office location at `HQ`:

```
find "Search in"=Person firstname=J% office="HQ"
```

get

Use get to display all the available properties for an object.

Syntax

get	Display all available properties for the current object.
get . <prop1> <prop2>...	Display a subset of the available properties for the current object.
get <objectName> or get <indexNumber>	Display all available properties for a specific object. You can enter the name of the object or the object index number. **Note:** To find the object index number, use cd to change to the parent object and use ls to display the child objects. The object index number is displayed in brackets [ ] next to the child object.
get <objectName> <prop1> <prop2>... or get <indexNumber> <prop1> <prop2>...	Display a subset of the available properties for a specific object. You can enter the name of the object or the object index number, as well the specific property names. **Note:** To find the object index number, use cd to change to the parent object and use ls to display the child objects. The object index number is displayed in brackets [ ] next to the child object.

Guidelines

To display properties for a specific object, you must cd to the parent object in the navigation tree before executing the get <objectName> command.

Example

To display all available properties for the Directory Entries object, enter the following command:

```
Admin> get "Directory Entries"
```

To display the value property for the Directory Entries object:

```
Admin> get "Directory Entries" value
```

help

Use help to display information about how to use the commands.

Syntax

help	Display a list of commands.
help <*command*>	Display details of how to use a specific command.

Example

To display instructions for using the ls command:

```
Admin> help ls
```

helplevel

Use `helplevel` to set the level of help.

Syntax

`helplevel`	Display the current help level.
`helplevel <number>`	Set the help level (enter a number).

Guidelines

The help level can be 0, 1, or 2.

Example

To set the help level to 1:

`Admin> helplevel 1`

if

Use `if` to specify that a command should be executed if the specified child object exists or does not exist, or if the last command was or was not successful.

Syntax

`if exists <childObject1>`
`then <command1> <command2>...`
`else <command3> <command4>...`
`endif`
	If *childObject1* exists, then the commands after `then` (*command1* and *command2*) are executed.
	
	If *childObject1* does not exist, then the commands after `else` (*command3* and *command4*) are executed.

`if not exists <childObject2>`
`then <command1> <command2>...`
`else <command3> <command4>...`
`endif`
	If *childObject2* does not exist, then the commands after `then` (*command1* and *command2*) are executed.
	
	If *childObject2* does exist, then the commands after `else` (*command3* and *command4*) are executed.

`if success`
`then <command1> <command2>...`
`else <command3> <command4>...`
`endif`
	If the last command was successful, then the commands after `then` (*command1* and *command2*) are executed.
	
	If the last command was not successful, then the commands after `else` (*command3* and *command4*) are executed.

`if not success`
`then <command1> <command2>...`
`else <command3> <command4>...`
`endif`
	If the last command was not successful, then the commands after `then` (*command1* and *command2*) are executed.
	
	If the last command was successful, then the commands after `else` (*command3* and *command4*) are executed.

Example

listalias

Use `listalias` to display all aliases that have been defined using the `alias` command. The first column in the list displays the alias name, and the remaining columns display the commands that are executed by the alias.

Syntax

```
listalias
```

> **See Also:**

loadalias

Use `loadalias` to load aliases listed in a file. You can use one file to store multiple `alias` commands.

Syntax

```
loadalias <filename>
```

Guidelines

Aliases listed in the alias file should be defined using the syntax for the `alias` command. Each alias should be on a separate line in the file.

```
<aliasName1> "<command1>;<command2>;..."
<aliasName2> "<command3>;<command4>;..."
```

See Also: "alias" on page 21-348

logon

Use `logon` to specify properties for an object (such as `password` or `domain`) and then connect to that object.

Syntax

```
logon <objectName> <prop1>=<value1> <prop2>=<value2>...
```

Example

To log on to the messaging system, you must specify a user, password, connect string, and domain:

```
Admin> logon "messaging system" user=admin password=hello "Connect String"=acme
domain=acme.com
```

ls

Use `ls` to display a list of child objects located in the current object in the navigation tree. This display includes index numbers that you can use to represent objects in other commands such as the `get` command.

Syntax

`ls`	Display a list of all child objects.
`ls -l`	Display a list of all child objects and all their properties, if available.
`ls -l <prop1> <prop2>...`	Display a list of all child objects and specific properties, if available.

pwd

Use `pwd` to display the complete path for the current object in the navigation tree.

Syntax

`pwd`

rem

Use `rem` to indicate a comment line in a file that contains commands that are to be executed. Comment lines are ignored by the system.

Syntax

```
rem
```

Example

```
Admin> rem This is a new test case.
```

run

Use `run` to execute the command for the current object using the provided arguments.

Syntax

`run <command>`	Run a command.
`run <command> <table_ selection1> <table_ selection2>...`	Run a command to apply an item in a table.

Examples

If you are at the Directory Entries level of the navigation tree, then you can run a directory search after you have specified the search properties using the `set` command:

```
Admin> run search
```

To see the results, use the `ls` command.

```
Admin> ls
```

If you are at the Directory Entries level of the navigation tree, then you can run the `new` command to add a new user entry to the directory:

```
Admin> run new user=tester1
```

If you are at the Directory Entries level of the navigation tree, then you can run the `delete` command to remove a user entry from the directory (make sure the entry exists first):

```
Admin> run delete tester1
```

select

Use `select` to store the selected child objects located under the current object in the navigation tree. This command can only be used for objects that can be selected.

Syntax

`select <objectName1>` `<objectName2>...`	Select an object. You can enter the object name or the index number.
or	**Note:** To find the object index number, use `cd` to change to the parent object and use `ls` to display the child objects. The object index number is displayed in brackets [ ] next to the child object.
`select <indexNumber1>` `<indexNumber2>...`	

Example

To select the objects testobj1 and testobj3:

```
Admin> select testobj1 testobj3
```

See Also: "unselect" on page 21-373

set

Use set to specify the property values for the current object.

Syntax

set *<prop1>*=*<value1>* *<prop2>*=*<value2>*...

Example

To set the name property to jdoe:

Admin> set name=jdoe

> **See Also:** "commit" on page 21-350

settimeout

Use `settimeout` to display or set the timeout value for log on (in seconds).

Syntax

`settimeout`	Display the current timeout value.
`settimeout <seconds>`	Set the timeout value.

Example

To set the timeout value to 15 seconds:

```
Admin> settimeout 15
```

shell

Use `shell` to execute the specified arguments in a system subshell.

Syntax

`shell <argument1> <argument2>...`

Example

To execute the `ls` command in a system subshell:

`Admin> shell ls foo.java`

unalias

Use `unalias` to remove an alias that was previously created using the `alias` command.

Syntax

```
unalias <aliasName>
```

Example

To remove an alias called display:

```
Admin> unalias display
```

> **See Also:**   "alias" on page 21-348

unselect

Use `unselect` to cancel a selection made with the `select` command.

Syntax

`unselect <objectName1>` `<objectName2>...`	Unselect an object. You can enter the object name or the index number.
or	**Note:** To find the object index number, use `cd` to change to the parent object and use `ls` to display the child objects. The object index number is displayed in brackets [ ] next to the child object.
`unselect <indexNumber1>` `<indexNumber2>...`	

Example

To unselect the objects called obj1 and obj2:

`Admin> unselect obj1 obj2`

See Also:

wait

Use `wait` to insert breaks between commands when running in batch mode. You must enter the number of seconds to wait before executing the next command.

Syntax

`wait <seconds>`

Guidelines

For the number of seconds, you can specify any integer from 0 to 2147483647.

Example

To wait 10 seconds before executing the next command, enter the following command:

`Admin> wait 10`

22_I

OFCMGR Command Reference

This chapter contains an entry for each valid OOMGR command. Each command is followed by a brief description of its purpose and any prerequisites for proper use. In addition, the proper syntax, keywords, and command parameters are provided.

See "Using OOMGR" on page 1-13 for general instructions on how to start and use OOMGR.

autocommit

Specifies whether the Autocommit feature, which automatically commits changes to the database after each command, is enabled or disabled. If no parameters are specified, checks if Autocommit is enabled.

Note: Autocommit is enabled by default.

Prerequisites

None

Syntax

```
autocommit {on | off}
```

Parameters

on	Enables Autocommit
off	Disables Autocommit

Usage Notes

When Autocommit is disabled, use the commit command to explicitly commit changes to the database.

Example

To check whether Autocommit is enabled, enter the following:

```
IOFCMGR> autocommit
```

To enable Autocommit, enter the following:

```
IOFCMGR> autocommit on
```

To disable Autocommit, enter the following:

```
IOFCMGR> autocommit off
```

boot domain

Preconfigures a new domain configuration node (DCN), which allows you to bring it up manually.

Prerequisites

None.

Syntax

```
boot domain qualifiedName=<qualified_name> [description=<description>]
autoinit={enabled | disabled} node=<node_name> dbconnect=<string>
dbpassword=<pwd> [status=<status>] [maxsize=<number1>] [packagesize=<number2>]
NUMBINFO=<info> community=<community> ;
```

Parameters

qualifiedName	Specifies the qualified name of the domain
description	Specifies a description of the domain
autoinit	Specifies whether the domain allows automatic initialization of new nodes. Valid values are enabled and disabled. The default value is enabled.
node	Specifies the name of the new node
dbconnect	Specifies the connect string for the node's database
dbpassword	Specifies the node's database password
status	Specifies the status of the queue that connects to the community. Valid values are ACIVE and suspendED. Also indicates whether the connection is open (cached).
maxsize	Specifies the maximum message size in bytes accepted by this node
packagesize	Specifies the maximum package size in bytes accepted by this node
timeout	Specifies the postman time out interval, in minutes, when delivering messages to the node. If timeout is not set, the postman uses packagesize + 10 as the time-out interval.
community	Specifies the node's initial community

Example

```
IOFCMGR> boot domain qualifiedName=oracle.com node=node_28 dbconnect=t:node_
```

```
28:db_50 dbpassword=28spwd community=comm1;
```

boot node

Preconfigures a new member node, which allows you to bring it up manually.

Prerequisites

None.

Syntax

```
boot node node=<name> dbconnect=<string> dbpassword=<pwd> community=<community>
[maxsize=<number1>] [packagesize=<number2>];
```

Parameters

node	Specifies the name of the new node
dbconnect	Specifies the connect string to the node database
dbpassword	Specifies the node's database password
community	Specifies the node's initial community
maxsize	Specifies the maximum message size in bytes accepted by this node
packagesize	Specifies the maximum package size in bytes accepted by this node

Example

```
IOFCMGR> boot node node=node_28 dbconnect=t:node_28:db_50 dbpassword=28spwd
community=comm1;
```

bounce

Sends a specific message in a specified queue back to the sender.

Prerequisites

None.

Syntax

```
bounce queueid=<queueid> msgid=<msgid> [reason="<bounce_message>"];
```

Parameters

queueid	Specifies the number assigned to the queue in which the message is located. To view a list of queues, use the display command as follows:

```
display queues;
```

msgid	Specifies the number assigned to the message you want to bounce. To view a list of messages in a specific queue, use the display command as follows:

```
display message queueid=<queueid_number>
```

reason	An optional note to the sender explaining the message is being bounced

Example

```
IOFCMGR> bounce queueid=299 msgid=848848 reason="No such address.";
```

change

Edits the command in the buffer.

Prerequisites

You must have entered a command from a category other than General.

Syntax

```
change /<old_string>/<new_string>
```

Parameters

<old_string>	Specifies the value you want to change
<new_string>	Specifies the value you want to insert in place of the existing value

Usage Notes

Use the change command with the list and Run commands to display, modify, and run the command saved in the buffer.

The last command entered that manipulated data is saved in the buffer. The list command displays the contents of the buffer. The change command allows you to modify the command in the buffer. The Run command runs the modified command in the buffer.

Example

If the following command is entered:

```
IOFCMGR> fetch person username=ating;
```

and you now want to fetch information on user jsmith, enter the following:

```
IOFCMGR> change /ating/jsmith
```

Enter the Run command to run the modified command.

CHECK

Displays the privileges assigned to a person, role, or organization, or the privileges assigned on an object.

Prerequisites

None.

Syntax

```
check [user={<object1> | all}] [userclass=<class1>] item={<object2> | <class2> |
all} [itemclass=<class3>];
```

Parameters

user	Identifies the object whose privileges you are checking. Set user equal to the use, role, or organization name whose privileges you are checking. Or, to check the default privileges on an object or class, set user equal to all.
userclass	Identifies the class of the object whose privileges you are checking. Use only if <object1> is not a unique name across classes.
item	Identifies the object or class upon which the user object has privileges
itemclass	Identifies the class of the object upon which the user object has privileges. Use only if <object2> is not a unique name across classes.

Usage Notes

If you use the check command without specifying a user, displays all users that have explicit grants on the item. Also shows any non-explicit (inherited) grants on the same item.

Example

```
IOFCMGR> check user=all item=alias;
```

CLEANUP shadows

Removes inactive, or overdue, database shadow processes.

Prerequisites

None.

Syntax

```
cleanup shadows;
```

Example

```
IOFCMGR> cleanup shadows;
```

commit

Commits data changes made since the last commit or rollback command to the database.

Prerequisites

You must have made changes to the data.

Syntax

```
commit
```

Usage Notes

If Autocommit is enabled, do not use the commit command. If you use the commit command when Autocommit is enabled, the following message appears:

```
Autocommit is set to on. Committing has no effect.
```

Example

```
IOFCMGR> commit
```

connect

Connects the current session to another eMail Server domain.

Prerequisites

You must have access to an administrative account for the new domain.

Syntax

```
connect <username>/<password>/<connect_string>/<domain>
```

Parameters

<username>	Specifies the administrator's username for the domain to which you want to connect
<password>	Specifies the administrator's password for the domain to which you want to connect
<connect_string>	Specifies the connect string for the database that contains the domain
<domain>	Specifies the name of the domain to which you want to connect

Usage Notes

The connect command allows the administrator to manage multiple domains without having to log out and log in to the new domain.

Example

```
IOFCMGR> connect admin/welcome/T:node2:DB2/domain_2
```

delete

Deletes an eMail Server object.

Prerequisites

There must be objects to delete.

Syntax

```
delete <class> <keyattr_n>=<value_n> ;
```

Parameters

<class>	Specifies the class of the object you want to delete, such as person, rule, role, room, organization, gateway, domain, equipment, community, commroute, location, alias, dl, attachtype, attachmap, node, template, prv_template, and folder
<keyattr_n>	One or more key attributes that uniquely identify the object you want to delete

Example

```
IOFCMGR> delete person username=jsmith;
```

deregister

Removes a process, parameter, or setting.

Prerequisites

None.

Syntax

```
deregister <class> <keyattr_n>=<value_n> [...];
```

Parameters

<class>	Specifies the class of the object you want to deregister, such as gateway, application, synctype, process, paramtype, paramvalue, paramtime
<keyattr_n>	One or more key attributes that uniquely identify the object you want to deregister

Example

```
IOFCMGR> deregister PARAMTIME server=postman instance=1 STARTTIME=4;

IOFCMGR> deregister process server=postman instance=2;
```

display

Displays system status information, such as space usage and queue, process, or replicator package status.

Prerequisites

None.

Syntax

```
display {DB_SPACE | processes | queueS};
```

or

```
display {QUOTA | shadows} user=<user_name>;
```

or

```
display replicator PACKAGE filename=<value>
```

or

```
display replicator {queue | FOLDERS | ACTIVITY };
```

or

```
display message queueid=<queue_id>;
```

Parameters

DB_SPACE	Check space usage by tablespace
processes	Check process status
queueS	Display a list of queues and related status items
QUOTA	Check space usage by user. Must include username

shadows	Display a list of any database shadow processes used by eMail Server clients. The following information is displayed:

- Either ACTIVE or OVERDUE status to indicate if the corresponding client is still alive
- The name of the logged in user
- The operating system process ID of the shadow process
- The database session ID of the corresponding database session
- The serial number of the corresponding database session

user	Specifies the user ID
replicator	Check a specific replicator package (include number), or all replicator queues, folders, and general activity
message	Display a list of messages in a queue and related status items. Must include queueid number.

Example

```
IOFCMGR> display processes;
IOFCMGR> display message queueid=1;
```

echo

Displays messages on the computer screen during batch file execution.

Prerequisites

None.

Syntax

```
echo <message>
```

Parameters

<message>   Specifies the message you want to appear on the screen

Usage Notes

Use the echo command in batch files to display messages that indicate the program is running and has reached a certain point.

Example (in batch file)

```
echo Batch updates in progress...echo Batch updates 10% done...echo Batch
updates completed.
```

execute

Runs a batch file.

Prerequisites

There must be a batch file to execute.

Syntax

```
execute <filename>;
```

Parameters

<filename>   Specifies the name of the batch file to execute

Example

```
IOFCMGR> execute update.bat;
```

exit

Exits from OOMGR.

Prerequisites

None.

Syntax

```
exit
```

Usage Notes

Commits uncommitted transactions, exits IOFCMGR, and returns to the operating system prompt.

Example

```
IOFCMGR> exit
```

explst

Creates an editable file containing a distribution list or alias data text.

Prerequisites

None.

Syntax

```
explst {<object_class>} filename=<filename> name=<objectname>;
```

Parameters

<object_class>	Specifies the object class. Valid values are either ALIAS or DL
filename	Specifies the name of the export file you want to create
name	Specifies the name of the alias or distribution list you are exporting

Usage Notes

The explst command is used with the implst command to move aliases and distribution lists in text format from one node to another.

Example

```
IOFCMGR> explst dl filename=list.exp name=managers;
```

export

Exports eMail Server data and user accounts as binary data.

Prerequisites

There must be data or accounts to export.

Syntax

```
export {<filename> | end};
```

Parameters

filename	Specifies the name of the export file you want to create
end	Disables the export function

Usage Notes

The export command must be used with the fetch command. Use the fetch command to select the data to export. The export command is used with the import command to move eMail Server data and user accounts from one node to another.

Example

The following example shows the steps necessary to export eMail Server data:

Enter the export command at the prompt, specifying the export filename as follows:

```
IOFCMGR> export file1;
```

Fetch the data you want to export as follows:

```
IOFCMGR> fetch person username=%;
 <Person_record_1>
 <Person_record_2>
 <...>
 N record(s) exported.
```

You can enter as many fetch statements as you need to select the data to export. For each fetch statement, OOMGR displays the fetched records, ending with a message that provides the number of records fetched for the export file.

Disable the export function as follows:

```
IOFCMGR> export end;
```

FETCH

Retrieves and displays an object or class.

Prerequisites

None.

Syntax

```
fetch <class> <attribute_n>=<value_n> [...];
```

Parameters

<class>	Specifies the class of the information you want to fetch, such as person, rule, role, room, organization, gateway, domain, equipment, community, commroute, location, alias, dl, attachtype, attachmap, node, connectdata, route, template, prv_template, and folder
<attribute_n>	Identifies the information you want to fetch. To fetch a single object, enter one or more key attribute values.

Usage Notes

The fetch command supports the use of the percent sign (%) as a wildcard.

Example

To retrieve an entire class with the fetch command, use wildcards for the key attribute values. For example, to retrieve all persons, enter the following:

```
IOFCMGR> fetch person username=%;
```

To fetch a single object, specify its class and key attributes. For example, to fetch a ConnectData record, enter the following:

```
IOFCMGR> fetch ConnectData node=node1 community=comm1;
```
To fetch a subset of a class, specify the attributes that identify the subset. For example, to fetch all managers, enter the following:

```
IOFCMGR> fetch person primaryrole=manager;
```

To fetch all sales managers, enter the following:

```
IOFCMGR> fetch person primaryrole=manager primaryorg=sales;
```

To fetch all persons whose last names begin with S, enter the following:

```
IOFCMGR> fetch person lastname=S%;
```

GRANT

Provides a user, role, or organization with access to an object.

Prerequisites

None.

Syntax

```
grant user={<object1> | all} [userclass=<class1>] item={<object2> | <class2> |
all} [itemclass=<class3>] priv={admin | list | save | send | discover | contents
| moderate | child};
```

Parameters

user	Identifies the object to which you are granting privileges, where <object1> specifies the username, role name, or organization name to which you are granting privileges, and all specifies that OOMGR grants this as a public privilege
userclass	Identifies the class of the object to which you are granting privileges. Use only if <object1> is not a unique name across classes.
item	Identifies the object or class upon which the user object has privileges.
itemclass	Identifies the class of the object upon which the user object has privileges. Use only if <object2> is not a unique name across classes.

priv	Identifies directory object privilege you want to grant as follows:
	■ admin grants the user permission to perform any administrative operation on the entries in a given domain
	Note: The item is specified by giving the qualified domain name.
	■ send grants the user permission to send messages to collective addressable entries; public distribution lists, roles, locations, and organizations
	■ save grants the user permission to save and print the results of directory searches
	■ list grants the user permission to view a class of entries, such as the Organization class, in eMail Server
	Identifies folder privilege you want to grant as follows:
	■ discover makes the folder visible to the user
	■ contents allows the user to view folder contents and create new contents
	■ moderate allows the user to delete messages
	■ child allows the user to create subfolders
	■ admin grants the user all folder privileges

Example

```
IOFCMGR> grant user=managers userclass=role item=managers itemclass=dl
priv=send;
```

help

Starts the online help.

Prerequisites

None.

Syntax

```
help [<command> [<class>]]
```

Parameters

<command>	Specifies the command for which you want help
<class>	Specifies the class of object for which you want help

Example

```
IOFCMGR> help
IOFCMGR> help insert
IOFCMGR> help insert person
```

host

Displays the operating system prompt and opens a subshell without exiting OOMGR.

Prerequisites

None.

Syntax

```
host
```

Usage Notes

When you use the host command and quit or exit at the operating system prompt, you return to OOMGR.

Example

```
IOFCMGR> host
```

implst

Imports a text file of alias or distribution list data.

Prerequisites

The file must match the expected format.

Syntax

```
implst {<object_class>} filename=<filename> overwrite={Y | N};
```

Parameters

<object_class>	Specifies the object class. Valid values are either ALIAS or DL
filename	Specifies the name of the file you are importing
overwrite	If set to Y, specifies that matching aliases or distribution lists are overwritten. If set to N, matching aliases or distribution lists are not overwritten

Usage Notes

The implst command is used with the explst command to move aliases and distribution lists in text format from one node to another. Set overwrite to Y if you want to update data.

Example

```
IOFCMGR> implst DL filename=list.imp overwrite=Y;
```

import

Imports data stored in binary format into eMail Server.

Prerequisites

The file to import must be in binary format.

Syntax

```
import filename=<filename> [owner=<owner>];
```

Parameters

filename	Specifies the name of the file containing the binary data
owner	When importing user data, specifies the username of the account into which you are importing the user

Usage Notes

The import command is used with the export command to move eMail Server data and user accounts from one node to another.

Example

```
IOFCMGR> import filename=file.exp;
```

insert

Adds an eMail Server object record.

Prerequisites

None.

Syntax

```
insert <class> <keyatt_n>=<value_n> [<attribute_n>=<value_n>];
```

Parameters

<class>	The class of object you are inserting from, such as person, rule, role, room, organization, gateway, domain, equipment, community, commroute, location, alias, dl, attachtype, attachmap, and folder
<keyatt_n>	One or more required key attributes that you must set
<attribute_n>	Optional attributes that can also be set

Usage Notes

Use the insert command to create directory objects, messaging objects, and configuration objects. Use the register command to create other types of objects, such as processes.

Example

```
IOFCMGR> insert person username=jdoe;
IOFCMGR> insert dl name=HR_all member=jdoe,dsmith,pwhite,ckent;
```

list

Displays the command in the buffer.

Prerequisites

You must have entered a command from a category other than General.

Syntax

```
list
```

Usage Notes

Use the list command with the change and Run commands to display, modify, and run the command saved in the buffer.

The last command entered that manipulates data is saved in the buffer. The list command displays the contents of the buffer. The change command allows you to modify the command in the buffer. The Run command runs the modified command in the buffer.

Example

```
IOFCMGR> list
```

modify

Changes parameter or attribute values.

Prerequisites

None.

Syntax

```
modify <class> <keyatt_n>=<value_n> [...] to <attribute_n>=<newvalue_n> [...];
```

Parameters

<class>	Specifies the class of objects you want to change, such as application, gateway, synctype, local, monitor, paramtime, paramtype, paramvalue, preference, process, or statistics
<keyattr_n>	Specifies one or more key attributes that uniquely identify the object you are modifying
<attribute_n>	Specifies the attribute or attributes you want to change

Usage Notes

After modifying a parameter or attribute value, use the refresh command to restart the process and enable the changes.

Use the update command to change directory objects, messaging objects, and configuration objects. Use the modify command to change other types of objects such as processes.

Example

```
IOFCMGR> modify paramtime server=postman instance=1 starttime=0 to sleeptime=5;
```

move

Moves the system configuration node (SCN) or the domain configuration node (DCN) services to another node.

Prerequisites

If you use the move DCN command, the new DCN must be in the same domain and must have received and executed all updates.

Syntax

```
move {SCN | DCN} name=<node>;
```

Parameters

SCN	Move SCN services to another node
DCN	Move DCN services to another node in the domain
name	Name of the node to which you want to move the SCN or DCN services

Example

```
IOFCMGR> move SCN node=node1 move DCN node=node2;
```

pause

Pauses the screen display after a given number of lines. Also used to view the pause setting or disable the pause function.

Prerequisites

None.

Syntax

```
pause [{<number> | off}]
```

Parameters

<number>   Specifies the number of lines after which the display should pause until the user presses Enter

off   Disables the pause function

Example

To pause the screen display after every 24 lines, enter the following:

```
IOFCMGR> pause 24
```

To view the pause setting, enter the following:

```
IOFCMGR> pause
```

To disable the pause function, enter the following:

```
IOFCMGR> pause off
```

publish

Creates a public distribution list or template from a private distribution list or template.

Prerequisites

None.

Syntax

```
publish {DL | template} owner=<username> oldname=<oldname> [newname=<newname>];
```

Parameters

DL	Publish a private distribution list.
template	Publish a private template
owner	Username that owns the distribution list or template
oldname	The name of the private distribution list or template
newname	The name you want to assign to the public version of the distribution list or template

Example

```
publish template owner=rmiller oldname=enrollform newname="Class Enrollment
Template";
```

REFRESH

Restarts all or specific processes.

Prerequisites

The process or processes must be running.

Syntax

```
refresh all;
```

or

```
refresh server=<processtype> [instance=<number>];
```

Parameters

all	Specifies restarting all running processes
server	Specifies the type of process you are restarting
instance	Specifies the number of the registered process if you have more than one of this type of process

Usage Notes

Use after you use the modify command to change process parameters so that changes can take effect.

The refresh command operates on the local computer only. Do not use the refresh command on a different computer from the one on which the eMail Server system you are managing is installed.

Example

To refresh all running eMail Server processes, enter the following:

```
IOFCMGR> refresh all;
```

To refresh all instances of the postman, enter the following:

```
IOFCMGR> refresh server=postman;
```

To refresh instance 2 of the postman, enter the following:

```
IOFCMGR> refresh server=postman instance=2;
```

register

Adds an eMail Server object.

Prerequisites

None.

Syntax

```
register <class> <attribute_n>=<value_n> [...];
```

Parameters

<class>	Specifies the class you are registering, such as application, gateway, synctype, paramtime, paramtype, paramvalue, or process
<attribute_n>	Specifies one or more attributes that you want to set

Usage Notes

Use the insert command to create directory objects, messaging objects, and configuration objects. Use the register command to create other types of objects such as processes.

Example

```
IOFCMGR> register process server=postman instance=2 DefaultStartup=enabled;
```

rem

Denotes comments in an OOMGR batch file that are not executed.

Prerequisites

None.

Syntax

```
rem <text>
```

Parameters

<text>   Text of the comment you want to include

Example

```
rem This file contains updates
rem for February 29
```

replicate

Copies a domain or a single class in a domain onto a node.

Prerequisites

The node must be subscribed to the domain that owns the information to be copied. Also, you must perform this command on the domain configuration node (DCN).

Syntax

```
replicate to {file= <file_name> | node=<node_name>} class={<class_name> | all};
```

or

```
replicate from file=<file_name>;
```

Parameters

file	Specifies the name of the file
node	Identifies the node to receive the information.
class	Specifies the name of the class or, if set to all, copies all classes onto the node

Usage Notes

Use the replicate command to synchronize the information on a node with the information on its DCN. You typically use the replicate command if the node is unable to receive replicator packages for an extended amount of time; if the database is corrupted; or if you do not want to wait for the next automatic update.

Example

```
IOFCMGR> replicate node=node1 class=all;
IOFCMGR> replicate node=node2 class=person;
```

reroute

Moves all messages in one outbound queue to another outbound queue.

Prerequisites

If you are rerouting because of a blocked queue, first change the message delivery routes so that messages are routed to an alternate queue rather than to the blocked queue. Ensure that the node with the blocked queue receives the updated message delivery route information and that all instances of the postman on the node with the blocked queue are refreshed.

Syntax

```
reroute sourceq=<sourceqid> targetq=<targetqid>;
```

Parameters

sourceq	Specifies the ID of the queue whose messages you want to reroute
targetq	Specifies the ID of the alternate queue

Usage Notes

Use the reroute command as the last step in circumventing a blocked outbound queue. See the following example for the other steps.

Example

To use the command line interface to reroute a message, complete the following steps:

1. To prevent additional messages from being routed to the blocked queue, connect to the SCN and change the message delivery routes so that the blocked route is no longer the lowest-cost route. Assign the lowest cost to the alternate route.

   In general, to change the cost of a message delivery route, enter the following:

   ```
   IOFCMGR> update commroute sourcecomm=<source_community> targetcomm=<target_
   community> connectcomm=<connect_community> to cost=<cost>;
   ```

2. Wait for the new message delivery route information to propagate to the node with the blocked queue. This depends on when the replicator and postman run

and on the number of nodes through which the information must travel before reaching the node with the blocked queue.

3. To check that the new message delivery route information has reached the node with the blocked queue, run OOMGR on the node, and enter the following:

```
IOFCMGR> fetch commroute sourcecomm=<source community> targetcomm=<target
community> connectcomm=<connect community>;
```

4. On the node with the blocked queue, refresh the postman processes so that they use the new message delivery route information. To do so, enter the following:

```
IOFCMGR> refresh server=postman;
```

5. To reroute the blocked queue, enter the following:

```
IOFCMGR> reroute sourceq=<blocked_queueID> targetq=<alternate_queueID>;
```

reset replicator

Resets the replicator to accept a package regardless of its number. Generally, the replicator accepts packages in order of their number. The reset command resets replicator sequencing starting with the number of the next package received.

Prerequisites

None.

Syntax

```
reset replicator;
```

Example

```
IOFCMGR> reset replicator;
```

resume

Restarts queue or message processing after stopping it.

Prerequisites

You must first use the suspend command to stop the queue or message.

Syntax

```
resume queue queueid=<queueid>;
```

or

```
resume message queueid=<queueid> msgid=<msgid>;
```

Parameters

queue	Resume processing a queue
message	Resume processing a message
queueid	Specifies the ID of the queue you are restarting or of the queue containing the message you are restarting
msgid	Specifies the ID of the message you are restarting.

Example

```
IOFCMGR> resume queue queueid=27;
IOFCMGR> resume message queueid=23 msgid=28384;
```

REVOKE

Removes access to an object from a person, role, or organization.

Prerequisites

You must use the grant command to grant the user the privilege you are revoking.

Syntax

```
revoke user={<object1> | all} [userclass=<class1>] item={<object2> | <class2> |
all} [itemclass=<class3>] priv={admin | list | save | send | discover | contents
| moderate | child};
```

Parameters

user	Identifies the object whose privileges you are revoking:, such as username, role name, or organization name. If set to all, specifies the name used for public privileges
userclass	Identifies the class of the object whose privileges you are revoking. Use this only if <object1> is not a unique name across classes
item	Identifies the object or class upon which the user object has privileges
itemclass	Identifies the class of the object upon which the user object has privileges. Use this only if <object2> is not a unique name across classes.

priv   Identifies directory object privilege you are revoking as follows:

- admin grants the user permission to perform any administrative operation on the entries in a given domain

  Note: The item is specified by giving the qualified domain name.

- send grants the user permission to send messages to collective addressable entries; public distribution lists, roles, locations, and organizations

- save grants the user permission to save and print the results of directory searches

- list grants the user permission to view a class of entries, such as the Organization class, in eMail Server

Identifies folder privilege you are revoking as follows:

- discover makes the folder visible to the user

- contents allows the user to view folder contents and create new contents

- moderate allows the user to delete messages

- child allows the user to create subfolders

- admin grants the user all folder privileges

Example

```
IOFCMGR> revoke user=rmiller item=VP itemclass=DL priv=send;
```

rollback

Discards all information entered since starting OOMGR or since the last commit or rollback, whichever is most recent.

Prerequisites

You must have made changes to the data.

Syntax

```
rollback
```

Usage Notes

If Autocommit is enabled, you cannot roll back because changes are committed immediately rather than stored in a buffer.

Example

```
IOFCMGR> rollback
```

Run

Executes the command in the buffer.

Prerequisites

You must have entered a command from a category other than General.

Syntax

```
Run
```

Usage Notes

You can use the run command with the change and list commands to display, modify, and run the command saved in the buffer.

The last command entered that manipulate data is saved in the buffer. The list command displays the contents of the buffer. The change command allows you to modify the command in the buffer. The Run command runs the modified command in the buffer.

Example

```
IOFCMGR> Run
```

setpwd

Changes the password for current login or the database for the current node.

Prerequisites

None.

Syntax

```
setpwd {admin | database};
```

or

```
setpwd user name=<account_id>;
```

Parameters

admin	Identifies the admin password
database	Identifies the database password
user	Identifies the user to whom you are assigning the password
name	Identifies the name of the mail account

Usage Notes

When you enter the setpwd command, OOMGR prompts you to enter the new password and re-enter it to confirm it.

Example

```
IOFCMGR> setpwd user name=blake;
```

show

Displays eMail Server object records.

Prerequisites

None.

Syntax

```
show <class> [<attribute_n>=<value_n>] [...] ;
or
show <class> all ;
```

Parameters

<class>	Specifies the class you are displaying data for, such as application, gateway, local, monitor, oraclesvr, preference, process, synctype, or statistics
<attribute_n>	Specifies one or more attributes that identify the object or objects you want to show. To show a single object, enter the key attribute value or values.
all	Specifies displaying all objects in the given class

Usage Notes

Use the fetch command to display directory objects, messaging objects, and configuration objects. Use the show command to display other types of objects such as processes.

Example

```
IOFCMGR> show gateway;
IOFCMGR> show process all server=postman instance=1;
IOFCMGR> show monitor active=Y;
```

shutdown

Stops all or selected processes.

Prerequisites

At least one eMail Server process must be started up.

Syntax

```
shutdown all;
```

or

```
shutdown server=<servername> [instance=<number>];
```

Parameters

all	Shuts down all running eMail Server processes
server	Identifies the type of process to shut down
instance	Identifies the specific instance you want to shut down

Usage Notes

When the last process is shut down, eMail Server prohibits client logins.

Shutdown operates on the local computer only. Do not use the shutdown command on a different computer from the one on which the eMail Server system you are managing is installed.

Example

```
IOFCMGR> shutdown server=postman instance=2;
```

spool

Opens a file for output.

Prerequisites

None.

Syntax

```
spool [<filename> | off]
```

Parameters

<filename>	Specifies the name of the file you want to open
off	Disables the spool function

Usage Notes

Use the spool command whenever you want a record of what you have done. For example, you might want to open a spool file before using the verify command to obtain a copy of the results.

Example

```
IOFCMGR> spool file1 spool off
```

To display the name of the current spool file, enter the following:

```
IOFCMGR> spool
```

startup

Starts all or selected processes.

Prerequisites

None.

Syntax

```
startup all;
```

or

```
startup server=<servername> [instance=<number>];
```

Parameters

all	Starts up all eMail Server processes for which the DefaultStartup is set to enabled
server	Identifies the type of process to start up
instance	Identifies the specific registered process you want to start up

Usage Notes

The startup command operates on the local computer only. Do not use the startup command on a different computer from the one on which the eMail Server system you are managing is installed.

Example

```
IOFCMGR> startup server=replicator instance=2 startup all;
```

To start up all instances of the postman, enter the following:

```
IOFCMGR> startup server=postman;
```

subscribe

Adds a node to a community or designates a node to receive information from a domain.

Prerequisites

You must log in to the system configuration node (SCN) to subscribe to a community. To subscribe to a domain, you must log in to the domain configuration node (DCN) for the domain.

Syntax

```
subscribe community node=<node> community=<community>;
```

or

```
subscribe domain node=<node>;
```

Parameters

community	Subscribes a node to a community
domain	Subscribes a node to a domain
node	Specifies the name of the node that you are subscribing to the domain or community
community	Specifies the name of the community to which you are subscribing the node

Example

```
IOFCMGR> subscribe domain node=node1;
IOFCMGR> subscribe community node=node1 community=comm1;
```

suspend

Stops queue or message processing.

Prerequisites

None.

Syntax

```
suspend queue queueid=<queueid>;
```

or

```
suspend message queueid=<queueid> msgid=<msgid>;
```

Parameters

queue	Stop processing a queue
message	Stop processing a message
queueid	Specifies the ID of the queue you are suspending or of the queue containing the message you are suspending
msgid	Specifies the ID of the message you are suspending

Usage Notes

Use the resume command to restart suspended queues or messages.

Example

```
IOFCMGR> suspend queue queueid=23;
IOFCMGR> suspend message queueid=28 msgid=837737;
```

unsubscribe

Removes an eMail Server node from a domain or community.

Prerequisites

The node must subscribe to the domain or community. You must log in to the SCN to unsubscribe from a community. To unsubscribe from a domain, you must log in to the DCN.

Syntax

```
unsubscribe community node=<node> community=<community>;
```

or

```
unsubscribe domain node=<node>;
```

Parameters

community	Unsubscribes a node from a community
domain	Unsubscribes a node from a domain
node	Specifies the name of the node that you are unsubscribing from the domain or community
community	Specifies the name of the community from which you are unsubscribing the node

Example

```
IOFCMGR> unsubscribe domain node=node1;
IOFCMGR> unsubscribe community node=node1 community=comm1;
```

update

Changes or adds attributes of an object.

Prerequisites

None.

Syntax

```
update <class> <keyatt_n>=<value_n> [...] to <attribute_n>=<newvalue_n> [...];
```

Parameters

\<class>	Specifies the class of objects you want to change, such as person, rule, role, room, organization, gateway, domain, equipment, community, commroute, location, alias, dl, attachtype, attachmap, node, connectdata, route, template, prv_template, folder
\<keyatt_n>	Specifies one or more key attributes that uniquely identify the object you are updating.
\<attribute_n>	Specifies one or more attributes you want to change or add.

Usage Notes

Use the update command to change directory objects, messaging objects, and configuration objects. Use the modify command to change other types of objects, such as processes.

Example

```
IOFCMGR> update person username=rmiller to manager=jclark;
```

verify

Checks tables and cleans up inconsistent data.

Prerequisites

None.

Syntax

```
verify {mail | scheduler | directory | names};
```

Parameters

mail	Checks for and deletes any inconsistent data in the mail tables
scheduler	Checks for and deletes any inconsistent data in the scheduler tables
directory	Checks for and deletes any inconsistent data in the directory tables
names	Checks for aliases and distribution lists, public and private, that refer to invalid users. Restores aliases and distribution lists that were temporarily invalid due to moving users.

Usage Notes

To keep a record of work done by the verify command, use the verify command with the spool command.

Use the verify command before and after any changes to, or transfers of, large amounts of data.

Example

To use the verify and spool commands together, enter a series of commands such as the following:

```
IOFCMGR> spool filename;
IOFCMGR> verify mail;
IOFCMGR> spool off;
```

WHOAMI

Displays the current OOMGR login name, node, and domain.

Prerequisites

None.

Syntax

```
WHOAMI
```

Usage Notes

Use the WHOAMI command to check which node and domain you are managing.

Example

```
IOFCMGR> WHOAMI
```

23

MIME Text Encoding and Decoding

If you will be exchanging messages and message attachments with a non-MIME-compliant system, then you can set up a gateway that performs special encoding and decoding.

In most cases, the default MIME (Multipurpose Internet Mail Extensions) configuration will be sufficient for your needs. If you need to customize your MIME configuration, then use the following tasks described in this chapter:

■ Configuring the Method for Encoding MIME Content

■ Configuring Messages That Are Not MIME-Compliant

Configuring the Method for Encoding MIME Content

The SMTP/MIME (Simple Mail Transfer Protocol/Multipurpose Internet Mail Extensions) gateway provides a standard set of content transfer methods for encoding MIME attachments such as base64, quoted-printable, 7-bit, 8-bit, and binary methods. In addition, the gateway can also be configured to perform non-standard content transfer encoding and decoding, such as uuencode.

All outbound messages undergo either type conversion or content transfer encoding before they can be transmitted through the SMTP gateway. Exceptions are message bodies and attachments of types that map to text/<text-subtype> without conversion. The character set used is the one specified with the `default_charset` gateway parameter.

You can specify the content-transfer method with the `default_encoding` gateway parameter. The sender can also override this parameter by specifying any supported encoding method in the Content-Transfer-Encoding header when composing a message.

> **See Also:** for more information about the gateway parameters

Encoding 8-bit Data

SMTP transmits data in 7-bit byte streams. MIME defines how 8-bit data can be encoded in 7-bit byte stream for transmission in SMTP. The gateway recognizes that messages composed in a non-ASCII character set may contain 8-bit data that requires transfer encoding.

The gateway checks the Content-Transfer-Encoding header (not case-sensitive) for the name of the encoding method the message sender wants to use—for example, quoted-printable or x-uuencode. When the Content-Transfer-Encoding header is not present in the main message, the gateway uses the default transfer encoding method specified in the `default_encoding` parameter.

When an attachment containing 8-bit data does not require type conversion, the gateway performs transfer encoding on the data. For example, the attachment type mapping instructs the gateway to map eMail Server type GIF to image/gif, but does not define a converter for this GIF-to-image/gif mapping. The attachment will undergo content transfer encoding and be sent out as an image/gif MIME part.

Defining Non-ASCII Character Sets

The `default_charset` gateway parameter enables the 32-bit Windows client programs that cannot use the X-Orcl-Charset extended header to specify the character set information of the message body of outbound SMTP/MIME messages.

The `default_charset` parameter carries all the semantics of the X-Orcl-Charset extended header. This parameter takes a lower precedence over the X-Orcl-Charset extended header. That is, if a sender specifies X-Orcl-Charset extended header, then the extended header value will be taken as the `default_charset` parameter in the Content-Type header of the message body and all of its text attachments (which are without the `default_charset` parameter in the Content-Type header).

If this parameter is set to non-ASCII characters, then text parts of outbound messages are encoded by using the current transfer method defined by the `default_textencoding` gateway parameter. Content transfer encoding is necessary for converting text composed in 8-bit character sets to ensure that it is correctly transferred by the SMTP/MIME gateway.

The value of `default_charset` is suppressed by the value of X-Orcl-Charset extended header if present in the message.

> **See Also:** "Gateway Process Parameters" on page 11-4 for more information about the gateway parameters

Encoding Non-ASCII Character Sets

The `default_textencoding` gateway parameter specifies the content transfer encoding method used for text message bodies and text attachments written in non-ASCII character sets.

The method of content transfer encoding used for text message bodies and text attachments is the value set for the `default_textencoding` gateway parameter. By default, the `default_textencoding` parameter is set to `quoted-printable`.

The value of the gateway parameter `default_encoding` applies only to non-text body parts. The value of this parameter will be suppressed by the extended header Content-Transfer-Encoding.

External Programs for Content Transfer Encoding/Decoding

When you define external programs for content transfer encoding/decoding by using the `insert attachmap` command, use the `foreigntype` parameter to specify the name of the encoding method. Also, give the `localtype` parameter a

value corresponding to an attachment type that has a definition for the generic platform.

Standard content transfer encoding methods described in RFC1521 (that is base64, quoted-printable, 7bit, 8bit, and binary) are not given to external programs to perform encoding and so must use the gateway's interpretation of the encoding algorithms.

External encoder programs should perform both encoding and decoding. Restrictions for external conversion programs also apply to external content transfer encoders.

> **See Also:** "Defining an x-uuencode Converter: Example" on page 23-4 for more information

When an Encoder Fails

When an external encoder program fails, the gateway encodes the data in base64. A message explaining this is sent to the message sender.

When a Decoder Fails

When an external decoder program terminates with an error, the MIME body part is inserted as an attachment type defined in the default_type parameter, a process parameter for the UNIX gateway processes. The attachment starts with an X-Orcl-Comment header, which reports that the gateway failed to decode the data. The Comment header is followed by the original Content-Type and Content-Transfer-Encoding headers.

Defining an x-uuencode Converter: Example

The following example defines an external converter for the x-uuencode transfer encoding method. The gateway uses the shell command ofcuu.sh -E in directory $ORACLE_HOME/bin to filter all binary data.

The name of the transfer encoding method appears in the Content-Transfer-Encoding header of the outbound message.

```
IOFCMGR>insert attachmap gateway=smtp
2>foreigntype=x-uuencode
3>converter=ofc_uu.sh
4>description='unix-to-unix encode/decode' localtype=1;
```

Configuring Messages That Are Not MIME-Compliant

Messages that are not MIME-compliant may use the uuencode method to encode 8-bit data into 7-bit data. You configure the uuencode method by using the gateway parameters `do_uuencode` and `do_uudecode`.

> **See Also:** "Gateway Process Parameters" on page 11-4 for more information about the gateway parameters

Encoding Data in Outbound Messages

You use the `do_uuencode` parameter to determine if 8-bit data should be encoded by the gateway without relying on external encoders. If the parameter is not zero, then the gateway codes 8-bit (non-ASCII) data contained in outgoing messages.

The SMTP/MIME (Simple Mail Transfer Protocol/Multipurpose Internet Mail Extensions) gateway also supports plugging in external encoders for encoding content transfer for messages that are not RFC1521-compliant. The sender of a message can explicitly specify a certain method of content transfer encoding.

When composing a message, use the X-Orcl-Charset extended header to indicate the character set being used in the message body and the attachments to text MIME types (which do not have the `charset` parameter specified in their Content-Type header). This extended header will not be transmitted.

Decoding Data in Inbound Messages

Use the parameter `do_uudecode` to determine if non-MIME-compliant data encoded with uuencode should be decoded or treated like ordinary MIME messages. If the parameter is not zero, then the gateway performs automatic decoding of encoded data contained in incoming messages. If the parameter is set to zero, then data is not automatically decoded. (This only works for non-MIME-compliant data that is uuencoded. MIME-compliant messages with a content-transfer-encoding of `uuencode` require an external decoder.)

The gateway examines each line of the message for the start of a uuencoded segment.

In a piece of uuencoded data, a file name and the file permission are specified at the beginning. The gateway will create an attachment with the specified file name but will ignore the file permission. If decoding is successful, then the decoded data is inserted into the attachment. However, if decoding fails, then the uuencoded data is inserted in the attachment.

In either case, an attachment is created for a uuencoded segment in a message that is of the type specified by the gateway parameter `default_type`. The uuencoded segment will be removed from the message body.

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