

Oracle9*i*AS InterConnect Adapter for SMTP

Installation and User's Guide

Release 2 (9.0.2)

February 2002

Part No. A95446-01

ORACLE[®]

Oracle9iAS InterConnect Adapter for SMTP Installation and User's Guide, Release 2 (9.0.2)

Part No. A95446-01

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Contributing Authors: Ching Chung and Mark Kennedy

Contributors: Kathryn Gruenefeldt

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Part No. A95446-01

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Preface

This guide is the primary source of introduction, installation, configuration, and usage information for the Simple Mail Transfer Protocol (SMTP) adapter.

This preface contains these topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Organization](#)
- [Related Documentation](#)
- [Conventions](#)

Audience

Oracle9iAS InterConnect Adapter for SMTP Installation and User's Guide is intended for developers who want to integrate an SMTP application with other applications using Oracle9iAS InterConnect.

Documentation Accessibility

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

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Accessibility of Code Examples in Documentation JAWS, a Windows screen reader, may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, JAWS may not always read a line of text that consists solely of a bracket or brace.

Organization

This document contains:

Chapter 1, "Introduction"

This chapter describes the SMTP adapter and the hardware and software requirements.

Chapter 2, "Installation and Configuration"

This chapter describes installation and configuration of the SMTP adapter.

Chapter 3, "Design Time and Runtime Concepts"

This chapter describes the design time and runtime concepts for the SMTP adapter.

Chapter 4, "Frequently Asked Questions"

This chapter provides answers to frequently asked questions about the SMTP adapter.

Appendix A, "adapter.ini Example File"

This appendix shows an `adapter.ini` example file.

Related Documentation

For more information, see these Oracle resources:

- *Oracle9iAS InterConnect User's Guide* in the Oracle9i Application Server Documentation Library
- *Oracle9i InterConnect Adapter Configuration Editor User's Guide* on the Oracle9i Application Server Integration CD-ROM

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Conventions

This section describes the conventions used in the text and code examples of this documentation set. It describes:

- [Conventions in Text](#)
- [Conventions in Code Examples](#)
- [Conventions for Microsoft Windows Operating Systems](#)

Conventions in Text

We use various conventions in text to help you more quickly identify special terms. The following table describes those conventions and provides examples of their use.

Convention	Meaning	Example
Bold	Bold typeface indicates terms that are defined in the text or terms that appear in a glossary, or both.	When you specify this clause, you create an index-organized table .
<i>Italics</i>	Italic typeface indicates book titles or emphasis.	<i>Oracle9i Database Concepts</i> Ensure that the recovery catalog and target database do <i>not</i> reside on the same disk.
UPPERCASE monospace (fixed-width) font	Uppercase monospace typeface indicates elements supplied by the system. Such elements include parameters, privileges, datatypes, RMAN keywords, SQL keywords, SQL*Plus or utility commands, packages and methods, as well as system-supplied column names, database objects and structures, usernames, and roles.	You can specify this clause only for a NUMBER column. You can back up the database by using the BACKUP command. Query the TABLE_NAME column in the USER_TABLES data dictionary view. Use the DBMS_STATS.GENERATE_STATS procedure.

Convention	Meaning	Example
lowercase monospace (fixed-width) font	Lowercase monospace typeface indicates executables, filenames, directory names, and sample user-supplied elements. Such elements include computer and database names, net service names, and connect identifiers, as well as user-supplied database objects and structures, column names, packages and classes, usernames and roles, program units, and parameter values. Note: Some programmatic elements use a mixture of UPPERCASE and lowercase. Enter these elements as shown.	Enter <code>sqlplus</code> to open SQL*Plus. The password is specified in the <code>orapwd</code> file. Back up the datafiles and control files in the <code>/disk1/oracle/dbs</code> directory. The <code>department_id</code> , <code>department_name</code> , and <code>location_id</code> columns are in the <code>hr.departments</code> table. Set the <code>QUERY_REWRITE_ENABLED</code> initialization parameter to <code>true</code> . Connect as <code>oe</code> user. The <code>JRepUtil</code> class implements these methods.
<i>lowercase italic monospace (fixed-width) font</i>	Lowercase italic monospace font represents placeholders or variables.	You can specify the <i>parallel_clause</i> . Run <code>Uold_release.SQL</code> where <i>old_release</i> refers to the release you installed prior to upgrading.

Conventions in Code Examples

Code examples illustrate SQL, PL/SQL, SQL*Plus, or other command-line statements. They are displayed in a monospace (fixed-width) font and separated from normal text as shown in this example:

```
SELECT username FROM dba_users WHERE username = 'MIGRATE';
```

The following table describes typographic conventions used in code examples and provides examples of their use.

Convention	Meaning	Example
[]	Brackets enclose one or more optional items. Do not enter the brackets.	<code>DECIMAL (digits [, precision])</code>
{ }	Braces enclose two or more items, one of which is required. Do not enter the braces.	<code>{ENABLE DISABLE}</code>
	A vertical bar represents a choice of two or more options within brackets or braces. Enter one of the options. Do not enter the vertical bar.	<code>{ENABLE DISABLE}</code> <code>[COMPRESS NOCOMPRESS]</code>

Convention	Meaning	Example
...	Horizontal ellipsis points indicate either: <ul style="list-style-type: none"> ■ That we have omitted parts of the code that are not directly related to the example ■ That you can repeat a portion of the code 	<pre>CREATE TABLE ... AS <i>subquery</i>;</pre> <pre>SELECT <i>col1</i>, <i>col2</i>, ... , <i>coln</i> FROM employees;</pre>
.	Vertical ellipsis points indicate that we have omitted several lines of code not directly related to the example.	
Other notation	You must enter symbols other than brackets, braces, vertical bars, and ellipsis points as shown.	<pre>acctbal NUMBER(11,2);</pre> <pre>acct CONSTANT NUMBER(4) := 3;</pre>
<i>Italics</i>	Italicized text indicates placeholders or variables for which you must supply particular values.	<pre>CONNECT SYSTEM/<i>system_password</i></pre> <pre>DB_NAME = <i>database_name</i></pre>
UPPERCASE	Uppercase typeface indicates elements supplied by the system. We show these terms in uppercase in order to distinguish them from terms you define. Unless terms appear in brackets, enter them in the order and with the spelling shown. However, because these terms are not case sensitive, you can enter them in lowercase.	<pre>SELECT last_name, employee_id FROM employees;</pre> <pre>SELECT * FROM USER_TABLES;</pre> <pre>DROP TABLE hr.employees;</pre>
lowercase	Lowercase typeface indicates programmatic elements that you supply. For example, lowercase indicates names of tables, columns, or files. Note: Some programmatic elements use a mixture of UPPERCASE and lowercase. Enter these elements as shown.	<pre>SELECT last_name, employee_id FROM employees;</pre> <pre>sqlplus hr/hr</pre> <pre>CREATE USER mjones IDENTIFIED BY ty3MU9;</pre>

Conventions for Microsoft Windows Operating Systems

The following table describes conventions for Microsoft Windows operating systems and provides examples of their use.

Convention	Meaning	Example
Choose Start >	How to start a program.	To start the Oracle Database Configuration Assistant, choose Start > Programs > Oracle - <i>HOME_NAME</i> > Configuration and Migration Tools > Database Configuration Assistant.
File and directory names	File and directory names are not case sensitive. The following special characters are not allowed: left angle bracket (<), right angle bracket (>), colon (:), double quotation marks ("), slash (/), pipe (), and dash (-). The special character backslash (\) is treated as an element separator, even when it appears in quotes. If the file name begins with \\, then Windows assumes it uses the Universal Naming Convention.	<code>c:\winnt"\"system32</code> is the same as <code>C:\WINNT\SYSTEM32</code>
<code>C:\></code>	Represents the Windows command prompt of the current hard disk drive. The escape character in a command prompt is the caret (^). Your prompt reflects the subdirectory in which you are working. Referred to as the <i>command prompt</i> in this manual. The backslash (\) special character is sometimes required as an escape character for the double quotation mark (") special character at the Windows command prompt. Parentheses and the single quotation mark (') do not require an escape character. Refer to your Windows operating system documentation for more information on escape and special characters.	<code>C:\oracle\oradata></code> <code>C:\>exp scott/tiger TABLES=emp QUERY=\"WHERE job='SALESMAN' and sal<1600\" C:\>imp SYSTEM/<i>password</i> FROMUSER=scott TABLES=(emp, dept)</code>
<i>HOME_NAME</i>	Represents the Oracle home name. The home name can be up to 16 alphanumeric characters. The only special character allowed in the home name is the underscore.	<code>C:\> net start Oracle<i>HOME_</i> <i>NAME</i>TNSListener</code>

Introduction

This chapter describes the Simple Mail Transfer Protocol (SMTP) adapter and the hardware and software requirements.

This chapter contains these topics:

- [SMTP Adapter Overview](#)
- [SMTP Adapter System Requirements](#)
- [SMTP Adapter Known Limitations](#)

SMTP Adapter Overview

The SMTP adapter enables an Oracle SMTP application to be integrated with other applications using Oracle9iAS InterConnect. This adapter is useful in all enterprise application integration (EAI) environments where e-mail uses the Internet Message Access Protocol 4 (IMAP4) and SMTP transport protocols. EAI is the integration of applications and business processes within the same company (known as an enterprise).

The SMTP adapter can monitor incoming messages in the form of e-mail placed on an IMAP server. The SMTP adapter is also capable of sending messages to SMTP servers. The payload type (the data being delivered to a destination) for this adapter is one of the following:

- Extensible Markup Language (XML) data
- Data definition description language (D3L) data

Figure 1-1 depicts the data flow of incoming messages (from an IMAP server to Oracle9iAS InterConnect).

Figure 1-1 Incoming Messages

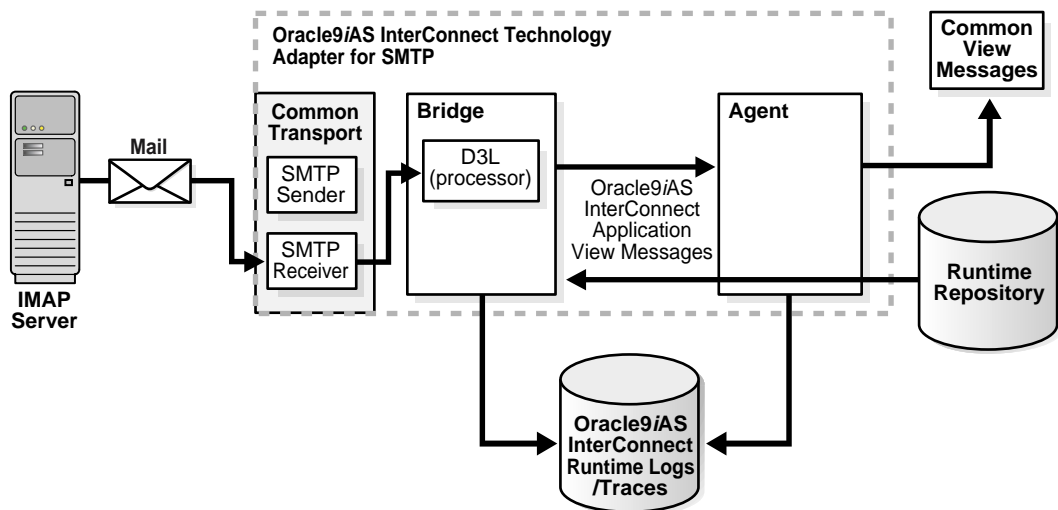
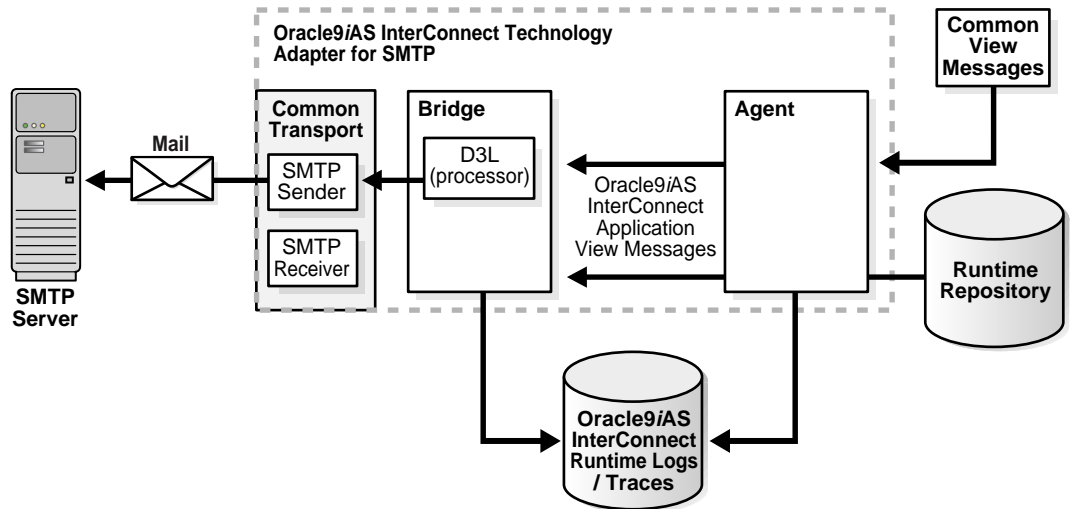


Figure 1-2 depicts the data flow of outgoing messages (from Oracle9iAS InterConnect to an SMTP server).

Figure 1-2 *Outgoing Messages*



SMTP Adapter System Requirements

The following sections describe SMTP adapter system requirements:

- [Hardware Requirements](#)
- [Software Requirements](#)

Hardware Requirements

[Table 1-1](#) lists the hardware requirements for the computer on which to install the SMTP adapter.

Table 1-1 *Hardware Requirements*

Hardware	Windows NT/2000	UNIX
Memory	128 MB	128 MB
Service pack	Windows NT 4.0 Service Pack 6 or later Windows 2000 Service Pack 1 or later	Not applicable
Disk space	500 MB	500 MB

Software Requirements

The following sections describe SMTP adapter software requirements:

- [Operating System Requirements](#)
- [JRE Requirements](#)

Operating System Requirements

[Table 1-2](#) lists the operating system requirements for the computer on which to install the SMTP adapter.

Table 1-2 *Operating System Requirements*

Operating System	Platform	Version
Windows NT/2000	Any	Version that supports at least 400 MHz
UNIX	IBM AIX-Based Systems	Version 4.3.3
	Compaq Tru64 UNIX	Version 5.0a/5.1
	HP 9000 Series HP-UX	Version 11.0/11i
	SUSE LINUX	Version 7.2
	Sun SPARC Solaris	Version 2.6

JRE Requirements

Oracle9iAS InterConnect uses Java Runtime Environment (JRE) 1.3, which is installed with its components.

SMTP Adapter Known Limitations

The SMTP adapter has the following limitations:

- The IMAP server with Secure Socket Layer (SSL) is not supported.
- Only multiple endpoints (destinations) for outgoing messages (from Oracle9iAS InterConnect to SMTP servers) are supported. For incoming messages (IMAP server to Oracle9iAS InterConnect), only a single endpoint is supported.
- The sending endpoint and receiving endpoints are restricted to SMTP endpoints.
- Only IMAP4 server is supported in this release. Post Office Protocol 3 (POP3) is not supported.
- In multiple instance cases, ensure that each application instance has a separate receiving endpoint. Otherwise, different instances of adapters may attempt to process the same message concurrently.

Installation and Configuration

This chapter describes Simple Mail Transfer Protocol (SMTP) adapter installation and configuration.

This chapter contains these topics:

- [Installing SMTP Adapter](#)
- [SMTP Adapter Configuration Parameters](#)

Installing SMTP Adapter

This section contains these topics:

- [Preinstallation Tasks](#)
- [Installation Tasks](#)
- [Postinstallation Tasks](#)

Preinstallation Tasks

The SMTP adapter must be installed in one of the following Oracle homes:

- An existing Oracle9i Application Server home
- An existing Oracle9iAS Infrastructure database home
- An existing Oracle9iAS InterConnect home
- A new Oracle home (Oracle Universal Installer creates this Oracle home for you)

Consult the *Oracle9i Application Server Installation Guide* before proceeding with SMTP adapter installation. This guide includes the following information:

- CD-ROM mounting
- Oracle Universal Installer startup
- Oracle9iAS InterConnect software, hardware, and system requirements
- Oracle9iAS InterConnect installation

Note: Oracle9iAS InterConnect is installable through the Oracle9iAS InterConnect Hub installation type. You must install the Oracle9iAS InterConnect Hub before proceeding with SMTP adapter installation.

Installation Tasks

To install the SMTP adapter:

1. Click Next on the Welcome screen.

The File Locations screen appears.

2. Enter the following information in the Destination fields:

- Name—The Oracle home name
- Path—The full path to the Oracle home in which to install the SMTP adapter

Note: Do not change the path specified in the Source field. This is the location on the CD-ROM from which to install the SMTP adapter.

3. Click Next.

The Installation Types screen appears.

4. Select Oracle9iAS InterConnect Adapters and click Next.

The Available Product Components screen appears.

5. Select Oracle9iAS InterConnect SMTP Adapter and click Next.

6. If the SMTP adapter is not being installed on the same computer as Oracle9iAS InterConnect and another adapter is not installed in the current Oracle home, the Oracle9iAS InterConnect Hub Database screen appears. Enter the following information about the Oracle9iAS InterConnect Hub to use:

- Host Name—The hostname of the computer on which Oracle9iAS InterConnect is installed
- Port Number—The port number of the computer
- Database SID—The system identifier (SID) of the Oracle9iAS InterConnect Oracle9iAS Metadata Repository
- Password—The password for the Oracle9iAS Metadata Repository schema

The Oracle9iAS Metadata Repository stores metadata used by Oracle9iAS InterConnect to coordinate communication between components.

7. Click Next.

The Oracle9iAS InterConnect SMTP Adapter Configuration screen appears.

8. Enter the name of the application associated with the SMTP adapter. White spaces or blanks are not allowed. This is the same application name created or to be created in iStudio.
9. Click Next.

The Oracle9iAS InterConnect SMTP Adapter usage screen appears.

10. Select one of the following options and go to the step specified to enable the sending and receiving of messages, the sending of messages only, or the receiving of messages only from an external data source, such as an SMTP server. You can change the values for these selections later by editing parameter settings in the `adapter.ini` file.

If You Select...	Then Click Next and Go to Step...
Configure for both sending and receiving messages	11
Configure for sending messages ONLY	11
Configure for receiving messages ONLY	13

11. Enter the following information in the Oracle9iAS InterConnect SMTP Adapter Configuration - Configure sending endpoint information screen:

- Email Address—The e-mail address of the outgoing SMTP server to which Oracle9iAS InterConnect sends messages. Enter the e-mail address as follows:

username@hostname

- Outgoing Mail Server—The hostname of the outgoing SMTP server to which Oracle9iAS InterConnect sends messages

12. Click Next.

The installation screen that appears next is based on the selection you made in Step 10:

If You Selected...	Then Go to Step...
Configure for both sending and receiving messages	13
Configure for sending messages ONLY	15

13. Enter the following information in the Oracle9iAS InterConnect SMTP Adapter Configuration - Configure receiving endpoint information screen:
 - Username—The username account of the IMAP server from which the Oracle9iAS InterConnect receives messages
 - Password—The password for the username account
 - Incoming Mail Server—The hostname of the IMAP server from which Oracle9iAS InterConnect receives messages. This information is required for polling the username account and sending information back to Oracle9iAS InterConnect.

Caution: For testing purposes, do not specify a personal e-mail account as the receiving endpoint. During runtime, the SMTP adapter connects to the IMAP server and removes messages in the folder specified by the receiving endpoint. Oracle Corporation recommends that you create a dedicated e-mail account for testing and deploying this adapter.

14. Click Next.
15. Complete any other fields for other components selected for installation, such as other adapters.

When finished, the Summary screen appears.

16. Select Install to install the SMTP adapter. The adapter is installed in the following directory:

Platform	Directory
Windows	%ORACLE_HOME%\oai\9.0.2\adapters\ <i>Application</i>
UNIX	\$ORACLE_HOME/oai/9.0.2/adapters/ <i>Application</i>

Application is the value you specified in Step 8 on page 2-4.

Postinstallation Tasks

SMTP adapter installation creates an `adapter.ini` file that consists of configuration parameters read by the SMTP adapter at startup. These configuration parameter settings are appropriate for most SMTP application environments. You can customize some `adapter.ini` file parameter settings for the SMTP application after installation. See the following sections:

- [Customizing the Payload Datatype](#)
- [Customizing the Sending Endpoints](#)
- [Customizing the Receiving Endpoints](#)

See Also:

- [Table 2-1](#) on page 2-8 for the location of the `adapter.ini` file
- [Table 2-6](#) on page 2-15 for `adapter.ini` file parameter setting information specific to the SMTP adapter

Customizing the Payload Datatype

Payload data is the data sent between applications. If you want to change the payload datatype from the default of XML to the data definition description language (D3L), edit the following parameters in the `adapter.ini` file.

To customize the payload datatype:

1. Set the `ota.type` parameter to the payload type D3L. For example:

```
ota.type=D3L
```
2. Copy the D3L XML files associated with the SMTP application to the directory in which the `adapter.ini` file is located.
3. Set the `ota.d3ls` parameter to specify the D3L files associated with the SMTP application. For example:

```
ota.d3ls=person1.xml, person2.xml
```

See Also: The following parameter descriptions for additional information:

- [ota.type](#) on page 2-16
- [ota.d3ls](#) on page 2-16

Customizing the Sending Endpoints

If you want to customize the behavior of the sending endpoints (destinations) for messages, edit the following parameters in the `adapter.ini` file. These parameters are not automatically set to default values during installation.

To customize the sending endpoint:

1. Set the `smtp.sender.content_type` parameter to the message content type to use. For example:

```
smtp.sender.content_type=plain/text
```

2. Set the `smtp.sender.character_set` parameter to the message character set to use. For example:

```
smtp.sender.character_set=iso-2022-jp
```

See Also: The following parameter descriptions for additional information:

- [smtp.sender.content_type](#) on page 2-15
- [smtp.sender.character_set](#) on page 2-15

Customizing the Receiving Endpoints

If you want to customize the behavior of the receiving IMAP endpoints for messages, edit the following parameters in the `adapter.ini` file.

To customize the receiving endpoint:

1. Set the `smtp.receiver.exception_folder` to the folder name in which to place files that have not been processed successfully. For example:

```
smtp.receiver.exception_folder=error_messages
```

This parameter is not automatically set to a default value during installation. The IMAP administrator must create this folder. Leave this setting blank if you do not want to save these files.

2. Set the `smtp.receiver.polling_interval` parameter to the time interval in milliseconds during which to poll the IMAP server for messages. This parameter automatically defaults to a value of 10000 during installation. For example:

```
smtp.receiver.polling_interval=20000
```

- Set the `smtp.receiver.max_msgs_retrieved` parameter to the maximum number of messages to retrieve in a polling session. This parameter automatically defaults to a value of 10 during installation. For example:

```
smtp.receiver.max_msgs_retrieved=30
```

See Also: The following parameter descriptions for additional information:

- [smtp.receiver.exception_folder](#) on page 2-16
- [smtp.receiver.polling_interval](#) on page 2-16
- [smtp.receiver.max_msgs_retrieved](#) on page 2-16

SMTP Adapter Configuration Parameters

[Table 2-2](#), [Table 2-3](#), and [Table 2-4](#) describe SMTP executable files, configuration files, and directories. These files and directories are accessible from the directory shown in [Table 2-1](#).

Table 2-1 SMTP Adapter Directory

On...	Go to...
UNIX	<code>\$ORACLE_HOME/oai/9.0.2/adapters/Application</code>
Windows	<code>%ORACLE_HOME%\oai\9.0.2\adapters\Application</code>

Table 2-2 SMTP Executable Files

File	Description
<code>start.bat</code> (Windows) <code>start</code> (UNIX)	Takes no parameters; starts the adapter
<code>stop.bat</code> (Windows) <code>stop</code> (UNIX)	Takes no parameters; stops the adapter
<code>ignoreerrors.bat</code> (Windows) <code>ignoreerrors</code> (UNIX)	<p>If an argument is specified, then the given error code is ignored:</p> <pre>ignoreerrors <i>errorCodeToBeIgnored</i></pre> <p>If no argument is specified, then all error codes specified in the <code>ErrorCodes.ini</code> file are ignored:</p> <pre>ignoreerrors</pre>

See Also: ["SMTP Adapter Error Codes"](#) on page 3-9 for a list of error codes

Table 2–3 SMTP Configuration Files

File	Description
<code>ErrorCodes.ini</code> (Windows and UNIX)	Should contain one error code for each line
<code>adapter.ini</code> (Windows and UNIX)	Consists of all the initialization parameters that the adapter reads at startup

See Also: [Appendix A, "adapter.ini Example File"](#)

Table 2–4 SMTP Directories

Directory	Description
<code>persistence</code>	The messages are persisted (made available) in this directory. Do not edit this directory or its contents.
<code>logs</code>	The logging of adapter activity is done in subdirectories of the <code>logs</code> directory. Subdirectory names take the following form: <i>timestamp_in_milliseconds</i> Each time the adapter is run, a new subdirectory is created in which logging is done in an <code>oailog.txt</code> file.

adapter.ini Initialization Parameter File

This section contains these topics:

- [Agent Connection Parameters](#)
- [SMTP Adapter-Specific Parameters](#)

Agent Connection Parameters

The agent component of the SMTP adapter reads the `adapter.ini` file at runtime to access SMTP adapter parameter configuration information. [Table 2-5](#) lists the parameter name, a description for each parameter, the possible and default values, and an example.

Table 2-5 Agent Connection Parameters

Parameter	Description	Example
<code>application</code>	Specifies the name of the application to which this adapter connects. This must match with the name specified in iStudio during creation of metadata. Use any alphanumeric string. There is no default value.	<code>application=smtppapp</code>
<code>partition</code>	Specifies the partition this adapter handles as defined in iStudio. Any alphanumeric string is a possible value. There is no default value.	<code>partition=germany</code>
<code>instance_number</code>	Specifies the instance number to which this adapter corresponds. Specify a value only if you want to have multiple adapter instances for the given application with the given partition. Possible values are any integer greater than or equal to 1. There is no default value.	<code>instance_number=1</code>
<code>agent_log_level</code>	Specifies the amount of logging necessary. Possible values are: 0=errors only 1=status and errors 2=trace, status, and errors The default value is 1.	<code>agent_log_level=2</code>
<code>agent_subscriber_name</code>	Specifies the subscriber name used when this adapter registers its subscription. The possible value is a valid Oracle Advanced Queue subscriber name. There is no default value.	<code>agent_subscriber_name=smtppapp</code>
<code>agent_message_selector</code>	Specifies conditions for message selection when registering its subscription with the hub. The possible value is a valid Oracle Advanced Queue message selector string. There is no default value.	<code>agent_message_selector=recipient_list like '%,aqapp,%'</code>

Table 2–5 Agent Connection Parameters

Parameter	Description	Example
agent_reply_subscriber_name	Specifies the subscriber name used when multiple adapter instances for the given application with the given partition are used. This parameter is optional if only one instance is running. The possible value is the application name (<i>parameter: application</i>) concatenated with the instance number (<i>parameter: instance_number</i>). There is no default value.	If <code>application=smtppapp</code> and <code>instance_number=2</code> , then <code>agent_reply_subscriber_name=smtppapp2</code>
agent_reply_message_selector	Used only if multiple adapter instances exist for the given application with the given partition. The possible value is a string built using the concatenated application name (<i>parameter: application</i>) with the instance number (<i>parameter: instance_number</i>). There is no default value.	If <code>application=smtppapp</code> and <code>instance_number=2</code> , then <code>agent_reply_message_selector=recipient_list</code> like <code>'%,smtppapp2,%'</code>
agent_tracking_enabled	Specifies if message tracking is enabled. Set this parameter to <code>false</code> to turn off all tracking of messages. Set this parameter to <code>true</code> to track messages with tracking fields set in iStudio. Possible values are <code>true</code> or <code>false</code> . The default value is <code>true</code> .	<code>agent_tracking_enabled=true</code>
agent_throughput_measurement_enabled	Specifies if throughput measurement is enabled. Set this parameter to <code>true</code> to turn on all throughput measurements. Possible values are <code>true</code> or <code>false</code> . The default value is <code>true</code> .	<code>agent_throughput_measurement_enabled=true</code>
agent_use_custom_hub_dtd	Specifies whether to use a custom document type definition (DTD) for the common view message when handing it to the hub (the repository in which metadata is stored). By default, adapters use an Oracle9iAS InterConnect-specific DTD for all messages sent to the hub, as other Oracle9iAS InterConnect adapters retrieve the messages from the hub and know how to interpret them. Set this parameter to <code>true</code> if for every message, the DTD imported for the message of the common view is used instead of the Oracle9iAS InterConnect DTD. Only set this parameter to <code>true</code> if an Oracle9iAS InterConnect adapter is not receiving the messages from the hub. Possible values are <code>true</code> or <code>false</code> . There is no default value.	<code>agent_use_custom_hub_dtd=false</code>

Table 2-5 Agent Connection Parameters

Parameter	Description	Example
agent_metadata_caching	<p>Specifies the metadata caching algorithm. Possible values are:</p> <ul style="list-style-type: none"> ■ startup—Cache everything at startup. This may take a while if a lot of metadata is in the repository. ■ demand—Cache metadata as it is used. ■ none—No caching. This slows down performance. <p>The default value is demand.</p>	agent_metadata_caching=demand
agent_dvm_table_caching	<p>Specifies the domain value mapping (DVM) table caching algorithm. Possible values are:</p> <ul style="list-style-type: none"> ■ startup—Cache all DVM tables at startup. This may take a while if many tables are in the repository. ■ demand—Cache tables as they are used. ■ none—No caching. This slows down performance. <p>The default value is demand.</p>	agent_dvm_table_caching=demand
agent_lookup_table_caching	<p>Specifies the lookup table caching algorithm. Possible values are:</p> <ul style="list-style-type: none"> ■ startup—Cache all lookup tables at startup. This may take a while if many tables are in the repository. ■ demand—Cache tables as they are used. ■ none—No caching. This slows down performance. <p>The default value is demand.</p>	agent_lookup_table_caching=demand
agent_delete_file_cache_at_startup	<p>With any of the agent caching methods enabled, metadata from the repository is cached locally on the file system. Set this parameter to <code>true</code> to delete all cached metadata on startup. Possible values are <code>true</code> or <code>false</code>. The default value is <code>false</code>.</p> <p>Note: After changing metadata or DVM tables for this adapter in iStudio, you must delete the cache to guarantee access to the new metadata or table information.</p>	agent_delete_file_cache_at_startup=false

Table 2-5 Agent Connection Parameters

Parameter	Description	Example
agent_max_ao_cache_size	Specifies the maximum number of application objects' metadata to cache. Possible values are any integer greater than or equal to 1. The default value is 200.	agent_max_ao_cache_size=200
agent_max_co_cache_size	Specifies the maximum number of common objects' metadata to cache. Possible values are any integer greater than or equal to 1. The default value is 100.	agent_max_co_cache_size=100
agent_max_message_metadata_cache_size	Specifies the maximum number of messages' metadata (publish/subscribe and invoke/implement) to cache. Possible values are any integer greater than or equal to 1. The default value is 200.	agent_max_message_metadata_cache_size=200
agent_max_dvm_table_cache_size	Specifies the maximum number of DVM tables to cache. Possible values are any integer greater than or equal to 1. The default value is 200.	agent_max_dvm_table_cache_size=200
agent_max_lookup_table_cache_size	Specifies the maximum number of lookup tables to cache. Possible values are any integer greater than or equal to 1. The default value is 200.	agent_max_lookup_table_cache_size=200
agent_max_queue_size	Specifies the maximum size to which internal Oracle9iAS InterConnect message queues can grow. Possible values are any integer greater than or equal to 1. The default value is 1000.	agent_max_queue_size=1000
agent_persistence_queue_size	Specifies the maximum size to which internal Oracle9iAS InterConnect persistence queues can grow. Possible values are any integer greater than or equal to 1. The default value is 1000.	agent_persistence_queue_size=1000
agent_persistence_cleanup_interval	Specifies how often to run the persistence cleaner thread (in milliseconds). Possible values are any integer greater than or equal to 30000. The default value is 60000.	agent_persistence_cleanup_interval=60000
agent_persistence_retry_interval	Specifies how often the persistence thread retries when it fails to send an Oracle9iAS InterConnect message. Possible values are any integer greater than or equal to 60000. The default value is 60000.	agent_persistence_retry_interval=60000

Table 2–5 Agent Connection Parameters

Parameter	Description	Example
service_path	Windows only. Specifies the value to which to set the environment variable <code>PATH</code> . The <code>PATH</code> variable is set to the specified value before forking the Java VM. Typically, list all directories here that contain all necessary DLLs. Possible values are the valid <code>PATH</code> environment variable setting. There is no default value.	service_path=%JREHOME%\bin;D:\oracle\ora902\bin
service_classpath	Specifies the class path used by the adapter Java VM. If a custom adapter is developed and, as a result, the adapter is to pick up any additional jars, add the jars to the existing set of jars being picked up. Possible values are the valid class path. There is no default value.	service_classpath=D:\oracle\ora902\oai\902\lib\oai.jar;%JREHOME%\lib\rt.jar;D:\oracle\ora902\jdbc\classes12.zip
service_class	Specifies the entry class for the Windows NT service. A possible value is <code>oracle/oai/agent/service/AgentService</code> . There is no default value.	service_class=oracle/oai/agent/service/AgentService
service_max_java_stack_size	Windows only. Specifies the maximum size to which the Java VM's stack can grow. Possible values are the valid Java VM maximum native stack size. The default value is the default for the Java VM.	service_max_java_stack_size=409600
service_max_native_stack_size	Windows only. Specifies the maximum size to which the Java VM's native stack can grow. Possible values are the valid Java VM maximum native stack size. The default value is the default for the Java VM.	service_max_native_stack_size=131072
service_min_heap_size	Windows only. Specifies the minimum heap size for the adapter Java VM. Possible values are the valid Java VM heap sizes. The default value is the default Java VM heap size.	service_min_heap_size=536870912

Table 2–5 Agent Connection Parameters

Parameter	Description	Example
<code>service_max_heap_size</code>	Windows only. Specifies the maximum heap size for the adapter Java VM. Possible values are any valid Java VM heap sizes. The default value is 536870912.	<code>service_max_heap_size=536870912</code>
<code>service_num_vm_args</code>	Windows only. Specifies the number of <code>service_vm_argnumber</code> parameters specified. Possible values are the number of <code>service_vm_argnumber</code> parameters. There is no default value.	<code>service_num_vm_args=1</code>
<code>service_vm_argnumber</code>	Windows only. Specifies any additional arguments to the Java VM. For example, to get line numbers in any of the stack traces, set <code>service_vm_arg1=java.compiler=NONE</code> . If a list of arguments to specify exists, use multiple parameters as shown in the example by incrementing the last digit starting with 1. Be sure to set <code>service_num_vm_args</code> correctly. Possible values are any valid Java VM arguments. There is no default value.	<code>service_vm_arg1=java.compiler=NONE</code> <code>service_vm_arg2=oai.adapter=database</code>

SMTP Adapter-Specific Parameters

Table 2–6 lists the parameters specific to the SMTP adapter.

Table 2–6 SMTP Adapter-Specific Values

Parameter	Description	Example
<code>bridge_class</code>	Specifies the entry class for the SMTP adapter. A value must be specified and cannot be modified later. There is no default value. A possible value is <code>oracle.oai.agent.adapter.technology.TechBridge</code> .	<code>bridge_class=oracle.oai.agent.adapter.technology.TechBridge</code>
<code>ota.send.endpoint</code>	Specifies the sending endpoint URL for the SMTP adapter. There is no default value. The URL is of the form: <code>mailto:username@hostname</code>	<code>ota.send.endpoint=mailto:joe.one@test.com</code>
<code>smtp.sender.smtp_host</code>	Specifies the SMTP host to use in sending messages.	<code>smtp.sender.smtp_host=smtp1.foo.com</code>
<code>smtp.sender.content_type</code>	Specifies the content type of e-mail messages (RFC 822 header field).	<code>smtp.sender.content_type=plain/text</code>
<code>smtp.sender.character_set</code>	Specifies the character encoding for the message.	<code>smtp.sender.character_set=iso-2022-jp</code>

Table 2–6 SMTP Adapter-Specific Values

Parameter	Description	Example
ota.receive.endpoint	Specifies the receiving endpoint URL for the SMTP adapter. There is no default value. The URL is of the form: <code>imap://username@imapHostName</code>	<code>ota.receive.endpoint=imap://joe@server10</code>
ota.type	Specifies the message type the SMTP adapter handles for both incoming and outgoing messages. The options are XML or D3L. The default value is XML.	<code>ota.type=XML</code>
smtp.receiver.password	User password for the IMAP server. The possible value is a valid password. There is no default value. This password can also be encrypted by running the encrypt tool and renaming this parameter to <code>encrypted_smtp.receiver.password</code> . See Also: "How do I make the adapter.ini file password parameter secure?" on page 4-4 for instructions on encrypting the user password	<code>smtp.receiver.password=smtouser</code>
smtp.receiver.protocol	Specifies the e-mail protocol to use. For this release, the only possible value is <code>imap</code> . There is no default value.	<code>smtp.receiver.protocol=imap</code>
smtp.receiver.exception_folder	Specifies a mail folder in which to put e-mails that cannot be processed successfully. This mail folder must be created by the IMAP server administrator. Possible values are a valid mail folder name. There is no default value.	<code>smtp.receiver.exception_folder=error</code>
smtp.receiver.polling_interval	Specifies the time interval during which to poll the IMAP server (in milliseconds). Possible values are any integers greater than 0. The default value is 60000 (60 seconds).	<code>smtp.receiver.polling_interval=10000</code>
smtp.receiver.max_msgs_retrieved	Specifies the maximum number of messages to retrieve in each polling session. Possible values are any integers greater than 0. The default value is 30.	<code>smtp.receiver.max_msgs_retrieved=10</code>
ota.d3ls	Specifies the list of data definition description language (D3L) XML files used by this bridge. Each business event handled by the bridge must have its own D3L XML file. Whenever a new D3L XML file is imported in iStudio for use by an application using the SMTP adapter, the parameter must be updated and the SMTP adapter restarted. There is no default value.	<code>ota.d3ls=person.xml , person1.xml</code>

Design Time and Runtime Concepts

This chapter describes the design time and runtime concepts for the Simple Mail Transfer Protocol (SMTP) adapter.

This chapter contains these topics:

- [SMTP Adapter Design Time Concepts](#)
- [SMTP Adapter Runtime Concepts](#)

SMTP Adapter Design Time Concepts

The SMTP adapter can handle XML and the data definition description language (D3L) structured payload data. For example:

- Pure XML data—string beginning with `<?xml . . .`
- Fixed layout, typically binary data described by a D3L XML file

See Also: *Oracle9iAS InterConnect User's Guide* for additional information on D3L

XML Payload

You can import a document type definition (DTD) in iStudio that determines how the SMTP adapter parses a received XML document into an Oracle9iAS InterConnect application view event. In addition, the DTD describes how an inbound application view message is converted into an XML document. Use the message type XML when defining a new integration point in any of the Event Wizards.

You must also ensure that the `ota.type` parameter in the `adapter.ini` file is set to XML instead of D3L. When the adapter operates in XML payload mode, no translations are performed between native view and application view messages sent or received through the SMTP adapter. This is apart from the implied straight ASCII to Java object conversion (parsing). Any Extensible Stylesheet Language Transformations (XSLT) are performed before sending or receiving an XML document to or from Oracle9iAS InterConnect.

D3L Payload

The SMTP adapter supports both XML and D3L datatypes. The SMTP adapter translates application view messages to native format and vice versa.

An application based on the SMTP adapter can use the iStudio Message Type D3L and the iStudio D3L Data Type Import option when importing a datatype. In doing so, messages received or sent by the SMTP adapter must adhere to the fixed byte level layout defined in a D3L XML file.

If preferred, the D3L Data Type Import option can also define common view datatypes.

See Also: *Oracle9iAS InterConnect User's Guide* for additional information on D3L and common view datatypes

SMTP Adapter Runtime Concepts

This section describes the two main SMTP adapter components.

This section contains these topics:

- [SMTP Receiver \(Incoming Messages from IMAP Server to Oracle9iAS InterConnect\)](#)
- [SMTP Sender \(Outgoing Messages from Oracle9iAS InterConnect to SMTP Server\)](#)
- [SMTP Adapter Message Format](#)
- [Starting the SMTP Adapter](#)
- [Stopping the SMTP Adapter](#)
- [SMTP Adapter Error Codes](#)

See Also: *Oracle9iAS InterConnect User's Guide* for a use case example involving an Oracle adapter, the Advanced Queuing adapter, and D3L

SMTP Receiver (Incoming Messages from IMAP Server to Oracle9iAS InterConnect)

The SMTP adapter receives incoming messages from a single receiving endpoint, which is an e-mail address on an Internet Message Access Protocol (IMAP) server.

The endpoint is of the form: `imap://username@imapHostName`

During each polling interval (configurable with the `adapter.ini` file `smtp.receiver.polling_interval` parameter), the SMTP receiver performs the following tasks:

- Polls the IMAP server for incoming e-mails
- Processes each e-mail
- Transforms the e-mail message into a transport message processed by the SMTP bridge. The maximum number of e-mails processed for each session is user configurable with the `adapter.ini` file `smtp.receiver.max_msgs_retrieved` parameter.

Once the SMTP bridge detects a message, it uses D3L XML based on the name-value pair or magic value message header attributes (a sequence of bytes in the native message header) to parse from native format to an Oracle9iAS InterConnect message object and generates an application view event. The agent transforms the application view event into a common view event and sends it to Oracle9iAS InterConnect for further routing and processing.

Once the message is successfully sent to Oracle9iAS InterConnect, the corresponding e-mail residing on the IMAP server is marked to be deleted, and is deleted at the end of each session. In the event that an error occurs, the IMAP server administrator can specify an exception folder on the IMAP server for storing the unsuccessfully processed e-mails with the `adapter.ini` file `smtp.receiver.exception_folder` parameter. If no exception folder is set, the mail is deleted.

The properties for the SMTP receiver are defined in the `adapter.ini` file and take the form of `smtp.receiver.*`.

See Also:

- *Oracle9iAS InterConnect User's Guide* for additional information on D3L name-value pair and magic value message header attributes
- [Figure 1-1, "Incoming Messages"](#) on page 1-2
- ["SMTP Adapter-Specific Parameters"](#) on page 2-15

SMTP Sender (Outgoing Messages from Oracle9iAS InterConnect to SMTP Server)

The SMTP adapter supports sending outgoing messages to multiple SMTP endpoints. This feature provides flexibility for sending messages to different remote SMTP servers. An endpoint is associated with a subscribing event in iStudio by adding the transport properties for this endpoint as metadata. This is done through the Modify Fields button of the Subscribe Wizard - Define Application View dialog for the event. Once the association of the endpoint and event is established, the message from the subscribing event is sent to the SMTP endpoint.

For example, the metadata in [Table 3-1](#) is associated with an event called `sendOrder`, which sends messages to an e-mail account `mailto:scott@tiger.com`.

Table 3-1 SendOrder Event Metadata

Parameter	Description
<code>ota.endpoint=sendOrderAppEP</code>	Specifies a unique endpoint name set in iStudio
<code>ota.send.endpoint=mailto:scott@tiger.com</code>	Specifies the SMTP adapter's sending endpoint set in the <code>adapter.ini</code> file.

If no metadata is associated with an event in iStudio, the endpoint specified by the `ota.send.endpoint` parameter in the `adapter.ini` file is used as the default endpoint.

The SMTP adapter is comprised of the SMTP bridge and the runtime agent. When the agent has a message to send to an endpoint, the bridge is notified. The bridge then uses D3L XML to perform the conversion of common view object to native format. The native format message is then sent through the SMTP transport layer to an SMTP endpoint.

The SMTP adapter's sending endpoint takes the following form:

```
mailto:username@hostname
```

The multiple endpoint feature enables messages to be sent to different SMTP servers. The subject header of each message sent by the SMTP adapter is automatically generated in the following form:

```
SMTP_adapter_application_nameinstance_number-time_stamp
```

For example, for an SMTP application named `smtpapp` (the value for `SMTP_adapter_application_name`) with an instance number of 1 (the value for `instance_name`), the subject header generated by the SMTP sender object is `smtpapp1-004408921310`. This information is useful in debugging an SMTP adapter application.

The properties for the SMTP sender are defined in the `adapter.ini` file and take the form of `smtp.sender.*`.

See Also:

- [Figure 1-2, "Outgoing Messages"](#) on page 1-3
- ["SMTP Adapter-Specific Parameters"](#) on page 2-15
- Chapter 4 of the *Oracle9iAS InterConnect User's Guide* for information on adding transport properties as metadata in iStudio

SMTP Adapter Message Format

This section describes how to extract and send messages to the SMTP adapter for different types of payloads.

If the SMTP adapter operates in D3L mode (the `ota.type` parameter is set to `D3L` in the `adapter.ini` file), the message format is binary or plain text. The SMTP adapter expects the message to be sent or received as a one part Multipurpose Internet Mail Extension (MIME) message with the data encoded in base64.

[Example 3-1](#) shows how to send the message to the SMTP adapter in MIME format using the JavaMail API:

Example 3-1 *Sending Messages to the SMTP Adapter*

```
Message smtpMessage = new MimeMessage(session);
String msg = new String("This is a test.");
MimeBodyPart part = new MimeBodyPart();

// create a multipart object
Multipart mp = new MimeMultipart();
DataSource dataSource = new BytesDataSource(msg.getBytes());
part.setDataHandler(new DataHandler(dataSource));
part.setHeader("Content-Transfer-Encoding", "base64");
mp.addBodyPart(part);
smtpMessage.setContent(mp);
...
Transport.send(smtpMessage);
```

In [Example 3-1](#), `BytesDataSource` is a user-written class that implements the `DataSource` class, which represents a data source consisting of a byte array. See the JavaMail API for additional information.

[Example 3-2](#) shows how to extract the multipart message sent from the SMTP adapter when it operates in D3L mode.

Example 3-2 *Extracting Messages Sent from the SMTP Adapter*

```
Object o = message.getContent();
Multipart mp = (Multipart)o;

// The message is contained in the
// first part.
BodyPart part = mp.getBodyPart(0);
InputStream is = (InputStream)part.getContent();

// extract the data from input stream.
...
```

When the SMTP adapter operates in XML mode (the `ota.type` parameter is set to XML in the `adapter.ini` file), the message is sent or received in simple text format, as described in RFC 822. To send a message to the SMTP adapter, use the `javax.mail.Message.setText()` method in the JavaMail API.

Starting the SMTP Adapter

Start the SMTP adapter using the `start` script located in the directory named after the Oracle SMTP application. On Windows NT or Windows 2000, you can also start it from the Services window available from the Start menu.

To start the SMTP adapter:

1. Access the Services window from the Start menu:

On...	Choose...
Windows NT	Start > Settings > Control Panel > Services
Windows 2000	Start > Settings > Control Panel > Administrative Tools > Services

The Services window appears.

2. Select the *OracleHome9iASInterConnectAdapter-Application* service.
3. Start the service based on the operating system being used:

On...	Choose...
Windows NT	Choose Start.
Windows 2000	Right-click the service and choose Start from the menu that appears.

See Also: ["SMTP Adapter Configuration Parameters"](#) on page 2-8 for the location of the `start` script

Log File Example of Successfully Started SMTP Adapter

Verify startup status by viewing the `oailog.txt` files. These files are located in the appropriate timestamped subdirectory of the `logs` directory of the SMTP adapter directory. Subdirectory names take the following form:

timestamp_in_milliseconds

The following file displays information about an SMTP adapter that started successfully:

```
D:\oracle\ora902\oai\9.0.2\adapters\smtpapp>D:\oracle\ora902\oai\9.0.2\bin\JavaS
ervice.exe -debug "Oracle OAI Adapter 9.0.2 -
smtpapp" D:\oracle\ora902\oai\9.0.2\adapters\smtpapp adapter.ini
The Adapter service is starting..
Registering your application (SMTPAPP)..
Initializing the Bridge oracle.oai.agent.adapter.technology.TechBridge..
Starting the Bridge oracle.oai.agent.adapter.technology.TechBridge..
Service started successfully.
```

Stopping the SMTP Adapter

Stop the SMTP adapter using the `stop` script located in the directory named after the Oracle SMTP application. On Windows NT or Windows 2000, you can also stop it from the Services window available from the Start menu.

To stop the SMTP adapter:

1. Access the Services window from the Start menu:

On...	Choose...
Windows NT	Start > Settings > Control Panel > Services
Windows 2000	Start > Settings > Control Panel > Administrative Tools > Services

The Services window appears.

2. Select the *OracleHome9iASInterConnectAdapter-Application* service.

3. Stop the service based on the operating system being used:

On...	Choose...
Windows NT	Choose Stop.
Windows 2000	Right-click the service and choose Stop from the menu that appears.

Verify stop status by viewing the `oailog.txt` files. These files are located in the appropriate timestamped subdirectory of the `logs` directory of the SMTP adapter directory.

See Also: ["SMTP Adapter Configuration Parameters"](#) on page 2-8 for the location of the `stop` script

SMTP Adapter Error Codes

This section defines the error codes (derived from the `JavaMail` exception) that the SMTP adapter returns in the event of an exception.

OTA-IMAP-1002

Reason: Authentication failed due to bad user name or password.

Action: Check user name or password.

OTA-IMAP-1003

Reason: Folder closed exception is thrown when a method is invoked on an invalid Messaging Object or Folder Object.

Action: None.

OTA-IMAP-1004

Reason: Message removed exception. A method is invoked on an expunge message.

Action: None.

OTA-IMAP-1005

Reason: Read-only folder exception. Tried to write to a read-only folder.

Action: Check the properties of the folder. Make sure it has the correct write privilege.

OTA-SMTP-1001

Reason: Message cannot be sent exception.

Action: Make sure the email address for sending is valid.

See Also: *Oracle9iAS InterConnect User's Guide* for information on the retry action

Frequently Asked Questions

This chapter provides answers to frequently asked questions about the Simple Mail Transfer Protocol (SMTP) adapter.

This chapter contains this topic:

- [SMTP Adapter Troubleshooting Questions](#)

SMTP Adapter Troubleshooting Questions

The following questions address troubleshooting issues for the SMTP adapter.

How do I know the SMTP adapter started properly?

View the `oailog.txt` file located in the appropriate timestamped subdirectory of the SMTP adapter `logs` directory.

On...	Go to...
UNIX	<code>\$(ORACLE_HOME)/oai/9.0.2/adapters/<i>Application</i>/logs/<i>timestamp_in_milliseconds</i></code>
Windows	<code>%ORACLE_HOME%\oai\9.0.2\adapters\<i>Application</i>\logs\<i>timestamp_in_milliseconds</i></code>

where *Application* is the value you defined in Step 8 on page 2-4 and *timestamp_in_milliseconds* is the directory. If no exceptions are listed, the adapter started properly.

The SMTP adapter did not start properly - what is wrong?

View the exceptions in the adapter log file (`oailog.txt`). The exceptions provide information about inconsistencies. One possible reason is that the SMTP adapter did not connect to the repository. Make sure the repository is started properly and the SMTP adapter connects to the repository once it is started properly. You do not need to restart the adapter.

See Also: *Oracle9i Application Server Installation Guide* for instructions on starting the repository on UNIX and Windows

I changed an element in iStudio, but the SMTP adapter uses old information - what is happening?

The SMTP adapter caches the information from iStudio (the information that is stored in the repository) locally for better performance in a production environment. If you change information in iStudio and want to see the change in the runtime environment, you must perform the following tasks:

To see iStudio changes in the runtime environment:

1. Stop the affected adapters.
2. Delete the adapter cache files.
3. Restart the adapter.

Each adapter has a persistence directory located in the directory named after the Oracle SMTP application. Deleting this directory when the adapter has been stopped makes the adapter obtain the new metadata from the repository when started.

If I cannot answer some SMTP configuration questions or I make a mistake during installation, can I edit these settings later?

Yes, edit the parameters in the following file:

On...	Go to...
UNIX	<code>\$ORACLE_HOME/oai/9.0.2/adapters/<i>Application</i>/adapter.ini</code>
Windows	<code>%ORACLE_HOME%\oai\9.0.2\adapters\<i>Application</i>\adapter.ini</code>

Note: All configuration parameters with the exception of `bridge_class` can be edited more than once.

See Also: ["adapter.ini Initialization Parameter File"](#) on page 2-9 for parameter information

Can I install multiple SMTP adapters on the same computer?

The installer overwrites previous installations of the SMTP adapter if you try to install it a second time in the same Oracle home. However, you can have multiple Oracle homes on a computer and have one SMTP adapter in each Oracle home. When you install the SMTP adapter a second time, choose a different Oracle home from the first SMTP adapter.

How do I make the adapter.ini file password parameter secure?

In order to encrypt password values specified in the `adapter.ini` file, perform the following steps:

To encrypt password values:

1. Locate the password value to encrypt.
2. Run the encrypt utility to encrypt the password value. The encrypt utility is located in the `$ORACLE_HOME/oai/9.0.2/bin` directory for UNIX and the `%ORACLE_HOME%\oai\9.0.2\bin` directory for Windows. For example, to encrypt the `smtp.receiver.password` parameter, enter the following:

```
encrypt password
```

3. Prefix the name of the parameter in the `adapter.ini` file with `encrypted_:`
`encrypted_smtp.receiver.password`
4. Replace the value with the new encrypted value created in Step 2. For example, to encrypt the password for the parameter `smtp.receiver.password`, replace the line

```
smtp.receiver.password=smtpuser
```

with the value you received from running the encrypt tool in Step 2. For example:

```
encrypted_smtp.receiver.password=112411071071106510801094108410731070107110811069
```

adapter.ini Example File

This appendix shows an `adapter.ini` example file for the Simple Mail Transfer Protocol (SMTP) adapter.

This appendix contains this topic:

- [adapter.ini Example File](#)

See Also: "[SMTP Adapter Configuration Parameters](#)" on page 2-8 for additional information on `adapter.ini` configuration parameters

adapter.ini Example File

This section shows an `adapter.ini` example file for the SMTP adapter.

```
#include <../../hub/hub.ini>

// *****
// ** Adapter **
// *****

// Application (as created in iStudio) that this Adapter corresponds to.
application=smtppapl

// Partition (as created in iStudio) that this Adapter corresponds to.
partition=

// If you want to have multiple Adapter instances for the given application with
// the given partition, each Adapter should
// have an instance number.
//instance_number=2

// Bridge class
bridge_class=oracle.oai.agent.adapter.technology.TechBridge

// define the type of payload. Valid option is XML or D3L.
ota.type=D3L

// define the smtp sending endpoint
ota.send.endpoint=mailto:ipdev2@cc-sun.us.oracle.com

// define the smtp receiving endpoint
ota.receive.endpoint=imap://joe@server10

//-----
// SMTP Sender initialization variables
//-----

// specify the smtp host
smtp.sender.smtp_host=smtpl.foo.com

// Specify the content type for the email
// smtp.sender.content_type=plain/text
// Specify the character set for the email
// smtp.sender.character_set=iso-2022-jp
```

```
//-----  
// SMTP Receiver initialization variables  
//-----  
  
// enter the email user's password  
encrypted_smtp.receiver.password=112411071071106510801094108410731070107110811069  
  
// enter the email server protocol.  
smtp.receiver.protocol=imap  
  
// email folder name  
smtp.receiver.folder=inbox  
  
// polling interval in milli seconds  
smtp.receiver.polling_interval=60000  
  
// maximum number of messages that  
// the receiver will retrieve for  
// each polling session (default 30)  
smtp.receiver.max_msgs_retrieved = 10  
  
// exception folder for messages  
// that are not processed successfully.  
smtp.receiver.exception_folder= error  
  
// A list of the D3L XML files used by this Bridge. Each business event handled  
// by the Bridge must have it's own D3L XML file.  
// Whenever a new D3L XML file has been imported in iStudio to be used by  
// an application using the SMTP adapter, the following parameter must  
// be updated and the adapter restarted.  
ota.d3ls=person.xml, person1.xml  
  
// *****  
// ** Agent **  
// *****  
  
// Log level (0 = errors only, 1 = status and errors, 2 = trace, status and  
errors).  
agent_log_level=2  
  
// Hub message selection information  
agent_subscriber_name=smtpappl  
agent_message_selector=recipient_list like '%,smtpappl,%'  
// Only provide values for the next two parameters if you have multiple Adapter
```

```
instances for the given application with
the given partition.
//agent_reply_subscriber_name=
//agent_reply_message_selector=

// Set this to false if you want to turn off all tracking of messages (if true,
messages which have tracking fields set in
iStudio will be tracked)
agent_tracking_enabled=true

// Set this to false if you want to turn off all throughput measurements
agent_throughput_measurement_enabled=true

// By default, Adapters use an OAI specific DTD for all messages sent to the Hub
since other OAI Adapters will be
picking up the messages from the Hub and know how to interpret them. This should
be set to true if for every message,
you would like to use the DTD imported for that message's Common View instead of
the OAI DTD. This should only be
set to true if an OAI Adapter is *NOT* receiving the messages from the Hub.
agent_use_custom_hub_dtd=false

// Sets the metadata caching algorithm. The possible choices are startup (cache
everything at startup - this may take a
while if there is a lot of metadata in your Repository), demand (cache metadata
as it is used) or none (no caching - this
will slow down performance.)
agent_metadata_caching=demand

// Sets the DVM table caching algorithm. The possible choices are startup
(cache all DVM tables at startup - this may
take a while if there are a lot of tables in your Repository), demand (cache
tables as they are used) or none (no caching
- this will slow down performance.)
agent_dvm_table_caching=demand

// Sets the lookup table caching algorithm. The possible choices are startup
(cache all lookup tables at startup - this
may take a while if there are a lot of tables in your Repository), demand (cache
tables as they are used) or none (no
caching - this will slow down performance.)
agent_lookup_table_caching=demand

// If metadata caching, DVM table caching, or lookup table caching are turned on
(startup or demand) then the Adapter
```

caches metadata or DVM tables it retrieves from the Repository in a file cache. When you restart the Adapter, it will not have to get that metadata or DVM table from the Repository again because it is in the cache files. However, if you change some metadata or DVM table using iStudio and you want the Adapter to use those changes the next time it is started, you can either delete the cache files or set this parameter to true before restarting.

```
agent_delete_file_cache_at_startup=false
```

```
// Max number of application data type information to cache  
agent_max_ao_cache_size=200
```

```
// Max number of common data type information to cache  
agent_max_co_cache_size=100
```

```
// Max number of message metadata to cache  
agent_max_message_metadata_cache_size=200
```

```
// Max number of DVM tables to cache  
agent_max_dvm_table_cache_size=200
```

```
// Max number of lookup tables to cache  
agent_max_lookup_table_cache_size=200
```

```
// Internal Agent queue sizes  
agent_max_queue_size=1000  
agent_Persistence_queue_size=1000
```

```
// Persistence  
agent_persistence_cleanup_interval=60000  
agent_persistence_retry_interval=60000
```

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