HP Select Audit Software

for the Windows® and HP-UX® operating systems

Software Version: 1.1

Installation Guide

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1 About the Select Audit Installation

HP Select Audit software is part of HP's Identity Management Suite. It manages the complete audit lifecycle and simplifies the fulfillment of regulatory compliance requirements. It helps organizations meet corporate governance requirements by providing a consolidated and tamper-aware identity audit trail. Select Audit is extensible to additional HP products and third-party applications.

Audience

This document is intended for system administrators mandated to install and configure HP Select Audit 1.1 to suit their business and industry environment. This guide assumes a working knowledge of the following:

- WebLogic application server administration and configuration
- Oracle database administration
- MSSQL database administration
- J2EE environments

The Select Audit Documentation Set

This manual refers to the following Select Audit documents. These documents are available on the Select Audit CD.

- *HP Select Audit 1.1 Administration Guide*, © Copyright 2006 2008 Hewlett-Packard Development Company, L.P. (administration guide.pdf).
- *HP Select Audit 1.1 Installation Guide*, © Copyright 2006 2008 Hewlett-Packard Development Company, L.P. (installation_guide.pdf).
- HP Select Audit 1.1 User's Guide, © Copyright 2006 2008 Hewlett-Packard Development Company, L.P. (user_guide.pdf).
- *HP Select Audit 1.1 Sarbanes-Oxley Model Guide*, © Copyright 2006 2008 Hewlett-Packard Development Company, L.P. (sb_model_guide.pdf)
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- *HP Select Audit 1.1 Report Center User's Guide*, © Copyright 2006 2008 Hewlett-Packard Development Company, L.P. (rpt center guide.pdf)
- *HP Select Audit 1.1 Report Designer's Guide*, © Copyright 2006 2008 Hewlett-Packard Development Company, L.P. (rpt_design_guide.pdf)

- *HP Select Audit 1.1 Report Developer's Guide*, © Copyright 2006 2008 Hewlett-Packard Development Company, L.P. (rpt_devel_guide.pdf)
- *HP Select Audit 1.1 LDAP Configuration Guide*, © Copyright 2006 2008 Hewlett-Packard Development Company, L.P. (ldap provisioning.pdf)

Online help is available with the Audit Portal.

Installation Environment

Select Audit has two installers: a Connector installer and a Server installer for WebLogic. The Connector installer installs the Audit Connector on client machines running one or more of the HP Select products (Select Identity, Select Access, Select Federation, or any combination of these products). The Server installer installs the Audit Server and any remaining Select Audit components.

Before you begin installing Select Audit, consider your current network architecture and see what limitations can affect your deployment of Select Audit components on various network host machines. Potential limitations are described in the following topics:

- Minimum System Requirements on page 11
- Platform Availability on page 11

Supported Platforms

The platforms, servers and applications supported by Select Audit are listed in Table 1.

Table 1	Supported Platforms, Servers and Applications
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Select Audit Server	• Microsoft Windows 2003 (32 bit)
Operating system support	• HP-UX 11.23, 11.31 Itanium
Select Audit Connector	Microsoft Windows 2003 IA32/EM64T/AMD64
Operating system support	• Red Hat Linux AS3, AS4 IA32/EM64T/AMD64
	• HP-UX 11.23 PA-RISC, 11.23 Itanium, 11.31 Itanium
	Solaris 9, 10 SPARC
Application and portal servers	BEA WebLogic Application Server 9.2 MP1
Audit connectors	• HP Select Identity 4.1x, 4.20 and 4.21
	• HP Select Access 6.2 SP2
	• HP Select Federation 6.5, 6.6, and 7.0
Audit storage and databases	• Oracle 9i, 10g
	Microsoft SQL Server 2000 and 2005
Compliance report packs	Sarbanes-Oxley (Optional)
Directory server	SunOne version 5.2

Minimum System Requirements

To install the Select Audit server, your system must meet the minimum hardware and software requirements outlined in Table 2.

Hardware & Software	Minimum on Windows	Minimum on HP-UX
Processor	Pentium 4	Pentium 4
Memory	2 GB RAM	2 GB RAM
Disk space (combination of temporary space and real space required for a full install)	250 MB	For HP-UX: 220 MB
Video card	256 colors	256 colors
Operating systems	Windows 2003 Server Service Pack 2	HP-UX 11.B.11.23 64 bit with all required patches

 Table 2
 Minimum System Requirements

The specified memory requirements are per managed server. If you choose to run more than one Audit Server on the same machine, for example, if a WebLogic cluster installation has two or more managed servers on one machine, that machine should have a minimum of 2 GB of memory for each managed server.

Platform Availability

The Select Audit Server is available for the Windows 2003 and HP-UX platforms. The Select Audit connector is available for Windows 2003, Linux, Solaris and HP-UX platforms.

You can install Select Audit components on different platforms; all components communicate with each other irrespective of the platform you installed them on.

Chapter Summary

This guide includes the chapters listed in Table 3.

See the *HP Select Audit 1.1 Release Notes* (SAudit_release_notes_1.1.html) on the Select Audit installation CD for known installation issues at the time of this release.

Chapter	Description
Chapter 1, About the Select Audit Installation	This chapter describes the installation environment needed for Select Audit.
Chapter 2, Pre-Installation Information	This chapter describes the pre-installation steps for the Select Audit installers
Chapter 3, Installing Select Audit on WebLogic	This chapter describes how to install and uninstall the Select Audit components on your network with WebLogic.
Chapter 4, Installing the Select Audit Connector	This chapter describes how to install the Select Audit Connector.
Chapter 5, Using Self-Healing Services	HP Self-Healing Services (SHS) are part of HP's built-in support. This chapter describes SHS and how to use it in Select Audit.
Appendix A, Installer Configurations	This appendix describes the actions the WebLogic installer performs when installing Select Audit.

Table 3Chapter Summary

2 Pre-Installation Information

This chapter describes the Select Audit installers, the required pre-installation steps and the recommended installation order.

Select Audit Installers

Because HP employs InstallAnywhere installers, Select Audit is as simple to install as it is to configure. There are two main modules to install for Select Audit:

- the Audit Server
- the Audit Connector

Audit Server

The Server installers install the Audit Server and related components on a WebLogic server. The installer copies the necessary files to your system and then configures the application server and the Select Audit application to create a fully deployed system.

The Audit Server requires a previously-installed J2EE server and database for deployment. Before installing the Audit Server, create a database and set up an application server for deployment. The Select Audit installer will not install an application server or database instance.

Audit Connector

The Connector installer installs the Audit Connector on client machines running one or more of the Select products (Select Identity, Select Access, Select Federation, or any combination of these products). The Connector installer can also be run silently or in a non-GUI (console) mode.

The Audit Connector relies on a configuration file that is created by the Connector installer and can be modified using the Audit Server's configuration GUI. It is recommended the Audit Server is already installed and running before installing the Audit Connector.

The Connector installer installs the Java application and the JRE required to run it. The connector is installed as a service on Windows, and can optionally be registered for automatic restart.

The Impact of Running Control Panel Applications

If you are installing, uninstalling or configuring Select Audit components on a Windows host computer, ensure that you do not have the Services window or any other Control Panel application open. This open Control Panel application triggers conflicts that can cause the installer to behave abnormally.

The Importance of the Correct Administration Entitlements

On Windows, HP recommends that only administrators with local administration entitlements install the product. Otherwise, the installer cannot create the required registry entries.

On HP-UX, only run installers using the same user that is used to run the application server. Ensure that printenv is in your path.

• On HP-UX, it is usually located in usr/bin.

Before Installing Select Audit

Before Select Audit is installed, you must do the following:

- 1 Install WebLogic 9.2 MP 1.
- 2 Create a new domain, and configure the server or cluster that the Audit Server will be deployed on.
- 3 Create a new database instance.
- 4 Setup the database schema.



The application server the Audit Server is deployed on should be setup according to the vendor's recommendations.

If Select Audit has been previously installed on a machine, the uninstaller should be executed before attempting to install again to ensure a clean installation. For details on using the uninstaller, see To uninstall the Audit Server on page 63.

Creating a New Database Instance

Create a new database instance for the database you will use with Select Audit.

Oracle

Before you start the Select Audit installation process, have the database server name, the new database instance port number and SID information available. In the next step, a script is provided to create a new database user for use by the application. You must log onto the database server as a DBA user to run this script.

The Oracle Database server must have the Java option installed.

The Audit Server installer scripts create the audit user in the Users tablespace. By default, the Users tablespace is limited to a maximum size of 32 GB. This could lead to the improper functioning of the Audit Server. Because each database implementation is different, HP recommends that you review the *Oracle Database Administrator's Guide* and develop a strategy for managing the users tablespace datafiles.

MSSQL

To use JDBC distributed transactions through JTA, your system administrator should use the procedure described in the following link to install Microsoft SQL Server JDBC XA procedures.

These instructions are only for MSSQL on WebLogic.

http://e-docs.bea.com/wls/docs92/jdbc drivers/mssqlserver.html

Copy the sqljdbc.dll and instjdbc.sql files from the WL_HOME\server\lib directory to the SQL_Server_Root/bin directory of the MS SQL Server database server, where WL_HOME is the directory in which WebLogic server is installed, typically C:\bea\weblogic92.



2 Use SQL Query Analyzer to run the instjdbc.sql script.

The system administrator should back up the master database before running instjdbc.sql. The instjdbc.sql script generates many messages. In general, these messages can be ignored; however, the system administrator should scan the output for any messages that may indicate an execution error. The last message should indicate that instjdbc.sql ran successfully. The script fails when there is insufficient space available in the master database to store the JDBC XA procedures or to log changes to existing procedures.

3 Start the DTC (Distributed Transaction Coordinator) service for the Microsoft SQL Server database.

This procedure must be repeated for each MS SQL Server installation that will be involved in a distributed transaction.

XA Configuration Details

To properly coordinate distributed transaction processing between WebLogic and SQL Server 2005, XA Transaction processing is required.

To use XA data sources together with Microsoft Distributed Transaction Coordinator (MS DTC) for handling distributed transactions, you must configure the MS DTC service in SQL Server 2005. The MS DTC service should be marked **Automatic** in Service Manager to make sure that it is running when the SQL Server service is started. To enable MS DTC for XA transactions, follow these steps on your SQL 2005 server:

- 1 From Control Panel, open Administrative Tools, and then open Component Services.
- 2 Expand Component Services, right-click My Computer, and then select Properties.

- 3 Click the MSDTC tab, and then click Security Configuration.
- 4 Select the **Enable XA Transactions** check box, and then click **OK**. This will cause a MS DTC service restart.
- 5 Click OK again to close the Properties dialog box, and then close Component Services.
- 6 Stop and then restart SQL Server to ensure that it syncs up with the MS DTC changes.

You can configure the JDBC driver distributed transaction components by following these steps:

- 1 Copy the sqljdbc.dll and instjdbc.sql files from the WL_HOME\server\lib directory (of a WebLogic 9.2 installation) to the SQL_Server_Root/Binn directory of the MS SQL Server database server, where WL_HOME is the directory in which WebLogic server is installed, typically C:\bea\weblogic92.
- 2 Using Microsoft SQL Server Management Studio, click **New Query** and run the instjdbc.sql file as user "sa".

Setting Up The Database Schemas

Select Audit supports the following databases:

- Oracle 9i and 10g
- Microsoft SQL Server 2005

To configure the Oracle database server

Run the following scripts provided with Select Audit:

- CREATE_DB_USER.SQL
- CREATE_ALL.SQL
- INIT_ALL.SQL
- 1 In the CREATE_DB_USER.SQL script, replace the following variables with their own value: \$USER NAME\$: The name of the database user to be created.

\$USER PSWD\$: The password of the database user to be created.

The script uses default settings that must be customized before it is run.

- 2 Log on to SQL Plus as the DBA (usually system) and run the CREATE_DB_USER.SQL script.
- 3 Log on to SQL Plus as the newly-created database user and run the <code>CREATE_ALL.SQL</code> script.
- 4 Next, run the INIT_ALL.SQL script.

To configure the Microsoft SQL Server 2000 database server

Before you install Select Audit, configure the MSSQL database using the Microsoft SQL Server Enterprise Manager interface.

1 Log in to the Microsoft SQL Server Enterprise Manager interface.

- 2 Click Microsoft SQL Server \rightarrow SQL Server Group \rightarrow <server> where <server> is the name of the SQL Server instance.
- 3 Right-click **Databases** and select **New Database**.

The Database Properties dialog opens.

Database Properties - Select Audit							
General Data Files Transaction Log							
Name: Select Audit							
Database		-					
Status:	(Unknown)						
Owner:	(Unknown)						
Date created:	(Unknown)						
Size:	(Unknown)						
Space available:	(Unknown)						
Number of users:	(Unknown)						
Backup		-					
Last database backup:	None						
Last transaction log backup:	None						
Maintenance		-					
Maintenance plan:	None						
Collation name:	(Server default)	-					
	OK Cancel Help						

- 4 Type a name for the database, such as Select_Audit.
- 5 Click **OK** to finish creating the database.
- 6 Create a user account to manage the Select Audit database by completing the following steps:
 - a Select the Microsoft SQL Server\SQL Server Group\server\Security folder in the Enterprise Manager tree.
 - b Create a new login for the new database by right-clicking Logins and selecting New Login.

The SQL Server Login Properties - New Login dialog opens.

SQL Server Login Properties - New Login	
General Server Roles Database Access	
Name:	
Authentication	[
C Windows Authentication	
Domain:	
Security access:	
Grant access	
C Deny access	
SQL Server Authentication	-
Password:	
Specify the default language and database for this login.	
Database: Select Audit	
Language: <pre></pre> <pre></pre> <pre></pre>	
OK Cancel	Help

- c On the **General** tab, type a user name such as SAud, type a password, and select the **SQL Server Authentication** radio button as the authentication type.
- d Select the new database (Select_Audit) from the **Database** drop-down list. Keep the remaining default settings.
- e Click OK.
- f Confirm your password when prompted.
- g Click the Database Access tab.
- h Select the Permit check box next to the Select Audit database user.
- i Assign the db_owner and public permissions to the new user.
- Click **OK** to save your settings.
- 7 Create the Select Audit database schema by performing the following steps:
 - a Launch the SQL Query Analyzer by clicking Tools \rightarrow SQL Query Analyzer.
 - b Select the new database (Select Audit) from the Database drop-down list.
- 8 Load the create_all.sql script from the Select Audit database home directory.
 - a Edit the create_all script by doing the following:
 - Replace all occurrences of \$USER NAME\$ with your database schema name.
 - Replace \$DB NAME\$ with the name of the database you created in step 2.
 - b Click the **Open** icon. Locate the Select Audit home directory.
 - c Select the create_all.sql file.
 - d Click Open.

e Run the script by clicking $Query \rightarrow Execute$ or Play.

Ignore the warnings that are generated after running the script. These warnings can be safely ignored and will not cause any issues. The maximum size of the data being stored in the tables listed in the warning messages will not be exceeded.

- f Verify that no error message is shown.
- 9 Insert the required default data into the Select Audit database by performing the following steps:
 - a Edit the init_all script by replacing all occurrences of \$DB_NAME\$ with your database user name.
 - b Clear the previous script by clicking $Edit \rightarrow Clear$ Window.
 - c Load the init all.sql script from the Select Audit database home directory.
 - d Click Query \rightarrow Execute.

Messages in the console indicate that rows are being created.

- e Verify that no error message is shown.
- f Close the SQL Query Analyzer and the Microsoft SQL Server Enterprise Manager.

To configure the Microsoft SQL Server 2005 database server

Before you install Select Audit, configure the MSSQL database using the Microsoft SQL Server Management Studio interface.

- 1 Log in to the Microsoft SQL Server Management Studio.
- 2 On the left side of the Microsoft SQL Server Management Studio screen right-click the **Databases** folder and select **New Database**.

The New Database dialog opens.

🚪 New Database					_ 🗆 🗙
Select a page	🛄 👻 Script 👻	elp			
General Options Filegroups	Database <u>n</u> ame: <u>O</u> wner:		cdefault>		
	Database files:	idexing	(-		
	Logical Name	File Type	Filegroup	Initial Size (MB)	Autogrowth
	lan.	Data	PHIMARY Nationalist	5	By 10 percent, unrestricted growth
Connection Server					
SAUDB02\SQL2005 Connection: saud					
View connection properties					
C Ready					
					Add Bemove
					UK Cancel

Type a name for the database, such as Select_Audit, and click $\boldsymbol{\mathsf{OK}}$ to create the database.

- 3 Create a user account to manage the Select Audit database by completing the following steps:
 - a Expand the Security folder in the SQL Server Management Studio interface.
 - b Right click the **Logins** folder and select **New Login**.

The Login - New dialog opens.

Login - New			-	
Select a page	式 Script 👻 🚺 Help			
Server Roles	Login pame: C Windows authentication (C SQL Server authentication) Password: Confirm password:		Sgarch	L
Connection	C Mapped to certificate Certificate name: C Mapped to asymmetric key Key name:			
SAUDB02VZAIDISY	Default gatabase:	master		•
Connection: sa View connection properties Progress Ready	Default Ignguage:	<default></default>		-
			OK Carro	. 1

- c Type a user name such as SAud and select the **SQL Server Authentication** radio button as the authentication type. Enter and confirm a password for this account.
- d Keep the remaining default settings and click **OK** to finish.
- 4 Configure the security settings for the new user account by completing the following steps:
 - a Expand the **Databases** folder in the SQL Server Management Studio interface and double-click on your new database.
 - **b** Double-click the **Security** folder and expand the **Users** folder.
 - c Right-click the Users folder and select New User. The Database User New dialog opens.

📑 Database User - New		
Select a page	Script - N Help	
🚰 General		
Securables	User name:	
Edended Properties	C Login name:	
	C Conference	
	C Cenncate name:	
	C Keyname:	
	C Without login	
	Default schema:	
	Schemas owned by this user:	
	Owned Schemas	<u>ـ</u>
	db_accessadmin	
	db_backupoperator	
	db_datareader	
	db_datawrter	
	db_ddladmin	
	db_denydatareader	
Connection	db_denydatawriter	1
Server:	Database role membership:	
saudb02.can.np.com	Role Members	<u>م</u>
Connection:	db_datareader	
	db_datawriter	1
24 <u>New connection properties</u>	db_ddladmin	
Program	db_denydatareader	
r rognass	db_denydatawriter	
Heady	db_owner	
404	C db_securtyadmin	
		OK Cancel

Enter a User name and Login name values.

- d Click the **db_owner** checkbox in the **Database role membership** section as pictured above.
- e Click **OK** to save your settings.
- 5 Configure the database schema by performing the following steps:
 - a Expand your new database in the Microsoft SQL Server Management Studio interface and right-click the **Security** folder.
 - b Select New \rightarrow Schema from the menu. The Schema New panel displays.

👪 Schema - New		
Select a page	Script + 🚺 Help	
General		
Extended Properties	A schema contains database objects, such as tables, views, and stored procedures. A can be a database user, a database role, or application role.	schema owner
	Column annu	
	Schema name.	
	saud	
	Schema owner:	
	saud	Search
Connection		
Server: saudb02.can.hp.com		
Connection:		
Wew connection properties		
Progress		
Ready		
194.6V		
		Cassel
	UK	

Enter the Schema name and Schema owner values, and click $\ensuremath{\mathsf{OK}}$.

The **Schema name** you define **must** be the same as the database user name created in step 4 on page 21.

c Returning to the **Security** folder in step a above in the Microsoft SQL Server Management Studio interface, select **Security** \rightarrow **Users** from the menu, and double-click the user you created in step 3 above. The **Database User** properties panel displays.

А

📔 Database User - saud			_ O ×
Select a page	Script + 🚺 Help		
General			
Securables	User name:	saud	
Extended Properties	C Logio name:	saud	
	C Carlonda anna		
	Centricate name:		
	C Keyname:	l.	
	C Without login		
	Default schema:	saud	
	Schemas owned by this user:		
	Owned Schemas		▲
	db_accessadmin		
	db_backupoperator		
	db_datareader		
	db_datawriter		
	db_ddladmin		
	db_denydatareader		-
Connection	db_denydatawriter		-
Server:	Database role membership:		
saudbuz.can.np.com	Role Members		<u> </u>
Connection:	db_accessadmin		
	db_backupoperator		
The view connection properties	db_datareader		
Progress	db_datawriter		
Deate	db_ddladmin		
Neady	db_denydatareader		
1691	do_denydatawriter		*
			OK Cancel

Enter the appropriate **Default schema** and click **OK**.

d Returning to the Microsoft SQL Server Management Studio interface, select **Security** \rightarrow Logins and double-click the user you created in step 3 above and modify the Default database information.

Login Properties - saud		
Select a page	🖾 Script 👻 🚺 Help	
Secural Server Roles	Login game: © Windows authentication © SOL Server authentication Password: Qonfilm password:	saud Sgarch
Connection	Enforce password poicy Frforce password expiration Lerforce password expiration Lerforce password Mapped to certificate Cetficate name: Mapped to asymmetric key Ley name:	at next login
Server: saudb02.can.hp.com	Default <u>d</u> atabase:	sauddb
Connection: sa Wew connection properties Progress Ready	Default Ignguage:	English 💌
		OK Cancel

Click **OK** to complete the login user account configuration.

- 6 Connect using SQL Server Authentication and the new login user ID and password you created earlier in this section. This should automatically select the new database created for Select Audit.
- 7 Create the Select Audit database schema by performing the following steps:
 - a Using the Microsoft SQL Server Management Studio interface, select File \rightarrow Open \rightarrow File. Select the create_all.sql script from the Select Audit database home directory. The script displays in the right-hand side of the screen.
 - **b** Edit the create all.sql script by doing the following:
 - Replace all occurrences of \$USER NAME\$ with your database schema name.
 - Replace \$DB NAME\$ with the name of the database you created in step 2.
 - c Run the script by clicking **Execute** in the task bar.

Ignore the warnings that are generated after running the script. These warnings can be safely ignored and will not cause any issues. The maximum size of the data being stored in the tables listed in the warning messages will not be exceeded.

- d Verify that no error message is shown.
- 8 Insert the required default data into the Select Audit database by performing the following steps:
 - a Using the Microsoft SQL Server Management Studio interface, select File \rightarrow Open \rightarrow File. Select the init_all.sql script from the Select Audit database home directory. The script displays in the right-hand side of the screen.

- **b** Edit the init_all.sql script by replacing all occurrences of <code>\$DB_NAME\$</code> with your database name.
- c Run the script by clicking **Execute** in the task bar. Messages in the console indicate that rows are being created.
- d Verify that no error message is shown.
- e Close the Microsoft SQL Server Management Studio interface.

Adding Users to Roles

The Audit Server installer creates the following roles:

- Select Audit Administrator
- Select Audit User
- Select Audit Auditor

As part of the pre-installation procedures, you should create the corresponding groups in your LDAP (Select Audit Administrators, Select Audit Auditors and Select Audit Users) if you are using an external LDAP server. If you are using WebLogic embedded LDAP, the groups will be created by the installer. The installer maps the roles to these groups. You must add users to the groups before the users can log on to Select Audit.

The user that will be used in deployment should be added to the Select Audit Administrators group. If you are using a WebLogic embedded LDAP, this is taken care of by the installer.

An additional group, Select Audit Report Developers, must also be added to LDAP. This group is for report developers. As above, this group should be created in your LDAP if you are using an external LDAP server. If you are using WebLogic embedded LDAP, the group will be created by the installer. Users in the Report Developers group must also belong to one of the three standard groups to be granted login access. They have access to the Developer Center and to error output from reports.

Integrating with Select Identity

Select Identity (SI) can be configured with Select Audit such that Select Audit can report and model Select Identity audit data, and Select Identity permissions can be applied to Select Audit users to control the flow of information.

Auditing Select Identity Data with Select Audit

Select Identity is configured to send audit event data to a Select Audit connector. This enables users to:

- Pass Select Identity request, transaction, configuration, and maintenance data into Select Audit for complance auditing in Sarbanes-Oxley and other regulatory settings (HIPAA does not apply here).
- Incorporate data from the Select Identity XML audit data stream into a wide range of reports.

Filtering Select Audit Reports using Select Identity Entitlements

Select Audit is configured to filter results based on a user's entitlements in Select Identity, and allows Select Identity administrators to view configuration reports in Select Audit, depending on the access rights they have for Select Identity configuration reports. The Select Audit reports filter by the managed service and the context of the Select Identity administrator; you can only see reports for users and services you manage.

Requirements and Recommendations

The following guidelines apply to integrated Select Identity-Select Audit systems:

- Select Identity and Select Audit should be installed in separate Web Application Server domains.
- Select Audit must be able to connect to the Select Identity database.
- For auditing, Select Identity must be able to send data to Select Audit via the port on which the Select Audit agent listens.

The Select Identity Installation Guide contains a section that specifically covers Select Audit integration. Technicians working on each side should be familiar with the other's documentation in addition to their own.

Filtering can be set up in the following scenarios:

- During Select Audit installation, using the Select Identity configuration options that are built into the Select Audit installer.
- On an established system. In this case, Select Identity integration configuration resides in the Select Audit user interface.

Ensure that there are pre-existing Select Identity user accounts corresponding to those with access from Select Audit; you must create these on the Web application Server.

If you are integrating with Select Identity, you must first create all the Select Identity users that will be using Select Audit, in Select Audit. You can do this by creating the users in the LDAP repository used by the application server.

You may have to create the GLOBALUSER correlation table. See Correlating Users Between Applications in the *HP Select Audit 1.1 Administration Guide* for more information about the GLOBALUSERS table. Ensure the GUID used is the same as the login name in Select Identity.

Make sure you have the following information available before beginning.

- For the Select Identity server:
 - host name
 - port number
 - super administrator name
 - super administrator password
- For the Select Identity database:
 - host name
 - port number
 - database name (SID)

- log-on user name
- log-on user password

Select Audit Authentication Options

User Name and Password with non-SSL

The user name and password are sent in plain text.

- Select Identity: no specific configuration is needed.
- Select Audit:
 - Key store and trust store are not required.
 - Select Identity filtering is required. When configuring, SSL should be disabled, and user name and password should be entered.

User Name and Password with SSL enabled

Select Identity still authenticates Select Audit using a password. Select Audit sends the user name and password to Select Identity using SSL.

- Select Identity:
 - Requires key store and trust store for the Select Identity server.
 - WebLogic must be configured to enable SSL.
 - Security Setup is required on the Select Identity server, but with the Security Level set to None.

For details, see Select Identity Server Configuration on page 29.

- Select Audit:
 - Requires a trust store for the Select Identity server. Either the Select Identity server certificate or the certificate's signer certificate must be in the trust store.
 - Filtering must be enabled in Select Identity. To do this, SSL must be enabled, trust store information is required, and user name/password authentication is required. If CRL verification is enabled, the Select Identity server certificate must *not* be revoked and must contain a CRL url.

For details, see Select Audit Configuration on page 37.

Using Certificates (with SSL enabled)

Select Audit will send a certificate to identify itself, and Select Identity will compare and verify the certificate with the certificate associated with the user record. This process requires SSL be enabled.

- Select Identity:
 - Requires both a key store and trust store for the Select Identity server. The client certificate sent by Select Audit must be in the trust store.
 - WebLogic must be configured to enable SSL. The "Client Certificate Required" must be selected as the Security Level. If Certificate Usage Validation is enabled, ensure the client certificate has TSL Web Client Authentication usage. If CRL checking is enabled, ensure the client certificate has a HTTP-based CRL url and that the certificate is not revoked.

— When configuring security in Select Identity, ensure the certificate associated with the administrator is the same as the one sent by Select Audit.

For details, see Select Identity Server Configuration on page 29

- Select Audit:
 - Requires trust store configuration. Either the Select Identity server certificate itself or the certificate's signer certificate must be in the trust store.
 - Requires key store configuration. The key store should contain the certificate sent by Select Audit.
 - Enable Select Identity filtering. SSL must be enabled, and valid key and trust store information must be entered. Certificate Authentication must be chosen with valid configuration information entered. If CRL Verification is enabled, ensure the Select Identity server certificate is not revoked and contains a CRL url.

For details, see Select Audit Configuration on page 37.

About CRL Validation

Loading CRL may be quite time consuming in an enterprise environment. Both Select Identity and Select Audit can cache the CRL list and allow customers to specify the reload interval. If the interval is set to zero, the CRL list will not be cached and will be loaded every time CRL verification is needed.

Installing Select Audit and Select Identity on the Same Domain

If you want to install Select Identity and Select Audit in the same domain, they must be installed on separate servers. In most cases, this will mean having two clusters on the domain; one for Select Audit servers and another for Select Identity servers. This will ensure you can still achieve proper load balancing. If you do not want to run clusters, you can install two managed servers.

To integrate both the Select Identity and Select Audit configuration changes to the WebLogic startup script, edit the Select Identity script

<si install dir>/WebLogic/scripts/weblogic/myStartWL

to call the Select Audit script,

<domain dir>/startWLSelectAudit

in place of the default <domain_dir>/startWebLogic script.

Select Identity Server Configuration

Depending on the authentication option chosen between Select Audit and Select Identity (listed in Select Audit Authentication Options on page 28) you may not need to complete all these steps.

Creating a Key Store and Trust Store for the Select Identity Server

This keystore is used to store the mutual authentication key pair, and is configured as follows:

1 Run the keytool utility to create a keystore and a key pair. When you create a key pair, a keystore is automatically created during this process.

2 Generate a certificate request file, as shown in this command line example which creates an X.509 certificate request file at ./req/myReq.csr for a certificate at myKeyAlias in the keystore:

```
keytool -certreq -keyalg RSA -alias myKeyAlias -file ./req/myReq.csr
-keystore ./ks/myKeystore -storetype JKS
```

- 3 Send the new request file to your certificate authority for digital signing.
- 4 Import the signed certificate back to the keystore from which you generated the certificate request. The following command line example imports the signed certificate file ./ signed/signedCert.pem to ks/myKeystore at the key alias named myKeyAlias:

```
keytool -import -trustcacerts -alias myKeyAlias -file ./signed/
signedCert.pem -keystore ./ks/myKeystore -storetype JKS
```

5 Import the signed certificate to the appropriate truststore. The following command line example imports the signed certificate file ./signed/signedCert.pem to ks/ mytruststore at the key alias named myKeyAlias:

```
keytool -import -trustcacerts -alias myKeyAlias -file ./signed/
signedCert.pem -keystore ./ks/mytruststore -storetype JKS
```

6 Select Identity uses java property files to identify keystores. Generate the property files for the keystore and/or truststore by executing either genprop.sh (HP-UX) or genprop.bat (Windows).

When prompted to specify the file type to generate, select the appropriate option:

- For keystores, select option 2: OVSI secure object migration keystore
- For truststores, select option 3: OVSI truststore
- 7 Register the keystore and/or truststore on the application server.
- 8 Register the keystore and/or truststore property files in Select Identity. For more information refer to the *HP Select Identity Administration Online Help*.
- 9 The Select Audit server's certificate must be registered in the Select Identity trust store.

Configuring WebLogic to Enable SSL

Perform this procedure to configure WebLogic system security parameters and enable mutual authentication functionality.



A best practice recommendation is to use a new keystore to avoid having to change an existing keystore for other applications that may be implemented already.

Prerequisites

The following conditions must be met before you can perform this procedure:

- You have administrative privileges to the WebLogic server.
- You know the keystore and truststore file locations.
- You know how your business uses SSL and Select Identity.
- You have identified whether you will be using Select Identity in secure or regular HTTP mode.
- You have determined if Select Identity is running in secure mode only.

Procedure - Single Server

To configure a single WebLogic server to enable mutual authentication, perform the following steps:

1 Log in to the WebLogic Server Console.



2 From the Domain Structure panel, navigate to <My Domain> \rightarrow Environment \rightarrow Servers. The Summary of Servers page displays, containing a list of all servers that are available.

Figure 2	Sum	mary of Ser	vers								
WEBLOGIC SERV	ER OLE	Sternel Franciscus Discus Discus Discus Discus Discus	nen Sinen Diener Klauer Klauer Klauer	Trans Viran Maran D	desembliks en 15 som 15 som 15 som 15 som	ingen 12 (nors 12 Jaaren 12 Jaaren 12 Jaaren 12 (nors	all formal Maxim Vision Estar and Science				
Change Center	Welcome,	system	Con	nected to	: base_domain	🟠 Home	Log Out Pre	ferences Help	AskBEA		
View changes and restarts	Home > Summary of Servers										
No pending changes exist. Click the Release Configuration button	Summa	Summary of Servers									
to allow others to edit the domain. Lock & Edit Release Configuration	A sen This p	ver is an instance of WebLog bage summarizes each serve	achine (JVM) and ebLogic Server d	nd has its own configuration. domain.							
Domain Structure	🕨 Cu	stomize this table									
base_domain ⊕-Environment Deployments	Serv	New Cone Delete Showing 1 - 1 of 1 Previous Next									
Services Security Realms		Name 🐟	Clust	er	Machine	State	Health	Listen Port			
Interoperability Diagnostics		AdminServer(admin)				RUNNING	ок	7001			
	Ne	New Cone Delete Showing 1 - 1 of 1 Previous Next									
How do I											
Create Managed Servers Delete Managed Servers Delete Managed Servers Delete the Administration Server Start and stop servers											
System Status											
Health of Running Servers											
Failed (0)											
Critical (0)											
Overloaded (0)											
Warn (0)											
UK (1)											

3 Select the server you want to configure. In this example, select AdminServer(admin).

The **Settings for <Your Admin Server>** page opens. Click **Lock & Edit** to enable data entry on this screen. You will use this page to configure general features of this server such as the default network communications.

nge Center	Welcome, system		Connected to: base_domain
changes and restarts	Home > Summary of Servers > AdminServer		
ding changes exist. They must activated to take effect.	Settings for AdminServer		
Activate Chapters	Configuration Protocols Logging	ebua Monitorina Con	trol Deployments Services Security Notes
Lindo Al Changes	General Cluster Services Ke	stores SSI Federa	tion Services Deployment Migration Tuning Overload Health Monitoring Server Start
ain Structure	Save		
domain			
nvironment Deployments Services	View JNDI Tree ==	reatures of this server s	uch as default network communications.
nteroperability Nagnostics	Name:	AdminServer	An alphanumeric name for this server instance. More Info
	Machine:	(None)	The WebLogic Server host computer (machine) on which this server is meant to run. More Info
do I	Cluster:	(Stand-Alone)	The cluster, or group of WebLogic Server instances, to which this server belongs. More Info
nfigure default network	/ Listen Address:		The IP address or DNS name this server uses to listen for incoming connections. More Info
eate and configure machines	-E EDICH / Marcost		
nfigure clusters art and stop servers	Listen Port Enabled		Specifies whether this server can be reached through the default plain-text (non-SSL) listen port. More Info
em Status	Listen Port:	7001	The default TCP port that this server uses to listen for regular (non-SSL) incoming connections. More Info
Failed (0) Critical (0) Overloaded (0) Warn (0) OK (1)	SSL Listen Port Enabled		Indicates whether the server can be reached through the default SSL listen port. More Info
	SSL Listen Port:	7002	The TCP/IP port at which this server listens for SSL connection requests. More Info
	🖉 🗖 Client Cert Proxy Enabled		Specifies whether the HttpClusterServlet proxies the client certificate in a special header. More Info
	Java Compiler:	javac	The Java compiler to use for all applications hosted on this server that need to compile Java code. More Info
	Se Advanced		
			Constitue whether this server uses the preprinters 100 Dense Client 10 hander which is recommended if
	🔏 🔲 WebLogic Plug-In Enabled		Specifies whether this server uses the proprietary WL-Proxy-client_in header, which is recommended in the server instance will receive requests from a proxy plug-in. More Info
	4 Prepend to classpath:		The options to prepend to the Java compiler classpath when compiling Java code. More Info
	49 Append to classpath:		The options to append to the Java compiler classpath when compiling Java code. More Info
	🐐 Extra RMI Compiler Options:		The options passed to the RMIC compiler during server-side generation. More Info
	🐐 Extra EJB Compiler Options:		The options passed to the EJB compiler during server-side generation. More Info
	🐗 External Listen Address:		The external IP address or DNS name for this server. More Info
	Local Administration Port Override:	9002	Overrides the domain-wide administration port and specifies a different listen port on which this server listens for administrative requests. Valid only if the administrative channel is enabled for the domain. More Info
	Startup Mode:	Running	The state in which this server should be started. If you specify STANDBY, you must also enable the domain-wide administration port. More Info
	4 JDBC LLR Table Name:		The table name for this server's Logging Last Resource (LLR) database table(s). WebLogic Server creates the table(s) and then uses them during transaction processing for the LLR transaction optimization. This setting must be unique for each server. The default table name is WL_LLR_SERVERIVAME_More Info

Figure 3 Settings for <Your Admin Server>

4 Click the Configuration \rightarrow KeyStores tab.

The **Keystores** page opens.

Figure 4 Keystores Tab

iguration Protocols Logging	Debug Moni	toring Contro	ol Deploymen	ts Services	Security	Notes			
neral Cluster Services K	eystores S	SL Federat	ion Services	Deployment	Migration	Tuning	Overload	Health Monitoring	Server Sta
ve									
<i>Keystores</i> ensure the secure sto keystore configurations. These s	rage and mana settings help yo	agement of pri ou to manage f	vate keys and the security of	trusted certific message trans	ate authori missions.	ties (CAs). ⁻	This page le	ts you view and defin	e various
Keystores:	Custom Ider	ntity and Cust	om Trust	Which trust ke	configuratio systores? M	on rules sho ore Info	uld be used	for finding the serve	's identity a
Identity									
Custom Identity Keystore:	C:\SI4.20.00	0\RC10\MAK		The pa	th and file	name of the	identity key	store. More Info	
Custom Identity Keystore Type:	JKS			The typ	oe of the ke	ystore. Gen	erally, this i	s JKS. More Info	
Custom Identity Keystore Passphrase:	•••••	•••••		The en the key	crypted cus store will b	stom identit e opened v	y keystore's vithout a pas	passphrase. If empty sphrase. More Info	or null, the
Confirm Custom Identity Keystore Passphrase:	•••••	•••••		Re-ent	er the custo	om identity l	keystore pas	sphrase. More Info	
Trust									
Custom Trust Keystore:	C:\SI4.20.00	0\RC10\MAK		The pa	th and file	name of the	e custom tru	st keystore. More Info)
Custom Trust Keystore Type:	JKS			The typ	oe of the ke	ystore. Gen	erally, this i	s JKS. More Info	
Custom Trust Keystore Passphrase:	•••••	•••••		The cu will be	stom trust opened wit	keystore's p hout a pass	assphrase. i sphrase. Mor	If empty or null, then e Info	the keystor

Keystores ensure the secure storage and management of private keys and trusted certificate authorities (CAs). The **Keystores** page allows you to view and define keystore configurations. These settings help you manage the security of message transmissions.

After you configure identity and trust keystores for a WebLogic server instance, you can configure its SSL attributes. These attributes include information about the identity and trust location for particular server instances. You will use the **Configuration: SSL** page (discussed later in this section) to identify this information.

5 On the Change Center panel, click Lock & Edit.

This allows you to make changes to the page. After you make changes, the option name temporarily changes to **Activate Changes**.

Figure 5 Lock & Edit Button

Char	nge Center
View	changes and restarts
Click mod dom	the Lock & Edit button to ify, add or delete items in this ain.
	Lock & Edit

- 6 In the **Identity** and **Trust** sections, enter the appropriate values.
- 7 Click Save, and then click Activate Changes.
- 8 Click the **SSL** tab.

The **SSL Configuration** page opens. This page enables you to view and define SSL settings for this server instance.

Figure 6 SSL Configuration

etti	ngs for	AdminServer												
Conf	iguration	Protocols L	ogging D	ebug 1	Aonitoring	g Control	Deployn	nents	Services	Security	Notes			
Ge	neral	Cluster Servi	ces Keys	stores	SSL F	ederation	Services	Deplo	oyment	Migration	Tuning	Overload	Health Monitoring	Server Sta
Clic	k the <i>Lo</i> This pag of messa	ock & Edit butto e lets you view age transmission	on in the Cl and define ns.	hange C various	enter to r Secure S	nodify the Sockets Lay	settings o (er (SSL) :	n this p settings	age. s for this	server insta	nce. Thes	e settings h	elp you to manage th	e security
4	Identit Locatio	y and Trust ins:	٦	Keystor	es			¥		Indicates wi private key)	here SSL s as well as	should find t s the server	he server's identity (s trust (trusted CAs)	certificate and . More Info
-	Identit	y												
	Private	Key Location	: fr	rom Cus	tom Ident	tity Keystor	e			The keystor file. More In	e attribute fo	that define	s the location of the	private key
										retrieve the	server's p	rivate key. I	More Info	
4	Private	Key Passphra	ase:							The keystor the server's	e attribute private ke	that define y. More Info	s the passphrase use 	ed to retrieve
42	Confirn Passph	ı Private Key rase:	ŀ	•••••	•••••	•••••				Re-enter th	e private k	ey passphra	ise. More Info	
	Certific	ate Location:	fr	rom Cus	tom Ident	tity Keystor	e			The keystor certificate.	e attribute More Info	that define	s the location of the	trusted
-	Trust -													
	Trustee Author	l Certificate ities:	fr	rom Cus	tom Trus	t Keystore				The keystor authorities.	e attribute More Info.	that define	s the location of the	certificate
₽,	Advanced	ı —												to store at re
4	Hostna	me Verificatio	m: [BEA Ho	stname \	/erifier	Ŧ			Specifies wi weblogic.se is acting as	hether to i curity.SSL a client to	gnore the ir .HostnameV another ap	stalled implementati erifier interface (wh plication server). Mo	on of the en this server re Info
45	Custon	i Hostname Ve	erifier:							The name o weblogic.se	of the class curity.SSL	s that impler HostnameV	nents the erifier interface. <mark>Mo</mark> r	e Info
	Export	Key Lifespan:		500						Indicates th exportable I before gene Server to be generating a	e number key betwer rrating a n e, the fewr a new key.	of times We en a domest ew key. The er times the . More Info	bLogic Server can us ic server and an exp more secure you w key should be used	se an ortable client ant WebLogic before
	Two W Behavi	ay Client Cert or:	٦	Client C	erts Requ	uested But	Not Enfor	ced 💌]	The form of	SSL that	should be u	sed. More Info	
49	Cert Ai	uthenticator:								The name of weblogic.se this release security only Authenticati	of the Java curity.acl.(of WebLo y, and is o on provide	class that in CertAuthent gic Server. nly used wh er is configu	nplements the cator class, which is This field is for Comp en the Realm Adapte red. More Info	deprecated i patibility ar
	<mark>⊠ ss</mark> t	Rejection Log	ging Enal	bled						Indicates wi when SSL c	hether was	rning messa s are rejecte	ges are logged in the	e server log
	Inboun Validat	d Certificate ion:	Γ	Builtin S	SL Valid	ation Only			Ŧ	Indicates th Info	e client ce	rtificate vali	dation rules for inbou	and SSL. More
	Outbou	nd Certificate	· [Builtin S	SL Valid	ation Only	******	1007/100	-	Indicates th	e server o	ertificate va	idation rules for out	ound SSL.

- 9 Be sure the Two Way Client Cert Behavior field is set to Client Certs Required But Not Enforced.
- 10 On the Change Center panel, click Lock & Edit.
- 11 Enter the appropriate values for the SSL Configuration page.
- 12 Click Save, then click Activate Changes.

A success message displays under the tabs.

13 To configure the Select Identity security setup to use the keystore and truststore, use the Select Identity user interface. For more information, refer to the HP Select Identity Administration Online Help.

Procedure – Clustered Servers

To configure a cluster of WebLogic servers to enable mutual authentication, secure object migration, and key rotation functionality, perform the following steps:

1 Log in to the WebLogic Server Console.

hange Center	Welcome, system	Connected to: base_de	omain	🟠 Home	Log Out	Preferences	Help	AskBEA
iew changes and restarts	Home							
ending changes exist. They must be activated to take effect.	Domain							
Activate Changes	Information and Resources	C						
Undo All Changes	Helpful foois	General Information	criptions					
amain Etwicture	Recent Task Status	 Set your console preferences 	criptions					
omain Structure	i Recent rusk status	Read the documentation						
ase_domain Environment		THE REPORT OF THE PROPERTY OF T				Richard		
Deployments	- Domain Configurations							
Security Realms	Domain	Services	Inte	roperability				
- Interoperability - Diagnostics	Domain	Messaging	■ WT	C Servers				
And Constants		> JMS Servers	🖬 Joli	Connection F	Pools			
	Environment	Store-and-Forward Agents				uter en te		
w do L	Servers	> JMS Modules	Diag	nostics				
Use the Change Center	Clusters	> Bridges	■ Log	; Files		2.077		
View pending changes	Virtual Hosts	JDBC	🛡 Dia	gnostic Modu	les			
Change Console preferences	Migratable Targets	> Data Sources	🗏 Dia	gnostic Imag	es			
Monitor servers	₩ Machines	> Multi Data Sources	■ Arc	thives				
-t Chatura	Work Managers	> Data Source Factories	Col	ntext				
stem status	Startup And Shutdown Classes	Persistent Stores	SN SN	MP Agent				
ealth of Running Servers		Path Services		Proxies				
Failed (0)	Your Deployed Resources	W XML Registries		Monitors				
Critical (0)	Deployments	Foreign INDI Providers		Log Filters				
Overloaded (0)		Work Contexts		Tran Docting	anges			
Warn (0)	Your Application's Security	■ 1COM		ridp Desund	uuns	1915		
OK (1)	Security Realms	Mail Sessions						
		₽ FileT3						
		ATL 🛛						

Figure 7 WebLogic Server Console

2 From the Domain Structure panel, navigate to <My Domain> \rightarrow Environment \rightarrow Servers. The Summary of Servers page displays, containing a list of all servers that are available.

Figure 8	Summary	of Servers
----------	---------	------------

Chea WEBLOGIC SERV	/ER SOLE										
Change Center	Welcome, system		Connected	d to: mydomain	🔯 Home 🛛 Log Ou	t Preferences Help AskBEA					
View changes and restarts	Home > Summary of Servers										
Click the Lock & Edit button to modify, add or delete items in this	Summary of Servers	Summary of Servers									
domain.	A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration. This page summarizes each server that has been configured in the current WebLogic Server domain.										
Domain Structure	Customize this table										
mydomain B Environment Deployments	Servers Click the Lock & Edit button in the Char	nge Center to activate all the	buttons on this page.								
	New Cone Delete Showing 1 - 3 of 3 Previous Next										
⊞-Diagnostics	🔲 Name 🗞	Cluster	Machine	State	Health	Listen Port					
	AdminServer(admin)			RUNNING	ок	7001					
How do L	trulogica74-7003	myCluster	trulogica74	RUNNING	ок	7003					
Create Managed Servers Delete Managed Servers	trulogica75-7003	myCluster	trulogica75	RUNNING	ОК	7003					
 Delete the Administration Server Start and stop servers 	New Clone Delete				Sh	owing 1 - 3 of 3 Previous Next					
System Status											
Health of Running Servers											
Failed (0)											
Critical (0)											
Overloaded (0)											
OK (3)											
ОК (3)											

You can now see the server and the cluster group, which in the above example, displays two servers that are part of the cluster.

- 3 Click the admin server and configure the keystore and truststore information by following the procedure that you used to configure a single server. (See steps 5-12 for configuring a WebLogic single server.)
- 4 Configure the keystore and truststore information for each server in the cluster by following the procedure that you used to configure a single server.
5 To configure the Select Identity security setup to use the keystore and truststore, use the Select Identity user interface. For more information, refer to the *HP Select Identity Administration Online Help*.



When installing keystores, you can verify your installation by turning on the WebLogic auto debugging property. For more information about how to do this, refer to your WebLogic reference materials.

Configuring Select Identity Security

Perform the following tasks while logged on as sisa on the Select Identity server:

- 1 Go to **Tools** \rightarrow **System Security** \rightarrow **Security Setup** and import the key store and trust store by providing the property files.
- 2 Go to **Certificate Policy** and choose the appropriate Security Level and other options as appropriate for the chosen authentication options.

Creating a Select Identity Administrator and Certificate Configuration

In Select Identity, create a Select Identity user as a member of the Administration service. Make sure this user has the Identity Management function Concero Sys Admin. Assign this user a user certificate to be used by the Select Audit server for authentication using mutual authentication (using a User Certificate), as shown in the following screen:

IP Select Identity		ARPIC		User: Selectidentity SysAdmin <u>Home Sign Out</u>
My Identity 👻 Requests 👻 User Manager	ment 👻 Service Studio 👻 Reports 👻	Tools - Help -		
Home > Users > Modify User				
User: John Gao Actions V User Reports V UserName: testclent1	Service Subscriptions: Use User Profile Service Subscriptions Modify services assigned to the selected use	er John Gao Resources		8
City: Toronto Country: Canada	Service Subscriptions	SI421: testclient1	Attr	ibutes Managed Services
FirstName: John LastName: Gao Status: Enabled No requests pending.	Service * Sk21 Service Account * Sk421 Service Accounts: Primary Account testoient1	Firstlame: * 2 J Bently Mont. 2 Functions: * Lastlame: * 2 G SH21_ENTITLEMENTS: 2 K	ohn Configuration Approver Workflow Approver Concere Sys Admin Sao Y QA Managers	
	© Convride 2002-2008 Herviet	User Certificate: * 2 Transfer Account	IestClent1 Disable Account Apply Subm	Delete Account t Request(s) Cancel

Select Audit Configuration

Depending on the authentication option chosen between Select Audit and Select Identity (listed in Select Audit Authentication Options below) you may not need to complete all these steps.

Select Audit Configuration Options

- Set up a trust store. The trust store is used to verify the Select Identity server's certificate. It is needed when SSL is enabled between Select Audit and Select Identity. Either the Select Identity server certificate itself or the certificate's signer certificate must be in the trust store.
- 2 Set up a key store. The key and certificate used by Select Audit must be in the key store.
- 3 Enable Select Identity filtering through the Select Audit configuration page in the audit portal, as shown in the following screenshot:

HP Select Audit		PICE	1	User: weblogic Home I Sign Out
Reports - Approvals - Models - Adm	inistration - Help -			
Configuration Options	Filtering with S	Select Ide	entity	
	Filter with Select Identity			
Fitering with Select Identity	Select Identity Data Source JNDI Name	jdbc/Slintegr	ation	
	Select Identity Server Host Name	sau2k308.ca	n.hp.com	
Cal Data Integrity	Select Identity Server Port	7112		
		Connect Identity u	to Select sing SSL?	
		Yes	No	
	Use Password Authentication	0	0	
	Use Certificate Authentication	•		
	Keystore Location	poper_cl/dist	testclient1.ks	
	Keystore Type	jks		
	Keystore Password		•••••	
	Key Password			
	Trust Keystore Location	ooper_cVdist	/testclient1.ts	
	Trust Keystore Type	jks		
	Trust Keystore Password			
	Enable Certificate Revocation List Validation	V		
	CRL refresh every 5 days			
	Te Submit	Cancel		

Installing on HP-UX

If the command telnet localhost returns the error "localhost: Unknown host", the name localhost failed to resolve to the address 127.0.0.1. To fix this problem, make sure that the /etc/nsswitch.conf file contains either of the following lines:

hosts: dns [NOTFOUND=continue] files

OR

hosts: files dns

and that the /etc/hosts file contains the following line:

127.0.0.1 localhost loopback

When localhost resolves correctly to 127.0.0.1, the command telnet localhost should return a login prompt if the Telnet service is enabled.

Installing in a Clustered Environment

When you run the Audit Server installer, you are given the option of installing in a single server or clustered environment. If you want to run Select Audit in a clustered environment, you must follow the appropriate steps for your application server before running the Audit Server installer.



When installing on a cluster, ensure that there is at least 130 Mb of free space on the machine for each managed server, to account for application staging.

To run Select Audit in a clustered environment, note the following:



IMPORTANT: In order to run Select Audit in a clustered environment, load balancing *must* be enabled. For details, see Enabling Load Balancing for Clusters on page 60.

Installing in a Clustered Environment on WebLogic

- 1 Create a WebLogic Cluster domain.
- 2 Run nodemanager on each of the managed server machines.
- 3 Start all managed servers.
- 4 Create a shared directory on the administration server machine.

For Windows, you must create a shared directory and map that shared directory to a drive letter. The drive letter must be the same on all the machines that form the cluster.

5 Mount the shared filesystem on the WebLogic Administration server machine as well as all the machines hosting a managed server. Make sure the mounted path is identical on each of the cluster member machines.



Make sure the mounted filesystem has read/write permissions on each managed server.

Installation Order

HP recommends that you install the Audit Server first and then the Audit Connector. When you run the Connector installer, you need to know two things:

- the IP address of the Audit Server
- the user name and password used by the Audit Connector to log to the Audit Server

In order to know these two items, you need to have previously installed the Audit Server and created a Select Audit user that corresponds to your Connector.

If you know this information beforehand and install the Audit Connector first, the Audit Connector will log the events locally on the client machine and will not be able to send batches to the Audit Server (it does not exist yet). Once the Audit Server is installed successfully, your Connector will be automatically registered by the Audit Server, as long as you installed the Audit Server at the IP address specified in the Connector installer. If the Audit Server IP address differs from that specified during the Audit Connector install, the Audit Connector will not be able to register with the Audit Server and send batches to it. You must manually change the IP address specified at Connector install time in the connector.props file.

3 Installing Select Audit on WebLogic

This chapter describes how to install and uninstall the Audit Server on WebLogic.

The Audit Server installer takes you through the following steps for installing and deploying the Audit Server:

- Entering installation information.
- Configuring the server.
- Entering deployment information.
- Configuring database settings.
- Deploying Select Audit.

Installing the Audit Server

- 1 Start the Audit Server installation program by running the corresponding setup file from the root of the Select Audit product CD:
 - On Windows:

Double-click SelectAuditServerWLInstall.exe.



Λ

А

You should be logged in as an Administrator to install the Audit Server or Audit Connector.

If you are installing, uninstalling or configuring Select Audit components on a Windows host computer, ensure that you do not have the Services window or any other Control Panel application open. This open Control Panel application triggers conflicts that can cause the installer to behave abnormally.

If the installer is cancelled for any reason, run the uninstall utility immediately (see To uninstall the Audit Server on page 63) or manually delete the entire installation directory. If this cannot be done, delete the WebLogic config and keyfile from <install_dir>/setup and remove any passwords from <install_dir>/uninstall_Select_Audit/ installvariables.properties.

OR

• On HP-UX:

Type the following command:

./SelectAuditServerWLInstall.bin.



You should be logged in as the same user that the WebLogic Server is running under.

The installer extracts the installation files and then prepares the Select Audit Install wizard. When it has finished loading, the **Server Installer Introduction** screen opens.



2 Click Next. The Prerequisites screen opens.



- 3 Review the listed prerequisites and confirm they have been met before proceeding. To review the pre-installation steps, see Chapter 2, Pre-Installation Information.
- 4 Click Next. The Choose Install Folder screen opens.

📲 HP Select Audit Server	
	Choose Install Folder
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing 	Enter the directory where you would like to install Select Audit. If installing on a cluster, this should be a shared directory that is accessible by all servers.
WebLogic Configuration	Where would you like to install?
Select Audit Configuration Development	C:\Program Files\HP Software\Select Audit\auditserver
O Post-deployment Configu.	Restore Default Folder Choose
Install Complete	
InstallAnywhere by Macrovision - Cancel	Previous Next

5 Select the location where you wish to install the Audit Server.

When specifying Select Audit installation path, make sure to specify the mounted filesystem to ensure consistent paths on both the WebLogic Administration server as well as managed servers.



The following characters are not valid in file or folder names when specifying where to install the Audit Server:

() { } [] / \ : ; " ' < > | \$ * ? # &,

6 Click Next. The Pre-Installation Summary screen opens.



The **Pre-Installation Summary** screen creates a digest of the following installation information you provided to this point:

- The installation folder you chose to install the Audit Server in.
- The installation set.
- The components that will be installed.

- The installation location of the Java Virtual Machine that the Select Audit Install wizard has automatically installed. The Java Virtual Machine is required to run the installer and the uninstaller only; it is not required for other Select Audit components.
- The amount of disk space required for the components you selected to install. If the disk space required exceeds what is available on this computer, free up space.
- 7 Review the information on the **Pre-Installation Summary** screen. If the information is correct, click **Install**.



To change any of the installation settings, click **Previous** to return to the screen containing the settings you want to change.

The Audit Server begins to install and the Server Installation Progress screen opens.



When the Audit Server installer is finished, the WebLogic Installation screen opens.

📲 HP Select Audit Server	
	WebLogic Installation
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Post-deployment Configu. Install Complete 	Please enter your WebLogic installation details. BEA Home C:\Program Files\bea Restore Default Choose WebLogic Server Home C:\Program Files\bea\weblogic92 Restore Default Choose
InstallAnywhere by Macrovision - Cancel	Previous

- 8 Select your WebLogic home directory and WebLogic Server directory by clicking **Choose** beside each field.
- 9 Click Next. The WebLogic Domain Settings screen opens.

HP Select Audit Server	WebLogic Domain Settings
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Post-deployment Configur. Install Complete 	Enter the name of the target domain to deploy to, the root domain directory of your WebLogic installation, and the Java instance used by the target domain. Target Domain Name Domain Directory C:\bea\user_projects\domains Restore Default Choose BEA Java Home C:\bea\irockit90_150_06 Restore Default Choose
InstallAnywhere by Macrovision - Cancel	Previous Next



Note: Before restarting the servers in Task 36 on page 55:

If there are remote servers installed on a different path than the **BEA Java Home** directory, open the WebLogic console and edit the Server Start settings for each remote server to ensure that **BEA Home**, **Java Home**, **weblogic.jar** and **tools.jar** are pointing to the correct path.

- 10 Do the following:
 - Type the target domain in the **Target Domain Name** field.
 - Type the root domain directory in the **Domain Directory** field.
 - Type the location of the JDK used by the target domain in the **BEA Java Home** field.

Click **Restore Default** to restore the Select Audit defaults.

11 Click Next. The WebLogic Server Settings screen opens.

😼 HP Select Audit Server	
	WebLogic Server Settings
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Post-deployment Configu Install Complete 	Please enter the admin server name and the name of the cluster or server on which to deploy Select Audit. In the event of deploying to a single standalone server, the target name is the same as the admin server name. Admin Server Name myserver Deploy to: Server Target Name Server
InstallAnywhere by Macrovision — Cancel	Previous Next

- 12 Do the following:
 - Select whether to deploy Select Audit as a stand-alone server or on a cluster.

- Type the Administration server name in the Admin Server Name field.
- Type the server name in the **Target Name** field.

For stand-alone servers, this name will be the same as the Administration server name.

13 Click Next. The WebLogic Connections Settings screen opens.

😼 HP Select Audit Server		
	WebLogic Connection Settin	ngs
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Belect Audit Configuration Deployment Prost-deployment Configu. Install Complete 	Under "External Address", enter the URL of your load balancer/web server through which users will connect to your application server. you do not have a web server set up, this is the URL to connect directly to your application server. Under "Admin Server URL", enter the admin URL for internal communication with the server, on a non-SSL enabled port. External Address http FQDN or IP Address www.MyLoadBalancer.com Port 80 Admin Server URL Host localhost	lf 🛛
InstallAnywhere by Macrovision – Cancel	Previous	

- 14 Do the following:
 - Select an address type from the External Address drop-down list.
 - Type the URL that external users will use to connect to the system in the FQDN or IP Address: field.
 - Be sure to change the default values to valid ones. Incorrect values can affect the proper functioning of the Audit Server.
 - Type the Administration server port number of the in the **Port** field.
 - Type the administration URL that will be used for internal communication to the administration server from the managed servers and the installer in the **Host** field.

If a web server has not been set up, enter the URL of one of the managed servers where the application will be deployed, and configure the load balancer after installation is complete. For details, see Post-Installation Steps on page 59.

15 If you selected https for the External Address type, the Non-SSL Connection URL screen opens.

Reports must be loaded through an http://SOAP call. A non-SSL connection is required to complete the installation. The http connection URL is not used again once the installation is complete.



Import the CA certificate to the cacerts file used as the trust store for your Java Virtual machine. You can often use the keytool utility to do this:

keytool -import -alias <CA_Alias> -file <path/to/ca.der>
-keystore <path/to/cacerts file> -storepass <password>

HP Select Audit Server	Non-SSL Connection URL
Introduction Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebL onic Configuration	In order to complete the installation and load the default reports, please provide a URL to connect to the deployed application on a non-SSL port. This can be disabled after installation if required.
WebLugic Configuration Select Audit Configuration Deployment Post-deployment Configu. Install Complete	Protocol: HTTP Host: localhost Port: 7001
InstallAnywhere by Macrovision -	Previous Next

- 16 Type the non-SSL host name in the **Host** field and the non-SSL port number in the **Port** field.
- 17 Click Next. The WebLogic Security screen opens.

🖼 HP Select Audit Server	
	WebLogic Security
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Belest Audit Configuration Deployment Post-deployment Configur. Install Complete 	Enter the details of your WebLogic security provider. The default is to use the WebLogic embedded LDAP. To use an external LDAP server (such as IPlanet or SunOne), WebLogic security must already be configured on the domain to use the LDAP server as the authentication provider. WebLogic Embedded LDAP External LDAP Server WebLogic security realm myrealm Authentication Provider DefaultAuthenticator
InstallAnywhere by Macrovision – Cancel	Previous Next

- 18 Do the following:
 - Select the type of LDAP server you want to use.
 - Type your security realm in the WebLogic security realm field.
 - Type the name of the authentication provider in the Authentication Provider field.
- 19 Click Next. The WebLogic Authentication screen opens.

HP Select Audit Server	WebLogic Authentication
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Post-deployment Configu. Install Complete 	Please enter the username and password of a WebLogic user for authentication. This user should have permission to deploy and create services on the given domain. The user will be added to the "Select Audit Administrators" group. Login name Password
InstallAnywhere by Macrovision – Cancel	Previous

- 20 Type the user name and password of a user with permission to deploy and create services on the domain.
 - This user will be added to the Select Audit Administrators group if you are using an embedded LDAP. For external LDAP, manually add the user to the Select Audit Administrators group.
- 21 Click Next. The Application Configuration screen opens.

😼 HP Select Audit Server	
	Application Configuration
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Prost-deployment Configuration Install Complete 	Please enter the parameters to connect to your Select Audit database schema. For an Oracle database, enter your SID. For a Microsoft SQL Server database, enter the database name. Database Type Oracle 10g Server Port SID / Database Name
InstallAnywhere by Macrovision - Cancel	Previous Next

- 22 Enter the database connection parameters as follows:
 - Select your database type (Oracle 10g/9i or Microsoft SQL Server 2005/2000) from the **Database Type** drop-down list.
 - Type the database server address in the **Server** field.
 - Type the database listener port number in the **Port** field.
 - If you are using an Oracle database, type the SID in the SID/Database Name field.
 - If you are using an MSSQL database, type the database name in the SID/Database Name field.

23 Click Next. The Application Configuration log-on information screen opens.

😼 HP Select Audit Server	
	Application Configuration
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Prost-deployment Configur. Install Complete 	Please enter the details of your Select Audit database user. Username Password
InstallAnywhere by Macrovision - Cancel	Previous Next

- 24 Type your database user name in the **Username** field and your database password in the **Password** field.
- 25 Click Next. The installer tests the database connection.
 - If you are using Oracle, go to step 27.
 - If you are using MSSQL, the Report Library screen opens.

🖳 HP Select Audit Server	_ 🗆 🗙
	Report Library
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Prostedeployment Configuration Install Complete 	If a Microsoft SQL Server database is selected, the audit reports will be stored on disk. Please select a folder that is accessible to all servers. See the Install Guide for details. Report Library C:\SAudReports Restore Default Folder Choose
InstallAnywhere by Macrovision	
Cancel	Previous Next

26 Select a location for the audit reports and click Next. The Log4J Output screen opens.



27 Click **Choose** or type the directory location where you would like Select Audit log output stored in the **Log Output Directory** field.

Click **Restore Default** to restore the Select Audit defaults.

28 Click Next. The Mail Configuration screen opens.

🖫 HP Select Audit Server	
	Mail Configuration
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Post-deployment Configu. Install Complete 	Please enter your mail server settings below to configure notification for reporting and attestation workflow. Mail Server Sender Address (Workflow) select-audit-workflow@localhost Sender Address (Reports) select-audit-reports@localhost Note: be sure to configure the sender address fields to a valid address that will not be rejected by your mail server.
InstallAnywhere by Macrovision - Cancel	Previous Next

- 29 Complete the screen as follows:
 - Type your mail server name in the Mail Server field.
 - Type a valid email address for where workflows are sent from in the Sender Address (Workflow) field.
 - Type a valid email address for where report notifications are sent from in the Sender Address (Reports) field. During installation, Mail Server and Sender Address (Workflow) entries are stored in

<install dir>/dist/config/properties/workflow.properties

These parameters are stored as:

```
mail.smtp.host=[host-name]
mail.from=[sender-address]
```

If you did not specify a workflow sender addresses on the **Application Configuration** screen of the Audit Server installer, an invalid **Sender** address may be rejected by your SMTP server which will lead to a workflow email notification failure. To change the SMTP server and/or the **Sender** address, update these entries manually and restart the application server.

Also, open

```
<install_dir>/dist/reporting/ReportServer/WEB-INF/conf/
scopeserver.xml
```

and update the <Mail> section as follows:

```
<Mail>
<Server>[host-name]</Server>
<Protocol>smtp</Protocol>
<Port>25</Port>
<SenderAddress>[sender-address]</SenderAddress>
</Mail>
```

30 Click Next. The Application Configuration Select Identity filtering screen opens.



- 31 Select the **Enable report filtering through Select Identity** check box to filter report data based on Select Identity entitlements. Refer to the *HP Select Audit 1.1 Administration Guide* for more information about integrating Select Audit with Select Identity.
- 32 Do one of the following:
 - To integrate with Select Identity, select the Enable report filtering through Select Identity checkbox and click Next. The Select Identity Integration screen opens.
 - If you decide not to integrate with Select Identity, click Next and go to step 36.

HP Select Audit Server	
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Prost-deployment Configur. Install Complete 	Select Identity Integration Please enter the details to connect to your Select Identity server. Select Identity Server Host Select Identity Server Port Authenticate with : • user name/password user name/password over SSL Certificate (requires SSL)
InstallAnywhere by Macrovision — Cancel	Previous

- 33 Complete the screen as follows:
 - Type the Select Identity server host name in the Select Identity Server Host field.
 - Type the Select Identity port number in the Select Identity Server Port field.
 - Select a radio button to configure authentication using username/password, username/ password over SSL, or certificate (requires SSL). Based on your choice, the following screens open when you click Next:

Username/Password

HP Select Audit Server	
	Select Identity Integration
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Post-deployment Configuration 	Please enter a username and password to connect to your Select Identity server. Username Password
InstallAnywhere by Macrovision – Cancel	Previous Next

Enter the Select Identity server **Username** and **Password** and press **Next**. Proceed to step 34.

Username/password over SSL

First you are advised that you must obtain the SSL port number from your SI server. Then, the following screen displays:

😼 HP Select Audit Server	
	Select Identity Integration
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Post-deployment Configu Install Complete 	Connecting to Select Identity using SSL: Note: If enabling Certificate Revocation List Validation and CRL refresh is set to zero, the CRL list will be refreshed on every request. Trust Keystore Type JKS Trust Keystore Location Trust Keystore Password Enable Certificate Revocation List Validation CRL refresh (days) 1
InstallAnywhere by Macrovision – Cancel	Previous Next

Select a **Trust Keystore Type** from the dropdown list. Then, specify the **Trust Keystore Location** and **Trust Keystore Password**. Finally, select the **Enable Certificate Revocation List Validation** checkbox if desired, and specify the **CRL refresh** rate.

Click Next to proceed to the Select Identity server connection screen.

HP Select Audit Server	
	Select Identity Integration
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Post-deployment Configuration Install Complete 	Please enter a username and password to connect to your Select Identity server. Username Password
InstallAnywhere by Macrovision — Cancel	Previous Next

Enter the Select Identity server **Username** and **Password** and press **Next**. Proceed to step 34.

Certificate (requires SSL)

First you are advised that you must obtain the SSL port number from your SI server. Then, the following screen displays:

📲 HP Select Audit Server	
	Select Identity Integration
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration Select Audit Configuration Deployment Post-deployment Configur Install Complete 	Connecting to Select Identity using SSL: Note: If enabling Certificate Revocation List Validation and CRL refresh is set to zero, the CRL list will be refreshed on every request. Trust Keystore Type JKS Trust Keystore Location Trust Keystore Password Enable Certificate Revocation List Validation CRL refresh (days) 1
InstallAnywhere by Macrovision — Cancel	Previous Next

Select a Trust Keystore Type from the dropdown list. Then, specify the Trust Keystore Location and Trust Keystore Password. Finally, select the Enable Certificate Revocation List Validation checkbox if desired, and specify the CRL refresh rate.

Click Next to proceed to the Select Identity keystore screen.

📲 HP Select Audit Server	
	Select Identity Integration
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary Installing WebLogic Configuration 	Using Certificate Authentication: Note: When using a user Certificate Authentication, ensure your keystore only contains one user certificate.
 Select Audit Configuration Deployment Post-deployment Configu Install Complete 	Keystore Type JKS Keystore Location Keystore Password Key Password
InstallAnywhere by Macrovision — Cancel	Previous Next

Select a Keystore Type from the dropdown list. Then, specify the Keystore Location and Keystore Password. Finally, enter the Key Password

Click Next to proceed to the Select Identity database configuration screen.

34 The Select Identity Integration database configuration screen opens.

🖫 HP Select Audit Server	
	Select Identity Integration
 Introduction Prerequisites Choose Install Folder Pre-Installation Summary 	Please enter the details to connect to your Select Identity database. Enter the SID for an Oracle database, or the database name for a Microsoft SQL Server database instance.
Installing	Oracle 100 / 9i
 WebLogic Configuration Select Audit Configuration Deployment Post-deployment Configu Install Complete 	Database Server Database Port SID / Database name User Password
InstallAnywhere by Macrovision - Cancel	Previous

- 35 Complete the screen as follows:
 - Select a database type (Oracle 10g/9i or Microsoft SQL Server 2005/2000) from the **Database Type** drop-down list.
 - Type the Select Identity database server address in the Database Server field.
 - Type the Select Identity database listener port number in the **Database Port** field.
 - If you are using an Oracle database, type the SID in the SID/Database name field.
 - If you are using an MSSQL database, type the database name in the SID/Database Name field.
 - Type the Select Identity user name in the **User** field.
 - Type the Select Identity password in the **Password** field.
- 36 Click Next. The installer then configures the Audit Server.

Check the remote start settings if deploying to remote machines with different WebLogic installation paths, as discussed in Task 9 on page 44.



Click Next to continue. When the installer has configured the Audit Server, the Stop Servers screen opens.



Clustered Environments

For proper functioning in clustered environments, LDAP configuration attributes need to be set for each managed server.

Change the vde.aclcheck parameter to 0 (the default is 1) in the <wl_domain>/ servers/<server_name>/data/ldap/conf/vde.prop file on each of the managed server machines.

37 Stop the WebLogic server.



If you are running a cluster, stop all managed servers first and then stop the Administration server.

38 Click Next. When the installer confirms the server has stopped and it has performed offline processing, the **Restart Server** screen opens.



If you are running a cluster, when the installer confirms the servers in the cluster have stopped, the **Restart Server Cluster** screen opens.



39 Restart the WebLogic server using startWLSelectAudit.cmd.

A new script, startWLSelectAudit.cmd, is installed under the bea\user_projects\domains\<your domain> directory. This script sets the required classpath and JVM arguments. The script is a copy of the original startWebLogic.cmd startup script with the new values added.

Clustered Environments

If you are running a cluster, start the Administration server first and then a single managed server in the cluster, leaving the rest of the cluster members stopped. After deployment, the **Deployment Complete** screens opens.



Restart the other servers in the cluster.

- 40 Click Next. The installer performs the final Audit Server configuration.
- 41 When the installer has configured the Audit Server, the **Install Complete** screen opens.



If the installation completes successfully but with errors, the following screen opens giving the location of an error log file with error details.



42 Click **Done** to complete the installation of the Audit Server. The installer then cleans up all temporary installation files.

When the server installation has completed, the Audit Server Administration UI is available at http://<server>:<port>/auditportal.

Post-Installation Steps

Once the Audit Server installer is finished, there are some post-installation steps required. These are described below.

Enabling Load Balancing for Clusters

If you are installing on a cluster, the load balancer may be configured pre-installation or post-installation, depending on the type of load balancer you are using. If the load balancer is already configured at install time, follow the instructions in the installer to enter the load balancer URL when prompted. No further steps are required.

If the load balancer must be configured post-deployment, enter the URL to connect directly to one of the managed servers, instead of the final load balancer URL on the WebLogic Connection Info screen. See Step 13 on page 46 for more information.

After the installation is complete, the load balancer can be enabled by editing the following files:

• In <install_dir>/dist/config/audit_config.xml, the field \AuditConfigServer\LocalServer\ServerHost should contain the base URL of the load balancer, for example:

http://audit.myserver.com:80

• In the file <install_dir>/dist/reporting/ReportServer/WEB-INF/conf/ scopeserver.xml, update the properties "protocol", "host" and "port" to match the load balancer URL, for example:

```
<Property name="protocol">http</Property>
<Property name="host">audit.myserver.com</Property>
<Property name="port">80</Property>.
```

Restart all servers after making the changes.

Configuring Log4j

When the Select Audit Server is installed, <install_dir>/dist/config/properties/ log4j.properties is installed on the WebLogic classpath. It is essential that this properties file is used, otherwise Report server events will not be logged to the Audit Server.

If you have an existing log4j.properties or log4j.xml file in use, merge the two files together and add the new file to the WebLogic classpath. You may specify only one log4j configuration file per JVM.

Enabling Logging

The default setting for all loggers is WARN, except for the custom SA_AUDITOR loggers, which should remain set to INFO. To enable logging to the Console or a file, change the appropriate logger to one of the following, depending on how much output is desired:

- DEBUG
- INFO
- WARN
- FATAL

For more information on configuring log4j loggers, see the log4j manual at http://logging.apache.org/log4j/docs/manual.html.

Setting Appenders

Log4j.rootCategory defines the default log behavior for any loggers that are not explicitly defined otherwise. It is set to use both the MAIN file appender, which writes to sa.log, and the CONSOLE appender, which writes out to the Console. All other loggers are descendents of this logger, and can be configured to give output from specific modules of the application.

At the end of the LOGGERS section, there are a series of loggers that log to the SA_AUDITOR appender. These loggers should not be edited. They are used to send audit logs from the Report server to the Audit Server so that they can be recorded and viewed in reports.

In the APPENDERS section, there are a series of file appenders. For each file appender, there is an option to configure the output file created, the maximum file size before rollover occurs, and the number of files to keep on disk, for example, keep only the last 10 files rolled over, at 2MB per file.

Once changes have been made to the log4j.properties file, the WebLogic instance should be restarted for the changes to take effect.

Configuring UTF-8 Fonts in PDF Channel Reports

In order to view international text in PDF channel reports, you must configure the Report server to send an appropriate font in the PDF file. The following procedure is an example of how to do this in a Windows XP environment.

- 1 Create TrueType Font Metrics.
 - a Locate a suitable TTF font file, for example, C:\WINDOWS\Fonts\ArialUni.ttf.
 - b Create a new folder, for example, $c: \fop$ and change directories to it.
 - c Create a metrics file in Windows from the TrueType font. The following example will create ttfarialuni.xml in c:\fop.

```
SET SAUD_INSTALL_DIR=Your Select Audit install folder
SET LIB_DIR=%SAUD_INSTALL_DIR%\dist\reporting\ReportServer\WEB-INF
\lib
java -cp
%LIB_DIR%\fop.jar;lib\avalon-framework.jar;%LIB_DIR%\xml-apis.jar;
%LIB_DIR%\xercesImpl.jar;lib\xalan.jar org.apache.fop.fonts.
apps.TTFReader C:\WINDOWS\Fonts\ArialUni.ttf ttfarialuni.xml
```

- 2 Register the fonts with FOP.
 - a Create a new file in c:\fop and call it userconfig.xml.
 - **b** Add the following code to the file:

```
<!-- <!DOCTYPE configuration SYSTEM "config.dtd"> -->
<configuration>
   <entry>
   <key>fontBaseDir</key>
   <value>C:\fop</value>
   </entry>
   <fonts>
    <font metrics-file="ttfarialuni.xml"
    embed-file="C:\WINDOWS\Fonts\ArialUni.ttf" kerning="yes">
        <font-triplet name="ArialUni" style="normal" weight="normal" />
```

```
<font-triplet name="ArialUni" style="normal" weight="bold" />
   <font-triplet name="ArialUni" style="italic" weight="normal" />
   <font-triplet name="ArialUni" style="italic" weight="bold" />
  </font>
</fonts>
```

</configuration>



Since the configuration file is XML, be sure to keep it well-formed. In font-triplets, "ArialUni" is the name of the font. You can call it anything you want. Just make sure that you are consistent.

Modify defaultscope.xml by editing the properties fopConfigFile and fopFont. 3



The defaultscope.xml file is located at %SAUD INSTALL DIR%\dist\reporting\ReportServer\WEB-INF\conf.

a For fopConfigFile, type the location of your config file created in Register Fonts with FOP, for example:

<property name="fopConfigFile">C:\\fop\\userconfig.xml</Property></pro>

b For fopFont, type the name of the font you specified in that config file, for example:

The name is case-sensitive and it must match the case specified in the config file.

<Property name="fopFont">ArialUni</Property>

At this point, this font will be embedded into every PDF file generated by the server.

ArialUni.ttf is used as an example. Make sure you have the distribution rights for the font vou use.

Uninstalling the Audit Server

Audit Server uninstaller executables are created on the machine where the Audit Server is installed during the Server installation. After installing the Audit Server on Windows, there is an Uninstall Select Audit folder under the C:\Program Files\HP Software\Select Audit directory. This folder contains the uninstaller executable Uninstall Select Audit.exe.

If you are installing, uninstalling or configuring Select Audit components on a Windows host computer, ensure that you do not have the Services window or any other Control Panel application open. This open Control Panel application triggers conflicts that can cause the installer to behave abnormally.

On HP-UX under the server installation directory /opt/HP/SelectAudit/auditserver, there is a Uninstall Server directory that contains the Uninstall Select Audit binary.

Α

To uninstall the Audit Server

1 Run Uninstall_Select_Audit.exe under the HP Software\Select
Audit\auditserver\Uninstall_Select_Audit directory. The Select Audit Uninstall
Introduction screen opens.



2 Click Next. The WebLogic Authentication screen opens.

🛛 Uninstall HP Select Audit Server	
	WebLogic Authentication
 Introduction Uninstalling Uninstall Complete 	Enter the authentication parameters to connect to your WebLogic instance : to undeploy Select Audit. If your server is not started, please start it now.
InstallAnywhere by Macrovision - Cancel	Previous

3 Type the Server administrator name in the Login name field and Server administrator password in the **Password** field in the corresponding fields. This user must have privileges to undeploy and remove services on the domain.



The WebLogic server must be running to properly uninstall Select Audit.

4 Click Next. The Security Roles screen opens.



- 5 Select whether to remove the groups and roles created by the installer or to keep them for later use.
- 6 Click Next. The Stop Servers screen opens.



7 Stop the servers and click **Uninstall**. If you are using MSSQL, the **Report Library** screen opens, otherwise, go to step 9.



When using a Microsoft SQL Server database, all reports loaded in the Report Library are stored on disk, including any custom reports that have been created and scheduled reports that have been generated.

- 8 Do one of the following:
 - Click **Yes** to uninstall the Report Library, including all custom reports and schedules permanently.
 - Click **No** to leave any custom reports on disk to be restored later.
- 9 Click Uninstall. The Uninstall HP Select Audit Server screen opens.

If you are running a cluster, stop all managed servers first and then stop the Administration server.



The uninstaller removes the Select Audit features. When the Audit Server is uninstalled, the **Uninstall Complete** screen opens.



10 Click **Done** to exit the uninstaller.



The uninstaller does not remove any files or folders created after you installed Select Audit. You must remove these manually.

11 Restart the application server using the original startWebLogic script so that the changes take effect.

4 Installing the Select Audit Connector

This chapter provides an overview of how to install and uninstall the Select Audit Connector on your network.

The Connector installer takes you through the following steps for installing and deploying the Audit Connector:

- Entering Audit Connector installation information.
- Configuring the Audit Connector.
- Authenticating the Audit Connector.

Select Application Configuration Requirements

The Select applications have specific configuration requirements in order to log to Select Audit. Unless the applications are configured properly, they will not log to Select Audit. Refer to the specific *HP Select*^{*} documentation for more information about configuring Select^{*} applications.

Select Audit Connector Installer Mode Overview

HP allows you to run the Select Audit Connector installer in three modes: Default or GUI mode, Console interactive mode (on UNIX only), and Silent mode.

Mode	Description
Default	Graphical User Interface with wizard panels and dialog boxes.
Console	For remote installations over Telnet, or on systems without a graphical windowing environment. Also known as Command Line Interface.
Silent	These installers do not interact with the user at all and are suitable for distribution when all of the settings are already known or provided in a Response file.

Table 4 Available Installation Modes

The GUI mode is used for normal installations. Console mode can be used for installing many connectors on different machines. If you are installing Select Audit on a UNIX host, Console mode is particularly useful to UNIX end users who do not have X-Windows or VNC running on their system. Default settings can be specified.

Installing the Connector in Default Mode

- 1 Start the Select Audit setup program by running the corresponding setup file from the root of the Select Audit product CD:
 - On Windows:

Double-click SelectAuditConnectorInstall.exe.



OR

• On Unix:

Type the following command: ./SelectAuditConnectorInstall.bin.

The connector installer should be run by the same user the connector process will be started as. If running the installer as root but registering the connector as a different user, follow the steps in the *HP Select Audit 1.1 Administration Guide* on manually configuring a connector.

Also, to register the connector to run automatically on system startup, the root user should execute the registerconnector.sh script once the connector is installed.



A memory fault may occur when starting the Connector on HP-UX IA64 11.31 if the Connector user's login shell is /usr/local/bin/bash. This may be caused by the login shell of the user launching the Connector using the su command in the SAudConn startup script. If a memory fault occurs when the Connector user's login shell is /usr/local/bin/bash, change the user's login shell to /bin/sh and start the Connector again.

The installer extracts the installation files and then prepares the Select Audit Connector Install wizard. When it has finished loading, the **Introduction** screen opens.



2 Click Next. The Choose Install Folder screen opens.



- 3 Do one of the following:
 - If the default location is acceptable, proceed to step 4.
 - If you want to select a different installation folder, click **Choose**, select a folder and then click **OK**. The new folder is shown in the **Where would you like to install Select Audit?** field.



The following characters are not valid in file or folder names when specifying where to install the Audit Connector:

() { } [] / \ : ; " ' < > | \$ * ? # &,

4 Click **Next**. The **Log Directory** screen opens. The Log directory is where audit event logs are temporarily stored before being sent to the server.

📲 HP Select Audit Connector	
	Log directory
 ✓ Introduction → Choose Install Folder 	Please enter the local directory where you would like your audit logs written to.
Pre-Installation Summary Installing Configure Connector	Log directory: C:\Program Files\HP Software\Select Audit\connector\logfiles Restore Default Choose
O Install Complete	
InstallAnywhere by Macrovision =	
Cancel	Previous

5 Select the local directory that you want to write audit logs to and click **Next**. The **Pre-Installation Summary** screen opens.



The **Pre-Installation Summary** screen creates a digest of the following installation information you provided to this point:

- The installation folder you chose for the Audit Connector installation.
- The installation location of the Java Virtual Machine that the Select Audit Install wizard has automatically installed. The Java Virtual Machine is required to run the connector application as well as the installer and uninstaller programs.
- The amount of disk space required for the components you selected to install. If the disk space required exceeds what is available on this computer, free up space or adjust what you are currently intending to install.
- 6 Review the information on the **Pre-Installation Summary** screen. If the information is correct, click **Install**.



To change any of the installation settings, click **Previous** to return to the screen containing the settings you want to change.

The Audit Connector begins to install and the Connector Installation screen opens.



When the Connector installer is finished, the **Configure Connector** screen opens.

HP Select Audit Connector	
	Configure Connector
 Introduction Choose Install Folder Pre-Installation Summary Installing Configure Connector Install Complete 	Please enter your parameters to connect to a Select Audit server Audit server host Audit server port SSL Local connector port 9979 **Note: This port number must match the port number of the application logging to the connector. Do not change this value unless your application is set to log to a non-standard port.
InstallAnywhere by Macrovision - Cancel	Previous

- 7 Customize your configuration on the **Configure Connector** screen:
 - Type the server host name in the **Audit server host** field.
 - Type the server port number in the Audit server port field.
 - Type the port number of the application logging to the Audit Connector in the Local connector port field.

The port number must match the port number of the application logging to the connector. Do not change the port number unless your application is set to log to a non-standard port.

8 If you want to use an SSL connection, select the **SSL** check box.

SSL must also be turned on in the Audit Server if you use it in the Audit Connector.

9 Click Next. If you are not using SSL the Connector Authentication screen opens.

🖫 HP Select Audit Connector	
	Connector Authentication
 Introduction Choose Install Folder Pre-Installation Summary Installing Configure Connector Install Complete 	Select Audit connectors use J2EE authentication to connect to the server, please enter a username and password for the audit server you are connecting to. The user should be a member of the "Select Audit Users", "Select Audit Auditors" or "Select Audit Administrators" group. Username
InstallAnywhere by Macrovision - Cancel	Previous Next

If you are using SSL the SLL Connector Authentication screen opens.

🖫 HP Select Audit Connector	
	Connector Authentication
 Introduction Choose Install Folder Pre-Installation Summary Installing Configure Connector Install Complete 	Select Audit connectors use J2EE authentication to connect to the server, please enter a username and password for the audit server you are connecting to, and a valid JKS truststore for SSL connections. The user should be a member of the "Select Audit Users", "Select Audit Auditors" or "Select Audit Administrators" group. Username
	JKS Truststore Location C: Documents and Settings mcmanmau Restore Default Choose
InstallAnywhere by Macrovision · Cancel	Previous

10 Type the Username and Password required to authenticate to the Audit Server.

The user name and password are the credentials of an application server user in the **Select Audit Users** group. These credentials must be predefined on the application server before the Connector installation is attempted.

- For SSL connections, click **Choose** to select the location of a valid JKS Truststore in the **JKS Truststore Location** field.
- 11 Click Next. If you are installing on UNIX, the Connector User screen opens.
| HP Select Audit Connector | |
|--|--|
| | Connector User |
| Introduction Choose Install Folder Pre-Installation Summary Installing Configure Connector Install Complete | The Select Audit Connector can be registered to start automatically at system restart. Enter the OS user to use to start the connector process. This user should have write permissions on the connector installation directory. |
| InstallAnywhere by Macrovision -
Cancel | Previous |

- 12 If you are a UNIX user, type the OS user you want to use to start the Connector in the **Connector OS User** field.
- 13 Click Next. The Please Wait screen opens. When the Audit Connector has been configured, the Install Complete screen opens.



14 Click **Done** to close the installer. The Audit Connector is now installed.

The installer does the following:

• It creates the Audit Connector's local configuration file connector.props in your installation directory root. (See Chapter 3, Configuring Select Audit in the *HP Select Audit 1.1 Administration Guide* for more information.) Once the Audit Connector has been started, it registers with the Audit Server, and downloads the default connector configuration values from the server's configuration module. If these values are different than the values configured by the Connector installer, they will be saved in local file, connector.properties. The values in connector.properties overwrite those in connector.props.



Do not manually edit the connector.props file.

• It cleans up all temporary installation files.

On Windows platforms, the Connector installer always installs the Audit Connector as a service called HP Select Audit Connector and starts it automatically.

On HP-UX platforms, a startup script is created with the name SAudConn in the HP Software/SelectAudit/connector directory. It can be run with the options start, stop and restart.



Run registerConnector.sh as root to register the connector for automatic startup.

Installing the Connector in Console Mode

The installer can run in an interactive, text-only mode on Unix systems only, not Windows.

- 1 From either the command line or command shell, change directories to your CD drive.
- 2 At the command prompt, run the following Console command line argument:

SelectAuditConnectorInstall.bin -i console

-i console tells the installer to run in Console mode.

The connector installer should be run by the same user the connector process will be started as.

- 3 Define Select Audit's installation folder by doing one of the following:
 - Typing the *absolute* path to the folder you wish to use.

OR

• Pressing Enter to accept Select Audit's default folder. The default install path is:

/opt/HP/SelectAudit/connector

- 4 The installer gives you a pre-installation summary for the components you defined. This summary provides a digest of the following installation information:
 - The install path of Select Audit.
 - The installation location of the Java Virtual Machine that the Select Audit Installation wizard has automatically installed.
 - The amount of disk space that is required for the components you selected to install. If the disk space required exceeds what is available on this computer, free-up space or adjust what you are currently intending to install.
- 5 If this information is correct, press **Enter** to continue installing these components. If the information is not correct, type **back** to redefine which components you want to install.
- 6 Configure the host, port, user name and password.
- 7 The Select Audit Connector can be configured to start automatically at system restart. Type the OS user you want to use to start the Connector. This user should have write permissions on the Connector installation directory.

8 On UNIX platforms, a startup script is created with the name SAudConn in the HP Software/SelectAudit/connector directory. It can be run with the options start, stop and restart.

Run registerConnector.sh as root to register the connector for automatic startup.

9 When the installer is finished, an Installation Complete message is shown. Press Enter to exit the installer.

Installing the Connector in Silent Mode

1 Before running the installer, create the file installpropertiesfile.txt in the folder where the installer runs from.

The installpropertiesfile.txt file includes:

```
CONNECTOR_OS_USER=root
INSTALLER_UI=silent
USER_INSTALL_DIR=C:\\Program Files\\HP Software\\Select
Audit\\connector
CONN_LOGFILE=$USER_INSTALL_DIR$\\connector\\logfiles\\log.out
CONN_USERNAME=
CONN_PASS=
CONN_PASS=
CONN_PORT=9979
SERVER_PROTOCOL=http
SERVER_HOST=
SERVER_PORT=7001
SSL=0
```

- 2 From either the command line or command shell, change directories to the folder where the installer runs from.
- 3 At the command prompt, run the following Console command line argument:

SelectAuditConnectorInstall.exe -f installpropertiesfile.txt

Post-Installation Steps

Registering the Connector to Run at Startup (Unix)

A script is provided to register the connector to automatically run after a system restart. Before running this script, stop the connector using <install dir>/stopConnector.sh

If /var/run/SAudConnector does not exist, manually kill the java process.

If the user to run the connector is different from the user that installed the connector, chown the entire installation directory to the connector user to ensure it has access to all files.

To register the connector, log in as root and execute the following script:

<install dir>/registerConnector.sh

This script will create the PID directory under /var/run if it does not already exist, and set the ownership to the connector user. It then registers the connector process with the operating system for startup and starts the connector as the specified user.

For Windows systems, the connector is automatically registered as a Windows service to run at startup.

Uninstalling the Audit Connector

Audit Connector uninstaller executables are created on the machine where the Audit Connector is installed during the Connector installation. After installing the Audit Connector on Windows, there is an Uninstall_Connector folder under C:\Program Files\HP Software\Select Audit directory. This folder contains the uninstaller executable Uninstall Connector.exe.

If you are installing, uninstalling or configuring Select Audit components on a Windows host computer, ensure that you do not have the Services window or any other Control Panel application open. This open Control Panel application triggers conflicts that can cause the installer to behave abnormally.

On Unix, under the connector installation directory /opt/HP/SelectAudit/connector, there is a Uninstall_Connector directory that contains the Uninstall_Connector binary.

To uninstall the Audit Connector

1 Run Uninstall_Connector.exe under the C:\Program Files\HP Software\Select Audit\connector\Uninstall_Connector directory. The Uninstall Select Audit Connector Introduction screen opens.



2 Click Uninstall. The Uninstall Select Audit Connector screen opens listing the features being uninstalled.



When Select Audit is uninstalled, the Uninstall Complete screen opens.



3 Click **Done** to exit the uninstaller.



5 Using Self-Healing Services

HP Self-Healing Services (SHS) are part of HP's built-in support. SHS integrates with HP Select products to provide better support for clients. This chapter describes SHS and how to use it in Select Audit in the following topics:

- Self-Healing Services on page 79
- Data Collector on page 79
- Using SHS on page 81

Self-Healing Services

The typical support process is a cycle where the customer calls support, and is asked to gather a set of information about their system. The data is analyzed and if turns out to be incomplete, the customer is asked to collect more data (which may no longer be available).

HP Self-Healing Services enable users to collect all relevant system and application data in one easy step for submission to HP support for quick problem resolution

Data Collector

A collector gathers whatever information is needed about a customer's environment to help a support engineer solve the problem. Select Audit implements a Data Collector using a Java framework that collects log files, configuration data, and any other information that is useful in debugging a problem.

The Data Collector can be run on an installation of an audit server or connector.

The Data Collector is registered with the OS through a signed registration file at install time.

Data Collection Process

The data collection process can be launched after a customer experiences a problem by running the run-data-collector.bat or run-data-collector.sh file. See Using SHS on page 81 for more information about running SHS. The saud-collector-task-file.xml file describes the items to be collected. The Data Collector reads the task file to determine which information to collect, copies all relevant files into the specified output directory, and creates an XML file summarizing all data collected. The data collected. The data collection process is shown in Figure 9.

Figure 9 Data Collection Process



Data Collected

SHS can be used to collect Select Audit configuration details, as well as log files, environment data, database configuration details, application server configuration files, the startup script, and so on. For a full list of the files collected, see <install_dir>/shs/saud-collector-config.xml.

A maximum of 30 files can be collected, with a maximum file size of 1Mb per file. The total data collected must not exceed 5Mb in total (ISEE).

The Data Collector must be registered with the OS through a signed registration file. You must create the registry key entry for SHS to register with the Self-Healing Client.

On UNIX:

The file slctaud.xml must be copied from <install_dir>/shs/reg to /var/opt/ hpsupport/reg/dc to register with the Self-Healing Client.

On Windows:

The file is copied automatically in the Windows registry at install time.

Using the Data Collector in a Clustered Environment

Each managed server that is part of the cluster requires access to some files on disk, for example, audit_config.xml and scopeserver.xml. When installing on the cluster, the installer is only run once on the machine running the main server.

To make sure all installed files are available to each managed server, Select Audit is installed on a shared filesystem.

Because SHS is installed in the same path as the Audit Server, there is no need to copy the SHS folder to different machines. Create a different directory for each managed server and modify the SHS script accordingly. You then need to manually change the following files for the specific host's environment (for example, JRE_HOME) and define which files to collect:

- run-data-collector.bat
- sign-data-collector.bat
- saud-collector-config.xml

Run the Data Collector on each system directly from the shared location. For continuous metrics you could schedule the appropriate script on each system.

Using SHS

SHS is installed by the Select Audit 1.1 installer at the following location:

<install dir>/shs

This folder contains the following files:

- run-data-collector.bat (or run-data-collector.sh) for collecting Select Audit data.
- sign-data-collector.bat (or sign-data-collector.sh) for signing the collector registration file.
- saud-collector-config.xml configuration file.
- saud-collector-task-file.xml

You should not modify the saud-collector-task-file.xml file.

• saud-collector.jar

To start collecting data

- 1 Start the data collector using one of the following methods:
 - Double-click run-data-collector.bat in the <install dir>/shs folder.
 - Type the following command from the command line.

```
run-data-collector.bat -c <file> -d <directory> -t <file> -x
<file>
```

The arguments used in the command are described in Table 5.

 Table 5
 Command Line Arguments

Command	Description
-c	Collector configuration file.
-d	Output directory where collected files will be stored.
-t	Task file containing the collection tasks to be performed.
-x	XML output file to create with the collection information.

The collected files, as well as a summary file and collector log are saved in the HP Software\Select Audit\auditserver\shs\out folder.



You can specify another output directory using the -d argument.

You can edit the saud-collector-config.xml file to add or delete data files to be collected.

2 Send the collected files, summary file and collector log to HP Support.

A Installer Configurations

This appendix contains descriptions of the actions the WebLogic installer performs when installing Select Audit.

WebLogic Installation Steps

The WebLogic installer makes changes to the existing WebLogic server at different stages of the wizard so that Select Audit will operate correctly. These changes are described according to the different wizard stages.

Installation Stage

The installation wizard does the following during the installation stage.

- It installs the Select Audit application files.
- It installs the JDK in the <install_dir>/java directory. This is used only by the installer and uninstaller.
- It creates <install_dir>/SelectAudit_install_debug.txt to log installer output and error messages.
- On UNIX systems, the installer attempts to register the Self-Healing Service by copying shs/reg/slctaud.xml to the /var/opt/hpsupport/reg/dc directory. If the installer user does not have write access to this directory, they will be shown an error message. This registration can be done manually post-installation if desired.

Input and Validation Stage

During the Input and Validation stage, the installer performs the following steps:

- It makes a basic connection to the load balancer and Administration server URL to ensure that the connection string is valid.
- It stores the user configuration and keyfile. In order to avoid passing the WebLogic user name and password to the WebLogic APIs that are called to set up the domain environment, the installer creates a user configuration file that stores an encrypted password, and a keyfile that is used to encrypt and decrypt the password. The files are deleted at the end of the installation.



If the installation is cancelled prior to its completion, the files should be deleted from <install_dir>/setup to ensure the integrity of the system.

• It checks the servers are running using the WebLogic APIs to ensure that the given server or cluster is running, as well as the Administration server.

- It validates the domain using the WebLogic APIs to validate that the domain name and security provider name match the parameters supplied.
- It tests the database connection by creating a simple JDBC connection to the supplied Oracle or Microsoft SQL Server database. It verifies that the Select Audit schema is in place by performing a simple Select statement on what should be an empty table (AUDITEVENT).
- For Microsoft SQL server, it creates the supplied library store directory, if it does not already exist.



For a cluster deployment, this folder should be created in advance as a shared drive to which all servers have access.

- It tests the mail server. A basic connection is made to port 25 on the mail server. If there is a failure, the user will have the option of ignoring the warning and continuing.
- It validates Select Identity information by making a connection to the given server at /lmz/webservice/, logging in with the given credentials and requesting the current set of permissions for that user. It then validates the connection to the Select Identity database as above.

Application Configuration Step

The steps the WebLogic installer performs during the Application Configuration stage are described below:

- It configures the Report server XML files. The Select Audit Report server stores its configuration in XML files that contain database connection details, LDAP authentication parameters, mail server settings, and so on. (Refer to directory.xml, library.xml and scopeserver.xml.) All passwords are encrypted before being stored.
- It creates the log4j output directory and configures the log4j.properties file. The installed log4j.properties file will be used by WebLogic for all applications that use log4j.



If you have other applications installed that use a log4j.properties file, the two properties files should be merged.

- It writes the mail server host name and return address to the workflow.properties file in order to send email notifications from the Attestation Workflow feature.
- It configures audit_config.xml by storing information to bootstrap the stored MBeans for Select Audit Configuration. This includes the JNDI name of the Select Audit data source, the server connection settings and the encrypted WebLogic credentials.
- It configures SHS scripts by configuring which files are collected for Self-Healing Services.
- It sets up Select Identity Filtering. The Select Identity settings are written to the database in the SACFGATTRIBUTE table and any existing filtering settings are removed. (There should be none at this point).

It updates the Report server XML files to use the proxy data source to filter report data based on permissions and to use a custom directory provider instead of the default WebLogic embedded LDAP provider.

• It loads the workflow templates. The installer writes the two default Attestation Workflow templates to the WFTEMPLATE and WFAPPDEFINEDATA tables in the Select Audit schema. Previously-loaded templates will be removed. (There should be none at this point).

• It configures the Operations Model by copying the configuration files for the Oracle or MSSQL database as needed for the Operations Model.

WebLogic Domain Configuration Step

The installer configures the WebLogic domain in the following ways:

- It makes a copy of startWebLogic.cmd/sh called startWLSelectAudit.cmd/sh to be configured with the Select Audit classpath and JVM arguments. The original startup script remains unchanged but the new modified script must be used to start the server before deployment.
- It creates WebLogic groups and roles. For authentication, Select Audit relies on four predefined groups and three predefined roles:

Group	Role	Users
Select Audit Administrators	Select Audit Administrator	Supplied WebLogic user is added to this group.
Select Audit Auditors	Select Audit Auditor	
Select Audit Users	Select Audit User	
Select Audit Report Developers	None	

Members of the Select Audit Developers group must also belong to another of the three groups in order to have login access.

For external LDAP, only roles are created, the groups and associations must be created manually.

- It sets the Remote Start settings for managed servers. If you are installing on a cluster, the installers will add the Select Audit JAR files and the JVM settings will be added to the Remote Start settings for each managed server in the cluster, as well as setting the supplied BEA Java Home and BEA Home. This ensures that when starting a server from node manager, the classpath settings will be available to all servers. Existing classpath settings will be included at the end of the Select Audit classpath.
- It modifies vde.prop. In order for the Report server login module to function correctly, the property vde.aclcheck must be set to 0 (default 1) in <server_home>/data/ ldap/conf/vde.prop for each server. For managed servers, this must be done manually.

• It creates three JDBC data sources using the WebLogic APIs with the provided Oracle or Microsoft SQL Server database settings, targeted to the administration server and the target server or cluster.

Name	JNDI Name	Purpose
SelectAuditDataSource	jdbc.SelectAudit	Main data source for Select Audit application processing (configuration, data input, and so on).
SAudDataSource	jdbc/ SAudDataSource	Report server data source used for storing and executing reports based on Audit data.
SelectAuditWorkflowDataSource	jdbc.TruAccess	Attestation Workflow data source, for scheduling and executing attestation workflow events.

If there is an existing data source on the domain with the same name, it will be recreated using the database information entered in the installer.

• It creates the Select Identity data source only if Select Identity filtering is enabled at install time. This data source is used to connect to the Select Identity database which can be Oracle or Microsoft SQL Server.

Name	JNDI Name
SelectIdentityIntegrationDataSource	jdbc.IdentityIntegration

If there is an existing data source on the domain with the same name, it will be recreated using the database information entered in the installer.

To configure Select Identity filtering after the installation, this data source must be manually created.

• It creates JMS Queues. These JMS Queues are referenced by the Attestation Workflow engine. They are not used by Select Audit but must be created for the proper functioning of the Workflow Engine.

Name	Туре
jms.OVSIQCF	JMSConnectionFactory
jms.OVSITCF	JMSConnectionFactory
OVSIFileStore	JMSFileStore
OVSIPagingStore	JMSFileStore
OVSIServer	JMSServer
jms.OVSIWfRequestExpireQueue	JMSQueue
jms.OVSIWorkflowQueue	JMSQueue

If there is a naming conflict, the installer will prompt you to recreate the JMS objects.

- Select Audit requires a WebLogic startup class to initialize its configuration module. It creates the startup class using WebLogic APIs.
- It stops the managed servers. If you are running a cluster, the installer will prompt you to shut down all managed servers so that configuration and classpath settings will be in effect.
- It restarts WebLogic. You are prompted to restart the administration server using the new startup script and one of the managed servers in the cluster, leaving any other managed servers stopped.
- It checks that the servers are running using the WebLogic APIs to verify that the servers are up and running.
- It creates the proxy data source using the WebLogic APIs to create a fourth JDBC data source. This data source is used when report filtering is enabled to filter results to allow only the information that the current user has been granted access to. The data source uses a custom JDBC driver, but connects to the same database as the main Select Audit data source. This is only used when Select Identity filtering is enabled.

Name	JNDI Name
SelectAuditProxyDataSource	jdbcproxy/SAudDataSource

If there is an existing data source on the domain with the same name, it will be recreated using the database information entered in the installer.

• It deploys the report server application. Using WebLogic APIs, the installer deploys the application to the given server or cluster. Any existing application with the same name will be undeployed.

Name	Туре
SelectAuditReporting	Web Application Module

- If deploying to a cluster, you will be prompted to restart the remaining managed servers.
- It deploys the Select Audit server and Select Audit workflow engines applications. Using WebLogic APIs, the installer deploys the applications to the given server or cluster. Any existing applications with the same name will be undeployed.

Name	Туре
SelectAuditServer	Application
SelectAuditWorkflow	Application

Post-Deployment Configuration Step

Once the installer has configured Select Audit, it does the following:

- It loads the default reports. Select Audit comes with a set of predefined reports that are based on Select * application data. The Report server has a SOAP report loader that is used to upload and publish these reports. For Oracle, the reports are stored in the database, for Microsoft SQL Server installations, the reports are stored on the file system.
- It loads the ACLs and sets the default permissions on the loaded reports.

Installation Cleanup Step

When the installation is complete, the installer deletes the user configuration and key files, all passwords stored in installer variables are nulled and the InstallAnywhere install log is created with a success/failure message for each step.



If installation is cancelled early, the entire install directory should be deleted to prevent plain text passwords from being stored in a properties file.

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