

Oracle® Retail Back Office

Installation Guide, Volume 1 - Oracle Stack

Release 13.4.1

E28289-01

March 2012

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Oracle Retail Back Office Installation Guide, Volume 1 - Oracle Stack, Release 13.4.1

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Your feedback is important, and helps us to best meet your needs as a user of our products. For example:

- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
- Did you find any errors in the information?
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Please give your name, address, electronic mail address, and telephone number (optional).

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If you require training or instruction in using Oracle software, then please contact your Oracle local office and inquire about our Oracle University offerings. A list of Oracle offices is available on our Web site at <http://www.oracle.com>.

Preface

This Installation Guide describes the requirements and procedures to install this Oracle Retail Back Office, and the optional Labels and Tags module, release.

Audience

This Installation Guide is written for the following audiences:

- Database Administrators (DBA)
- System analysts and designers
- Integrators and implementation staff

Documentation Accessibility

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Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

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Related Documents

For more information, see the following documents in the Oracle Retail Back Office Release 13.4.1 documentation set:

- *Oracle Retail Back Office Installation Guide, Volume 2 - IBM Stack*
- *Oracle Retail Back Office Release Notes*
- *Oracle Retail Back Office User Guide*
- *Oracle Retail POS Suite Configuration Guide*
- *Oracle Retail POS Suite Data Dictionary*
- *Oracle Retail POS Suite Data Model Differences*
- *Oracle Retail POS Suite Data Model ERWIN File*
- *Oracle Retail POS Suite Data Model Mapping File*
- *Oracle Retail POS Suite Entity Relationship Diagrams, Volume 1 - Subject Areas*
- *Oracle Retail POS Suite Entity Relationship Diagrams, Volume 2 - Overviews*
- *Oracle Retail POS Suite Implementation Guide, Volume 1 - Implementation Solutions*
- *Oracle Retail POS Suite Implementation Guide, Volume 2 - Extension Solutions*
- *Oracle Retail POS Suite Implementation Guide, Volume 4 - Oracle Retail Point-of-Service to Siebel Integration*
- *Oracle Retail POS Suite Licensing Information*
- *Oracle Retail POS Suite Operations Guide*
- *Oracle Retail POS Suite Security Guide*
- *Oracle Retail POS Suite 13.4.1/Merchandising Operations Management 13.2.4 Implementation Guide*

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

<https://support.oracle.com>

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 13.4) or a later patch release (for example, 13.4.1). If you are installing the base release, additional patch, and bundled hot fix releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch and bundled hot fix releases can contain critical information related to the base release, as well as information about code changes since the base release.

Oracle Retail Documentation on the Oracle Technology Network

Documentation is packaged with each Oracle Retail product release. Oracle Retail product documentation is also available on the following Web site:

http://www.oracle.com/technology/documentation/oracle_retail.html

(Data Model documents are not available through Oracle Technology Network. These documents are packaged with released code, or you can obtain them through My Oracle Support.)

Documentation should be available on this Web site within a month after a product release.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
<code>monospace</code>	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Preinstallation Tasks

This chapter describes the requirements for the Oracle stack that must be met before Oracle Retail Back Office can be installed.

Note: This is the Oracle stack configuration that was tested for this release. While Back Office may work in other configurations, this configuration was tested.

If you will be installing multiple Oracle Retail applications, see [Appendix F](#) for a guideline for the order in which the applications should be installed.

Check for the Current Version of the Installation Guide

Corrected versions of Oracle Retail installation guides may be published whenever critical corrections are required. For critical corrections, the rerelease of an installation guide may not be attached to a release; the document will simply be replaced on the Oracle Technology Network Web site.

Before you begin installation, check to be sure that you have the most recent version of this installation guide. Oracle Retail installation guides are available on the Oracle Technology Network at the following URL:

http://www.oracle.com/technology/documentation/oracle_retail.html

An updated version of an installation guide is indicated by part number, as well as print date (month and year). An updated version uses the same part number, with a higher-numbered suffix. For example, part number E123456-02 is an updated version of an installation guide with part number E123456-01.

If a more recent version of this installation guide is available, that version supersedes all previous versions. Only use the newest version for your installation.

Determine the Back Office Distribution

This document covers installation of two different product releases:

1. Oracle Retail Back Office (ORBO): Back Office application without the Labels and Tags module.
2. Oracle Retail Labels and Tags (ORLAT): Back Office application plus the Labels and Tags module.

Note: The Labels and Tags module requires AccessVia software.

The Oracle Retail Labels and Tags installation contains the full Oracle Retail Back Office installation. You should have one of the above distributions, but not both.

Check Supported Database Server Requirements

Table 1–1 lists the general requirements for a database server running Oracle Retail Back Office and the versions supported for this release.

Table 1–1 Database Server Requirements

Supported on	Versions Supported
Operating System	Microsoft Windows 2008 Server R2 Standard Edition (64-bit)
Database	Oracle Database 11gR2 Enterprise Edition 11.2.0.2 (64-bit) Note: Oracle Retail Back Office is not certified with Real Application Clusters (RAC).

Required Settings for Database Installation

The following settings must be made during database creation:

- The database must be set to UTF8.
- Make the following changes to the system settings:

```
ALTER SYSTEM SET NLS_NUMERIC_CHARACTERS = '.,-' SCOPE=SPFILE;
ALTER SYSTEM SET NLS_DATE_FORMAT = 'YYYY-MM-DD' SCOPE=SPFILE;
ALTER SYSTEM SET NLS_TIMESTAMP_FORMAT = 'YYYY-MM-DD HH24:MI:SS.FF'
SCOPE=SPFILE;
```

Check Supported Application Server Requirements

Table 1–2 lists the general requirements for an application server capable of running Back Office and the versions supported for this release.

Table 1–2 Application Server Requirements

Supported on	Versions Supported
Operating System	Microsoft Windows 2008 Server R2 Standard Edition
J2EE Application Server	Oracle WebLogic 10.3.5.0 Standard Edition
J2EE Application Server JVM	Oracle Java Standard Edition 6 Update 24 (JRE)
Messaging Provider	included in Oracle WebLogic
System Management Agents	OEM Agents

Note: Back Office does not support a clustered environment.

[Table 1–3](#) lists the general requirements for Labels and Tags and the versions supported for this release. This software is only needed if Back Office with the Labels and Tags module is being installed.

Table 1–3 Labels and Tags Requirements

Supported on	Versions Supported
Print Engine for Labels and Tags	AccessVia 8.5
Client software	Oracle Instant Client 11.2.0.1 (includes basic_11.2.0.1 + odbc11.2.0.1)

Check for SSL Certificate

Oracle Retail Back Office is accessed through a secure HTTP connection. The installation of an SSL Certificate is required on your application server. If the certificate is not installed, warnings are displayed when trying to access Oracle Retail Back Office.

For information on installing the SSL Certificate, refer to your application server documentation.

Check that the Fonts Needed for Reports are Installed

To correctly export reports from Oracle Retail Back Office to a PDF file, any fonts used in the PDF must exist in the application server JVM. To install fonts to the application server:

1. Stop the application server.
2. Copy any needed fonts to the library folder of the JRE used by the application server. The following is an example of the path name to the folder:

```
<JDK Install Directory>\jre\lib\fonts
```

3. Start the application server.

Check Oracle Retail Software Dependencies

[Table 1–4](#) lists the Oracle Retail products that Oracle Retail Back Office is integrated with and the required versions.

Table 1–4 Supported Oracle Retail Products

Integrates with	Version
Oracle Retail Central Office	13.4.1
Oracle Retail Merchandising System	13.2.4
Oracle Retail Point-of-Service	13.4.1
Oracle Retail Price Management	13.2.4
Oracle Retail Returns Management	2.4.1

Check Additional Oracle Technologies

Table 1–5 lists the Oracle technologies used by Oracle Retail Back Office and the required versions.

Table 1–5 Additional Oracle Technologies

Integrates with	Version
Oracle Business Intelligence Publisher for Retail Back Office	10.1.3.4 Note: This software is included in the Back Office distribution.

Check Supported Client PC and Web Browser Requirements

The general requirements for the client system include Adobe Acrobat Reader or another application capable of rendering Portable Data Format (PDF) files.

The following Web browsers are supported on Microsoft Windows XP SP2:

- Microsoft Internet Explorer 7
- Mozilla Firefox 8.0.1

Hardware Requirements

Specific hardware requirements for the machines running Oracle Retail Back Office depend on variables including the number of users and other applications running on the same machine.

Please note the following about the hardware requirements:

- The CPU requirement depends on variables including the operating system and middleware selected.
- Memory requirements and performance depend on variables including the number of active promotions and best deal calculations when Back Office is installed on the same machine as the Point-of-Service server.
- Disk size can vary based on the operating system and middleware requirements as well as the amount of data storage needed. Data storage depends on variables including the number of items and promotions defined, data retention period, and so on.

You need to determine your hardware requirements, based on the variables mentioned here, as well as any additional variables specific to your environment. For more information, contact Customer Support.

Implementation Guidelines for Security

Note: A demonstration trust store is bundled with Oracle WebLogic. It is recommended that the demonstration trust store is replaced with a secure trust store.

It is also recommended that the passwords for key stores and trust stores are changed from the values set by default. If this is not done, the system could be vulnerable to access by any unauthorized user with knowledge of the default passwords.

For information on implementing security, see the *Oracle Retail POS Suite Security Guide*. This guide describes specific security features and implementation guidelines for the POS Suite products.

Uptake Installation

This installation guide details the steps needed to perform a full installation of Oracle Retail Back Office Release 13.4.1. An uptake of Oracle Retail Back Office from the following releases to Release 13.4.1 can be done:

- Oracle Retail Back Office Release 12.0.0
- Oracle Retail Back Office Release 12.0.9
- Oracle Retail Back Office Release 13.0.1
- Oracle Retail Back Office Release 13.0.2
- Oracle Retail Back Office Release 13.1.1
- Oracle Retail Back Office Release 13.2.0
- Oracle Retail Back Office Release 13.3.0

To assist in the uptake of Oracle Retail Back Office from one of these releases to Release 13.4.1, tools are available on My Oracle Support.

The following document is available through My Oracle Support. Access My Oracle Support at the following URL:

<https://support.oracle.com>

Oracle Retail Upgrade Guide (Doc ID: 1073414.1)

This guide contains the following information:

- List of the impacts of the Release 13.4.1 functional changes on the database schema.
- Description of the tools available to assist in the uptake of the database and code.

Secure Configuration

This chapter serves as a guide for administrators and anyone installing the product to securely configure Oracle Retail Back Office. To see a broader spectrum of suggested security-related practices for this application, see the *Oracle Retail POS Suite Security Guide*.

Note: All the Oracle Retail POS Suite applications should follow the same practices for configuring a secure environment.

This chapter is intended for security administrators and anyone installing the products who will deploy and configure the Oracle Retail POS Suite applications. These users perform the following tasks:

- Install and deploy the applications
- Configure the applications
- Apply patches to the applications

It is assumed that the readers of this chapter have a general knowledge of administering the underlying technologies and the Back Office application.

This chapter begins with the operating system and moves through the supporting middleware to the Back Office application, and its connections with other resources.

Note: The options set by default for the installer are the most secure selection. If you choose to not use any of the default selections, you need to consider the implications of that change on the security of your installed product.

Any references to Payment Card Industry Data Security Standard (PCI-DSS) requirements are from PCI-DSS version 2.0.

Operating System

To see the operating systems and browsers supported for this release of Back Office, see [Chapter 1](#).

The Release 13.4.1 Oracle Retail POS Suite applications do not rely on insecure services or protocols. If the retailer or systems integrator customizes or extends the applications, these extensions must not rely on insecure services or protocols.

When using Microsoft Windows XP, the system restore point must be disabled. This restore point may possibly contain sensitive data (test or real) in previous versions of the operating system. To disable the system restore point:

1. Open the Control Panel.
2. Select **System** and then the **System Restore** tab.
3. Check the **Turn off System Restore** box and click **OK**.

For more information about securing services and protocols, see the *Oracle Retail POS Suite Security Guide*.

Additional Resource

The Center for Internet Security has published benchmarks for securing your systems at the operating system level. You can find the benchmark for Microsoft Windows 2008 at the following link:

<http://benchmarks.cisecurity.org/en-us/?route=downloads.browse.category.benchmarks.os.windows.2008>

Infrastructure/Middleware

To see the database and application server supported for this release of Back Office, see [Chapter 1](#).

Database

For recommendations on securing the database as well as JDBC communications between the POS Suite applications and the database, see the *Oracle Retail POS Suite Security Guide*.

Do not store sensitive data on Internet-accessible systems. For example, your Web server and database server must not be on the same physical server. Oracle Retail POS Suite applications do not require the database server and Web server to be hosted on the same physical server machine.

For information about secure configuration of Oracle Database, see the *Oracle Database 2 Day + Security Guide*. The guide is available at the following link on the Oracle Technology Network Web site:

http://download.oracle.com/docs/cd/E11882_01/server.112/e10575.pdf

Application Server

For information about secure configuration of Oracle WebLogic Application Server, see the following documentation available at the following links on the Oracle Technology Network Web site:

- Security for Oracle WebLogic Server 10g Release 3:
http://download.oracle.com/docs/cd/E12840_01/wls/docs103/security.html
- *Oracle Fusion Middleware Securing a Production Environment for Oracle WebLogic Server*:
http://download.oracle.com/docs/cd/E17904_01/web.1111/e13705.pdf

Messaging

Secure JMS messaging configuration is specific to the application server. For information about securing the JMS messaging on Oracle WebLogic, see the *Oracle Retail POS Suite Security Guide*.

The Release 13.4.1 Oracle Retail POS Suite applications do not permit a user to send unencrypted sensitive data by end-user messaging technologies, such as e-mail. If you customize an application to permit sending sensitive data, by end-user messaging technologies, you must use a solution that renders the sensitive data unreadable or implements strong cryptography.

Back Office can send notifications of the results of a scheduled job to a designated e-mail address. The e-mail contains the job name entered by the end user. Therefore, the user must take care that the scheduled job name does not contain sensitive data.

Network Considerations

For recommendations on securing the network and other enterprise security considerations, see the *Oracle Retail POS Suite Security Guide*.

Oracle Retail POS Suite Application Configuration

This section covers secure configuration that is recommended for all Oracle Retail POS Suite applications.

Technology Considerations

These technologies should be considered.

Wireless Technology

Oracle Retail POS Suite applications are not designed as wireless applications. If wireless technology is used, you must adhere to PCI-DSS compliant wireless settings, per PCI-DSS Requirements 1.2.3, 2.1.1, and 4.1.1.

Application Specific Settings

The Release 13.4.1 Oracle Retail POS Suite applications enable out-of-the-box audit logging by default. These logs should not be disabled.

Application log files are configurable. If you modify the settings, you must ensure they are compliant with PCI-DSS requirements 10.2 and 10.3.

The POS Suite applications implement automated audit trails for all system components to reconstruct the following events:

- All actions taken by any individual with administrative privileges as assigned in the application
- Access to application audit trails managed by or within the application
- Invalid logical access attempts
- Use of application's identification and authentication mechanisms
- Initialization of the application audit logs
- Creation and deletion of system-level objects within or by the application

The Release 13.4.1 Oracle Retail POS Suite applications implement an automated audit trail logging of various events happening on the system. The audit trail logging is configured in the log4j configuration file maintained for each application. The various events that need to be logged and the file where the audit logging information will be captured are configured in the log4j configuration file.

Caution: Do not comment out any of the entries or prevent the logging from occurring.

For each event, the Oracle Retail Audit log service logs the point of Origination of the event. In addition, the audit log framework logs the Initialization of the Audit log itself.

The log files are created with the following names and in following locations:

File Name: BackOffice_audit.log

Location when Back Office is deployed to an admin server or managed server:

`<WEBLOGIC_INSTALL_DIR>\user_projects\domains\<Domain Name>\servers\<Server Name>\logs`

The following events should be captured at the system level:

- Login or logoff
- Start or stop a process
- Use of user rights
- Account administration
- Change the security policy
- Restart and shut down the system
- USB events and Mount and Unmount events
- Access a file or directory (create a file, remove a file, read a file, or change file descriptors)

Various tools are available to collect audit trail information. Audit trails should be maintained for the applications and for external system events.

Application Runtime Settings

After installation, these settings should be used.

Application Parameters

Set these application parameters before running Back Office.

Temporary Password Length The Temporary Password Length parameter is used to determine the length of system generated temporary passwords. This parameter resides in the application XML parameter file.

Caution: This parameter can be set to generate passwords to have a length between 7 and 12 characters. In order to comply with PCI-DSS section 8.5.10, the Oracle Retail POS Suite applications must not be modified to allow fewer than 7 characters.

Database Configuration Password policy settings are configured through the database. By default, the password policy is compliant with PCI-DSS section 8.5.

Caution: If you change the password policy, ensure the modified settings comply with the PCI-DSS.

Integration with Other Applications

The Oracle Retail POS Suite applications integrate through the use of Web services and Java RMI. For information about securing these interface protocols, see the *Oracle Retail POS Suite Security Guide*.

Scripts and Command Line Utilities

This section covers scripts and utilities used after installation.

Purge Scripts

The Release 13.4.1 Oracle Retail POS Suite applications come with stored procedures and scripts that permit a DBA to purge the databases of data that the retailer determines are no longer necessary to store. Access to these scripts should be restricted. For more information about the purge scripts, see the *Oracle Retail POS Suite Security Guide*.

Installation of the Oracle Stack on Windows

Before proceeding, you must install the database and application server software. If you are installing Back Office with Labels and Tags, you must also install the AccessVia software. For a list of supported versions, see [Chapter 1](#).

During installation, the Back Office database schema will be created and the Back Office application will be deployed to an Oracle WebLogic domain. When the domain was created, the JDK was selected. This is the JDK that is used to run the Back Office application. For the remainder of this chapter, the JDK installation directory is referred to as `<JDK_INSTALL_DIR>`.

Create a New WebLogic Domain for Back Office

You can skip this section if you are redeploying to an existing domain.

The Back Office application must be deployed to its own dedicated domain. For information on how to perform the following steps, consult your Oracle WebLogic documentation.

Note: Back Office, Central Office, and Returns Management must have all unique domain names and server names in order to integrate successfully.

To create a new domain:

1. Log on to the server, which is running your WebLogic installation, as the user who owns the WebLogic installation.
2. Choose a name for the new domain. In the remainder of this installation guide, `<orbo-domain>` is used for the name.
3. Create this domain. If you are using a managed server, add the managed server as part of creating the domain.
 - Oracle Retail Back Office is accessed through a secure HTTP connection. You need to enable SSL when creating the domain.
 - Set the listen port and SSL listen port numbers so that the numbers are unique for each domain in your configuration.

Note: All domains running Oracle Retail applications must have the same domain credentials.

4. If using a managed server, start the managed server. Start the administration domain.
5. Verify that the administration domain and the managed server are started and are in running mode.
6. When a domain is created with a managed server using Oracle (Sun) JDK, the default WebLogic settings may leave the server without enough memory to configure and stop the running managed server. A careful inspection of the log files may indicate an out-of-memory exception.

Note: The out-of-memory exceptions only occur if Oracle (Sun) JDK was selected when installing WebLogic. If WebLogic is installed with Oracle JRockit, do not perform the following steps.

To avoid the out-of-memory exceptions, increase the PermSize space:

- a. On the WebLogic Administration console, under Environments, select **Servers**.
- b. In Summary of Servers, select `<managedServerName>`.
- c. In Settings, select the **Server Start** tab.
- d. In the Arguments text box, add the following if it does not already exist:
`-Xms512m -Xmx512m -XX:PermSize=512m -XX:MaxPermSize=512m`
- e. Select **Save**.

Deploying to a Managed Server

If you are deploying Back Office to a managed server, note the following.

If any of the servers are remote from the admin server, copy the contents of the `domain/lib` directory to the corresponding directory on the remote systems. Also, a directory for the persistent store needs to be created on the remote systems. It should be located in the following location:

```
<WEBLOGIC_INSTALL_DIR>\user_
projects\domains\<orbo-domain>\servers\<serverName>\data\store\orbo-persistent-store
```

Create the Database Schema Owner and Data Source Connection Users

The following recommendations should be considered for schema owners:

- Database administrators should create an individual schema owner for each application, unless the applications share the same data. In the case of Oracle Retail Back Office and Point-of-Service, the database schema owner is the same because these applications share a database.
- The schema owners should only have enough privileges to install the database.

For information on the best practices for passwords, see the *Oracle Retail POS Suite Security Guide*.

Note: Do not delete the database schema owner after installation. When using Data Import (DIMP), the schema owner privileges are needed for DIMP processing which includes creating and dropping tables. For information on DIMP, see ["Enable Data Import"](#).

To create the database schema owner and data source connection users:

1. Log in using the database administrator user ID.

2. Create a role in the database to be used for the schema owner.

```
CREATE ROLE <schema_owner_role>;
```

3. Grant the privileges, shown in the following example, to the role.

```
GRANT CREATE TABLE, CREATE VIEW, CREATE SEQUENCE, CREATE PROCEDURE, ALTER  
SESSION, CONNECT, SELECT_CATALOG_ROLE TO <schema_owner_role>;
```

4. Create a role in the database to be used for the data source user.

```
CREATE ROLE <data_source_role>;
```

5. Grant the privileges, shown in the following example, to the role.

```
GRANT CONNECT, CREATE SYNONYM, SELECT_CATALOG_ROLE TO  
<data_source_role>;
```

6. Create the schema owner user in the database.

```
CREATE USER <schema_username>  
IDENTIFIED BY <schema_password>  
DEFAULT TABLESPACE users  
TEMPORARY TABLESPACE TEMP  
QUOTA UNLIMITED ON users;
```

7. Grant the schema owner role to the user.

```
GRANT <schema_owner_role> TO <schema_username>;
```

8. Create the data source user.

```
CREATE USER <data_source_username>  
IDENTIFIED BY <data_source_password>  
DEFAULT TABLESPACE users  
TEMPORARY TABLESPACE TEMP  
QUOTA UNLIMITED ON users;
```

9. Grant the data source role to the user.

```
GRANT <data_source_role> TO <data_source_username>;
```

The installer grants the data source connection user access to the application database objects. If you choose **No** on the Manual Deployment Option screen, you need to grant the access after the installer completes. For more information, see ["Manual Deployment of the Back Office Application"](#).

Expand the Back Office Distribution

To extract the Back Office files:

1. Extract the Back Office or Labels and Tags 13.4.1 distribution zip file.
2. Create a new staging directory for the Back Office application distribution (ORBO-13.4.1.zip or ORLAT-13.4.1.zip) file, for example, `C:\tmp\j2ee\<orbo-domain>\orbo-staging`.

Note: The staging area (<staging_directory>) can exist anywhere on the system. It does not need to be under tmp.

3. Copy or upload ORBO-13.4.1.zip (or ORLAT-13.4.1.zip) to <staging_directory> and extract its contents. The following files and directories should be created under <staging_directory>\ORBO-13.4.1:

```
ant\  
ant-ext\  
antinstall\  
backoffice\  
connectors\  
external-lib\  
installer-resources\  
ocm-integration\  
retail-public-security-api\  
.postinstall.cmd  
.postinstall.sh  
.preinstall.cmd  
.preinstall.sh  
.preinstall-oas.cmd  
.preinstall-oas.sh  
.preinstall-was.cmd  
.preinstall-was.sh  
.preinstall-wl.cmd  
.preinstall-wl.sh  
antinstall-config.xml  
build.xml  
build-common.xml  
build-common-backoffice.xml  
build-common-easpi.xml  
build-common-oas.xml  
build-common-retailinv.xml  
build-common-was.xml  
build-common-webapps.xml  
build-common-wl.xml  
build-test.cmd  
checkdeps.cmd  
checkdeps.sh  
install.cmd  
install.sh  
prepare.xml  
retail-OCM-stores.zip  
wallet.xml
```

For the remainder of this chapter, <staging_directory>\ORBO-13.4.1 is referred to as <INSTALL_DIR>.

Set Up for Integration with Central Office and Returns Management

On the Integrate Applications screen, you select the applications that Oracle Retail Back Office is integrated with. See [Figure A–8](#). If Central Office or Returns Management is selected on the screen, that application must be running in order for the Back Office files to be installed correctly.

Enable Data Import

Data Import (DIMP) is used by external systems to send data bundles to Back Office for routine data loading of certain types of data. To use DIMP, you need to create a directory for the incoming bundles and a directory where the bundles are archived after being processed.

On the Enable DIMP installer screen, you select whether DIMP will be used. See [Figure A–13](#). If **Yes** is selected on the screen, you then provide the paths to the directories on the DIMP Configuration installer screen. See [Figure A–14](#).

For detailed information on DIMP, see the *Oracle Retail POS Suite/Merchandising Products Implementation Guide*.

Oracle Configuration Manager

The Oracle Retail OCM Installer packaged with this release installs the latest version of OCM.

The following document is available through My Oracle Support. Access My Oracle Support at the following URL:

<https://support.oracle.com>

Oracle Retail Oracle Configuration Manager (OCM) Installer Guide (Doc ID: 1071030.1)

This guide describes the procedures and interface of the Oracle Retail Oracle Configuration Manager Installer that a retailer runs near the completion of its installation process.

Installation Options

During installation, there are options that enable you to select whether the installer completes parts of the installation or if you want to complete those parts manually. For information on the available options, see the following sections:

- ["Install Database Options"](#)
- ["Manual Deployment of the Back Office Application"](#)
- ["Install Parameters"](#)

For information on loading the templates for Labels and Tags, see ["Load Templates for Labels and Tags"](#).

Install Database Options

The database schema must be created and populated before configuring the application server. On the Install Database Option screen, you select whether the installer creates and populates the database schema or if you want to do this manually. See [Figure A-15](#).

- If you choose **Create schema with sample dataset**, the installer creates and populates the database schema with sample data, such as item data. This is the default selection on the screen. The sample dataset includes the minimum dataset and report configuration data. If you want data available to use for demonstrating Back Office functionality after installation, you can select this option.

To use this option, you must provide the location of the zip file containing the sample dataset on the Sample Dataset installer screen. See [Figure A-16](#). You can obtain the `sample-dataset-13.4.1.zip` file from the Oracle Software Delivery Cloud at the following Web site:

<https://edelivery.oracle.com/>

- If you choose **Create schema with minimum dataset**, the installer creates and populates the database schema with the minimum amount of data needed to launch and run Back Office. The minimum dataset includes report configuration data. If you want to load your own data after installation, you can select this option.
- If you choose **Skip schema creation and data loading**, the installer does not create and populate the database schema. You choose this option if you want to create and populate the database schema manually. For information on manually creating and populating the database schema, see "[Manually Create the Database Schema](#)".

Note: If Back Office is being installed for the first time and a clean schema is being used, do not select the **Skip schema creation and data loading** option. The installer will fail at some point if there is no data available in the database. You must populate the database schema before running the installer by selecting one of the other options.

If the schema is already populated and you want to manually restore or update the data, select the **Skip schema creation and data loading** option.

Manually Create the Database Schema

To manually create and populate the database schema:

1. Change to the `<INSTALL_DIR>\backoffice\db` directory.
2. Set the `JAVA_HOME` and `ANT_HOME` environment variables.

```
SET JAVA_HOME=<JDK_INSTALL_DIR>\jre
SET ANT_HOME=<INSTALL_DIR>\ant
```

3. Add `%JAVA_HOME%\bin` and `%ANT_HOME%\bin` to the front of the `PATH` environment variable.

```
SET PATH=%JAVA_HOME%\bin;%ANT_HOME%\bin;%PATH%
```

4. Expand the `backofficeDBInstall.jar` file.

```
jar -xvf backofficeDBInstall.jar
```

5. Modify `db.properties`.

- a. Uncomment the Oracle properties and comment out the properties for the other vendors.

- b. In the Oracle properties, update the `db.product` setting to the following:

```
db.product=jdbc
```

- c. Set the following properties with your database settings. The values to be set are shown in bold in the examples.

Set the hash algorithm, for example, to SHA-256.

```
# Hash Algorithm
inst.hash.algorithm=HASH_ALGORITHM
```

Enter the values for the users shown in bold in the following example:

```
inst.app.admin.user=my-bo-admin-user
inst.app.admin.password-encrypted=my-encrypted-bo-admin-password
```

```
db.user=DB_USER_ID
db.password-encrypted=DB_PASSWORD_ENCRYPTED
```

```
db.owner.user=DB_OWNER_USER_ID
db.owner.password-encrypted=DB_OWNER_PASSWORD_ENCRYPTED
```

The ant target will prompt for the passwords. Run the following ant target to encrypt the passwords:

```
ant -f db.xml encrypt-webapp-passwords
```

Enter the values for the URL used by the Back Office application to access the database schema. See [Appendix D](#) for the expected syntax:

```
db.jdbc-url=jdbc:oracle:thin:@DB_HOST_NAME:1521:DB_NAME
```

Enter the value for the store ID shown in the following example:

```
configured.store.id=04241
```

Enter the value for the supported locales shown in the following example:

```
gen.locales=fr,zh
```

- d. Set the host name and rmi port number for the `parameters.apphost` property to point to your Back Office installation.

```
parameters.apphost=t3://<hostname>:<port_number>
```

- e. In the `parameters.classpath` property, replace the semicolons used as separators with colons. This is needed to run with Linux systems.
- f. To enable VAT functionality, uncomment the `tax.enableTaxInclusive` property in the tax properties section.
- g. If loading sample data, replace `FILE_DATASET_SAMPLE` with the full path and file name for the sample dataset zip file.

```
dataset.sample.zip=FILE_DATASET_SAMPLE
```

6. Run one of the available Ant targets to create the database schema and load data.

- `load_sample`: creates the database schema containing the sample dataset. The sample dataset includes the minimum dataset and report configuration data.

To use this option, you must provide the location of the zip file containing the sample dataset. You can obtain the `sample-dataset-13.4.1.zip` file from the Oracle Software Delivery Cloud at the following Web site:

<https://edelivery.oracle.com/>

- `load_minimum`: creates the database schema containing the minimum dataset. The minimum dataset includes report configuration data.
- `load_reports`: loads report configuration data.

For example: `ant load_sample`

To specifically load the report configuration data, use the following command:

```
ant -f db.xml load_reports
```

Secure the JDBC for the Oracle 11g Database

On the Enable Secure JDBC screen, you select whether secure JDBC will be used for communication with the database. See [Figure A-11](#).

- If **Yes** is selected, the installer sets up the secure JDBC.
- If **No** is selected and you want to manually set up the secure JDBC after the installer completes, see the *Oracle Retail POS Suite Security Guide*.

Configure AccessVia for Labels and Tags

If you are installing Back Office with Labels and Tags, you must install and configure the AccessVia software before running the Back Office installer. See [Chapter 4](#).

Install the Java Cryptography Extension (JCE)

You must update the security for your JRE. You need to obtain version 6.0 of the Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files.

1. Make a backup copy of `local_policy.jar` and `US_export_policy.jar`.

```
cd <WEBLOGIC_INSTALL_DIR>/<jdk>/jre/lib/security
mv local_policy.jar local_policy.jar.bak
mv US_export_policy.jar US_export_policy.jar.bak
```

2. Download version 6 of the JCE.
 - a. Go to the following Web site:
<http://www.oracle.com/technetwork/java/javase/downloads/index.html>
 - b. Under Additional Resources, find **Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files 6**.
 - c. Click **Download**.
 - d. Follow the instructions to download the JCE.
3. Copy the `local_policy.jar` and `US_export_policy.jar` files into the JRE security directory. The files are bundled as `jce_policy-6.zip`.

Run the Back Office Application Installer

A WebLogic domain must be configured and started before you can run the Back Office application installer. This installer will configure and deploy the Back Office application.

Note: To see details on every screen and field in the application installer, see [Appendix A](#).

1. Change to the `<INSTALL_DIR>` directory.
2. Set the `JAVA_HOME` environment variable. `JAVA_HOME` should point to `<JDK_INSTALL_DIR>`.

Note: The installer is not compatible with versions of Java earlier than Java 6 Update 24.

3. Set the account of the user running the installer to run as an administrator. Set the account using Microsoft Windows 2008 Server.
4. Run the `install.cmd` script. This will launch the installer. After installation is complete, a detailed installation log file is created:
`orbo-install-app.<timestamp>.log`.

Note: The usage details for `install.cmd` are shown below. The typical usage for GUI mode does not use arguments.

```
install.cmd [text | silent weblogic]
```

The installer leaves behind the `ant.install.properties` and `cwallet.sso` files for repeat installations.

Resolve Errors Encountered During Application Installation

If the application installer encounters any errors, it will halt execution immediately. You can run the installer in silent mode so that you do not have to reenter the settings for your environment. For instructions on silent mode, see [Appendix B](#).

For a list of common installation errors, see [Appendix E](#).

Since the application installation is a full reinstall every time, any previous partial installs will be overwritten by the successful installation.

Disabled Non-SSL Port

You can choose to disable the non-SSL port on the Turn Off the Application Server's Non-SSL Port screen. See [Figure A-44](#). If you select Yes on the screen, you must delete the transaction log files.

To delete the files:

1. Stop the application server.
2. Delete the transaction log files:

```
<orbo-domain>/server/<serverName>/data/store/default/WLS*.dat  
<orbo-domain>/server/<serverName>/data/store/or*-persistent-store/*.dat
```

3. Start the application server:
 - If Back Office is deployed to an admin server, start the application server for the admin server.
 - If Back Office is deployed to a managed server, start the application server for the managed server.

For more information, see the following Web site. Refer to the *Moving a Server* section.

http://download.oracle.com/docs/cd/E12839_01/web.1111/e13731/trxman.htm#i1053371

Manual Deployment of the Back Office Application

Skip this section if you chose the default option of allowing the installer to complete installation to the application server on the Manual Deployment Option screen. See [Figure A-38](#).

The installer includes the option to configure the application locally and skip deployment to the application server. If this option is chosen, the installer will make the configured application files available under
`<INSTALL_DIR>\backoffice\configured-output\`.

If you chose this installer option, you complete the installation by following these steps:

- To deploy using the ant target:
 1. Update the following property in the `ant.install.properties` file.
`input.install.to.appserver = true`
 2. Run the following ant target:
`install.cmd ant init app-ear-deploy -propertyfile ant.install.properties`
- To deploy from the application server console:
 1. Run the following target:
`install.cmd ant init-app-ear-deploy`

2. Deploy the ear file from the following location:

```
<INSTALL_DIR>\backoffice\backoffice.ear
```

Note: When deploying the ear file, provide the same application name and context root you gave to the installer. These values were stored in the `<INSTALL_DIR>\ant.install.properties` file by the installer.

Install Parameters

The application parameters must be installed before the Back Office application is fully operational. On the Install Parameters screen, you select whether the installer completes installation of the parameters.

- If you chose Yes, you do not need to perform any further steps to install the parameters. This is the default selection on the screen.
- If you chose No, the installer did not install the parameters. For information on installing the parameters, see ["Import Initial Parameters"](#).

Import Initial Parameters

Note: If you did not choose to have the installer set the initial parameters, you must import an initial set of parameters before you can use Oracle Retail Back Office. For more information on parameters, see the *Oracle Retail POS Suite Configuration Guide*.

This section provides an overview of the procedures for importing an initial set of parameters. You can import the parameters through the Oracle Retail Back Office user interface or by using an ant target after the installation is complete. You only need to use one of the procedures. The procedure for importing parameters through the application user interface is described in more detail in the *Oracle Retail Back Office User Guide*.

Import Parameters Through the User Interface

To import the initial parameters through the user interface:

1. Open the Oracle Retail Back Office application in a Web browser. The address is provided at the end of the installer output and in the log file.

```
https:\\<host name>:<port number>\<context root>
```
2. Log in to the application with a user ID that has full administrative rights.
3. Click the **Admin** tab and then the **Job Manager** subtab. Click the **Available Imports** left navigation link. The Available Imports screen appears.
4. To import the master parameter set, click the **File** link in the Import Parameters for Distribution row. Follow the instructions to import `parameterset.xml` from the `<INSTALL_DIR>\backoffice\configured-output\db` folder.

5. To import the initial set of Oracle Retail Back Office application parameters, click the **File** link in the Import BackOffice Parameters row. Follow the instructions to import `backoffice.xml` from the `<INSTALL_DIR>\backoffice\configured-output\db` folder.

Import Parameters by using an Ant Target

To import parameters using an ant target:

1. Change to the `<INSTALL_DIR>\backoffice\configured-output\db` directory.
2. In `db.properties`, set the host name and port number for the `parameters.apphost` property to point to your Back Office installation.

```
parameters.apphost=t3://<host name>:<port number>
```

3. Set the `JAVA_HOME` and `ANT_HOME` environment variables.

```
JAVA_HOME=<JDK_INSTALL_HOME>; ANT_HOME=<INSTALL_DIR>/ant;  
export JAVA_HOME ANT_HOME
```

4. Run the following command:

```
ant load_parameters
```

Load Templates for Labels and Tags

To load the templates for Oracle Retail Labels and Tags, you must provide the location of the zip file containing the sample templates. You can obtain the `sample-template-13.4.1.zip` file from the Oracle Software Delivery Cloud at the following Web site:

<https://edelivery.oracle.com/>

Run the following command:

```
ant init_labels
```

Load Optional Purge Procedures

For information on the procedures provided for purging aged data, see the *Oracle Retail POS Suite Operations Guide*.

To load the purge procedures:

1. Run the available Ant target to load the procedures.

```
ant load_purge_procedures
```
2. Log in as the database schema owner, `<schema_owner_user>`.
3. Create a user for running the purge procedures. This user should only have the privileges required to run the purge procedures.

Using the Back Office Application

Note: When you are done installing Back Office, log out and close the browser window. This ensures that your session information is cleared and prevents another user from accessing Back Office with your login information.

After the application installer completes and you have run the initial parameter load, you should have a working Back Office application installation. To launch the application, open a Web browser and go to

`https:\\<servername>:<portnumber>\<context root>`

For example, `https:\\myhost:7002\\backoffice`

Configuring the AccessVia Print Engine for the Oracle Stack on Windows

This document also pertains to Oracle customers who have licensed Oracle Retail Signs in conjunction with Oracle Retail Labels and Tags. The Oracle Retail Labels and Tags product restricts printing not to exceed six square inches. To print a size greater than six square inches, the customer must license Oracle Retail Signs.

In order to use the Labels and Tags functionality of Back Office, you need to install the AccessVia product and configure the AccessVia Print Engine.

Before configuring the AccessVia Print Engine, you must have completed the following procedures:

- The installation and configuration of all prerequisite software including the AccessVia product and the database server.
- The installation of the database and creation of the database schema.
- The installation of the application server.
- The installation of the printers.

The following libraries are required for using Labels and Tags. For the tested versions, see [Chapter 1](#):

- AccessVia Print Engine
- Oracle Instant Client
- ODBC libraries

Configuring the AccessVia Print Engine includes the following tasks:

- ["Creating the AccessVia Print Engine .ini File"](#)
- ["Configuring the Database for the AccessVia Print Engine"](#)
- ["Configuring for Oracle WebLogic"](#)
- ["Updating the AccessVia License File"](#)
- ["Testing the AccessVia Print Engine"](#)
- ["Adding Multiple Printers"](#)

To troubleshoot printing problems, see ["Troubleshooting Labels and Tags Problems on the Oracle Stack with Windows"](#).

Creating the AccessVia Print Engine .ini File

The AccessVia Print Engine requires an .ini file for configuration. An initial version of this file is found at `<staging_directory>\backoffice\lib\thirdparty\accessvia-8.5\accessvia_WIN\accessvia\windows\test\dsign.ini`.

Updates to the .ini file are done as part of the configuration for the application server. For a description and example of this file, see "[AccessVia Print Engine .ini File](#)".

Configuring the Database for the AccessVia Print Engine

Because Labels and Tags needs to access data from Back Office, AccessVia requires open database connectivity (ODBC) to the Back Office database. AccessVia stores template information in the following Back Office data tables:

- SGFORM—This table stores templates.
- SGELEM—This table stores template attributes.
- SGSQL—This table stores .zip files of SQL, which fetch template data at the time of printing.
- SGCONFIG—This table stores the paths for .ini files required by AccessVia.

Configuring for Oracle WebLogic

For the following steps, `<staging_directory>\backoffice\lib\thirdparty\accessvia-8.5\accessvia_WIN` is referred to as `<ACCESSVIA_HOME>`.

To configure for Oracle WebLogic:

1. Download Oracle Instant Client version 11.2.0.1.0 from any of the following Oracle Web sites:

Note: Download the Windows 32-bit version.

<http://www.oracle.com/technetwork/database/features/instant-client/index-097480.html>

<http://www.oracle.com/technetwork/topics/winsoft-085727.html>

<http://www.oracle.com/technology/tech/oci/instantclient/index.html>

<http://www.oracle.com/technetwork/indexes/downloads/index.html>

- a. Download the following zip files and extract the zip files to C:\:

Basic: instantclient-basic-win32-11.2.0.1.0.zip

ODBC: instantclient-odbc-win32-11.2.0.1.0.zip

2. Install the Oracle Instant Client ODBC driver. For information on this install, see the Readme file in C:\instantclient_11_2.

C:\instantclient_11_2\odbc_install.exe

3. Copy the sample `tnsnames.ora` file from
`<ACCESSVIA_HOME>\accessvia\windows` to `C:\instantclient11_2`
 and update the database server name and the SID.
4. Copy the `<ACCESSVIA_HOME>\accessvia` folder to `C:\`.
5. Right-click on the folder properties and uncheck the read-only permissions.
6. Create the following environment variables:
 - `ACCESS_VIA = C:\accessvia\windows\program`
 - `TNS_ADMIN = C:\instantclient_11_2`
7. Add both environment variables to `PATH`.
8. Create the data source:
 - a. Open the Run command, enter `C:\Windows\SysWOW64\odbcad32.exe`, and click **OK**. This opens the 32-bit ODBC Data Source Administrator.
 - b. Select the **System DSN** tab.
 - c. Click **Add**.
 - d. Select Oracle in the `instantclient11_2` driver.
 - e. Enter the values on the configuration screen:

Enter a data source name, for example, `LAT`.

Enter a description, for example, `LAT Data Source`.

Select the TNS service from the menu. To use the sample `tnsnames.ora` file, the menu entry for TNS Service Name is `OEL10G`.

For the user ID, enter the database user ID.
 - f. Test the connection. Click **Test Connection**.
 - g. If the connection is successful, save the data source.
9. Update the following properties in the `DATABASE` section in the `C:\accessvia\windows\dsign.ini` file. The DSN name must match the name created in Step 8. UID is the database schema user, PWD is the database schema password, and DBQ is the database schema name.


```
CONNECTION=DSN=LAT;UID=<username>;PWD=<password>;DBQ=<databasename>;DBA=W;APA=T;EXC=F;FEN=T;QTO=T;FRC=10;FDL=10;LOB=T;RST=T;BTD=F;BNF=F;BAM=IfAllSuccessful;NUM=NLS;DPM=F;MTS=T;MDI=F;CSR=F;FWC=F;FBS=64000;TLO=0;

Userid=<username>

Password=<password>

SchemaSys=<username in upper case>
```
10. Encrypt the database password in the `C:\accessvia\windows\dsign.ini` file:
 - a. Enter the clear text password in the `PWD` property in the `CONNECTION` string. See Step 9 for an example of the `CONNECTION` string.
 - b. To encrypt the password, run the following command:


```
C:\accessvia\windows\program\dsignw32.exe
```

- c. Select **File, Open**, and then the .ini file to be modified. You are prompted to open the file in Notepad, but this is not necessary.
 - d. Select **File** and then **Run dSIGN**. A dialog is displayed to enter the command switches.
 - e. In the dialog box, enter **-xENCRYPT_DSN()**.
 - f. Copy the encrypted password from the PWD property into the Password field in the dsign.ini file.
 - g. Update the DSN name with the name created for the odbc data sources. See Step 9 for an example of the CONNECTION string.
11. Modify PrinterName and PortSetting1 in the dsign.ini file to point to your network printer.
- PrinterName=<Printer hostname>
- PortSetting1=<Printer IP>

Adding Multiple Printers

To use multiple printers for printing labels and tags, add the printers to the <INSTALL_DIR>\backoffice\templates\printers.properties file. The instructions for adding printers are included in the file. This file is deployed to the application server by the installer.

Updating the AccessVia License File

Oracle Retail Labels and Tags is shipped with a demonstration license file for AccessVia. The demonstration license file needs to be replaced by a full-use production license file.

1. When a retailer purchases Oracle Retail Labels and Tags, Oracle requests the full-use production license file from AccessVia Support through e-mail. AccessVia returns the license file to Oracle within one business day.

The full-use production license file includes the user name and a license end date or an end date of perpetual.

2. Oracle provides the full-use production license file to the retailer or system integrator.
3. The retailer or system integrator updates the license file in the AccessVia installation. The file should be in the same folder as the DSIGN executable file, for example:

C:\accessvia\windows\program\DSIGN.LIC

Note: According to AccessVia, if the license file is transferred to a non-Windows platform, an ASCII transfer is required to maintain the correct file format.

Back Office Installation

After completing the steps in "Configuring for Oracle WebLogic", run the installer. The following information is needed during the install:

- The paths to the `dJava.jar` and `dsign.ini` files are entered on the AccessVia Configuration installer screen. See Figure A-21. These files are found in the following locations:
 - `C:\accessvia\windows\djava.jar`
 - `C:\accessvia\windows\test\dsign.ini`
- On the Load Templates Options installer screen, you select whether to load the templates into the database. See Figure A-41. If you select Yes, you must provide the location of the zip file containing the sample templates on the Sample Template Data installer screen. You can obtain the `sample-template-13.4.1.zip` file from the Oracle Software Delivery Cloud at the following Web site:

<https://edelivery.oracle.com/>

Updating or Creating Templates

Software is available, for example from AccessVia, that can be used to create and update templates. For more information, contact your integrator or implementation staff.

To create templates using designer:

1. Open the designer and create the template.
2. Look at the sample `sqt` (`SALTEMPL.sqt`) in the `sample-template-13.4.1.zip` file. The `sqt` takes four input parameters (`batchID`, `templateID`, `departmentID`, `locale`). Make sure you define these inputs when creating new templates with customized queries to see the expected behavior.
3. To print the labels in an order from the application, add the following, for example, to the query: `"ORDER BY CAST(ID_DPT_POS AS INT), ID_ITM"`.
4. Export the templates to `csv` files using the Export utility:
 - a. In the Export Utility, select `File | Export All Templates to Files`.
 - b. Select `Delimited` using as `"~"`.
 - c. Select `First row contains column names`.
 - d. Select `Surround values with and use "|"`.
 - e. Select the location where these files will be created.
 - f. Click **Ok**. Go to the location and verify the files.
5. Update this zip file with the new `csv` files, images, `sqt`s, and fonts that are used during creating the templates.
6. Import the new templates into the application by either running the `ant` target (`ant init_labels`) or using the Back Office **Import Labels and Tags Template** import task. For information on the import task, see the *Oracle Retail Back Office User Guide*.

Configuring Multiple Printers

To use multiple printers for printing labels and tags:

1. To enable users to select from a list of printers on the Add Batch and Batch Detail screens, set up the Allow Multiple Printers parameter. For information on the parameter, see the *Oracle Retail POS Suite Configuration Guide*.
2. If you did not set up the list of printers before running the Back Office installer, add the printers to the `printers.properties` file in the `<WEBLOGIC_INSTALL_DIR>\user_projects\domains\<orbo-domain>\lib\properties.jar` file. The instructions for adding printers are included in the `printers.properties` file.

Testing the AccessVia Print Engine

After Back Office is installed and all of the previous steps have been completed, test the AccessVia Print Engine.

To test the AccessVia Print Engine:

1. Compile the test program by executing the command `<AccessVia_install_dir>\windows\compileTest.bat`. This compiles `testPrint.java`. Edit this Java file if it needs to use some template other than the default `SALTEMPL`.
2. Edit `<AccessVia_install_dir>\windows\runTest.bat` and make sure the variables are pointing to the right configuration.
3. Stop the application server.
4. Run the test program by executing `<AccessVia_install_dir>\windows\runTest.bat`.
5. The template `SALTEMPL` prints.
 - If you are getting `lib not found`, the required `dll` is not in the system path.
 - If you are getting `unsatisfiedLinkerror`, the `dSIGN` `dlls` and `SDK` `dll` do not match.
6. Restart the application server.

AccessVia Print Engine .ini File

The AccessVia Print Engine requires an `.ini` file for configuration. This file controls all AccessVia operations and includes the settings for printers, resource paths (fonts and graphics), data source to be used, and so on. For information on the file contents, see "[.ini File Settings](#)".

The default name for the AccessVia `.ini` file is `design.ini`. That name is used to refer to it throughout this chapter.

To create the AccessVia configuration file:

1. Create an `.ini` file. For an example of an `.ini` file, see "[.ini File Example](#)".
2. Save your `.ini` file at `<AccessVia_install_dir>\program`.

.ini File Settings

This file contains a series of settings:

- Path settings—These are used by the AccessVia APIs to fetch appropriate attributes at the time of printing. These paths, which are located in the *System Setup* section, lead to the directories described in ["Configuring the Database for the AccessVia Print Engine"](#).
GraphicPath, FontPath, and ExePath must point to individual folders. The remaining paths can point to a common folder because they are not used as often. In order for UserPath to be functional, Back Office must have write permission to the dst directory.
 - DataPath—This must point to the folder that contains all the necessary data (data).
 - GraphicPath—This must point to the folder that contains all images required for the print templates (images).
 - FontPath—This must point to the folder that contains all the font files required by the print templates (fonts).
 - UserPath—This must point to the user directory (dst).
 - ExePath—This must point to the folder that contains all AccessVia .dll files (program).
 - SystemPath—This must point to the folder that contains all necessary system files (system).
 - WorkPath—This must point to the folder used by AccessVia APIs to write temp files during the printing process.
- Printer settings—These are the printer attributes. They are located in the *Printer Setup* section. Most of them are the same as the system printer settings. PrintFile, PrintToFile, and PrinterName are the most important attributes; the remaining ones can use default settings.
 - PrinterPort=WS:
 - PrintFile=<AccessVia_install_dir>\temp\output.prn
 - PrintToFile=No. However, for initial testing, you can arrange for templates to be printed in an output file (PrintFile) by setting PrintToFile to Yes.
 - PrinterDriver=<printer driver>. Set to the printer driver, for example, POSTSCRIPT. The AccessVia Print Engine prefers PostScript printers to PCL printers.
 - PrinterName=<printer name>. Set to your printer name or use the default printer name.
 - PortSetting1=<IP address>. Set to the IP address of your printer.
 - PortSetting2=<port number>. Set to the port number of your printer.
- Data source settings—These provide AccessVia APIs with the location of templates and template data. These can be stored in the same place, in which case the two settings are identical. In the data sources, set the DSN name, database name, server name, user ID, and password correctly.
 - DATABASE—This is the data source for template data.
 - FORMATS—This is the data source for templates and template attributes.

.ini File Example

The following is an example of an .ini file.

```
[STARTUP]
; General settings
InitApp=No
FileRun=
FileUDF=
CodePage=1252
ErrorLog=DSIGN.ERR

;*** Log Settings ***
; DebugMode Severity levels:
FATAL/CRITICAL/ERROR/WARNING/NOTICE/INFORMATION/DEBUG/TRACE
DebugMode=TRACE
; Message Values: SILENT/VERBOSE/EXTENSIVE
MessageMode=VERBOSE
LoggerName=dsign
;LogChannel=TSVTextLog

; Path settings
DataPath=C:\accessvia\windows\data\
GraphicPath=C:\accessvia\windows\images\
FormatPath=C:\accessvia\windows\data\
ExePath=C:\accessvia\windows\program\
SystemPath=C:\accessvia\windows\system\
FontPath=C:\accessvia\windows\fonts\
WorkPath=C:\accessvia\windows\data
UserPath=C:\accessvia\windows\data\

; Printer and port settings
PrinterPort=PM:
PrintFile=C:\accessvia-oracle\windows_85\test\Program\output.prn
PrintToFile=N
PrinterDriver=GDI
PrinterName=AUSMFD5
PaperTray=
PortSetting1=10.143.200.65
PortSetting2=9100
PortSetting3=9600,n,8,1

;new promOS settings for rowset managment
RowsetStatus=Yes
RowsetRequired=No

;AV Print Server settings
;CODEBASE=printme.cab#version=1,0,0,63
;DefaultPrinterName=Lexmark Optra S 1855 PS,winspool,LPT1:
;TemplateCache=No

; Print and paper prompt settings
;SignOffset=-d
; OutputMode Values: DEFAULT/APPEND/NO OVERWRITE
OutputMode=DEFAULT
; PrintDuplex Values: 0(User printer settings)/1(1-sided)/2(2-sided long
edge)/3(2-sided short edge)
; PrinterCopiesMode Values: YES(Job Copies)/NO(Sign Copies)/PAGE(Page Copies)
PrinterCopiesMode=NO
```

```

PrintDuplex=0
PrintCopies=1
PrintMode=No
PromptScreen=FORMAT
PrinterPortMode=DEFAULT
SignOffset=-d
VerifyJob=No
TestPagePrompt=Yes
SignOffsetPrompt=Yes
SkipFormatPrompt=Yes
PrintCopiesPrompt=Yes
PageTotal=No
JobOrURL=StoreName=New York&StoreNumber=101
BumpPageX=0.00
BumpPageY=0.00
ReversePage=NO
CustomPaperSize=No
PrinterOptimizationType=NONE
EntryType=1

;ServerVariables=GRAPHICS_UNC$,GRAPHICS_URL$
;GRAPHICS_UNC$=D:\WebdSS\Web_dSignShop_Cust_Local\Web_dSignShopBB\Images
;GRAPHICS_URL$=http://jmoultonw2ksvr/Web_dSignShop_Cust_Local/Web_
dSignShopBB/Images

NamedGraphicsPaths=DWEB$,DTHUMB$
;DWEB$=GRAPHICS_UNC$\product;GRAPHICS_URL$/product
DWEB$=\products;/products

;-----
;--- Database Connection Section -----
;-----
[DCM Global]
DataDriver=ODBC
ConnectRetry=2

;----- DATABASE Connection Properties -----
;[DATABASE]
;Enabled=True
;ConnectionPool=False
;CONNECTION=DSN=anlat;UID=anlat;PWD=+t!"q/%-#+!)|'z%x#v!;DBQ=DVOLS54
;DBA=W;APA=T;EXC=F;FEN=T;QTO=T;FRC=10;FDL=10;LOB=T;RST=T;BTD=F;BNF=F;BAM=IfAllSucc
essful;NUM=NL$;DPM=F;MTS=T;MDI=F;CSR=F;FWC=F;FBS=64000;TLO=0;MLD=0;ODA=F;
;Userid=anlat
;Password=+t!"q/%-#+!)|'z%x#v!
;SchemaSys=ANLAT

;----- DATABASE Connection Properties
-----
[DATABASE]
Enabled=True
ConnectionPool=False
Connection=DSN=anorlat1;UID=anorlat1;PWD=E*s %!|n,<*: (8&6$4"2;DBQ=dvols54
;DBA=W;APA=T;EXC=F;FEN=T;QTO=T;FRC=10;FDL=10;LOB=T;RST=T;BTD=F;BNF=F;BAM=IfAllSucc
essful;NUM=NL$;DPM=F;MTS=T;MDI=F;CSR=F;FWC=F;FBS=64000;TLO=0;MLD=0;ODA=F;
Userid=anorlat1
Password=E*s %!|n,<*: (8&6$4"2
SchemaSys=ANORLAT1

;----- Section for LogChannel=TSVTextLog

```

```

-----
[TSVTextLog]
LogHeader =Date Application      Build  Host      Process Thread  Function
          File    Line    Priority      ID      Message
LogFormat =%Y-%m-%d %H:%M:%S.%c dSign Ver %v    %N      %P      %I      %V
          %F      %L      %p      %C      %t
LogFile   =dsign.log

;*** Escape Settings ***
LogReplaceTab=<HT>
LogReplaceCR =<CR>
LogReplaceNL =

;----- FORMATS Connection Properties -----
[FORMATS]
Enabled=False
ConnectionPool=False

;----- SYSTEM Connection Properties -----
[SYSTEM]
Enabled=False

;----- IMPORTS Connection Properties -----
[IMPORTS]
Enabled=False

;----- EXPORTS Connection Properties -----
[EXPORTS]
Enabled=False
[SYSSTRINGS]
; block to override all system strings

[APISTRINGS]
; block to override all api strings

[DLG_DEFAULT]
WindowPosX=106
WindowPosY=55
WindowCX=636
WindowCY=597

[ FONTS ]
;----- Non-Resident Font Entries modified by Font Setup Dialog
;for promOS Portable fonts use .eot extension for IE, use .pfr for Netscape
;use Printer Name "IE 4.0+ and Netscape 4.0+" with .eot for both

Font01=Download
PSFont01=barupc
PSFontFile01=BARUPC.PFB
ScreenFont01=barupc
ScreenFile01=BARUPC.TTF
HTMFont01=barupc
HTMFontFile01=barupc0.eot

Font02=Download
PSFont02=AvantGardeCdITC-Book
PSFontFile02=AVANGCIW.PFB
ScreenFont02=AvantGardeCdITCTT

```

```
ScreenFile02=AVANGCIW.TTF
HTMFont02=AvantGardeCdITCTT Book
HTMFontFile02=AVANTGA1.eot
;Switched PSFontFile02=AVANGIW_.PFB with PSFontFile04=AVANGCIW.PFB
;and ScreenFile02=AVANGIW_.TTF with ScreenFile04=AVANGCIW.TTF

Font03=Download
PSFont03=AvantGardeCdITC-Demi
PSFontFile03=AVANGCID.PFB
ScreenFont03=AvantGardeCdITCTT, DEMI
ScreenFile03=AVANGCID.TTF
HTMFont03=AvantGardeCdITCTT Demi
HTMFontFile03=AVANTGA0.eot

Font04=Download
PSFont04=AvantGardeITC-Book
PSFontFile04=AVANGIW_.PFB
ScreenFont04=AvantGardeITCTT
ScreenFile04=AVANGIW_.TTF
HTMFont04=AvantGardeITCTT Book
HTMFontFile04=AVANTGA2.eot
;Switched PSFontFile04=AVANGCIW.PFB with PSFontFile02=AVANGIW_.PFB
;and ScreenFile04=AVANGCIW.TTF with ScreenFile02=AVANGIW_.TTF

Font05=Download
PSFont05=AvantGardeITC-Demi
PSFontFile05=AVANGID_.PFB
ScreenFont05=AvantGardeITCTT, DEMI
ScreenFile05=AVANGID_.TTF
HTMFont05=AvantGardeITCTT Demi
HTMFontFile05=AVANTGA3.eot
Font06=Download
PSFont06=PlazaPlain
PSFontFile06=78203____.PFB
ScreenFont06=PlazaPlain
ScreenFile06=78203____.TTF
HTMFont06=PlazaPlain
HTMFontFile06=PLAZA0.eot

Font07=Download
PSFont07=SpartanFourMT
PSFontFile07=SPR____.PFB
ScreenFont07=SpartanFourMT
ScreenFile07=SPR____.TTF
HTMFont07=Spartan Four MT
HTMFontFile07=SPARTAN0.eot

Font08=Download
PSFont08=ErasITC-Medium
PSFontFile08=ERASIM_.PFB
ScreenFont08=ErasITCTT
ScreenFile08=ERASIM_.TTF
HTMFont08=Eras Medium ITC
HTMFontFile08=ERASMED0.eot
```

Setting up a USB Printer in a Network

To set up the printer for printing labels:

1. Install the driver that was included with the printer on the device where the printer is connected.
2. Add an anonymous user.
 - a. Open the Printer Properties for the printer.
 - b. Select the **Security** tab.
 - c. Click **Add**.
 - d. Add the user—**ANONYMOUS LOGON**.
 - e. Click **OK**.
3. Enable network access to the anonymous user.
 - a. From the Control Panel, open **Administrative Tools**. Select **Local Security Policy**.
 - b. Expand Local Policies. Select **Security Options**.
 - c. Select **Network access: Let Everyone permissions apply to anonymous users**. In the window, select **Enabled** and then click **OK**.
4. Add the following printer settings to the `dsign.ini` file.

```
----- Printer Setup -----
PrinterDriver=GDI
PrinterName=\\<printer_IP_address>\DYM0,WinPrint,USB002
PrinterPort=<port_number>
PrinterOptimizationType=NONE
PrintFile=output.ps
PrintToFile=No
PrintCopies=1
PrintMode=No
SignOffset=-d
PrinterPortMode=NEW
PageTotal=No
PortSetting1=
PortSetting2=
PortSetting3=9600,N,8,1
PrintItem=Yes
CustomPaperSize=No
```

Troubleshooting Labels and Tags Problems on the Oracle Stack with Windows

This section contains information that may be useful if you encounter problems using Labels and Tags.

- If the `runTest.bat` test program fails, check the `dsign.ini` file. The `Userid` field must be all uppercase, for example:

`Userid=ORBOLAT1`
- If you see an error related to print format, modify the printer settings. The possible values for the `PrinterDriver` field are GDI and PS. The possible values for `PrinterPort` are PM: and WS:.

- After the test runs successfully, if you still see problems running from the application server, modify the security settings on Windows.
 1. Select Control Panel, Administrative Tools, and then Local Security Policy.
 2. Under Local Policies, select Security Options.
 3. Enable Network access: Let everyone permissions apply to anonymous users.
- In the `dsign.ini` file, modify the following PortSetting field to the IP address for your network printer.

```
PortSetting1=10.143.200.26
```

- To improve performance, turn off debug mode in the `dsign.ini` file.

```
Debug=No
```

- If there is any problem related to the configuration, turn on debug mode in the `dsign.ini` file. Look for the errors in the `AccessVia.dJava.log` and `dsign.err` files.

```
Debug=DEBUG
```

- If the testing runs fine but printing from the application server fails, set `PrintToFile=Y` in the `dsign.ini` file. This settings causes the output to be printed to the `output.ps` file. Open the file with Notepad and see if the item information is present.
- If you see an `unsatisfiedLinkError`, verify the paths used to load the `AccessVia` native libraries.
- If you have a problem connecting to the database using Designer 8.5, make sure that during the creation of a connection, the schema name is uppercase under the advanced settings.
- If there is any problem with the database connections not getting closed after printing a template, there may be a memory leak issued. Contact `AccessVia` for more information.
- Postscript does not support frames, rules, and layers. When creating templates with `AccessVia`, do not use these options.
- Make sure the ini file path in the `SGCONFIG` table is correctly pointing to the ini file. If it is not, run the update sql. For example:

```
update SGCONFIG set FCONFIGPARAMVALUE='C:\accessvia\windows\dsign.ini'
where FCONFIGPARAMNAME='AccessViaIniFilePath'
```

- Make sure the printer drivers are installed where `AccessVia` is configured.
- In the Printer Setup section, verify that the printer IP address is correct.
- The VC8 runtime assemblies are required on the Microsoft Windows 2008 platform to support the `disgnj.dll` and AV engine libraries. If the correct versions of the Microsoft Visual Studio C++ runtime libraries are missing, download at the following Web site:

<http://www.microsoft.com/Downloads/details.aspx?FamilyID=32bc1bee-a3f9-4c13-9c99-220b62a191ee&displaylang=en>

Appendix: Installer Screens for the Oracle Stack

You need specific details about your environment for the installer to successfully deploy the Back Office application, or the Back Office application with the Labels and Tags module, on the Oracle Stack. Depending on the options you select, you may not see some screens or fields.

For each field on a screen, a table is included in this appendix that describes the field.

Note: When installing the Back Office application with the Labels and Tags module, the title on the installer screens is Labels and Tags Installer. The content of the screens is the same for either installer.

Figure A–1 Introduction

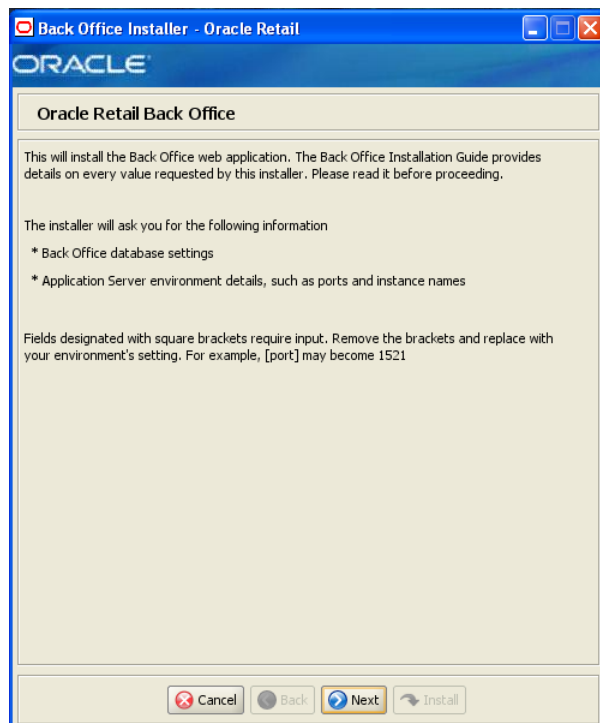


Figure A–2 Oracle Customer Information

The screenshot shows a window titled "Back Office Installer - Oracle Retail". Inside, there's a section titled "ORACLE" and "Oracle Customer Information". Below this, a message states: "Provide your email address to be informed of security issues, install the product and initiate configuration manager. See <http://www.oracle.com/support/policies.html> for details." There are three input fields: "Email:" with the placeholder "[username@oracle.com]", "Easier for you if you use your My Oracle Support email address/username." (which is a note, not a field), and "My Oracle Support Password:". A checkbox labeled "I wish to receive security updates via My Oracle Support." is checked. At the bottom, there are buttons for "Cancel", "Back", "Next", and "Install".

This screen sets up the information needed for Oracle Configuration Manager (OCM). The OCM collector must be registered with your My Oracle Support account so that the uploaded configuration information can be stored properly and be readily available during the resolution of a service request.

After the Central Office installer completes, the OCM installer runs if OCM is not already installed. For information on OCM, see "[Oracle Configuration Manager](#)" in [Chapter 3](#).

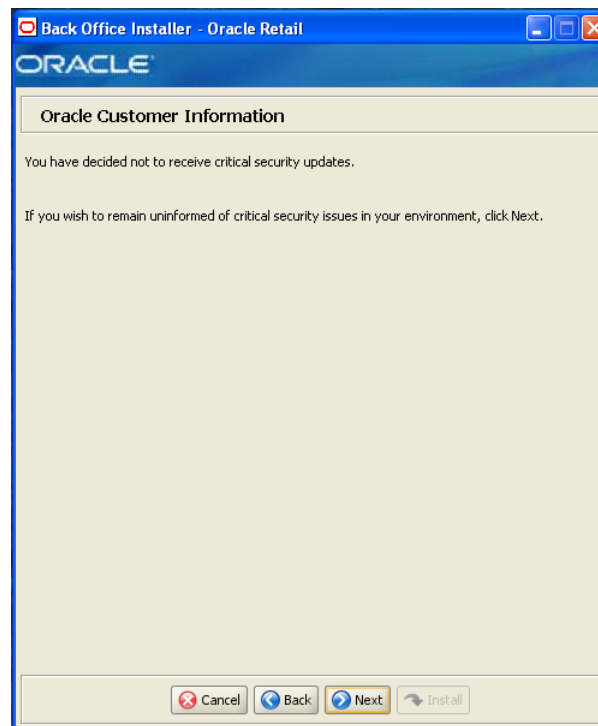
The fields on this screen are described in the following tables.

Details	Content
Field Title	Email
Field Description	Email address to use for OCM installation.

Details	Content
Field Title	I wish to receive security updates via My Oracle Support.
Field Description	To receive security updates, check the box.

Details	Content
Field Title	My Oracle Support Password
Field Description	Password for the My Oracle Support user to receive security updates.

Figure A–3 Oracle Customer Information



This screen is only displayed if **No** is selected on the previous Oracle Customer Information screen.

Figure A–4 Requirements

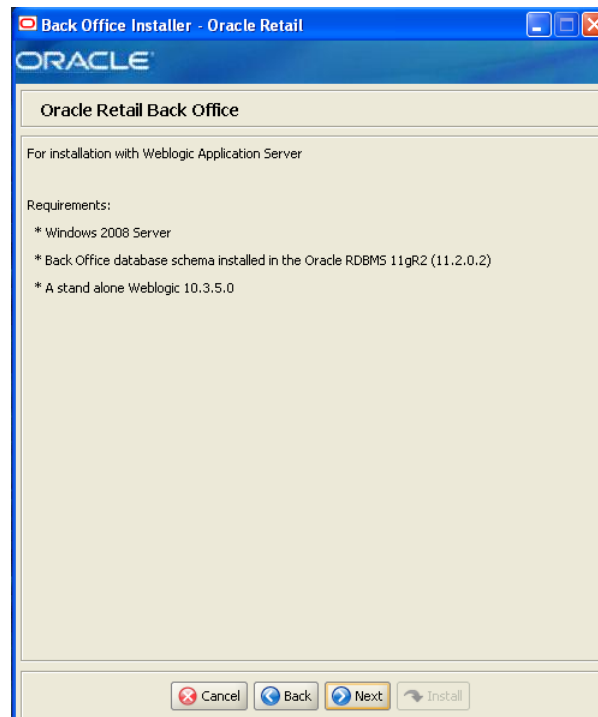
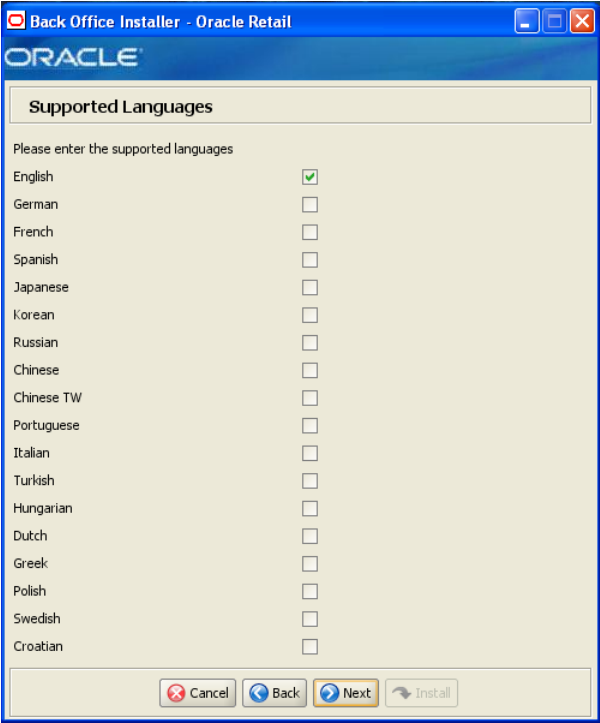


Figure A–5 License Agreement



Note: You must choose to accept the terms of the license agreement in order for the installation to continue.

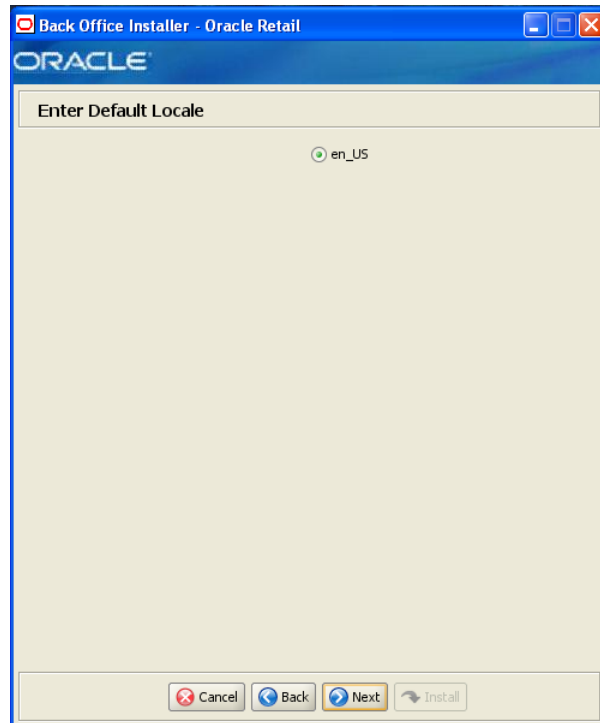
Figure A-6 Supported Languages



The field on this screen is described in the following table.

Details	Content
Field Title	Please enter the supported languages
Field Description	Select the languages that will be available for the Back Office application. The languages selected on this screen determine the available choices on the Enter Default Locale screen.
Example	English

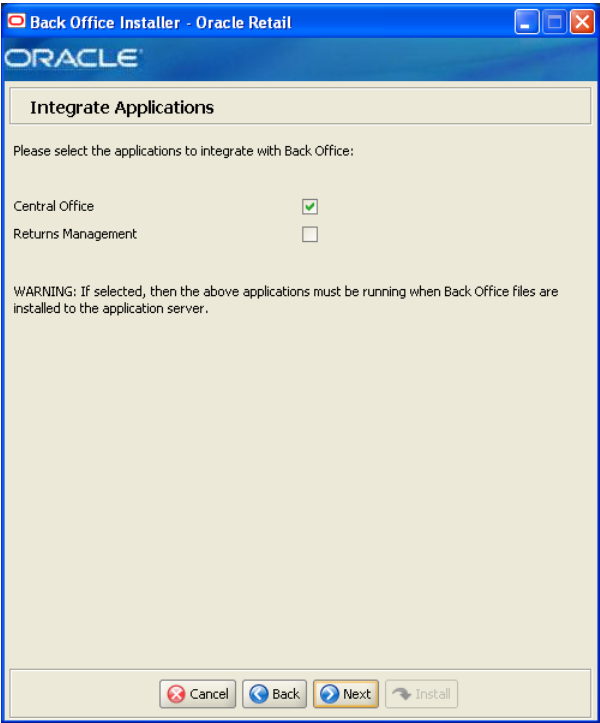
Figure A-7 Enter Default Locale



The field on this screen is described in the following table.

Details	Content
Field Title	Enter Default Locale
Field Description	<p>Locale support in Back Office enables the date, time, currency, calendar, address, and phone number to be displayed in the format for the selected default locale.</p> <p>The choices for default locale are dependent on the selections made on the Supported Languages screen. For each selected language, the default locale for that language is displayed on the Enter Default Locale screen. For example, if English and French are selected on the Supported Languages screen, en_US and fr_FR are the available choices for the default locale.</p>
Example	en_US

Figure A-8 Integrate Applications



The field on this screen is described in the following table.

Details	Content
Field Title	Please select the applications to integrate with Back Office
Field Description	Select the applications to integrate with Back Office. <ul style="list-style-type: none">■ Central Office■ Returns Management <p>Note: The selected applications must be running when Back Office is installed to the application server.</p>
Example	Central Office

Figure A–9 Database Owner

The screenshot shows a window titled "Back Office Installer - Oracle Retail". Inside, there's a section titled "Database Owner" with the instruction: "Provide the details for the Back Office schema user that will create the schema objects." Below this, there are three input fields labeled "Schema Username", "Schema password", and "Confirm password". At the bottom of the window, there are four buttons: "Cancel", "Back", "Next", and "Install".

The fields on this screen are described in the following tables.

Details	Content
Field Title	Schema Username
Field Description	Schema user name that manages the objects in the schema. This user has Create, Drop, and Alter privileges in the schema, that is, Data Definition Language (DDL) execution privileges. For information on creating this user, see "Create the Database Schema Owner and Data Source Connection Users" in Chapter 3.
	Note: This user creates the database objects used by Back Office.

Details	Content
Field Title	Schema Password
Field Description	Password for the database owner.

Details	Content
Field Title	Confirm Password
Field Description	Reentered Schema Password used to confirm the password.
	Note: The passwords in the Schema Password and Confirm Password fields must match.

Figure A-10 Data Source User

Back Office Installer - Oracle Retail

ORACLE

Data Source User

Provide the details for the Back Office schema user

JDBC URL: jdbc:oracle:thin:@[host]:[tcpPort]:[dbname]

Data Source Username: []

Data Source password: []

Confirm password: []

Cancel Back Next Install

The fields on this screen are described in the following tables.

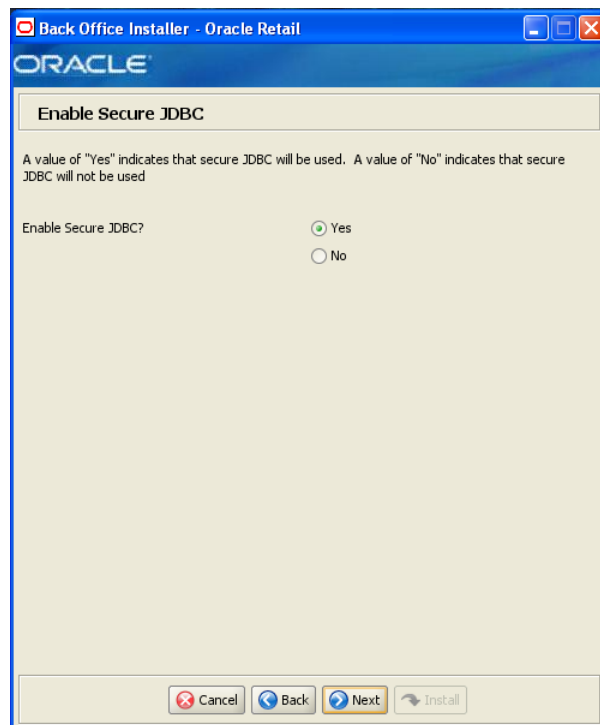
Details	Content
Field Title	JDBC URL
Field Description	URL used by the Back Office application to access the database schema. See Appendix D for the expected syntax.
Example	jdbc:oracle:thin:@myhost:1525:mydatabase

Details	Content
Field Title	Data Source Username
Field Description	Database user name that can access and manipulate the data in the schema. This user can have Select, Insert, Update, Delete, and Execute privileges on objects in the schema, that is, Data Manipulation Language (DML) execution privileges. For information on creating this user, see " Create the Database Schema Owner and Data Source Connection Users " in Chapter 3 .
	Note: This schema user is used by Back Office to access the database.

Details	Content
Field Title	Data Source Password
Field Description	Password for the data source user.

Details	Content
Field Title	Confirm Password
Field Description	Reentered Data Source Password used to confirm the password. Note: The passwords in the Data Source Password and Confirm Password fields must match.

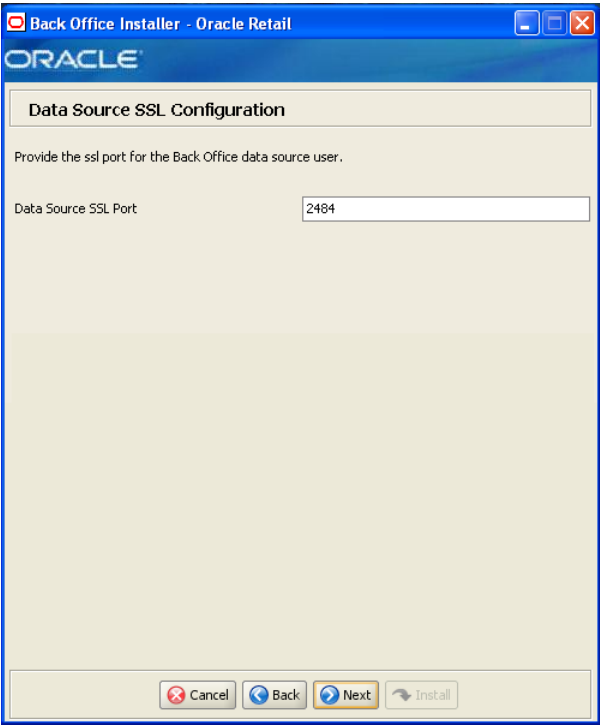
Figure A–11 Enable Secure JDBC



The field on this screen is described in the following table.

Details	Content
Field Title	Enable Secure JDBC?
Field Description	Select whether secure JDBC is to be used for communication with the database.
Example	Yes

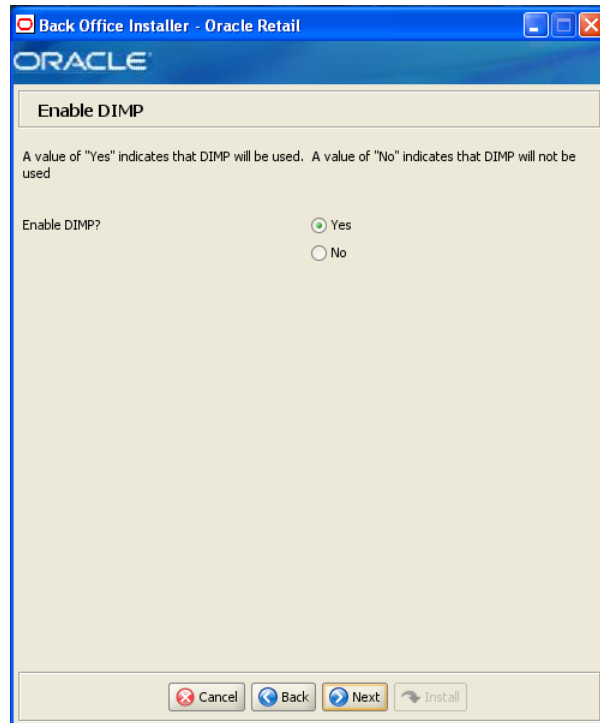
Figure A-12 Data Source SSL Configuration



This screen is only displayed if **Yes** is selected on the Enable Secure JDBC screen. The field on this screen is described in the following table.

Details	Content
Field Title	Data Source SSL Port
Field Description	SSL port used to access the database.
Example	2484

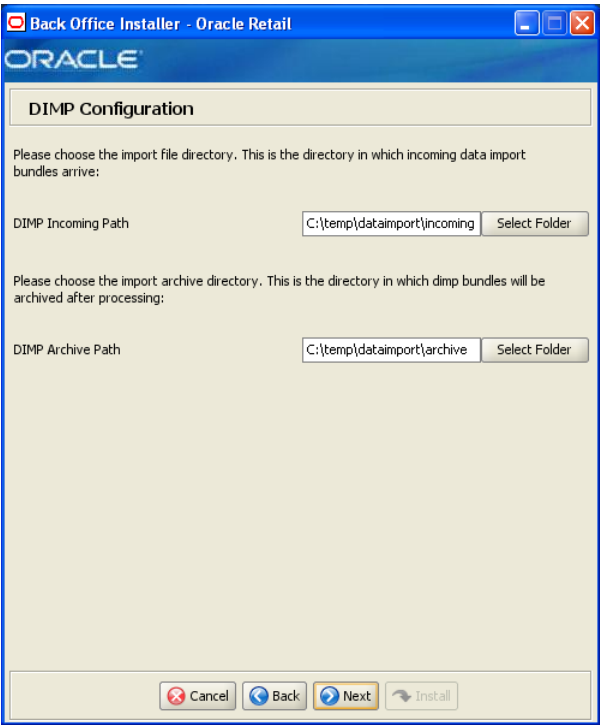
Figure A-13 Enable DIMP



The field on this screen is described in the following table.

Details	Content
Field Title	Enable DIMP?
Field Description	Select whether DIMP will be used. For information on DIMP, see "Enable Data Import" in Chapter 3 .
Example	Yes

Figure A-14 DIMP Configuration

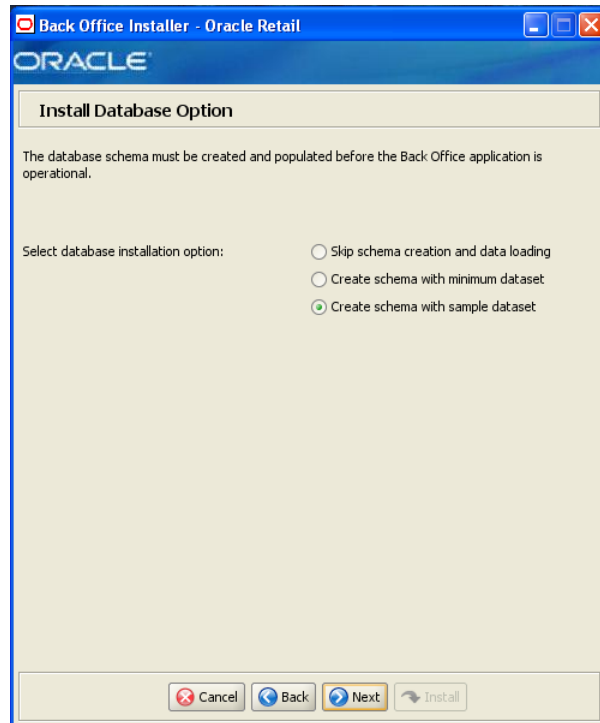


This screen is only displayed if **Yes** is selected on the Enable DIMP screen.
The fields on this screen are described in the following tables.

Details	Content
Field Title	DIMP Incoming Path
Field Description	Directory where the incoming data import bundles arrive.
Example	C:\temp\dataimport\incoming

Details	Content
Field Title	DIMP Archive Path
Field Description	Directory where the incoming data import bundles are archived after processing.
Example	C:\temp\dataimport\archive

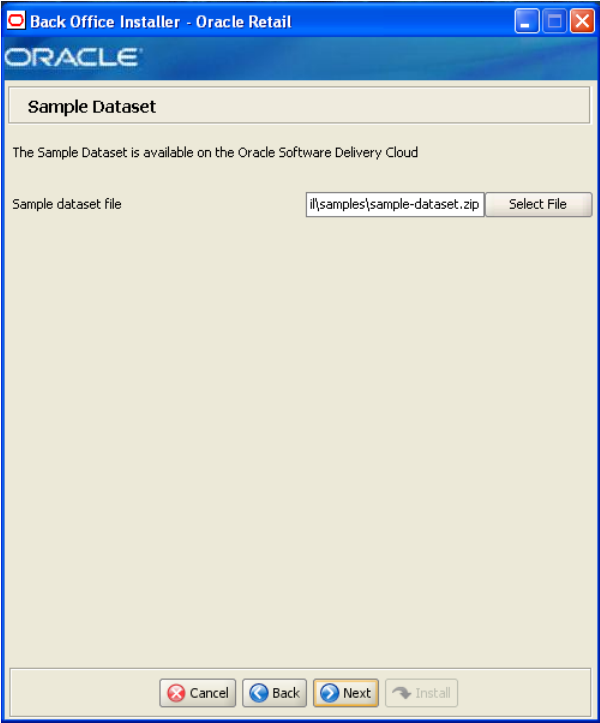
Figure A–15 Install Database Option



The field on this screen is described in the following table.

Details	Content
Field Title	Select database installation option
Field Description	<p>The database schema must be created and populated before starting Back Office. This screen gives you the option to have the installer create and populate the database schema or leave the database schema unmodified.</p> <ul style="list-style-type: none">■ To have the installer leave the database schema unchanged, select Skip schema creation and data loading.■ To have the installer create and populate the database schema with the minimum dataset, select Create schema with minimum dataset.■ To have the installer create and populate the database schema with the sample dataset, select Create schema with sample dataset. <p>For more information, see "Install Database Options" in Chapter 3.</p>
Example	Create schema with sample dataset

Figure A-16 Sample Dataset



This screen is only displayed when **Create schema with sample dataset** is selected on the Install Database Option screen.

The field on this screen is described in the following table.

Details	Content
Field Title	Sample dataset file
Field Description	<p>Enter the path to the sample dataset to be loaded into the database schema.</p> <p>You can obtain the <code>sample-dataset-13.4.1.zip</code> file from the Oracle Software Delivery Cloud at the following Web site:</p> <p>https://edelivery.oracle.com/</p> <p>For more information on the sample dataset, see "Install Database Options" in Chapter 3.</p>
Example	C:\oracle\retail\samples\sample-dataset.zip

Figure A-17 Back Office Administrator User

Back Office Installer - Oracle Retail

ORACLE

Back Office Administrator User

Enter the username and password for the Back Office administrator account.

The password must satisfy the following criteria:

- Contain at least one alphabetic character
- Contain at least one numeric character
- At least seven characters in length

Back Office Administrator Username: pos

Back Office Administrator Password:

Confirm password:

Cancel Back Next Install

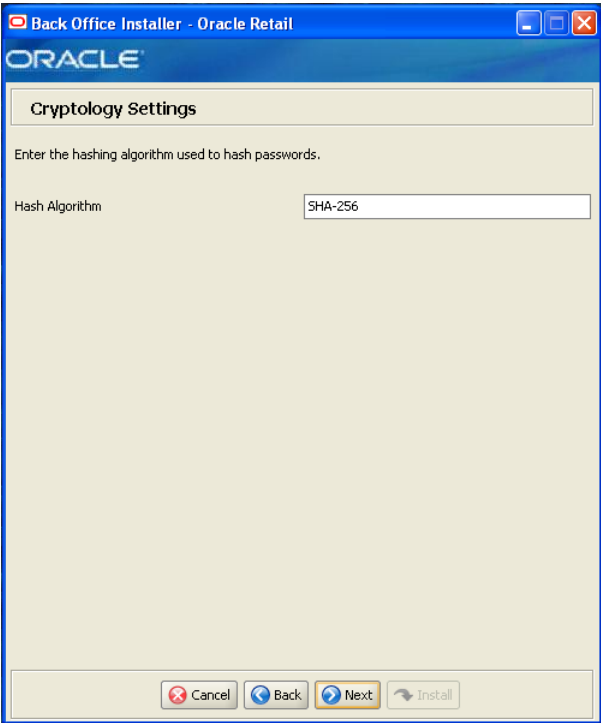
The fields on this screen are described in the following tables.

Details	Content
Field Title	Back Office Administrator Username
Field Description	Administrator user for the Back Office application.
Example	pos

Details	Content
Field Title	Back Office Administrator Password
Field Description	Password for the administrator user.

Details	Content
Field Title	Confirm Password
Field Description	Reentered Back Office Administrator Password used to confirm the password.
	Note: The passwords in the Back Office Administrator Password and Confirm Password fields must match.

Figure A-18 Cryptology Settings



The field on this screen is described in the following table.

Details	Content
Field Title	Hash Algorithm
Field Description	Enter the name of the algorithm used to hash passwords.
Example	SHA-256

Figure A-19 Enter Store ID

Back Office Installer - Oracle Retail

ORACLE

Enter Store ID

Please enter the 5 digit store id. Pad with leading zeros if necessary.

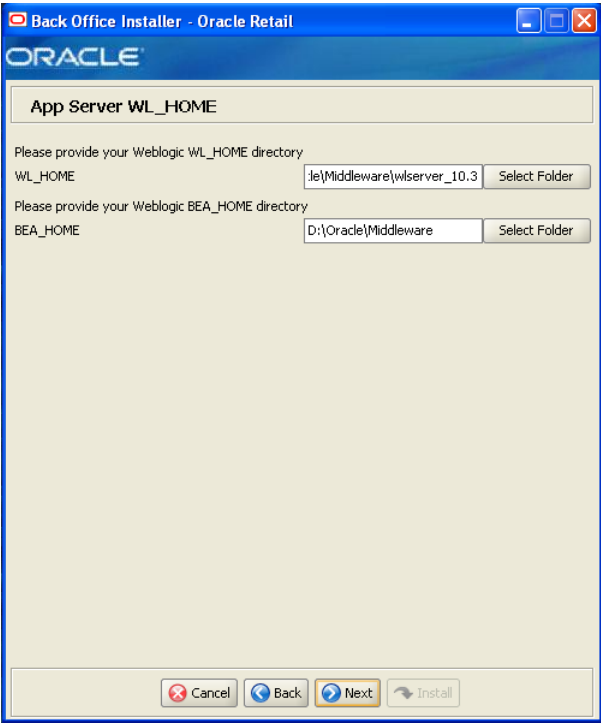
Store ID

Cancel Back Next Install

The field on this screen is described in the following tables.

Details	Content
Field Title	Store ID
Field Description	ID for this store. Note: The store ID must be five digits. It can be padded with leading zeroes if necessary. The store ID can only contain the numeric characters 0 through 9.
Example	04241

Figure A-20 App Server WL_HOME

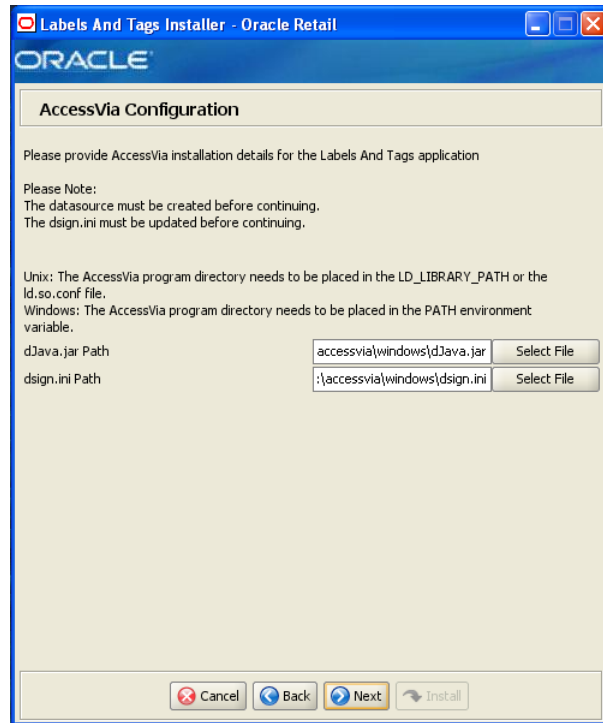


The fields on this screen are described in the following tables.

Details	Content
Field Title	WL_HOME
Field Description	Home directory for the Oracle WebLogic installation.
Example	D:\Oracle\Middleware\wlserver_10.3

Details	Content
Field Title	BEA_HOME
Field Description	Home directory for the Oracle BEA installation.
Example	D:\Oracle\Middleware

Figure A-21 AccessVia Configuration



This screen is only displayed when installing Oracle Retail Back Office with the Labels and Tags module.

The fields on this screen are described in the following tables.

Details	Content
Field Title	dJava.jar Path
Field Description	Path to the dJava.jar file.
Example	C:\accessvia\windows\dJava.jar

Details	Content
Field Title	dsign.ini Path
Field Description	Path to the AccessVia Print Engine configuration file.
Example	C:\accessvia\windows\dsign.ini

Figure A-22 Mail Session Details

Back Office Installer - Oracle Retail

ORACLE

Mail Session Details

Please provide mail server details for the Back Office application

SMTP host: mail.example.com

Reply-To Address: noreply@example.com

From Address: admin@example.com

Cancel Back Next Install

The fields on this screen are described in the following tables.

Details	Content
Field Title	SMTP host
Field Description	Host where the SMTP server is running.
Example	mail.example.com

Details	Content
Field Title	Reply-To Address
Field Description	Reply-to address in e-mails generated by Back Office.
Example	notreply@example.com

Details	Content
Field Title	From Address
Field Description	From address in e-mails generated by Back Office.
Example	admin@example.com

Figure A–23 Domain Details

Back Office Installer - Oracle Retail

ORACLE

Domain Details

The default values shown below are examples

Weblogic Admin Server: AdminServer

Admin Server port: 7001

Weblogic Domain Path: /middleware/user_projects/domains/base_domain

Weblogic Domain Credential:

Confirm password:

Cancel Back Next Install

The fields on this screen are described in the following tables.

Details	Content
Field Title	Weblogic Admin Server
Field Description	Name of the admin server to which the Back Office application is being deployed.
Example	AdminServer

Details	Content
Field Title	Admin Server port
Field Description	Port used by the administration server. This port was selected when the administration domain was created.
Example	7001

Details	Content
Field Title	Weblogic Domain Path
Field Description	Path to the domain to which the Back Office application is being deployed.
Example	D:\Oracle\Middleware\user_projects\domains\base_domain

Details	Content
Field Title	Weblogic Domain Credential
Field Description	Password shared between domains in order to establish a trust relationship. Note: Use the same password for all Oracle Retail applications in the trust relationship in your configuration.

Details	Content
Field Title	Confirm Password
Field Description	Reentered Weblogic Domain Credential used to confirm the password. Note: The passwords in the Weblogic Domain Credential and Confirm Password fields must match.

Figure A–24 Weblogic Administrative User

Back Office Installer - Oracle Retail

ORACLE

Weblogic Administrative User

Enter the administrative user and password for the Weblogic Server to which the application will be deployed.

Weblogic admin user: weblogic

Weblogic admin password:

Confirm password:

Cancel Back Next Install

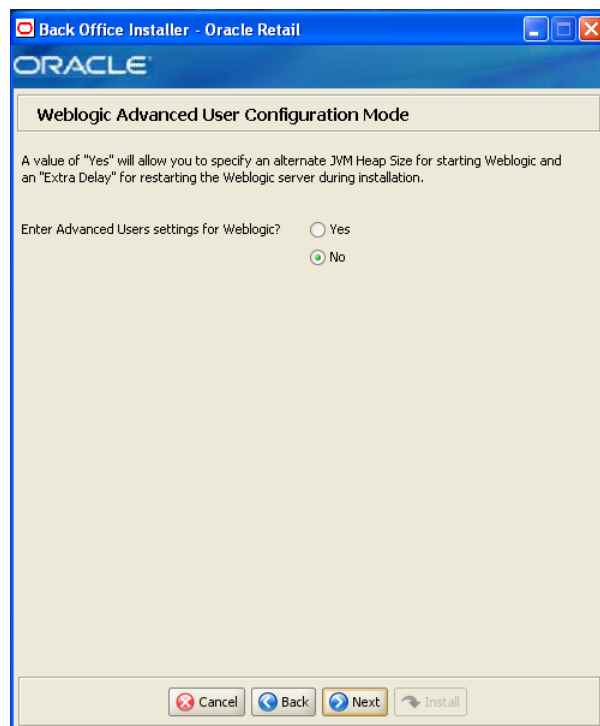
The fields on this screen are described in the following tables.

Details	Content
Field Title	Weblogic admin user
Field Description	User name of the administrative user for the WebLogic server to which the Back Office application is being deployed.
Example	weblogic

Details	Content
Field Title	Weblogic admin password
Field Description	Password for the WebLogic administrative user. You chose this password when you created the WebLogic server.

Details	Content
Field Title	Confirm password
Field Description	Reentered Weblogic Admin Password used to confirm the password. Note: The passwords in the Weblogic Admin Password and Confirm Password fields must match.

Figure A–25 Weblogic Advanced User Configuration Mode



The field on this screen is described in the following table.

Details	Content
Field Title	Enter Advanced User settings for Weblogic?
Field Description	Sets whether you want to specify the JVM heap size and delay time for starting the WebLogic server. <ul style="list-style-type: none"> To enter the advanced settings, choose Yes. To not enter the advanced settings, choose No.
Example	No

Figure A–26 Weblogic Advanced User Settings

Back Office Installer - Oracle Retail

ORACLE

Weblogic Advanced User Settings

Enter the JVM Heap Size parameters for starting Weblogic.

-Xms value (starting heap size) in megabytes: 512

-Xmx value (maximum heap size) in megabytes: 2048

Enter the extra delay parameter for restarting Weblogic during product installation.

Restart delay in seconds: 10

Cancel Back Next Install

This screen is only displayed if **Yes** is selected on the Weblogic Advanced User Configuration Mode screen.

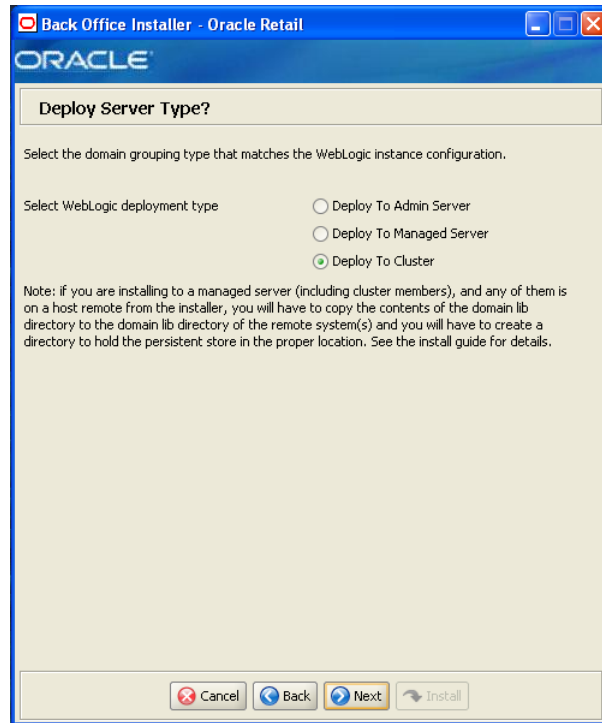
The fields on this screen are described in the following tables.

Details	Content
Field Title	Xms value (static heap size) in megabytes
Field Description	Enter the static JVM heap size in megabytes.
Example	512

Details	Content
Field Title	Xmx value (maximum heap size) in megabytes
Field Description	Enter the maximum JVM heap size in megabytes.
Example	2048

Details	Content
Field Title	Restart delay in seconds
Field Description	Enter extra delay in seconds for restarting WebLogic during product installation.
Example	10

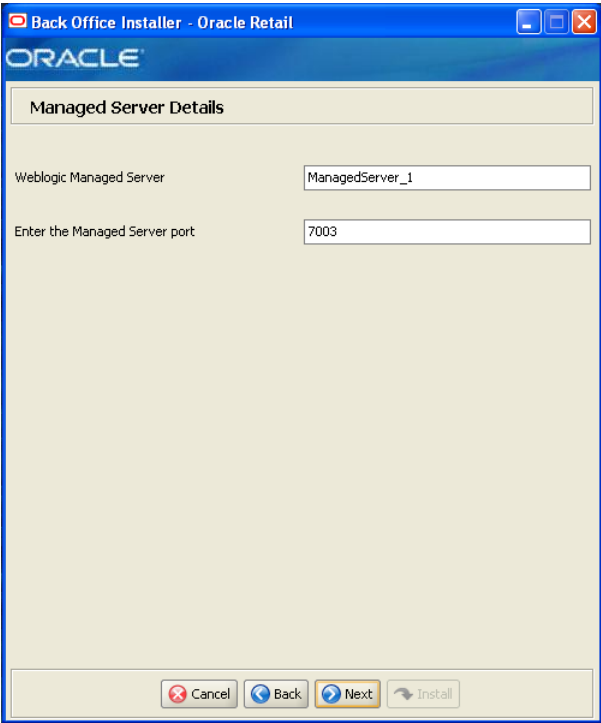
Figure A–27 Weblogic Deploy Server Type



The field on this screen is described in the following table.

Details	Content
Field Title	Select WebLogic deployment type
Field Description	<p>Select how the Back Office application is deployed.</p> <ul style="list-style-type: none">■ Deploy to Admin Server The next screen is Figure A–33.■ Deploy to Managed Server The next screen is Figure A–28.■ Deploy to Cluster The next screen is Figure A–29. <p>For more information, see "Deploying to a Managed Server" in Chapter 3.</p>
Example	Deploy to Cluster

Figure A-28 Managed Server Details



This screen is only displayed if **Deploy to Managed Server** is selected on the Weblogic Deploy Server Type screen.

The fields on this screen are described in the following tables.

Details	Content
Field Title	Weblogic Managed Server
Field Description	Name of the managed server.
Example	ManagedServer_1

Details	Content
Field Title	Enter the Managed Server port
Field Description	Port number used to access the managed server.
Example	7003

Figure A–29 Cluster Details

Back Office Installer - Oracle Retail

ORACLE

Cluster Details

Weblogic Cluster Cluster_1

Enter port of first Managed Server in cluster 7003

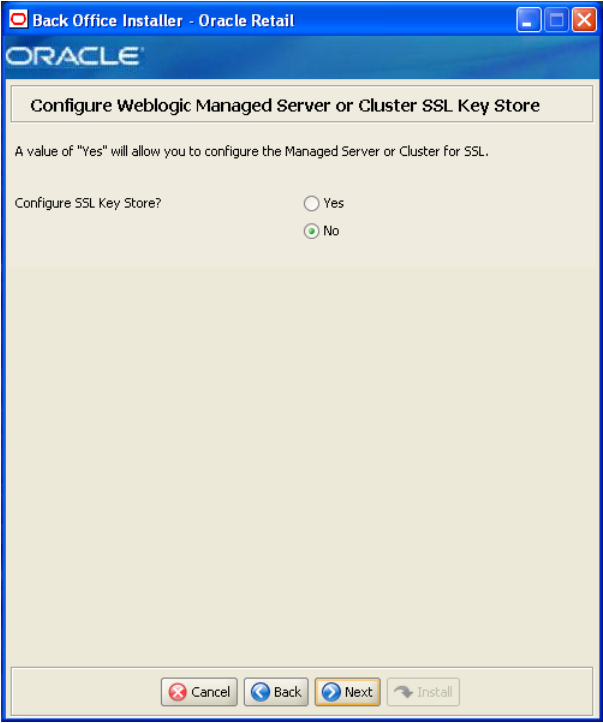
Cancel Back Next Install

The fields on this screen are described in the following tables.

Details	Content
Field Title	Weblogic Cluster
Field Description	Name of the cluster.
Example	Cluster_1

Details	Content
Field Title	Enter port of first Managed Server in cluster
Field Description	Port number used to load parameters.
Example	7003

Figure A–30 Configure Weblogic Managed Server or Cluster SSL Key Store



This screen is only displayed if **Deploy to Managed Server** or **Deploy to Cluster** is selected on the Weblogic Deploy Server Type screen.

The field on this screen is described in the following table.

Details	Content
Field Title	Configure SSL Key Store?
Field Description	Select whether the Managed Server or Cluster will be configured for SSL: <ul style="list-style-type: none">■ To configure the Managed Server or Cluster for SSL, select Yes.■ To not configure the Managed Server or Cluster for SSL, select No.

Figure A–31 Weblogic Managed Server or Cluster SSL Key Store Details

Back Office Installer - Oracle Retail

ORACLE

Weblogic Managed Server or Cluster SSL Key Store Details

Please provide the following SSL Client Key Store configuration values:

Note: Remote Managed Server(s) key store files must already be in place on the file system and all have the same pathway.

Key Store File:

Key Store Password:

Confirm Password:

Key Alias:

Key Password:

Confirm Password:

Trust Store File:

Trust Store Password:

Confirm Password:

This screen is only displayed if **Yes** is selected on the Configure Weblogic Managed Server or Cluster SSL Key Store screen.

The fields on this screen are described in the following tables.

Details	Content
Field Title	Key Store File
Field Description	Path to the Key Store file.
Example	D:\Oracle\Middleware\wlserver_10.3\server\lib\ProductionIdentity.jks

Details	Content
Field Title	Key Store Password
Field Description	Enter the password used to access the client Key Store.

Details	Content
Field Title	Confirm Password
Field Description	Reentered Key Store Password used to confirm the password. Note: The passwords in the Key Store Password and Confirm Password fields must match.

Details	Content
Field Title	Key Alias
Field Description	Alias used to access the Key Store file.
Example	myalias

Details	Content
Field Title	Key Password
Field Description	Enter the password used to access the client Key Store.

Details	Content
Field Title	Confirm Password
Field Description	Reentered Key Password used to confirm the password. Note: The passwords in the Key Password and Confirm Password fields must match.

Details	Content
Field Title	Trust Store File
Field Description	Path to the Trust Store file.
Example	D:\Oracle\Middleware\wlserver_10.3\server\lib\ProductionTrust.jks

Details	Content
Field Title	Trust Store Password
Field Description	Enter the password used to access the Trust Store.

Details	Content
Field Title	Confirm Password
Field Description	Reentered Trust Store Password used to confirm the password. Note: The passwords in the Trust Store Password and Confirm Password fields must match.

Figure A–32 Optional: Configure Weblogic Admin Server SSL Key Store



This screen is only displayed if **Deploy to Managed Server** or **Deploy to Cluster** is selected on the Weblogic Deploy Server Type screen.

The field on this screen is described in the following table.

Details	Content
Field Title	Configure SSL Key Store?
Field Description	Select whether the Admin Server will be configured for SSL: <ul style="list-style-type: none">■ To configure the Admin Server for SSL, select Yes.■ To not configure the Admin Server for SSL, select No.

Figure A–33 Configure Weblogic Admin Server SSL Key Store



This screen is only displayed if **Deploy to Admin Server** is selected on the Weblogic Deploy Server Type screen.

The field on this screen is described in the following table.

Details	Content
Field Title	Configure SSL Key Store?
Field Description	Select whether the Admin Server will be configured for SSL: <ul style="list-style-type: none">■ To configure the Admin Server for SSL, select Yes.■ To not configure the Admin Server for SSL, select No.

Figure A–34 Weblogic Admin Server SSL Key Store Details

Back Office Installer - Oracle Retail

ORACLE

Weblogic Admin Server SSL Key Store Details

Please provide the following SSL Client Key Store configuration values:

Note: All key store files must already be in place on the file system.

Key Store File:

Key Store Password:

Confirm Password:

Key Alias:

Key Password:

Confirm Password:

Trust Store File:

Trust Store Password:

Confirm Password:

This screen is only displayed if **Yes** is selected on the Configure Weblogic Admin Server SSL Key Store screen.

The fields on this screen are described in the following tables.

Details	Content
Field Title	Key Store File
Field Description	Path to the Key Store file.
Example	D:\Oracle\Middleware\wlserver_10.3\server\lib\ProductionIdentity.jks

Details	Content
Field Title	Key Store Password
Field Description	Enter the password used to access the client Key Store.

Details	Content
Field Title	Confirm Password
Field Description	Reentered Key Store Password used to confirm the password. Note: The passwords in the Key Store Password and Confirm Password fields must match.

Details	Content
Field Title	Key Alias
Field Description	Alias used to access the Key Store file.
Example	myalias

Details	Content
Field Title	Key Password
Field Description	Enter the password used to access the client Key Store.

Details	Content
Field Title	Confirm Password
Field Description	Reentered Key Password used to confirm the password. Note: The passwords in the Key Password and Confirm Password fields must match.

Details	Content
Field Title	Trust Store File
Field Description	Path to the Trust Store file.
Example	D:\Oracle\Middleware\wlserver_10.3\server\lib\ProductionTrust.jks

Details	Content
Field Title	Trust Store Password
Field Description	Enter the password used to access the Trust Store.

Details	Content
Field Title	Confirm Password
Field Description	Reentered Trust Store Password used to confirm the password. Note: The passwords in the Trust Store Password and Confirm Password fields must match.

Figure A–35 Central Office JMS Server Details

The screenshot shows a Windows-style window titled "Back Office Installer - Oracle Retail". The window has a blue header bar with the Oracle logo. Below the header, the title "Central Office JMS Server Details" is displayed. The main area contains two input fields: "CO JMS Host Name" and "CO JMS (Secure) Port". The "CO JMS (Secure) Port" field contains the value "7001". At the bottom of the window, there are four buttons: "Cancel", "Back", "Next", and "Install".

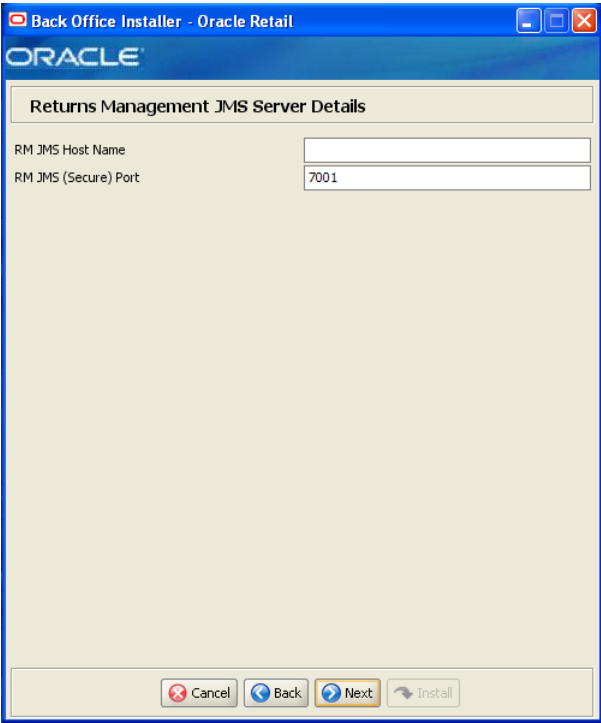
This screen is only displayed if **Central Office** is selected on the Integrate Applications screen.

The fields on this screen are described in the following tables.

Details	Content
Field Title	CO JMS Host Name
Field Description	Name of the Central Office JMS server. Note: Always use the actual host name and not the IP address or "localhost". There may be problems integrating with Point-of-Service if the actual host name is not used.

Details	Content
Field Title	CO JMS (Secure) Port
Field Description	Port number used by the Central Office JMS server.
Example	7001

Figure A–36 Returns Management JMS Server Details



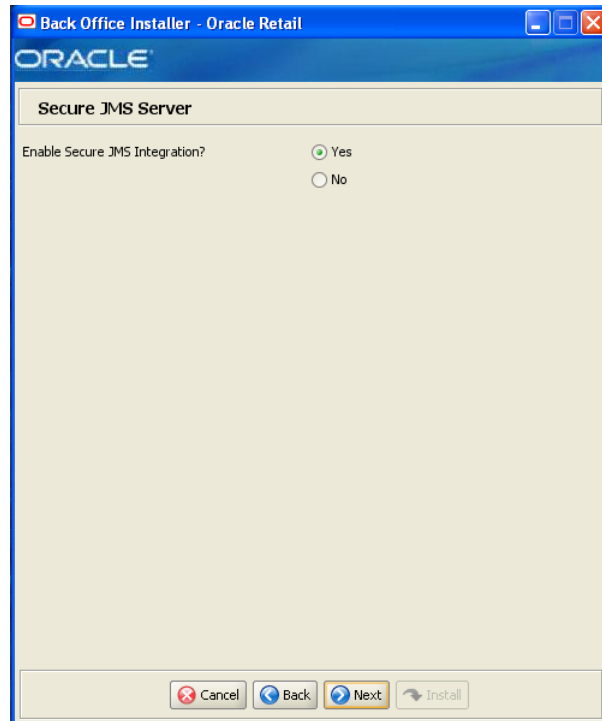
This screen is only displayed if **Returns Management** is selected on the Integrate Applications screen.

The fields on this screen are described in the following tables.

Details	Content
Field Title	RM JMS Host Name
Field Description	Name of the Returns Management JMS server. Note: Always use the actual host name and not the IP address or "localhost". There may be problems integrating with Point-of-Service if the actual host name is not used.

Details	Content
Field Title	RM JMS (Secure) Port
Field Description	Port number used by the Returns Management JMS server.
Example	7001

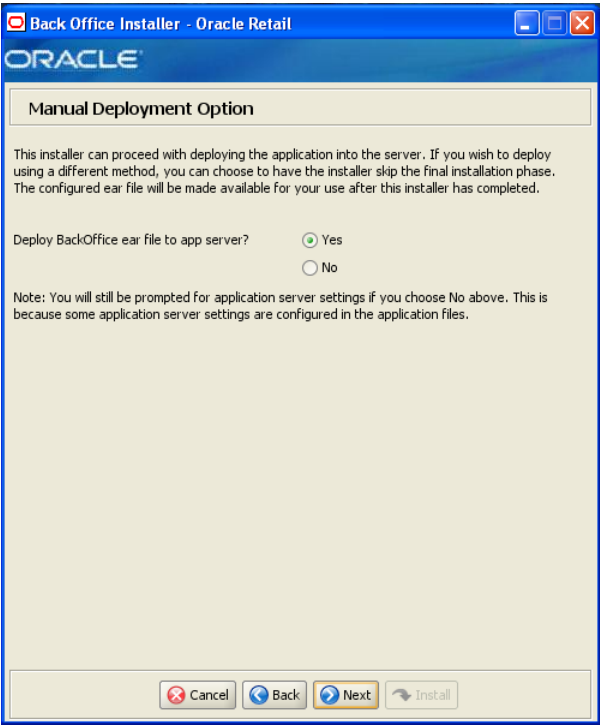
Figure A–37 Secure JMS Server



The field on this screen is described in the following table.

Details	Content
Field Title	Enable Secure JMS Integration?
Field Description	This screen gives you the option to use secure integration with the JMS server.
Example	Yes

Figure A–38 Manual Deployment Option



The field on this screen is described in the following table.

Details	Content
Field Title	Deploy BackOffice ear file to app server?
Field Description	<p>By default, the installer will deploy the ear file and copy files under the application server ORACLE_HOME. This screen gives you the option to leave ORACLE_HOME unmodified and configure the application in the staging area for use in a manual installation at a later time. This option can be used in situations where modifications to files under ORACLE_HOME must be reviewed by another party before being applied.</p> <p>If you choose No, see "Manual Deployment of the Back Office Application" in Chapter 3 for the manual steps you need to perform after the installer completes.</p>
Example	Yes

Figure A–39 Application Deployment Details

Labels And Tags Installer - Oracle Retail

ORACLE

Application Deployment Details

The default values shown below are examples

Enter the deployment name for the Back Office application. This is the name by which the application will be identified in the application server.

App Deployment Name

Enter the web context root for this application. The web URL used to access the application will be https://server:port/contextroot/index.jsp

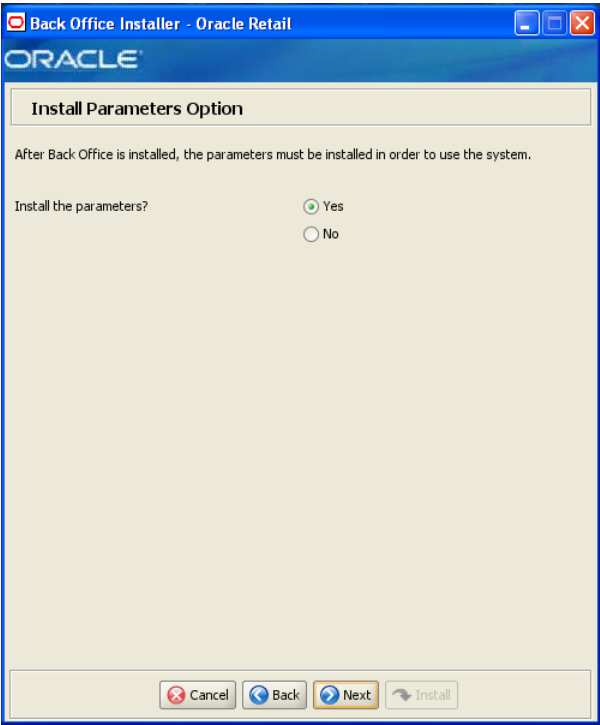
Context Root

The fields on this screen are described in the following tables.

Details	Content
Field Title	App Deployment Name
Field Description	Name by which the Back Office application will be identified in the application server.
Example	BackOffice

Details	Content
Field Title	Context Root
Field Description	Path under the HTTPS URL that will be used to access the Back Office application. For example, a context root of backoffice will result in the application being accessed at https://host:port/backoffice/index.jsp.
Example	backoffice

Figure A-40 Install Parameters Options



The field on this screen is described in the following table.

Details	Content
Field Title	Install the parameters?
Field Description	The application parameters must be set up before Back Office can be used. This screen gives you the option to set up the parameters manually. If you choose No, see "Install Parameters" in Chapter 3 for the manual steps you need to perform after the installer completes.
Example	Yes

Figure A–41 Load Templates Option

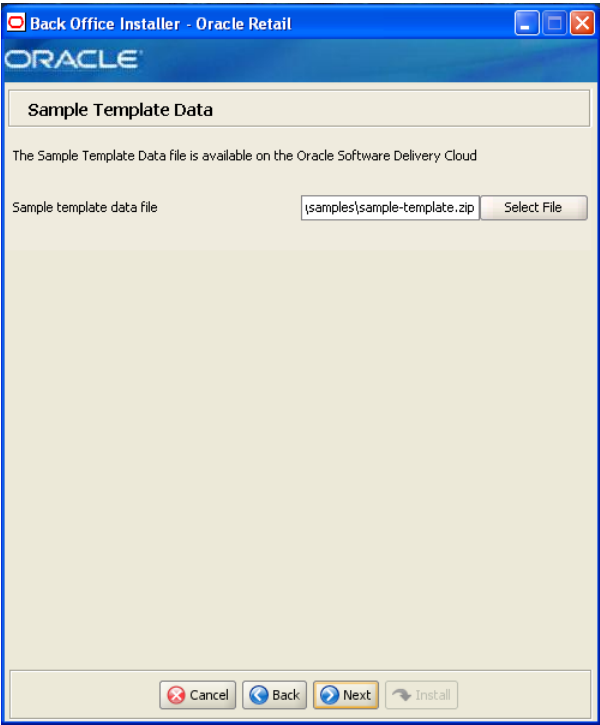


This screen is only displayed when installing Oracle Retail Back Office with the Labels and Tags module.

The field on this screen is described in the following table.

Details	Content
Field Title	Load the templates?
Field Description	<p>Sets whether sample templates for printing labels are loaded into the database after Back Office is installed. For information on obtaining the sample template file, see "Configure AccessVia for Labels and Tags" in Chapter 3.</p> <ul style="list-style-type: none">■ To load the templates, choose Yes.■ To not load the templates, choose No.
Example	Yes

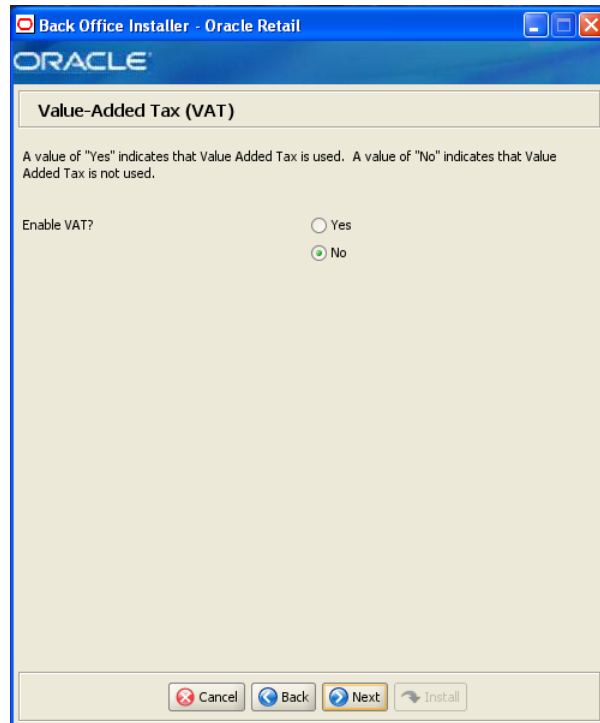
Figure A-42 Sample Template Data



This screen is only displayed if **Yes** is selected on the Load Templates Option screen. The field on this screen is described in the following table.

Details	Content
Field Title	Sample template data file
Field Description	<p>Enter the path to the sample templates to be loaded into the database schema.</p> <p>You can obtain the <code>sample-template-13.4.1.zip</code> file from the Oracle Software Delivery Cloud at the following Web site:</p> <p>https://edelivery.oracle.com/</p>
Example	<code>C:\oracle\retail\samples\sample-template.zip</code>

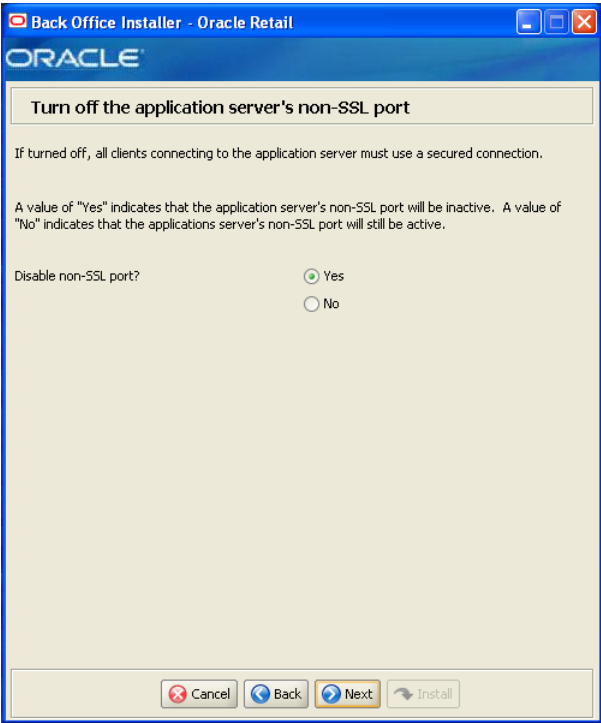
Figure A–43 Value-Added Tax (VAT)



The field on this screen is described in the following table.

Details	Content
Field Title	Enable VAT?
Field Description	Sets whether Value-Added Tax is used in Back Office. <ul style="list-style-type: none">■ To enable Back Office to use VAT, choose Yes.■ To not use VAT, choose No.
Example	No

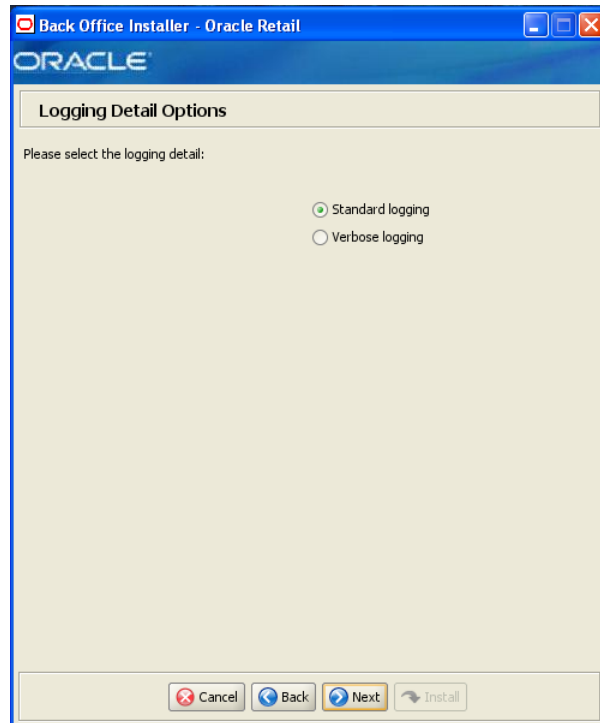
Figure A-44 Turn Off the Application Server's Non-SSL Port



The field on this screen is described in the following table.

Details	Content
Field Title	Disable non-SSL port?
Field Description	<p>Sets whether connecting to the application server requires a secured connection.</p> <p>Note: It is recommended that you disable the non-SSL port in order to increase the security of your environment.</p> <ul style="list-style-type: none">■ To disable the use of a non-SSL port, choose Yes.■ To enable using a non-SSL port, choose No. <p>If you select Yes, see "Disabled Non-SSL Port" in Chapter 3.</p>
Example	Yes

Figure A–45 *Logging Detail Options*



The field on this screen is described in the following table.

Details	Content
Field Title	Please select the logging detail
Field Description	Choose the level of logging. <ul style="list-style-type: none">■ To only log some of the messages, choose Standard Logging.■ To log all of the messages, choose Verbose Logging.
Example	Standard logging

Figure A–46 Installation Progress

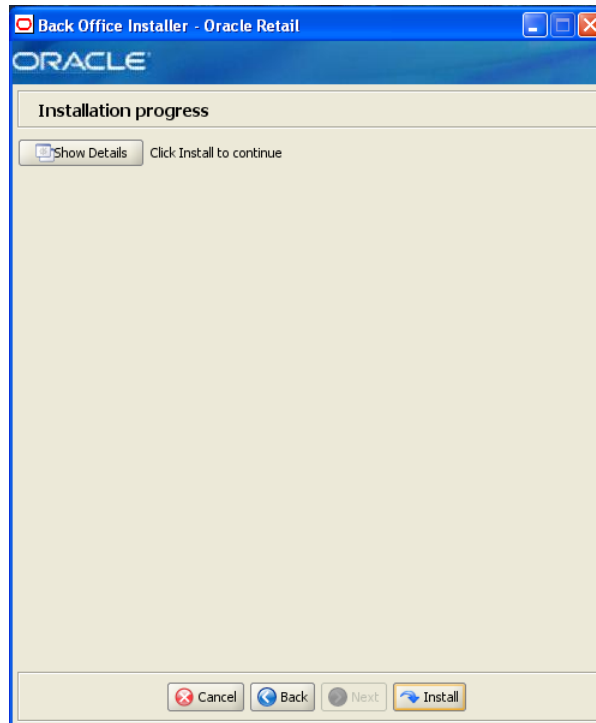
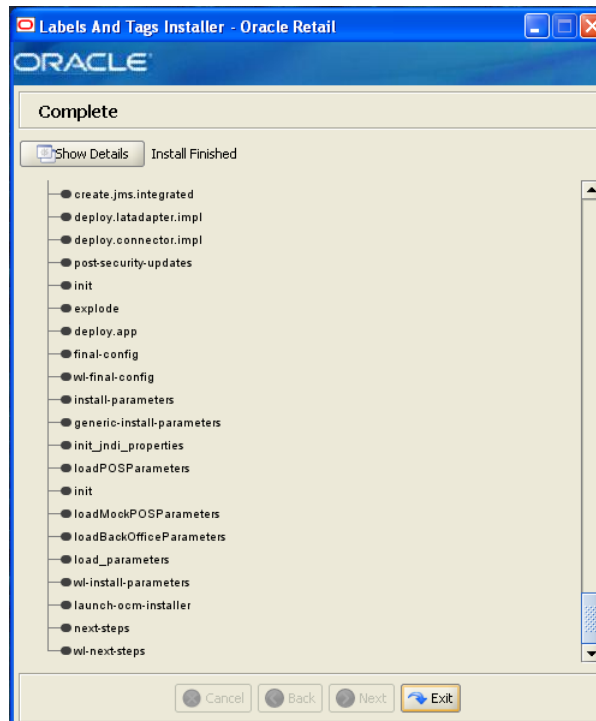


Figure A–47 Installation Complete



After the installer completes, the Oracle Configuration Manager (OCM) installer runs if OCM is not already installed. For information on OCM, see ["Oracle Configuration Manager"](#) in [Chapter 3](#).

Appendix: Installer Silent Mode

In addition to the GUI and text interfaces of the Back Office installer, there is a silent mode that can be run. This mode is useful if you wish to run a new installation and use the settings you provided in a previous installation. It is also useful if you encounter errors during an installation and wish to continue after resolving them.

The installer runs in two distinct phases. The first phase involves gathering settings from the user. At the end of the first phase, a properties file named `ant.install.properties` is created with the settings that were provided and the `cwallet.sso` file is created. In the second phase, this properties file is used to provide your settings for the installation.

To skip the first phase and re-use the `ant.install.properties` and `cwallet.sso` files from a previous run, follow these instructions:

1. Edit the `ant.install.properties` file and correct any invalid settings that may have caused the installer to fail in its previous run.
2. If the previous install was successful, the `cwallet.sso` file is found in the installation directory for that install. Copy the `cwallet.sso` file to `<INSTALL_DIR>` for this silent install.
3. Run the installer again with the silent argument.

```
install.cmd silent weblogic
```

Appendix: Reinstalling Back Office

Back Office does not provide the capability to uninstall and reinstall the application. If you need to run the Back Office installer again, perform the following steps.

Reinstalling Back Office on the Oracle Stack

To reinstall:

1. If you are using a managed server, stop the managed server. Stop the WebLogic server.
2. Delete the domain.
3. Recreate the Back Office domain. If you are using a managed server, add the managed server as part of recreating the domain.
4. If you are using a managed server, start the managed server. Start the administration domain.
5. Run the Back Office installer. For more information, see ["Run the Back Office Application Installer"](#) in [Chapter 3](#).

Appendix: URL Reference

Both the database schema and application installers for the Back Office product will ask for several different URLs. These include the following.

JDBC URL for a Database

Used by the Java application and by the installer to connect to the database.

Syntax: `jdbc:oracle:thin:@<host>:<port>:<sid>`

- `<host>`: host name of the database server
- `<port>`: database listener port
- `<sid>`: system identifier for the database

For example, `jdbc:oracle:thin:@myhost:1525:mysid`

JNDI Provider URL for an Application

Used for server-to-server calls between applications.

Syntax: `t3://<host>:<port>`

- `<host>`: host name selected when the WebLogic domain was created
- `<port>`: port number selected when the WebLogic domain was created

For example, `t3://adminserver:7001`

Deployer URI

Used by the Oracle Ant tasks to deploy an application to a WebLogic. The application installer does not ask the user for this value. It is constructed based on other inputs and written to the `ant.install.properties` file for input to the installation script. For repeat installations using silent mode, you may need to correct mistakes in the deployer URI.

Syntax: `input.deployer.uri = t3://<host>:<port>`

- `<host>`: host name selected when the WebLogic domain was created
- `<port>`: port number selected when the WebLogic domain was created

For example, `input.deployer.uri = t3://localhost:7003`

Appendix: Common Installation Errors

This appendix describes some common errors encountered during installation of Back Office.

Unreadable Buttons in the Installer

If you are unable to read the text within the installer buttons, it probably means that your JAVA_HOME needs to be set to a version 6 JDK. Set JAVA_HOME to a Java development kit of version 6 or later and run the installer again.

WebLogic Domain Does Not Exist

Symptom:

The application installer quits with the following error message:

```
BUILD FAILED
C:\tmp\j2ee\orbo\staging\ORBO-trunk\build.xml:941: The following error occurred
while executing this line:
C:\tmp\j2ee\orbo\staging\ORBO-trunk\build-common-wl.xml:83: startWebLogic.sh
under C:/Oracle/Middleware/user_projects/domains/base_domain is missing.
Installation cannot continue.
```

Solution:

This error occurs because the WebLogic domain provided does not exist.

Make sure that the domain exists, and then check the `ant.install.properties` file for entry mistakes. Pay close attention to the `input.deployer.uri` (see [Appendix D](#)), `input.admin.user`, and `input.admin.password` properties. If you need to make a correction, you can run the installer again with this file as input by running silent mode (see [Appendix B](#)).

WebLogic Domain Server is Not Started

Symptom:

The application installer quits with the following error message:

```
BUILD FAILED
C:\tmp\j2ee\orbo\staging\ORBO-trunk\build.xml:1022: The following error occurred
while executing this line:
C:\tmp\j2ee\orbo\staging\ORBO-trunk\build-common-wl.xml:152: url http://localhost:
7001/console is not available. Installation cannot continue.
```

Solution:

This error occurs because the WebLogic domain server provided is not running.

Make sure that the WebLogic domain server is running, and then check the `ant.install.properties` file for entry mistakes. Pay close attention to the `input.deployer.uri` (see [Appendix D](#)), `input.wl.domain.path`, `input.admin.user`, and `input.admin.password` properties. If you need to make a correction, you can run the installer again with this file as input by running silent mode (see [Appendix B](#)).

Appendix: Installation Order

This appendix provides a guideline for the order in which the Oracle Retail applications should be installed. If a retailer has chosen to use only some of the applications, the order is still valid, less the applications not being installed.

Note: The installation order is not meant to imply integration between products.

Enterprise Installation Order

1. Oracle Retail Merchandising System (RMS), Oracle Retail Trade Management (RTM), Oracle Retail Sales Audit (ReSA), Optional: Oracle Retail Fiscal Management (ORFM)

Note: ORFM is an optional application for RMS if you are implementing Brazil localization.

2. Oracle Retail Service Layer (RSL)
3. Oracle Retail Extract, Transform, Load (RETL)
4. Oracle Retail Active Retail Intelligence (ARI)
5. Oracle Retail Warehouse Management System (RWMS)
6. Oracle Retail Invoice Matching (ReIM)
7. Oracle Retail Price Management (RPM)

Note: During installation of RPM, you are asked for the RIBforRPM provider URL. Since RIB is installed after RPM, make a note of the URL you enter. If you need to change the RIBforRPM provider URL after you install RIB, you can do so by editing the `remote_service_locator_info_ribserver.xml` file.

8. Oracle Retail Allocation
9. Oracle Retail Central Office (ORCO)
10. Oracle Retail Returns Management (ORRM)
11. Oracle Retail Back Office (ORBO) or Back Office with Labels and Tags (ORLAT)

12. Oracle Retail Store Inventory Management (SIM)

Note: During installation of SIM, you are asked for the RIB provider URL. Since RIB is installed after SIM, make a note of the URL you enter. If you need to change the RIB provider URL after you install RIB, you can do so by editing the `remote_service_locator_info_ribserver.xml` file.

- 13. Oracle Retail Predictive Application Server (RPAS)**
- 14. Oracle Retail Demand Forecasting (RDF)**
- 15. Oracle Retail Category Management (CM)**
- 16. Oracle Retail Replenishment Optimization (RO)**
- 17. Oracle Retail Analytic Parameter Calculator Replenishment Optimization (APC RO)**
- 18. Oracle Retail Regular Price Optimzation (RPO)**
- 19. Oracle Retail Merchandise Financial Planning (MFP)**
- 20. Oracle Retail Size Profile Optimization (SPO)**
- 21. Oracle Retail Assortment Planning (AP)**
- 22. Oracle Retail Item Planning (IP)**
- 23. Oracle Retail Item Planning Configured for COE (IP COE)**
- 24. Oracle Retail Advanced Inventory Planning (AIP)**
- 25. Oracle Retail Integration Bus (RIB)**
- 26. Oracle Retail Point-of-Service (ORPOS)**
- 27. Oracle Retail Markdown Optimization (MDO)**
- 28. Oracle Retail Clearance Optimization Engine (COE)**
- 29. Oracle Retail Analytic Parameter Calculator for Markdown Optimization (APC-MDO)**
- 30. Oracle Retail Analytic Parameter Calculator for Regular Price Optimization (APC-RPO)**
- 31. Oracle Retail Promotion Intelligence and Promotion Planning and Optimization (PI-PPO)**
- 32. Oracle Retail Analytics**
- 33. Oracle Retail Workspace (ORW)**