Oracle® Retail Point-of-Service

Installation Guide

Release 12.0

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ORACLE®

Oracle Retail Point-of-Service Installation Guide, Release 12.0

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Value-Added Reseller (VAR) Language

(i) the software component known as **ACUMATE** developed and licensed by Lucent Technologies Inc. of Murray Hill, New Jersey, to Oracle and imbedded in the Oracle Retail Predictive Application Server - Enterprise Engine, Oracle Retail Category Management, Oracle Retail Item Planning, Oracle Retail Merchandise Financial Planning, Oracle Retail Advanced Inventory Planning and Oracle Retail Demand Forecasting applications.

(ii) the **MicroStrategy** Components developed and licensed by MicroStrategy Services Corporation (MicroStrategy) of McLean, Virginia to Oracle and imbedded in the MicroStrategy for Oracle Retail Data Warehouse and MicroStrategy for Oracle Retail Planning & Optimization applications.

(iii) the **SeeBeyond** component developed and licensed by Sun MicroSystems, Inc. (Sun) of Santa Clara, California, to Oracle and imbedded in the Oracle Retail Integration Bus application.

(iv) the **Wavelink** component developed and licensed by Wavelink Corporation (Wavelink) of Kirkland, Washington, to Oracle and imbedded in Oracle Retail Store Inventory Management.

(v) the software component known as **Crystal Enterprise Professional and/or Crystal Reports Professional** licensed by Business Objects Software Limited ("Business Objects") and imbedded in Oracle Retail Store Inventory Management.

(vi) the software component known as **Access Via™** licensed by Access Via of Seattle, Washington, and imbedded in Oracle Retail Signs and Oracle Retail Labels and Tags.

(vii) the software component known as **Adobe Flex™** licensed by Adobe Systems Incorporated of San Jose, California, and imbedded in Oracle Retail Promotion Planning & Optimization application.

(viii) the software component known as **Style Report™** developed and licensed by InetSoft Technology Corp. of Piscataway, New Jersey, to Oracle and imbedded in the Oracle Retail Value Chain Collaboration application.

(ix) the software component known as **i-net Crystal-Clear™** developed and licensed by I-NET Software Inc. of Berlin, Germany, to Oracle and imbedded in the Oracle Retail Central Office and Oracle Retail Back Office applications.

(x) the software component known as **WebLogic™** developed and licensed by BEA Systems, Inc. of San Jose, California, to Oracle and imbedded in the Oracle Retail Value Chain Collaboration application.

(xi) the software component known as **DataBeacon™** developed and licensed by Cognos Incorporated of Ottawa, Ontario, Canada, to Oracle and imbedded in the Oracle Retail Value Chain Collaboration application.

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Preface

Oracle Retail Installation Guides contain the requirements and procedures that are necessary for the retailer to install Oracle Retail products.

Audience

This Installation Guide is written for the following audiences:

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

Related Documents

For more information, see the following documents in the Oracle Retail Point-of-Service Release 12.0 documentation set:

- *Oracle Retail Point-of-Service Release Notes*
- *Oracle Retail Point-of-Service Operations Guide*
- *Oracle Retail Point-of-Service User Guide*

Customer Support

- https://metalink.oracle.com

When contacting Customer Support, please provide:

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

Review Patch Documentation

For a base release (".0" release, such as 12.0), Oracle Retail strongly recommends that you read all patch documentation before you begin installation procedures. Patch documentation can contain critical information related to the base release, based on new information and code changes that have been made since the base release.

Oracle Retail Documentation on the Oracle Technology Network

In addition to being packaged with each product release (on the base or patch level), all Oracle Retail documentation is available on the following Web site:

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

Documentation should be available on this Web site within a month after a product release. Note that documentation is always available with the packaged code on the release date.

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.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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Pre-Installation Tasks

This chapter defines supported products for client and server systems in the Oracle Retail Point-of-Service system.

Note: The Oracle stack and IBM stack are the configurations that were tested for this release. The components required for each stack are listed in this chapter. For each component, the product and the version that were used for testing are included. While Point-of-Service may work in other configurations, these are the configurations that are supported for this release.

Check Oracle Retail Merchandising System Version

This release of Point-of-Service requires version 12.0.5 of Oracle Retail Merchandising System.

Check Database Server Requirements

Table 1–1 lists the general requirements for a database server running Point-of-Service and the versions tested for this release.

Table 1–1 Database Server Requirements

Component	Oracle Stack	IBM Stack
Hardware	x86-64 bit (SUN Hardware preferred)	IBM pSeries
Database	Oracle RDBMS 10g R2 (10.1.2.0.1)	DB2 Express v9.1
Persistent Storage	Apache Derby 10.2.2	Apache Derby 10.2.2

Check Supported Software

This section lists the software which has been tested for this release.

Supported Software for Clients (Registers)

Table 1–2 lists the general software requirements for a client and the versions tested for this release.

Table 1–2 Client Software Requirements

Component	Oracle Stack	IBM Stack
Operating System	Windows Embedded for Point of Service (WEPOS), Version 1.1	IBM IRES v2.1.2 (register)
JDK/JRE	SUN 1.4.2	IBM 1.4.2.x
J2EE Application Server JVM	Oracle 10g AS/R3 (10.1.3)	IBM WebSphere 6.1

Supported Software for Store Servers

Table 1–3 lists the general software requirements for the store server and the versions tested for this release.

Table 1–3 Store Server Software Requirements

Component	Oracle Stack	IBM Stack
Operating System	Windows 2003 Server	IBM IRES v2.1.2
J2EE Application Server	Oracle 10g AS/R3 (10.1.3)	IBM WebSphere 6.1
JDK/JRE	IBM 1.4.2.x or SUN 1.4.2	IBM 1.4.2.x
Messaging Provider	(included in Oracle Application Server)	IBM MQ Series 6.0.2
System Management Agents	Oracle Enterprise Manager 10g version 10.2	Oracle Enterprise Manager 10g version 10.2

Check Supported Hardware

This section lists the hardware which has been tested for this release.

Basic Computer Specifications

Specific hardware requirements for the machines running Oracle Retail Point-of-Service depend on several variables including the number of users and other applications running on the same machine. However, a general guideline is shown in Table 1–4:

Table 1–4 Hardware Minimum Requirements

Machine	CPU	Speed	RAM	Hard Drive
Store Server	Pentium III	500 MHz	256MB	10GB
Database Server	Pentium III	500 MHz	256MB	10GB
Store Server, Database Server, and Back Office on the same machine	Pentium III	500 MHz	512MB	10GB
Client (Register) minimum	Pentium II	266MHz	128MB with hard drive	2GB
Client recommended	Pentium III	400 MHz	256MB	2GB

Peripheral Devices for Clients

JavaPOS is the industry standard for Java compatibility for retail-oriented devices. A committee of prominent retail vendors and end users maintains the standard. Some of the more common devices used with point-of-sale applications include bar code scanners, cash drawers, printers, keyboards, magnetic stripe readers (MSR), wedge keyboards, hard totals, and magnetic ink check readers (MICR). Any JavaPOS-compliant peripheral devices should work with Oracle Retail Point-of-Service; some may require software modifications to work properly.

Supported Hardware for Clients

Table 1–5 lists the general hardware requirements for a client and the versions tested for this release. Mice are not supported for Point-of-Service. A touch screen may be used, but a keyboard is required for some functions. The tested configuration included touch screens.

Table 1–5 Client Hardware Requirements

Component	Oracle Stack	IBM Stack
Register	SurePOS 741/742	SurePOS 741/742
Cash drawer	IBM cashdrawer	IBM cashdrawer
Pole Display	IBM pole display	IBM pole display
Keyboard	IBM keyboard	IBM keyboard
Scanner	Symbol Scanner	Symbol Scanner
PIN Pad	Ingenico eNTouch 1000	Ingenico eNTouch 1000
Credit Card Reader	Ingenico Device Number 3380	Ingenico Device Number 3380
Receipt Reader	IBM printer	IBM printer

Supported Hardware for Store Servers

Table 1–6 lists the general hardware requirements for the store server and the versions tested for this release.

Table 1–6 Store Server Hardware Requirements

Component	Oracle Stack and IBM Stack
CPU	x86-32 bit

ISD Authorization Transaction Testing

ISD authorization transaction testing was done with Web Sentry version 249. The capture method used was terminal capture. The following applications were tested:

- ISD Host Switch version 6.2.1.0015
- ISD Store and Forward module version 6.2.1.001

Note: Host capture is not supported.

Table 1–7 shows the transaction types and messages that were tested.

Table 1–7 ISD Authorization Transaction Set Tested

Transaction Type	Transaction Type Message Sent from ISD to Point-of-Service
Check Tender	■ Check Sale Approval ■ Check Sale Authorization Offline ■ Check Sale Decline ■ Check Sale Referral
Credit Card Tender	■ Credit Card Sale Approval ■ Credit Card Sale Authorization Offline ■ Credit Card Sale Decline ■ Credit Card Sale Referral
Debit Card Tender	■ Debit Sale Approval ■ Debit Sale Authorization Offline ■ Debit Sale Decline
Gift Card Issue	■ Gift Card Issue Approval ■ Gift Card Issue Authorization Offline ■ Gift Card Issue Decline **Note:** The testing for Gift Card Tender was done using an ISD Simulator.
Gift Card Reload	■ Gift Card Reload Approval ■ Gift Card Reload Authorization Offline ■ Gift Card Reload Decline **Note:** The testing for Gift Card Tender was done using an ISD Simulator.

Table 1–7 (Cont.) ISD Authorization Transaction Set Tested

Transaction Type	Transaction Type Message Sent from ISD to Point-of-Service
Gift Card Tender	■ Gift Card Sale Approval ■ Gift Card Sale Authorization Offline ■ Gift Card Sale Decline ■ Gift Card Sale Post Void ■ Gift Card Sale Referral ■ Gift Card Sale Refund **Note:** The testing for Gift Card Tender was done using an ISD Simulator.

2

Installation on the Oracle Stack using Windows

This chapter provides information about the installation procedures for Oracle Retail Point-of-Service on the Oracle Stack using Windows.

Oracle Retail provides an installer for Point-of-Service, but customer installations typically develop custom procedures. Note that the installer is not appropriate for all installations. Oracle Retail expects implementation teams to develop custom procedures for actual register installations, which may or may not be based on the installer described here. For guidelines, see "Creating a Custom Installation".

Installing Point-of-Service

To establish an initial Oracle Retail Point-of-Service installation or to create a demonstration system, use the Point-of-Service installer as described in this section.

Determining Tier Type

Machines and logical components of the Oracle Retail Point-of-Service application are defined in Table 2–1:

Table 2–1 Server Tier Logical Components

Machine	Description
Store Server	The machine that runs the server component of Oracle Retail Point-of-Service. There is at least one store server for each store. This component runs as a service. This machine may also house the Back Office Server and other Oracle Retail Strategic Store Solutions components such as the OracleRetailStore database and Mobile Point-of-Service.
Point-of-Service Clients	The machines that execute the Point-of-Service transactions; they are typically cash registers.
Database Server	The machine that houses the OracleRetailStore databases. This machine may or may not be the same as the store server.
JMS Server	The machine that houses the JMS server software.

When you run the installer, it asks you to specify a Tier Type. The following types are available:

- N-Tier Client—Choose this when installing the client component.
- N-Tier Store Server—Choose this when installing the store server component.

Installing the Database

Oracle Retail products such as Point-of-Service and Back Office use the OracleRetailStore database. One OracleRetailStore database is typically installed in each store. Data stored in the OracleRetailStore database includes employee names, logon information, transaction data, and the inventory database. The database can be located on the store server or on a separate machine acting as the database server. The database must be installed before Point-of-Service can be installed.

If you are using Centralized Transaction Retrieval, an additional database called the Scratchpad database is used. This database holds retrieved transactions. For more information on Centralized Transaction Retrieval, see the Oracle Retail Point-of-Service Operations Guide.

Table 2–2 shows the database configuration information that is needed during installation.

Table 2–2 Database Configuration Settings

Installer Screen	Required Data
Transaction Retrieval Location	Choose the location for retrieving transactions. When using Centralized Transaction Retrieval, choose either the **Central** or **Central, Local Failover** option. Note: You must choose the same location for both the store server and client installations.
Database Configuration	Enter the following information for the database: ■ JDBC driver path ■ Driver class name ■ Database URL ■ Jar name ■ Database user ID and password
Scratchpad Database Configuration	Enter the following information for the Scratchpad database: ■ JDBC driver path ■ Driver class name ■ Database URL ■ Jar name ■ Database user ID and password
Logging Options	Choose how the log is exported. When using Centralized Transaction Retrieval, choose the **Data Replication Export** option.
Central Office/Back Office Server Information	Enter the host names and port numbers of the machines where the Central Office instance and the Back Office instance for this store server are located.

To complete the installation, you must know the database location:

- If you install Point-of-Service on the same machine as the database, the installer asks for the database directory location.
- If you install Point-of-Service on a different machine from the database, the installer asks for the hostname or IP address and RMI port number of the machine running the database.

The Point-of-Service installation process installs scripts to build the tables and insert a minimal data set. Steps for running these scripts are included later in this chapter.

Required Settings for the Database

The following settings must be made during database creation:

- The database must be set to UTF8.
- When using the Oracle 10g database server, 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;
```

Installing Point-of-Service on Machines

If a previous version of Point-of-Service is installed on a machine, uninstall it by deleting the installation directory (the default directory is `c:\OracleRetailStore`) or choose a different installation directory from the default.

Run the installer one time for each machine in the Server Tier and once for each register.

The installer performs the following steps. Not all steps apply to client and server installations.

- Installs Foundation, Retail Domain, and Oracle Retail Point-of-Service jar files.
- Installs database build scripts and start-up files.
- Defines Server Tier in the conduit script that starts Point-of-Service for the given machine.
- Defines hostnames or IP addresses and port numbers for the Store Server and database server.
- Defines device availability.
- Defines application properties for Store ID and Register Number.

Updating Device Configuration

Update the `jpos.xml` file to reflect the devices used on the machine. The typical location for this file is `C:\POS\IBMJPOS\jpos.xml`.

1. To configure the default scanner, replace the existing entry or add the following entry to the `jpos.xml` file:

```
<JposEntries>
            <JposEntry logicalName="defaultScanner">
                <creation

factoryClass="com.extendyourstore.jpos.CrsJposServiceInstanceFactory"
                    serviceClass="com.extendyourstore.jpos.Scanner.POSsim"/>
                <vendor name="360Commerce" url="http://www.360Commerce.com"/>
                <jpos category="Scanner" version="1.5"/>
                <product description="POSsim Scanner" name="360 Commerce EYS
Scanner"
                    url="http://www.360Commerce.com"/>
                <prop name="host" value="localhost"/>
                <prop name="debug" value="true"/>
            </JposEntry>
            ...
            </JposEntries>
```

2. To configure the Ingenico device for signature capture, replace the existing entry or add the following entry to the `jpos.xml` file. Change `<pos_install_directory>`, shown in bold in the following example, to your installation directory for Point-of-Service:

```
<JposEntry logicalName="defaultSignatureCapture">
            <creation factoryClass="services.IngenicoServiceInstanceFactory"
                serviceClass="services.et1k.sigcap.SignatureCaptureService"/>
            <vendor name="Ingenico" url="http://www.ingenico-us.com"/>
            <jpos category="SignatureCapture" version="1.5.2"/>
            <product description="ET1K POS Signature Capture JavaPOS Service
from Ingenico, Inc."
                name="Ingenico ET1K Signature Capture Service for JavaPOS(TM)
Standard"
                url="http://www.ingenico-us.com"/>
            <!--Other non JavaPOS required property (mostly vendor properties
and bus specific properties i.e. RS232 )-->
            <prop name="stopBits" value="1"/>
            <prop name="portName" value="COM1"/>
            <prop name="dataBits" value="8"/>
            <prop name="timeOut" value="5000"/>
            <prop name="baudRate" value="9600"/>
            <prop name="parity" value="0"/>
            <prop name="TestForm" value="sigtest.icf"/>
            <prop name="SigCompression" value="2byte"/>
            <prop name="ConfigPath" value=
"<pos_install_directory>\pos\config\device\ingenico\"/>
            <prop name="debug" value="ON"/>
        </JposEntry>
```

3. To configure the Ingenico device for the screens used within the Point-of-Service application, replace the existing entry or add the following entry to the `jpos.xml` file. Change `<pos_install_directory>`, shown in bold in the following example, to your installation directory for Point-of-Service:

```
<JposEntry logicalName="defaultForm">
            <creation factoryClass="services.IngenicoServiceInstanceFactory"
                serviceClass="services.et1k.form.FormService"/>
            <vendor name="Ingenico" url="http://www.ingenico-us.com"/>
            <jpos category="Form" version="1.5.2"/>
            <product description="ET1K POS Form JavaPOS Service from Ingenico,
Inc."
                name="Ingenico ET1K Form Service for JavaPOS(TM) Standard"
                url="http://www.ingenico-us.com"/>
            <!--Other non JavaPOS required property (mostly vendor properties
and bus specific properties i.e. RS232 )-->
            <prop name="stopBits" value="1"/>
            <prop name="portName" value="COM1"/>
            <prop name="dataBits" value="8"/>
            <prop name="baudRate" value="9600"/>
            <prop name="parity" value="0"/>
            <prop name="timeOut" value="5000"/>
            <prop name="clear" value="clear.icf"/>
            <prop name="ItemsForm" value="scrollingtext.icf"/>
            <prop name="SigCapForm" value="sigtest.icf"/>
            <prop name="ScrollingText" value="scrollingtext.icf"/>
            <prop name="Graphic" value="scan.icf"/>
            <prop name="Survey" value="type.icf"/>
            <prop name="Scripts" value="sigtest.icf"/>
```

```
                <prop name="Logo" value="360logo.icf"/>
                <prop name="SigCompression" value="2byte"/>
                <prop name="TwoButtons" value="2buttons.icf"/>
                <prop name="ThreeButtons" value="3buttons.icf"/>
                <prop name="FourButtons" value="4buttons.icf"/>
                <prop name="ConfigPath" value=
"<pos_install_directory>\pos\config\device\ingenico\"/>
        </JposEntry>
```

Expanding the Point-of-Service Distribution

To extract the Point-of-Service files:

1. Extract the `ORPOS-12.00.zip` file from the Point-of-Service distribution `ORPOS-12.00_EPD.zip` file.
2. Copy or upload `ORPOS-12.00.zip` to the installation directory and extract its contents. In this installation guide, *<INSTALL_DIR>* is used for that directory.

Obtaining Third-Party Library Files Required by Point-of-Service

The Point-of-Service application uses specific files from Apache. Get the required files for the Derby database. You can get the download at the website:

http://db.apache.org/derby/releases/release-10.2.2.0.cgi

Extract the following files:

- `derby.jar`
- `derbytools.jar`

Running the Point-of-Service Application Installer

This installer will configure and deploy the Point-of-Service 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. It should point to your jdk.
3. Run the `posinst.exe` script. This will launch the installer. After installation is complete, a detailed installation log file is created at *<POS_install_directory>*`\pos\logs\installer_log.txt`

Resolving Errors Encountered During Application Installation

If the application installer encounters any errors, you can read them in the above mentioned log file.

For a list of common installation errors, see Appendix D.

Creating the Point-of-Service Database Schema

The scripts that create the Point-of-Service database schema can be run from the installed `pos/bin` directory. The database server can be on the same system as the application server or on a different system.

Creating with Oracle Retail Back Office

When Point-of-Service will be used with Back Office, create the database schema during the Back Office installation. See the Oracle Retail Back Office Installation Guide for information.

Then, as part of this installation, if **Central** or **Central, Local Failover** was selected for the Transaction Retrieval Location, run `scratchpad.bat` to create the Scratchpad database.

Creating without Oracle Retail Back Office

When Point-of-Service is being installed without Back Office, perform the following steps to create the Point-of-Service database schema.

1. Create a user in the database:

```
create role APP_ROLE;

grant CREATE TABLE, CREATE VIEW, CREATE SEQUENCE, CREATE SYNONYM, CREATE
CLUSTER, CREATE DATABASE LINK, ALTER SESSION to APP_ROLE;

grant CONNECT, RESOURCE, APP_ROLE, SELECT_CATALOG_ROLE to <db_user>;
```

2. Change to the *<INSTALL_DIR>*`\pos\bin directory`.
3. Set the `JAVA_HOME` and `ANT_HOME` environment variables.
4. Add `$JAVA_HOME\bin` and `$ANT_HOME\bin` to the front of the PATH environment variable.

```
PATH=$JAVA_HOME/bin:$ANT_HOME/bin:$PATH; export PATH
```

5. Run one of the available `dbbuild.bat` targets to create the database schema, load data, and load the procedures for purging aged data in the database. For information on the purge procedures, see the Point-of-Service Operations Guide.
   - seed_data: loads seed data
   - test_data: loads test data
   - load_purge_procedures: loads database purge procedures

   For example, `dbbuild seed_data`
6. If **Central** or **Central, Local Failover** was selected for the Transaction Retrieval Location, run `scratchpad.bat` to create the Scratchpad database.

Configuring for Offline Data Updates

Point-of-Service provides the capability to automatically update offline data to clients. The scheduling of the updates can be configured. This configuration involves updating parameters and the `ServiceContent.xml` file. For more information on offline data updates and how to configure the updates, see the Oracle Retail Point-of-Service Operations Guide.

Results of a Point-of-Service Installation

The default root directory for OracleRetailStore applications on Windows for the store server is `c:\OracleRetailStore\Server`. For the client, the default directory is `c:\OracleRetailStore\Client`. In this guide, these directories are referred to as *<POS_install_directory>*. The subdirectories listed in Table 2–3 are created:

Table 2–3 <POS_install_directory> Subdirectories

Name	Contents
360common	Files shared by multiple Oracle Retail Strategic Store Solutions applications including Foundation or 360Platform, Domain, and third party jar files
databases	Resources for various database types
jre	Contains the Java runtime environment
pos	Point-of-Service files
mpos	Mobile Point-of-Service files (if the Oracle Retail Mobile Point-of-Service product is installed)

Important subdirectories of the `\pos directory` is shown in Table 2–4:

Table 2–4 <POS_install_directory>\pos Subdirectories

Name	Contents
bin	Startup batch files and shell scripts
lib	Point-of-Service application and resource jar files
lib\locales	Text bundles for localization **Note:** The only language currently supported is United States English.
3rdparty	Third party source files used by Point-of-Service only
config	XML configuration files, `.properties` files, and `.dat` files
logs	Log files (additional log files are in the `bin` directory)
UninstallerData	Files for uninstalling Oracle Retail Point-of-Service

Running Point-of-Service

You run the Oracle Retail Point-of-Service system by executing batch files or shell scripts, found in your installation's `bin` directory, to launch various components.

> **Note:** For each command, a Windows batch file (such as `dbstart.bat`) exists.

To run Point-of-Service:

1. Start the store server:

   ```
   StoreServerConduit.bat
   ```

   When the message TierManager Started appears, the server has started. The server component does not have a user interface.

2. Start the registers.

   For each of the Point-of-Service registers, execute the conduit script that starts the Point-of-Service client component. Use the following command:

   ```
   ClientConduit.bat
   ```

3. Verify the installation on each register by logging in to Point-of-Service with the default username (pos) and password (pos).

   If the login is successful and the status bar indicates the database is online, the installation is complete.

Creating a Custom Installation

A custom installation of Point-of-Service can use one of several approaches:

- Install Point-of-Service using the installer on a reference machine, and copy the resulting installation to other machines.
  - With this method, you can change the configuration settings of the installation as described in the Oracle Retail Point-of-Service Operations Guide until the installation works as desired, then propagate those configurations to other machines.
  - You can copy just the installation directory to a new machine, or if the hardware is sufficiently similar, you can copy the entire hard drive image to the machine. Copying the entire hard drive retains the JavaPOS installation as well as any other customizations.
  - You must change the WorkstationID value for the target machines to a unique number. This value can be found in *<POS_install_directory>*\pos\config\application.properties.
- Create a custom installer which allows for various hardware options but specifies the software choices your company has chosen.

  Note: By default, installation of a register requires certain IBM Install Set parameters to have specific values:

  - Hard Total must be Off.
  - Ingenico must be On.

3

Installation on the IBM Stack using Linux

This chapter provides information about the installation procedures for Oracle Retail Point-of-Service on the IBM stack using Linux.

Oracle Retail provides an installer for Point-of-Service, but customer installations typically develop custom procedures. Note that the installer is not appropriate for all installations. Oracle Retail expects implementation teams to develop custom procedures for actual register installations, which may or may not be based on the installer described here. For guidelines, see "Creating a Custom Installation".

Installing Point-of-Service

To establish an initial Oracle Retail Point-of-Service installation or to create a demonstration system, use the Point-of-Service installer as described in this section.

Determining Tier Type

Machines and logical components of the Oracle Retail Point-of-Service application are defined in Table 3–1:

Table 3–1 Server Tier Logical Components

Machine	Description
Store Server	The machine that runs the server component of Oracle Retail Point-of-Service. There is at least one store server for each store. This component runs as a service. This machine may also house the Back Office Server and other Oracle Retail Strategic Store Solutions components such as the OracleRetailStore database and Mobile Point-of-Service.
Point-of-Service Clients	The machines that execute the Point-of-Service transactions; they are typically cash registers.
Database Server	The machine that houses the OracleRetailStore databases. This machine may or may not be the same as the store server.
JMS Server	The machine that houses the JMS server software.

When you run the installer, it asks you to specify a Tier Type. The following types are available:

- N-Tier Client—Choose this when installing the client component.
- N-Tier Store Server—Choose this when installing the store server component.

Installing the Database

Oracle Retail products such as Point-of-Service and Back Office use the OracleRetailStore database. One OracleRetailStore database is typically installed in each store. Data stored in the OracleRetailStore database includes employee names, logon information, transaction data, and the inventory database. The database can be located on the store server or on a separate machine acting as the database server. The database must be installed before Point-of-Service can be installed.

If you are using Centralized Transaction Retrieval, an additional database called the Scratchpad database is used. This database holds retrieved transactions. For more information on Centralized Transaction Retrieval, see the Oracle Retail Point-of-Service Operations Guide.

Table 3–2 shows the database configuration information that is needed during installation.

Table 3–2 Database Configuration Settings

Installer Screen	Required Data
Transaction Retrieval Location	Choose the location for retrieving transactions. When using Centralized Transaction Retrieval, choose either the **Central** or **Central, Local Failover** option. Note: You must choose the same location for both the store server and client installations.
Database Configuration	Enter the following information for the database: ■ JDBC driver path ■ Driver class name ■ Database URL ■ Jar name ■ Database user ID and password
Scratchpad Database Configuration	Enter the following information for the Scratchpad database: ■ JDBC driver path ■ Driver class name ■ Database URL ■ Jar name ■ Database user ID and password
Logging Options	Choose how the log is exported. When using Centralized Transaction Retrieval, choose the **Data Replication Export** option.
Central Office/Back Office Server Information	Enter the host names of the machines where the Central Office and Back Office instances for this store server are located.

To complete the installation, you must know the database location:

- If you install Point-of-Service on the same machine as the database, the installer asks for the database directory location.
- If you install Point-of-Service on a different machine from the database, the installer asks for the hostname or IP address and RMI port number of the machine running the database.

The Point-of-Service installation process installs scripts to build the tables and insert a minimal data set. Steps for running these scripts are included later in this chapter.

Required Settings for the Database

The following settings must be made during database creation:

- The database must be set to UTF8.
- When using the Oracle 10g database server, 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;
```

Installing Point-of-Service on Machines

If a previous version of Point-of-Service is installed on a machine, uninstall it by deleting the installation directory (the default directory is `c:/OracleRetailStore`) or choose a different installation directory from the default.

Run the installer one time for each machine in the Server Tier and once for each register.

The installer performs the following steps. Not all steps apply to client and server installations.

- Installs Foundation, Retail Domain, and Oracle Retail Point-of-Service jar files.
- Installs database build scripts and start-up files.
- Defines Server Tier in the conduit script that starts Point-of-Service for the given machine.
- Defines hostnames or IP addresses and port numbers for the Store Server and database server.
- Defines device availability.
- Defines application properties for Store ID and Register Number.

Updating Device Configuration

Update the `jpos.xml` file to reflect the devices used on the machine. The typical location for this file is `C:\POS\IBMJPOS\jpos.xml`.

1. To configure the default scanner, replace the existing entry or add the following entry to the `jpos.xml` file:

```
<JposEntries>
            <JposEntry logicalName="defaultScanner">
                <creation

factoryClass="com.extendyourstore.jpos.CrsJposServiceInstanceFactory"
                    serviceClass="com.extendyourstore.jpos.Scanner.POSsim"/>
                <vendor name="360Commerce" url="http://www.360Commerce.com"/>
                <jpos category="Scanner" version="1.5"/>
                <product description="POSsim Scanner" name="360 Commerce EYS
Scanner"
                    url="http://www.360Commerce.com"/>
                <prop name="host" value="localhost"/>
                <prop name="debug" value="true"/>
            </JposEntry>
            ...
            </JposEntries>
```

2. To configure the Ingenico device for signature capture, replace the existing entry or add the following entry to the `jpos.xml` file. Change `<pos_install_directory>`, shown in bold in the following example, to your installation directory for Point-of-Service:

```
<JposEntry logicalName="defaultSignatureCapture">
            <creation factoryClass="services.IngenicoServiceInstanceFactory"
                serviceClass="services.et1k.sigcap.SignatureCaptureService"/>
            <vendor name="Ingenico" url="http://www.ingenico-us.com"/>
            <jpos category="SignatureCapture" version="1.5.2"/>
            <product description="ET1K POS Signature Capture JavaPOS Service
from Ingenico, Inc."
                name="Ingenico ET1K Signature Capture Service for JavaPOS(TM)
Standard"
                url="http://www.ingenico-us.com"/>
            <!--Other non JavaPOS required property (mostly vendor properties
and bus specific properties i.e. RS232 )-->
            <prop name="stopBits" value="1"/>
            <prop name="portName" value="COM1"/>
            <prop name="dataBits" value="8"/>
            <prop name="timeOut" value="5000"/>
            <prop name="baudRate" value="9600"/>
            <prop name="parity" value="0"/>
            <prop name="TestForm" value="sigtest.icf"/>
            <prop name="SigCompression" value="2byte"/>
            <prop name="ConfigPath" value=
"<pos_install_directory>/pos/config/device/ingenico/"/>
            <prop name="debug" value="ON"/>
        </JposEntry>
```

3. To configure the Ingenico device for the screens used within the Point-of-Service application, replace the existing entry or add the following entry to the `jpos.xml` file. Change `<pos_install_directory>`, shown in bold in the following example, to your installation directory for Point-of-Service:

```
<JposEntry logicalName="defaultForm">
            <creation factoryClass="services.IngenicoServiceInstanceFactory"
                serviceClass="services.et1k.form.FormService"/>
            <vendor name="Ingenico" url="http://www.ingenico-us.com"/>
            <jpos category="Form" version="1.5.2"/>
            <product description="ET1K POS Form JavaPOS Service from Ingenico,
Inc."
                name="Ingenico ET1K Form Service for JavaPOS(TM) Standard"
                url="http://www.ingenico-us.com"/>
            <!--Other non JavaPOS required property (mostly vendor properties
and bus specific properties i.e. RS232 )-->
            <prop name="stopBits" value="1"/>
            <prop name="portName" value="COM1"/>
            <prop name="dataBits" value="8"/>
            <prop name="baudRate" value="9600"/>
            <prop name="parity" value="0"/>
            <prop name="timeOut" value="5000"/>
            <prop name="clear" value="clear.icf"/>
            <prop name="ItemsForm" value="scrollingtext.icf"/>
            <prop name="SigCapForm" value="sigtest.icf"/>
            <prop name="ScrollingText" value="scrollingtext.icf"/>
            <prop name="Graphic" value="scan.icf"/>
            <prop name="Survey" value="type.icf"/>
            <prop name="Scripts" value="sigtest.icf"/>
            <prop name="Logo" value="360logo.icf"/>
```

```
                <prop name="SigCompression" value="2byte"/>
                <prop name="TwoButtons" value="2buttons.icf"/>
                <prop name="ThreeButtons" value="3buttons.icf"/>
                <prop name="FourButtons" value="4buttons.icf"/>
                <prop name="ConfigPath" value=
"<pos_install_directory>/pos/config/device/ingenico/"/>
        </JposEntry>
```

Expanding the Point-of-Service Distribution

To extract the Point-of-Service files:

1. Extract the `ORPOS-12.00.zip` file from the Point-of-Service distribution `ORPOS-12.00_EPD.zip` file.
2. Copy or upload `ORPOS-12.00.zip` to the installation directory and extract its contents. In this installation guide, *<INSTALL_DIR>* is used for that directory.

Obtaining Third-Party Library Files Required by Point-of-Service

The Point-of-Service application uses specific files from JBoss, WebSphere, and Apache. To obtain the necessary files:

1. Some WebSphere specific files are needed to make use of JMS. Extract the required files from the following locations:
   - *<WAS_INSTALL_DIR>*/WebSphere/AppServer/plugins/com.ibm.ws.runtime_6.1.0.jar
   - *<WAS_INSTALL_DIR>*/WebSphere/AppServer/runtimes/com.ibm.ws.admin.client_6.1.0.jar
   - *<MQ_INSTALL_DIR>*/java/lib/jms.jar
   - *<WAS_INSTALL_DIR>*/lib/WMQ/java/lib/com.ibm.mqjms.jar
   - *<WAS_INSTALL_DIR>*/lib/WMQ/java/lib/com.ibm.mq.jar
   - *<WAS_INSTALL_DIR>*/lib/WMQ/java/lib/dhbcore.jar
2. Get the required files for the Derby database. You can get the download at the website:

   http://db.apache.org/derby/releases/release-10.2.2.0.cgi

   Extract the following files:
   - derby.jar
   - derbytools.jar

Running the Point-of-Service Application Installer

This installer will configure and deploy the Point-of-Service 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. It should point to your jdk.

3. Change the mode of `posinst.bin` to executable.
4. Run `posinst.bin`. After installation is complete, a detailed installation log file is created at `<POS_install_directory>/pos/logs/installer_log.txt`

Resolving Errors Encountered During Application Installation

If the application installer encounters any errors, you can read them in the above mentioned log file.

For a list of common installation errors, see Appendix D.

Creating the Point-of-Service Database Schema

The scripts that create the Point-of-Service database schema can be run from the installed `pos/bin` directory. The database server can be on the same system as the application server or on a different system.

Creating with Oracle Retail Back Office

When Point-of-Service will be used with Back Office, create the database schema during the Back Office installation. See the Oracle Retail Back Office Installation Guide for information.

Then, as part of this installation, if **Central** or **Central, Local Failover** was selected for the Transaction Retrieval Location, run `scratchpad.bat` to create the Scratchpad database.

Creating without Oracle Retail Back Office

When Point-of-Service is being installed without Back Office, perform the following steps to create the Point-of-Service database schema.

1. Create a user in the database:

```
create role APP_ROLE;

grant CREATE TABLE, CREATE VIEW, CREATE SEQUENCE, CREATE SYNONYM, CREATE
CLUSTER, CREATE DATABASE LINK, ALTER SESSION to APP_ROLE;

grant CONNECT, RESOURCE, APP_ROLE, SELECT_CATALOG_ROLE to <db_user>;
```

2. Change to the `<POS_install_directory>/pos/bin directory`.
3. Set the `JAVA_HOME` and `ANT_HOME` environment variables.
4. Add `$JAVA_HOME/bin` and `$ANT_HOME/bin` to the front of the PATH environment variable.

```
PATH=$JAVA_HOME/bin:$ANT_HOME/bin:$PATH; export PATH
```

5. Run one of the available `dbbuild.bat` targets to create the database schema, load data, and load the procedures for purging aged data in the database. For information on the purge procedures, see the Point-of-Service Operations Guide.
   - seed_data: loads seed data
   - test_data: loads test data
   - load_purge_procedures: loads database purge procedures

   For example, `dbbuild seed_data`
6. If **Central** or **Central, Local Failover** was selected for the Transaction Retrieval Location, run `scratchpad.bat` to create the Scratchpad database.

Configuring for Offline Data Updates

Point-of-Service provides the capability to automatically update offline data to clients. The scheduling of the updates can be configured. This configuration involves updating parameters and the `ServiceContent.xml` file. For more information on offline data updates and how to configure the updates, see the Oracle Retail Point-of-Service Operations Guide.

Results of a Point-of-Service Installation

The default root directory for OracleRetailStore applications on Linux is `opt/OracleRetailStore`. In this guide, this directory is referred to as *<POS_install_directory>*. The subdirectories listed in Table 3–3 are created:

Table 3–3 <POS_install_directory> Subdirectories

Name	Contents
360common	Files shared by multiple Oracle Retail Strategic Store Solutions applications including Foundation or 360Platform, Domain, and third party jar files
databases	Resources for various database types
jre	Contains the Java runtime environment
pos	Point-of-Service files
mpos	Mobile Point-of-Service files (if the Oracle Retail Mobile Point-of-Service product is installed)

Important subdirectories of the `\pos directory` is shown in Table 3–4:

Table 3–4 <POS_install_directory>\pos Subdirectories

Name	Contents
bin	Startup batch files and shell scripts
lib	Point-of-Service application and resource jar files
lib\locales	Text bundles for localization **Note:** The only language currently supported is United States English.
3rdparty	Third party source files used by Point-of-Service only
config	XML configuration files, `.properties` files, and `.dat` files

Table 3–4 <POS_install_directory>\pos Subdirectories

Name	Contents
logs	Log files (additional log files are in the bin directory)
UninstallerData	Files for uninstalling Oracle Retail Point-of-Service

Running Point-of-Service

You run the Oracle Retail Point-of-Service system by executing the shell scripts, found in your installation's `bin` directory, to launch various components.

To run Point-of-Service:

1. Start the store server:

   `StoreServerConduit.sh`

   When the message TierManager Started appears, the server has started. The server component does not have a user interface.

2. Start the registers.

   For each of the Point-of-Service registers, execute the conduit script that starts the Point-of-Service client component. Use the following command:

   `ClientConduit.sh`

3. Verify the installation on each register by logging in to Point-of-Service with the default username (pos) and password (pos).

   If the login is successful and the status bar indicates the database is online, the installation is complete.

Creating a Custom Installation

A custom installation of Point-of-Service can use one of several approaches:

- Install Point-of-Service using the installer on a reference machine, and copy the resulting installation to other machines.
  - With this method, you can change the configuration settings of the installation as described in the Oracle Retail Point-of-Service Operations Guide until the installation works as desired, then propagate those configurations to other machines.
  - You can copy just the installation directory to a new machine, or if the hardware is sufficiently similar, you can copy the entire hard drive image to the machine. Copying the entire hard drive retains the JavaPOS installation as well as any other customizations.
  - You must change the WorkstationID value for the target machines to a unique number. This value can be found in *<POS_install_directory>*`/pos/config/application.properties`.
- Create a custom installer which allows for various hardware options but specifies the software choices your company has chosen.

Note: By default, installation of a register requires certain IBM Install Set parameters to have specific values:

- Hard Total must be Off.
- Ingenico must be On.

A

Appendix: Point-of-Service Application Installer Screens

You need the following details about your environment for the installer to successfully install the Point-of-Service application. Depending on the Tier Type and 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. If you want to document any specific information about your environment for any field, a Notes row is provided in each table for saving that information.

Figure A–1 Introduction

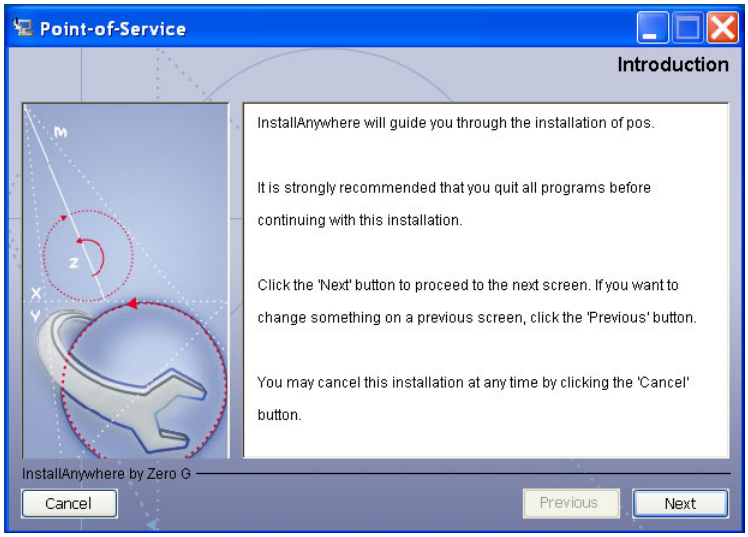


Figure A–2 Previous POS Install

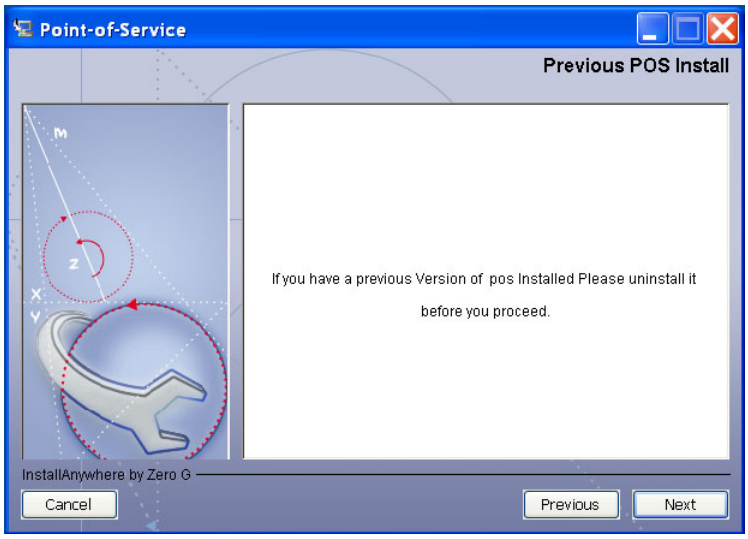
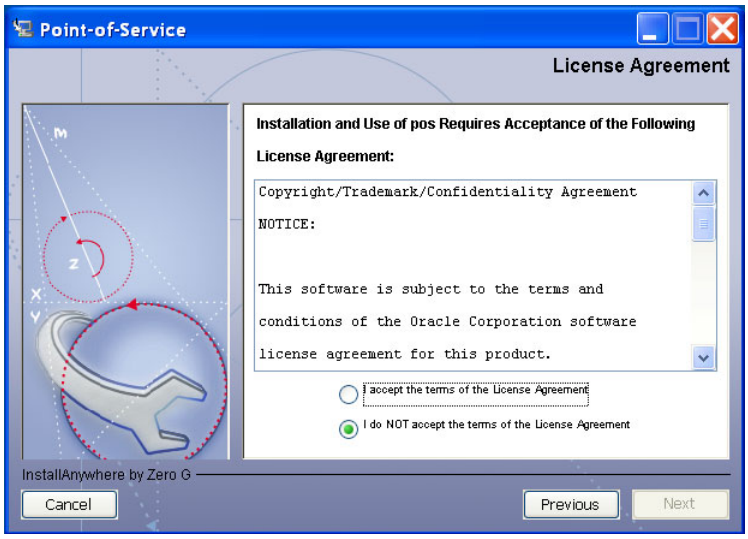
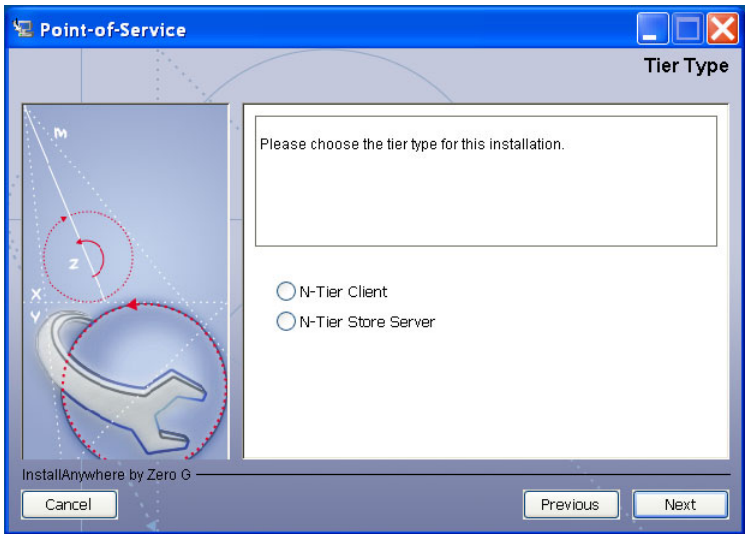


Figure A–3 License Agreement



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

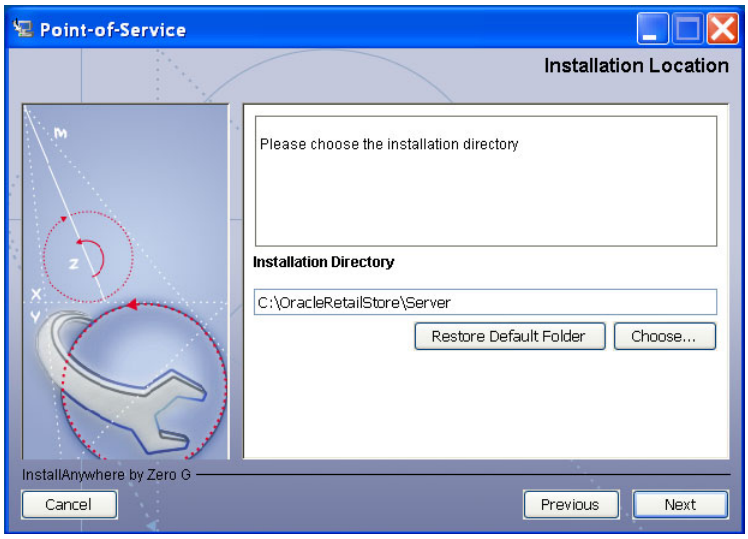
Figure A–4 Tier Type



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

Field Title	Tier Type
Field Description	Choose the server tier type for this installation. For more information, see "Determining Tier Type" in Chapter 2. ▪ To run the N-tier version of the client, choose **N-Tier Client**. ▪ To run the N-tier version of the store server, choose **N-Tier Store Server**.
Example	N-Tier Store Server
Notes	

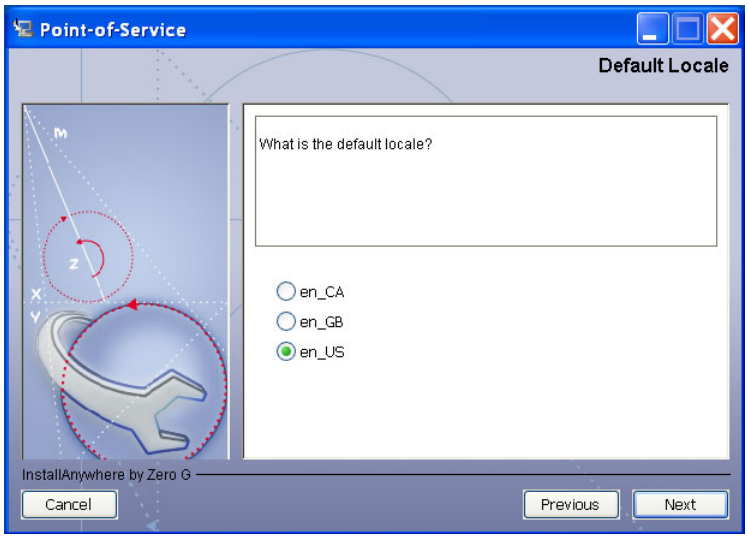
Figure A–5 Installation Location



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

Field Title	Installation Directory
Field Description	The directory into which the Point-of-Service files are copied. The default for the first directory in the path is `OracleRetailStore`. This directory should be the same for all Oracle Retail Strategic Store Solutions products. When installing for Windows and **N-Tier Store Server** is selected for the Tier Type, the default installation directory is `OracleRetailStore/Server`. When **N-Tier Client** is selected for the Tier Type, the default installation directory is `OracleRetailStore/Client`. Note: The server and the client must not be installed into the same directory. When installing for Linux, the default directory is `OracleRetailStore`. In this guide, *<POS_install_directory>* refers to the selected installation directory for the server or client. Files specific to Point-of-Service are copied to the `/pos` subdirectory of `<POS_install_directory>`.
Example	`C:\OracleRetailStore\Server`
Notes	

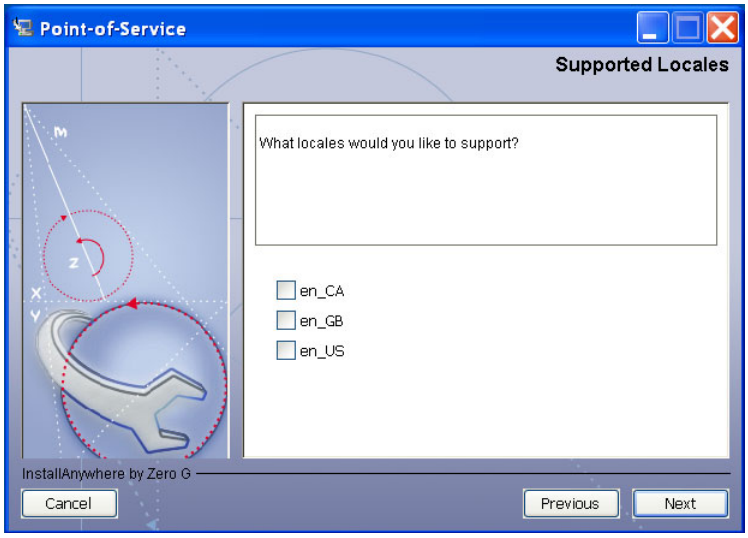
Figure A–6 Default Locale



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

Field Title	What is the default locale?
Field Description	Limited locale support in Point-of-Service enables the date, time, currency, and calendar to be displayed in the format for the selected default locale. ■ To select the locale for Canada, choose en_CA. ■ To select the locale for Great Britain, choose en_GB. ■ To select the local for the United States, choose en_US. **Note:** The only language currently supported is United States English.
Example	en_US
Notes	

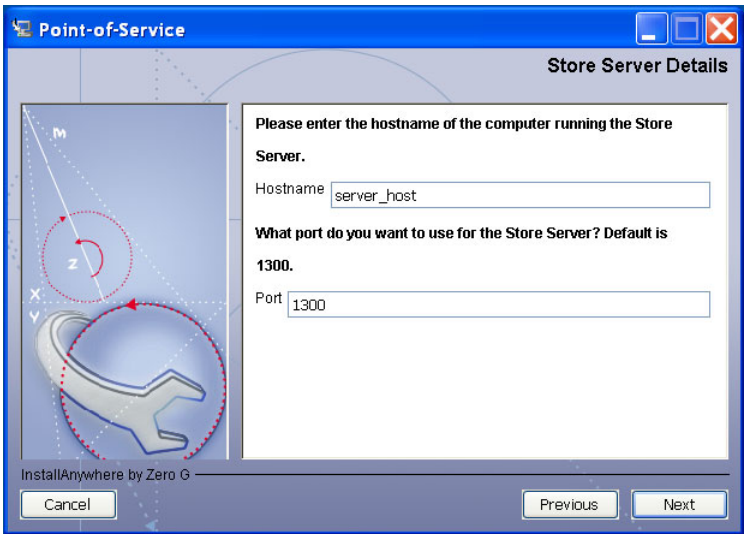
Figure A–7 Supported Locales



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

Field Title	What locales would you like to support?
Field Description	In addition to the default locale, additional locales can be supported. Limited locale support in Point-of-Service enables the date, time, currency, and calendar to be displayed in the format for the selected locale. ■ To select the locale for Canada, choose en_CA. ■ To select the locale for Great Britain, choose en_GB. ■ To select the local for the United States, choose en_US. **Note:** The only language currently supported is United States English.
Example	en_US
Notes	

Figure A–8 Store Server Details

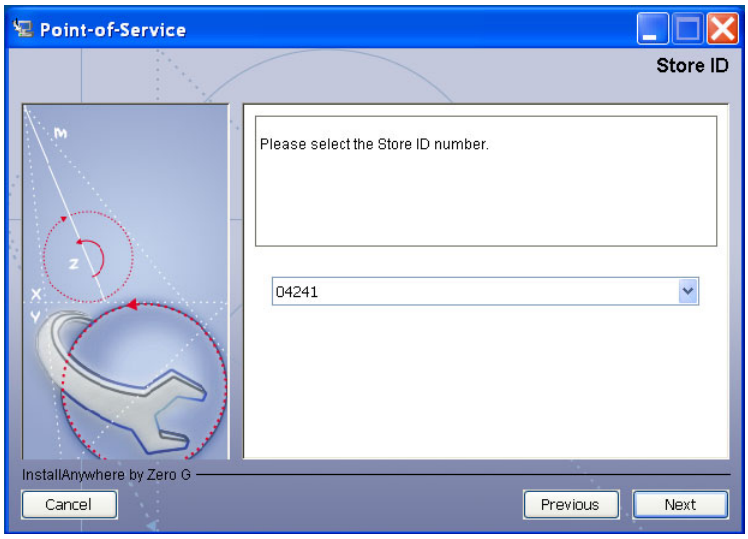


The fields on this screen are described in the following tables.

Field Title	Hostname
Field Description	Host name of the store server.
Example	server_host
Notes	

Field Title	Port
Field Description	Port number of the store server used for the communication between the store server and the host computer.
Example	1300
Notes	

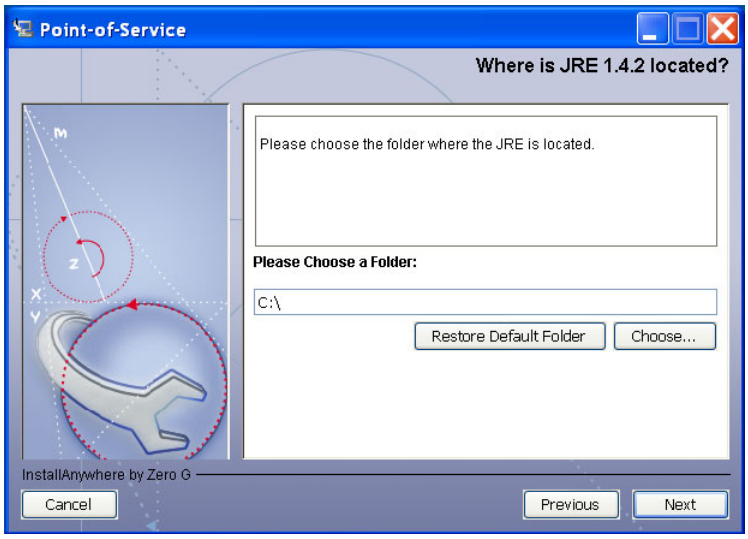
Figure A–9 Store ID



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

Field Title	Store ID
Field Description	Choose the store ID from the menu.
Example	04241
Notes	

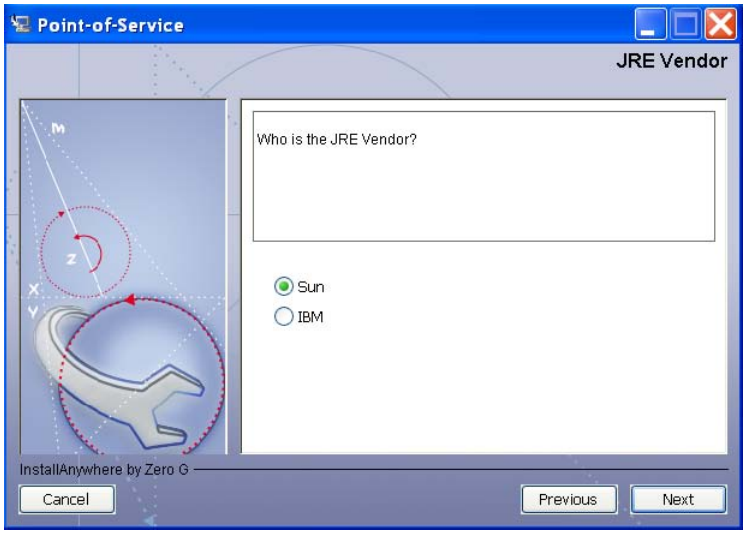
Figure A–10 Where is JRE 1.4.2 located?



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

Field Title	Folder
Field Description	Choose the location of JRE 1.4.2.
Example	`C:\j2sdk1.4.2_13\jre`
Notes	

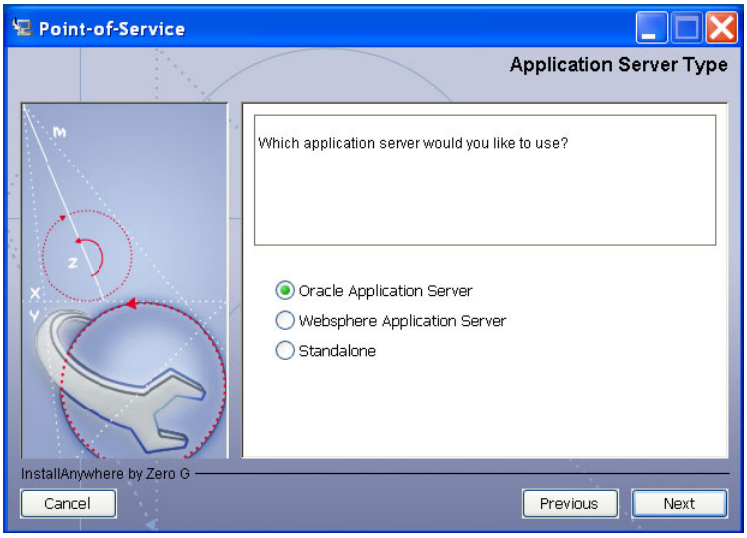
Figure A–11 JRE Vendor



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

Field Title	Who is the JRE Vendor?
Field Description	Select the vendor for the JRE entered on the previous screen: ▪ Sun ▪ IBM
Example	`Sun`
Notes	

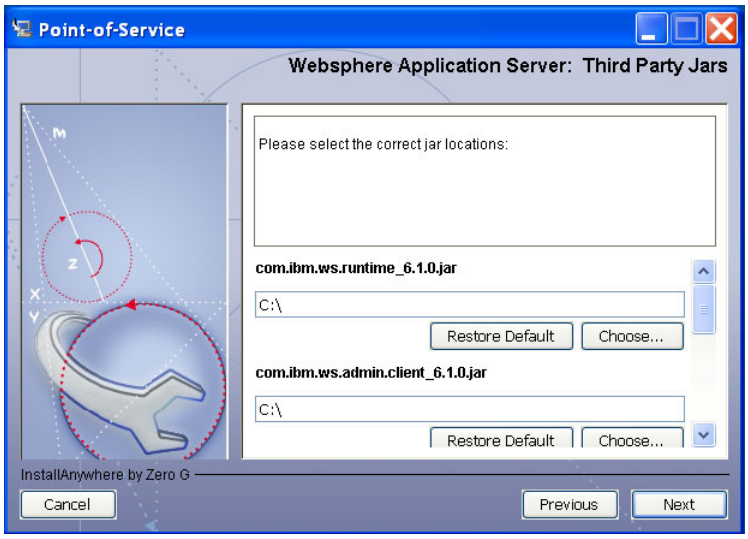
Figure A–12 Application Server Type



This screen is only displayed if **N-Tier Store Server** is selected for the Tier Type. The field on this screen is described in the following table.

Field Title	Which application server would you like to use?
Field Description	Select the application server to be used for the store server. ■ Oracle Application Server ■ Websphere Application Server ■ Standalone **Note:** Standalone is intended only for demonstration or development purposes. Do not select Standalone if you are running Point-of-Service on the IBM stack.
Example	Oracle Application Server
Notes	

Figure A–13 Websphere Application Server: Third Party Jars



This screen is only displayed if **WebSphere Application Server** is selected for the Application Server Type. The fields on this screen are described in the following tables.

Field Title	com.ibm.ws.runtime_6.1.0.jar
Field Description	Choose the location of the `com.ibm.ws.runtime_6.1.0.jar` file.
Example	`WAS_install/WebSphere/AppServer/plugins/com.ibm.ws.runtime_6.1.0.jar`
Notes	

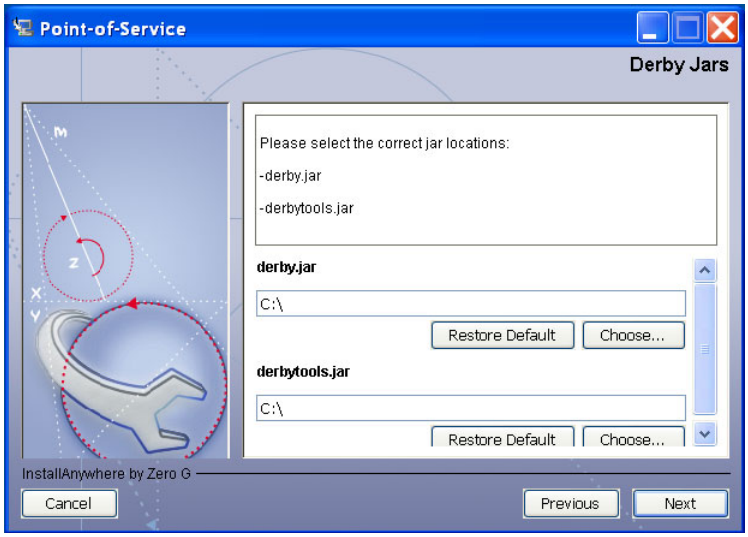
Field Title	com.ibm.ws.admin.client_6.1.0.jar
Field Description	Choose the location of the `com.ibm.ws.admin.client_6.1.0.jar` file.
Example	`WAS_install/WebSphere/AppServer/runtime/com.ibm.ws.admin.client_6.1.0.jar`
Notes	

Field Title	com.ibm.mqjms.jar
Field Description	Choose the location of the `com.ibm.mqjms.jar` file.
Example	`MQ_install/java/lib/com.ibm.mqjms.jar`
Notes	

Field Title	dhbcore.jar
Field Description	Choose the location of the `dhbcore.jar` file.
Example	`WAS_install/lib/WMQ/java/lib/dhbcore.jar`
Notes	

Field Title	com.ibm.mq.jar
Field Description	Choose the location of the `com.ibm.mq.jar` file.
Example	`WAS_install/lib/WMQ/java/lib/com.ibm.mq.jar`
Notes	

Figure A–14 Derby Jars

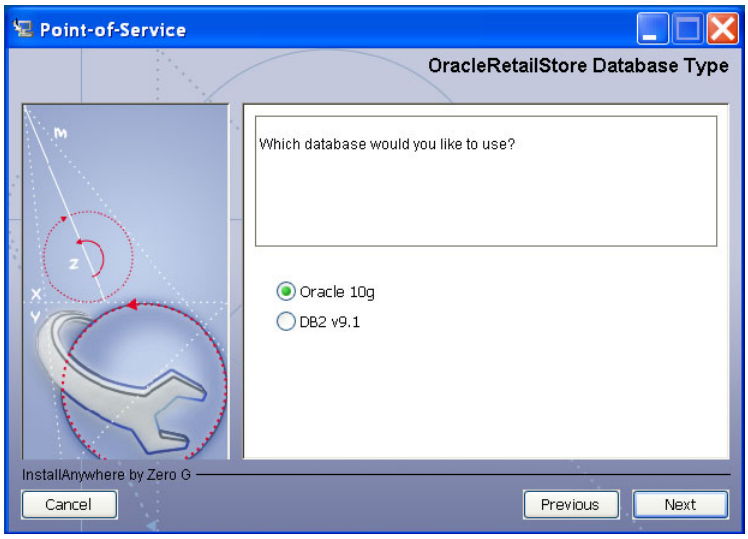


This screen is only displayed if **N-Tier Client** is selected for the Tier Type. The fields on this screen are described in the following tables.

Field Title	derby.jar
Field Description	Choose the location of the `derby.jar` file.
Example	`C:\thirdparty\apache-derby-10.2.2\derby.jar`
Notes	

Field Title	derbytools.jar
Field Description	Choose the location of the `derbytools.jar` file.
Example	`C:\thirdparty\apache-derby-10.2.2\derbytools.jar`
Notes	

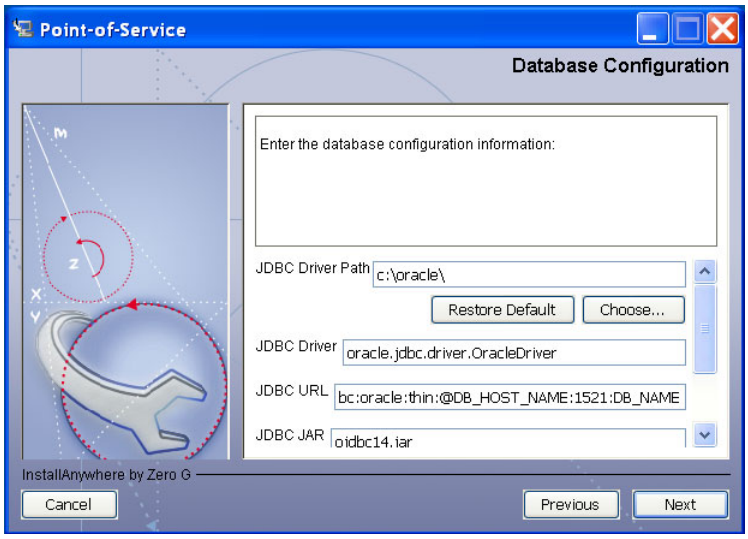
Figure A–15 OracleRetailStore Database Type



This screen is only displayed if **N-Tier Store Server** is selected for the Tier Type. The field on this screen is described in the following table.

Field Title	Database Type
Field Description	Choose the database provider that is used for the OracleRetailStore database.
Example	Oracle 10g
Notes	

Figure A–16 Database Configuration for Oracle 10g



This screen is only displayed if **N-Tier Store Server** is selected for the Tier Type and **Oracle 10g** is selected for the Database Type. The fields on this screen are described in the following tables.

Field Title	JDBC Driver Path
Field Description	Path to the jar containing the database driver.
Example	`C:/oracle`
Notes	

Field Title	JDBC Driver
Field Description	Database driver class name.
Example	`oracle.jdbc.driver.OracleDriver`
Notes	

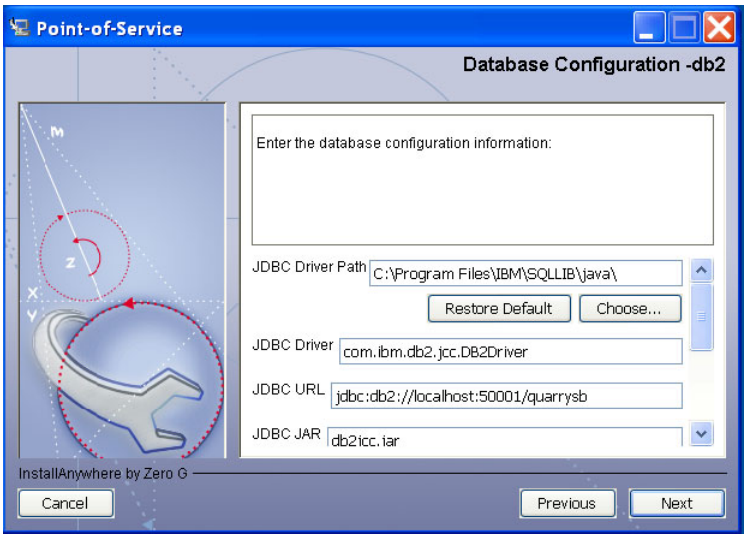
Field Title	JDBC URL
Field Description	URL used by the Point-of-Service application to access the database schema. For the expected syntax, see Appendix C.
Example	`jdbc:oracle:thin:@myhost:1521:mydatabase`
Notes	

Field Title	JDBC Jar
Field Description	Name of the jar containing the database driver.
Example	`ojdbc14.jar`
Notes	

Field Title	Database User Name
Field Description	Database schema user used by the Point-of-Service application.
Example	DBUSER
Notes	

Field Title	Database Password
Field Description	Password for the database schema user used by the Point-of-Service application.
Example	DB_PASSWORD
Notes	

Figure A–17 Database Configuration for DB2



This screen is only displayed if **N-Tier Store Server** is selected for the Tier Type and **DB2** is selected for the Database Type. The fields on this screen are described in the following tables.

Field Title	JDBC Driver Path
Field Description	Path to the jar containing the database driver.
Example	`C:\Program Files\IBM\SQLLIB\java\`
Notes	

Field Title	JDBC Driver
Field Description	Database driver class name.
Example	`com.ibm.db2.jcc.DB2Driver`
Notes	

Field Title	JDBC URL
Field Description	URL used by the Point-of-Service application to access the database schema. For the expected syntax, see Appendix C.
Example	`jdbc:db2://localhost:500001/quarrysb`
Notes	

Field Title	JDBC Jar
Field Description	Path to the jar containing the database driver.
Example	`db2jcc.jar`
Notes	

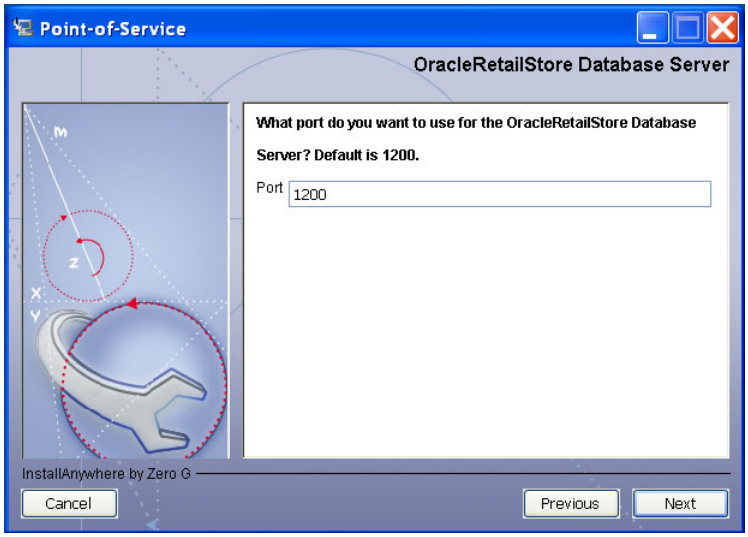
Field Title	JDBC Jar 2
Field Description	Path to the jar containing license information.
Example	`db2jcc_license_cisuz.jar`
Notes	

Field Title	JDBC Jar 3
Field Description	Path to the jar containing license information.
Example	`db2jcc_license_cu.jar`
Notes	

Field Title	Database User Name
Field Description	Database schema user used by the Point-of-Service application.
Example	db2admin
Notes	

Field Title	Database Password
Field Description	Password for the database schema user used by the Point-of-Service application.
Example	Passw0rd
Notes	

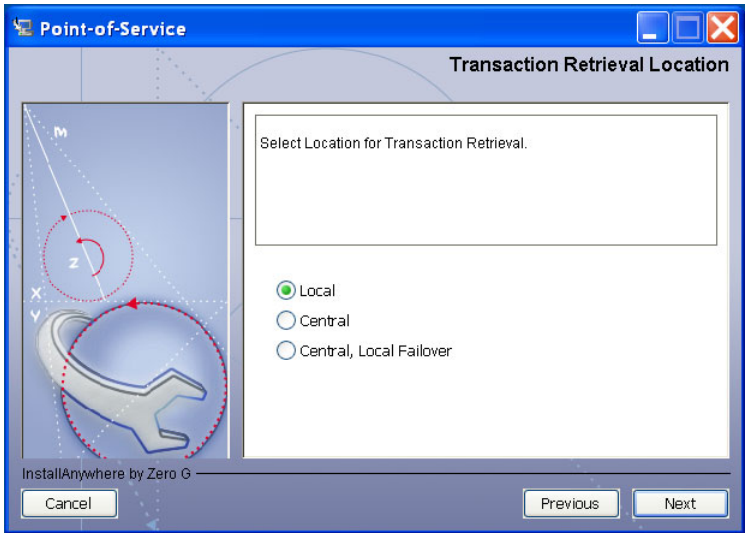
Figure A–18 OracleRetailStore Database Server



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

Field Title	Port
Field Description	Port number for connecting to the database server.
Example	1200
Notes	

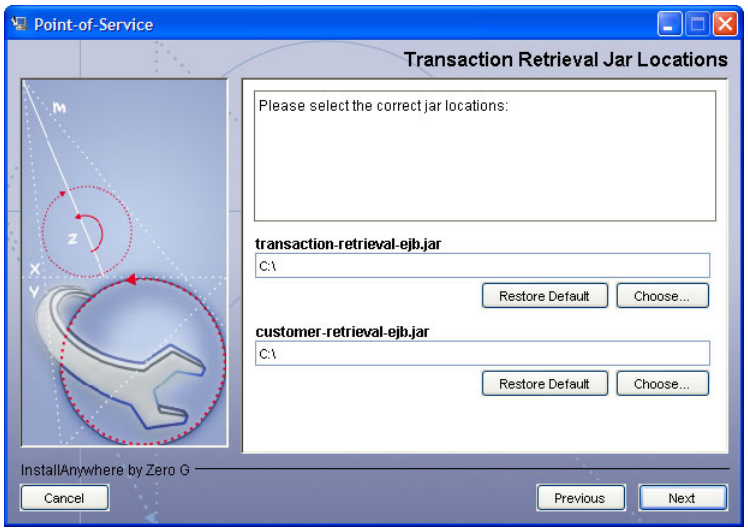
Figure A–19 Transaction Retrieval Location



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

Field Title	Transaction retrieval location
Field Description	Choose the location for retrieving transactions. ▪ If transactions should only be retrieved from the store database, choose **Local**. ▪ If transactions should only be retrieved from the corporate database, choose **Central**. ▪ If transactions should be retrieved from the corporate database, and if not found, then retrieved from the store database, choose **Central, Local Failover**. Note: You must choose the same location for both the store server and client installations.
Example	Local
Notes	

Figure A–20 Transaction Retrieval Jar Locations



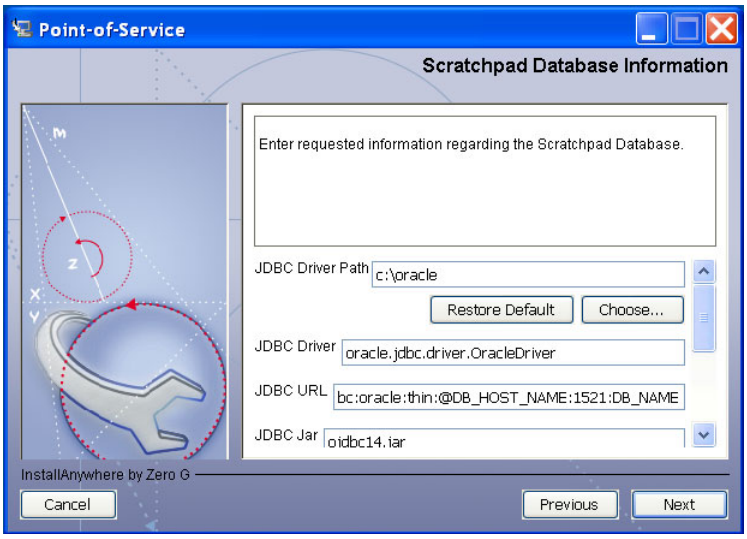
This screen is only displayed if **Websphere Application Server** is selected for the Application Server Type, **Central** or **Local, Central Failover** is selected for the Transaction Retrieval Location, and **N-Tier Store Server** is selected for the Tier Type. The fields on this screen are described in the following tables.

> **Note:** These jar files are created during the deployment of Oracle Retail Central Office on WebSphere. These files must be available for the Point-of-Service installation. For additional information, see "Store Server Configuration" in Appendix F.

Field Title	transaction-retrieval-ejb.jar
Field Description	Choose the location of the `transaction-retrieval-ejb.jar` file.
Example	`c:\tmp\orpos-120\transaction-retrieval-ejb.jar`
Notes	

Field Title	customer-retrieval-ejb.jar
Field Description	Choose the location of the `customer-retrieval-ejb.jar` file.
Example	`c:\tmp\orpos-120\customer-retrieval-ejb.jar`
Notes	

Figure A–21 Scratchpad Database Information



This screen is only displayed if **Central** or **Local, Central Failover** is selected for the Transaction Retrieval Location and **N-Tier Store Server** is selected for the Tier Type. The fields on this screen are described in the following tables.

Field Title	JDBC Driver Path
Field Description	Path to the jar containing the database driver.
Example	`C:/oracle`
Notes	

Field Title	JDBC Driver
Field Description	Database driver class name.
Example	`oracle.jdbc.driver.OracleDriver`
Notes	

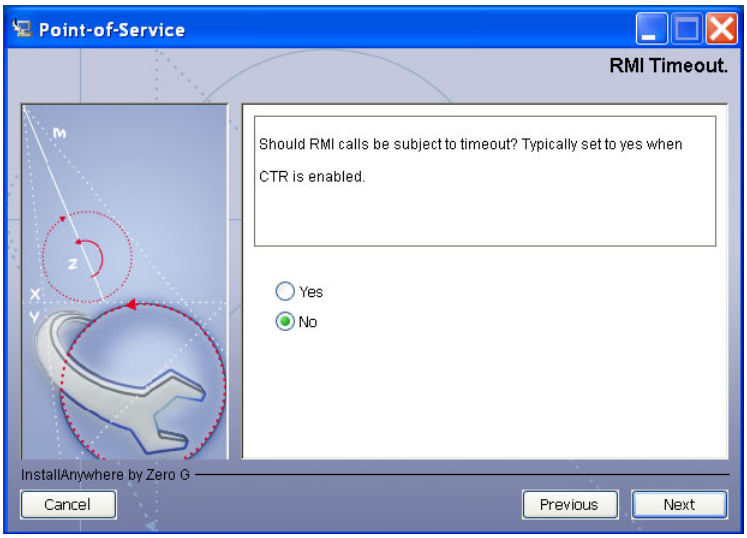
Field Title	JDBC URL
Field Description	URL used by the Point-of-Service application to access the database schema. For the expected syntax, see Appendix C.
Example	`jdbc:oracle:thin:@myhost:1521:mydatabase`
Notes	

Field Title	JDBC Jar
Field Description	Path to the jar containing the database driver.
Example	`ojdbc14.jar`
Notes	

Field Title	Database User Name
Field Description	Database schema user used by the Point-of-Service application.
Example	DBUSER
Notes	

Field Title	Database Password
Field Description	Password for the database schema user used by the Point-of-Service application.
Example	DB_PASSWORD
Notes	

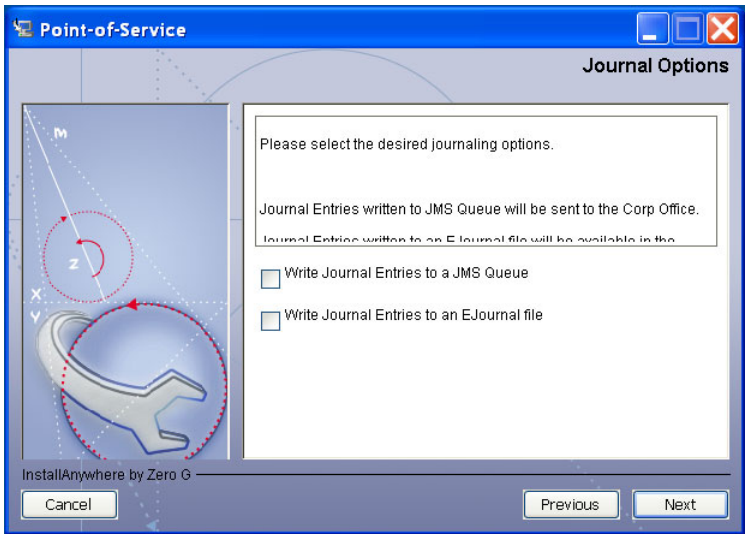
Figure A–22 RMI Timeout



This screen is only displayed if **Central** or **Local, Central Failover** is selected for the Transaction Retrieval Location and **N-Tier Client** is selected for the Tier Type. The field on this screen is described in the following table.

Field Title	RMI timeout
Field Description	Choose whether RMI calls are subject to time out. Note: For information on setting the RMI timeout interval, see the Oracle Retail Point-of-Service Operations Guide.
Example	No
Notes	

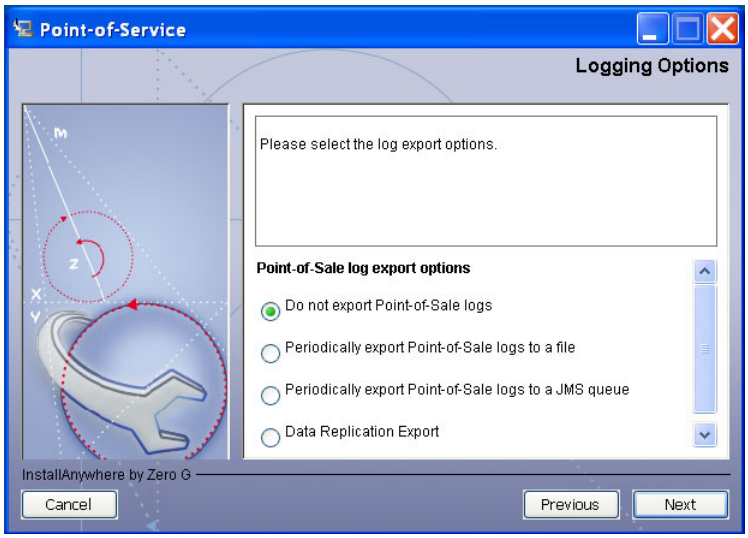
Figure A–23 Journal Options



This screen is only displayed if **N-Tier Store Server** is selected for the Tier Type. The field on this screen is described in the following table.

Field Title	Journal options
Field Description	Choose where journal entries will be sent. ▪ If you want the journal entries sent to a the JMS queue, choose **Write Journal Entries to a JMS Queue**. ▪ If you want the journal entries written to the EJournal file, choose **Write Journal Entries to an EJournal File**.
Example	Write Journal Entries to a JMS Queue
Notes	

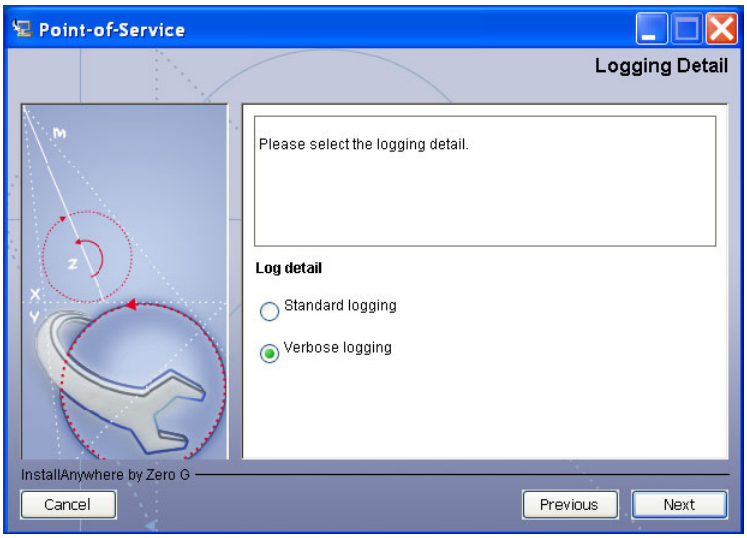
Figure A–24 Logging Options



This screen is only displayed if **N-Tier Store Server** is selected for the Tier Type. The field on this screen is described in the following table.

Field Title	Point-of-Sale log export options
Field Description	Choose how the log is to be exported. ▪ To not generate any logs, choose **Do not export Point-of-Sale logs**. ▪ To export the logs to a file, choose **Periodically export Point-of-Sale logs to a file**. ▪ To export the logs to a JMS queue, choose **Periodically export Point-of-Sale logs to a JMS queue**. ▪ To have the data pushed from the store to the corporate database using replication, choose **Data Replication Export**. Note: If you are using Centralized Transaction Retrieval, you must select **Data Replication Export**.
Example	Periodically export Point-of-Sale logs to a JMS queue
Notes	

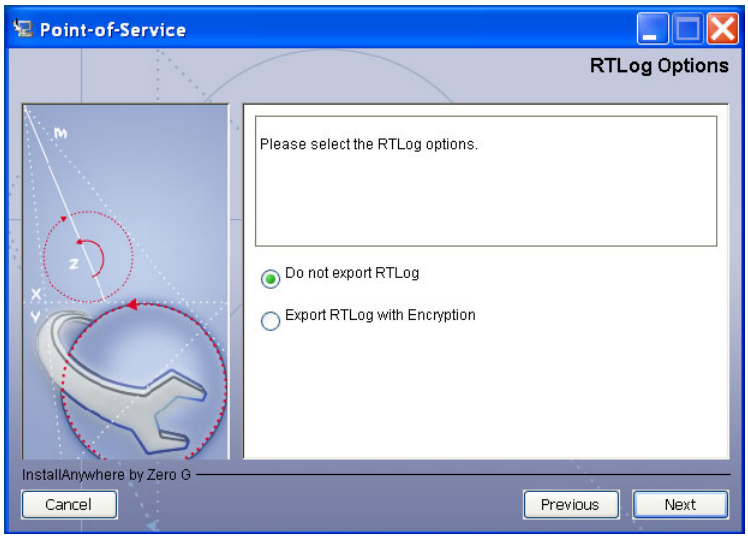
Figure A–25 Logging Detail



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

Field Title	Log detail
Field Description	Choose the level of client logging. ▪ To only log some of the messages, choose **Standard Logging**. ▪ To log all of the messages, choose **Verbose Logging**.
Example	Standard logging
Notes	

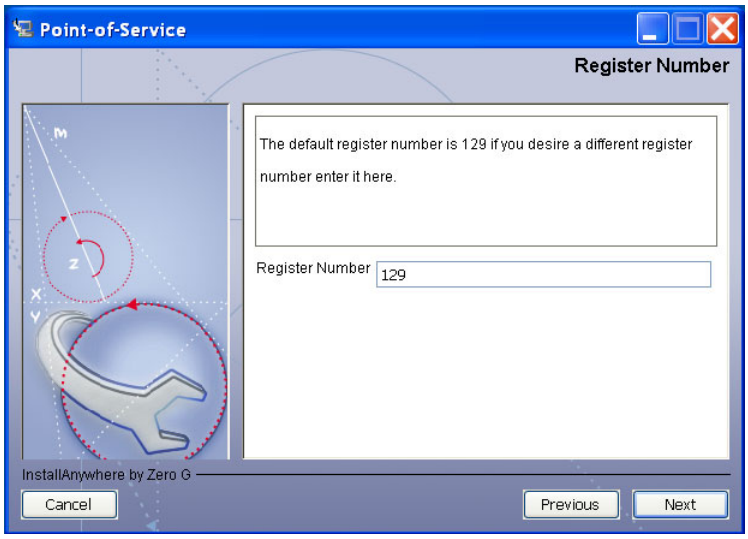
Figure A–26 RTLog Options



This screen is only displayed if **N-Tier Store Server** is selected for the Tier Type. The field on this screen is described in the following table.

Field Title	RTLog Export Options
Field Description	Choose how the RTLog is to be exported. ▪ To not export the log, choose **Do not export RTLog**. ▪ To export the log, choose **Export RTLog with Encryption**.
Example	Do not export RTLog
Notes	

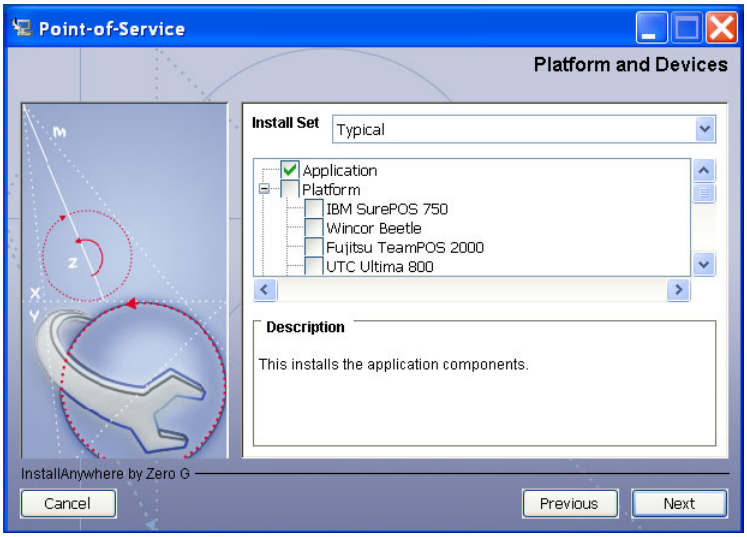
Figure A–27 Register Number



This screen is only displayed if **N-Tier Client** is selected for the Tier Type. The field on this screen is described in the following table.

Field Title	Register Number
Field Description	Register number for the client installation.
Example	129
Notes	

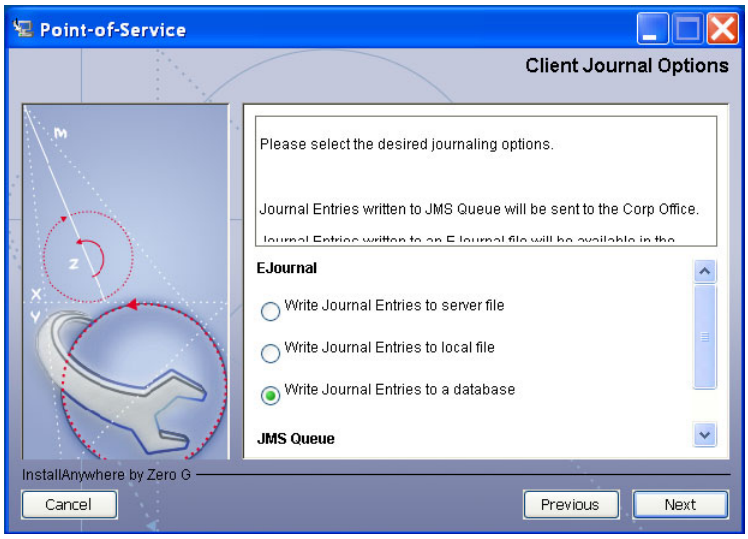
Figure A–28 Platform and Devices



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

Field Title	Install Set
Field Description	Choose the install set from the menu. Choose the platforms and devices for the installation. ▪ For a client install, choose the type of register or machine from the platforms. ▪ For a client install with devices, also choose the devices to be attached to the client register.
Example	Typical
Notes	

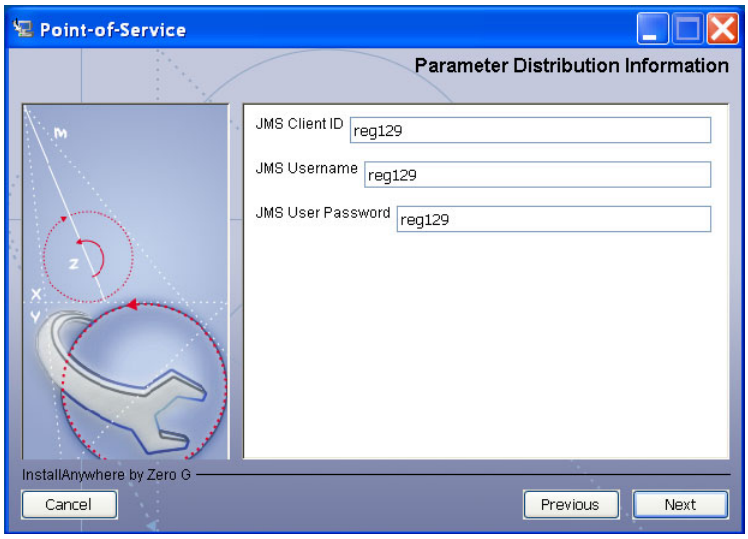
Figure A–29 Client Journal Options



This screen is only displayed if **N-Tier Client** is selected for the Tier Type. The field on this screen is described in the following table.

Field Title	Ejournal
Field Description	Choose where the journal entries are to be written. ▪ To write journal entries to a server file, choose **Write Journal Entries to server file**. ▪ To write journal entries to a local file, choose **Write Journal Entries to local file**. ▪ To write journal entries to a database, choose **Write Journal Entries to a database**. ▪ To put journal entries on a JMS queue, choose **Write Journal Entries to a JMS queue**.
Example	Write Journal Entries to a JMS queue
Notes	

Figure A–30 Parameter Distribution Information



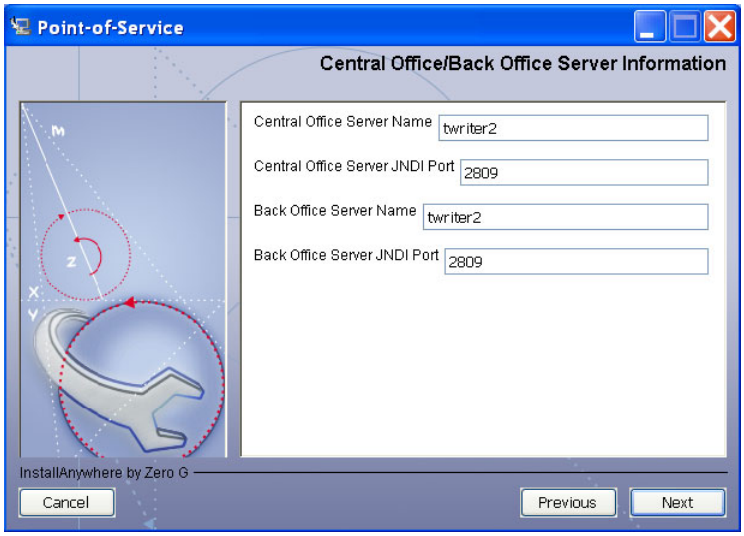
This screen is only displayed if **N-Tier Client** is selected for the Tier Type. The fields on this screen are described in the following tables.

Field Title	JMS Client ID
Field Description	Identifier of the JMS client used for receiving parameter updates.
Example	`reg129` **Note:** When **Websphere Application Server** is selected for the Application Server Type, the value of `clientID` must match the `WorkstationID` specified in the `application.properties` file.
Notes	

Field Title	JMS Username
Field Description	Identifier of the JMS user for receiving parameter updates.
Example	`oc4jadmin` (default for the Oracle stack) `reg129` (default for the IBM stack) **Note:** When **Websphere Application Server** is selected for the Application Server Type, you must create a UNIX user on the host where Back Office is installed and add that user to the `mqm` group. On the register, you must also create the `mqm` group, the UNIX user, and add that user to the `mqm` group. Copy the encrypted password for this user from the `/etc/shadow` file on the Back Office host into the corresponding `shadow` file on the register. The values for `jmsID` and `jmsPassword` specified in the Password Technician definition must match the values for the UNIX user and password.
Notes	

Field Title	JMS Password
Field Description	Password of the JMS user receiving parameter updates.
Example	`oc4jadmin` (default for the Oracle stack) `reg129` (default for the IBM stack)
Notes	

Figure A–31 Central Office/Back Office Server Information



To find the JNDI port numbers:

- If **Oracle Application Server** was selected for the Application Server Type, the information is available in `<Oracle Application Server install>/opmn/conf/opmn.xml`. Locate the Central Office or Back Office instance.
- If **Websphere Application Server** was selected for the Application Server Type, the information is available in `<WebSphere Application Server install>/profiles/<profile name>/logs/About this profile.txt`. `BOOTSTRAP_ADDRESS` is the port number.

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

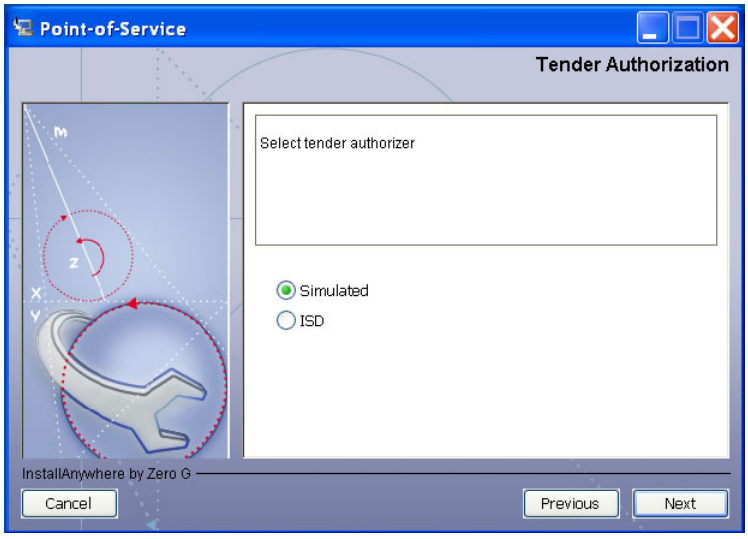
Field Title	Central Office Server Name
Field Description	Enter the host name for the Central Office application.
Example	twriter2
Notes	

Field Title	Central Office Server JNDI Port
Field Description	Enter the port number for the Central Office application.
Example	2809
Notes	

Field Title	Back Office Server Name
Field Description	Enter the host name for the Back Office application.
Example	twriter2
Notes	

Field Title	Back Office Server JNDI Port
Field Description	Enter the port number for the Back Office application.
Example	2809
Notes	

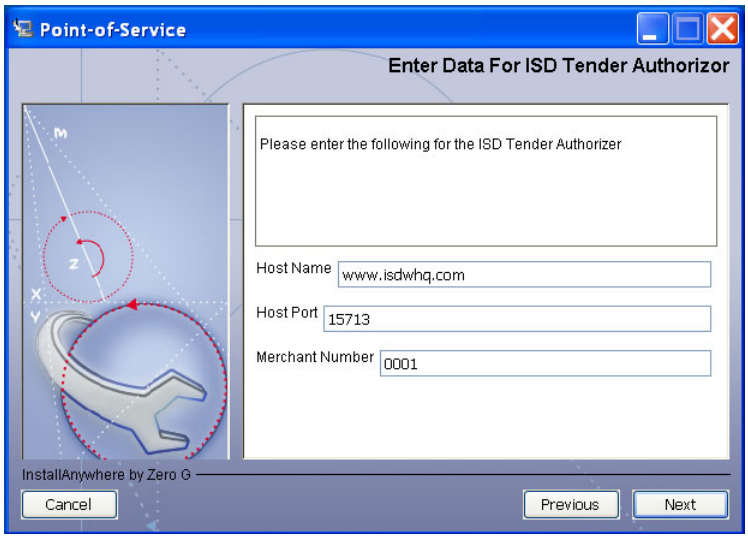
Figure A–32 Tender Authorization



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

Field Title	Select Tender Authorizer
Field Description	Choose where tender authorizations are sent. ▪ If approvals do not leave the store server and are based on values and certain numbers, choose **Simulated**. ▪ If approvals are sent to a third party system to approve the authorizations, choose **ISD**. Note: Demo installations should use the Simulated option.
Example	Simulated
Notes	

Figure A–33 Enter Data for ISD Tender Authorizor



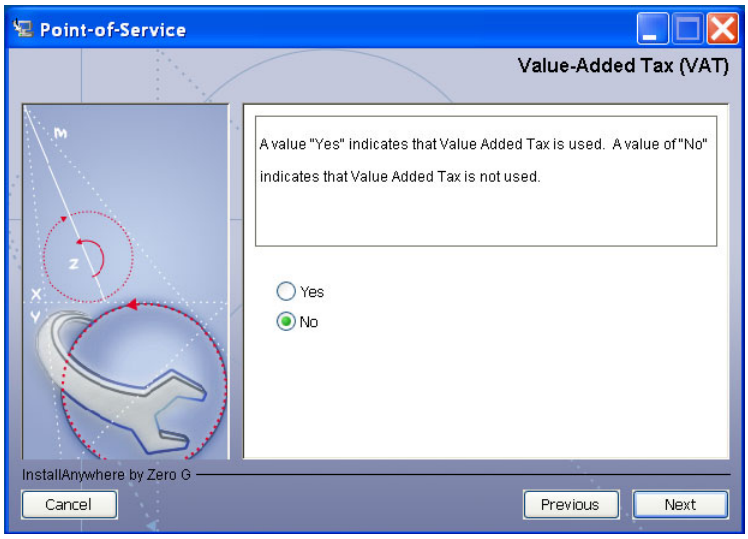
This screen is only displayed if **ISD** is selected for the Tender Authorization. The fields on this screen are described in the following tables.

Field Title	Host Name
Field Description	Host name of the tender authorizer.
Example	www.isdwhq.com
Notes	

Field Title	Host Port
Field Description	Port number used for the communication between the store server and the tender authorizer.
Example	15713
Notes	

Field Title	Merchant Number
Field Description	Number used by the tender authorizer to identify the merchant that requested the authorization.
Example	0001
Notes	

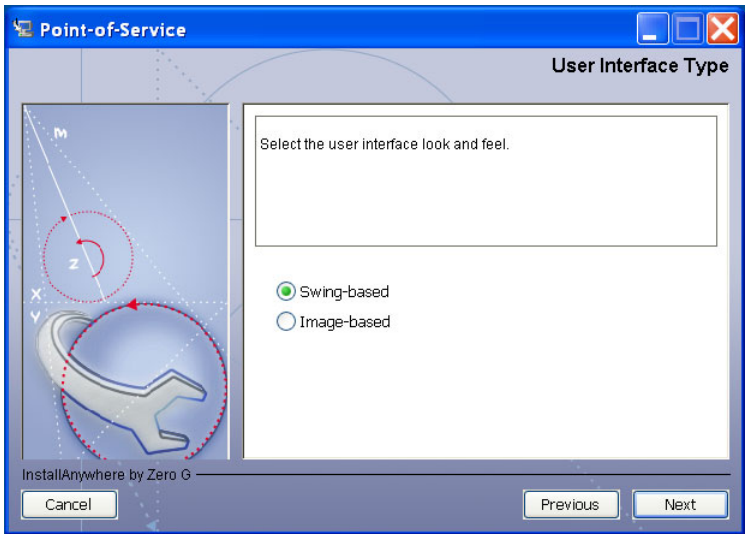
Figure A–34 Value-Added Tax (VAT)



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

Field Title	Value-Added Tax
Field Description	Choose whether Value-Added Tax is used.
Example	Yes
Notes	

Figure A–35 User Interface Type



This screen is only displayed if **N-Tier Client** is selected for the Tier Type. The field on this screen is described in the following table.

Field Title	User Interface Type
Field Description	Choose the user interface look and feel. ▪ To use a standard swing interface, choose **Swing-based**. ▪ To use custom images for buttons and other graphics, choose **Image-based**.
Example	Swing-based
Notes	

Figure A–36 Pre-Installation Summary

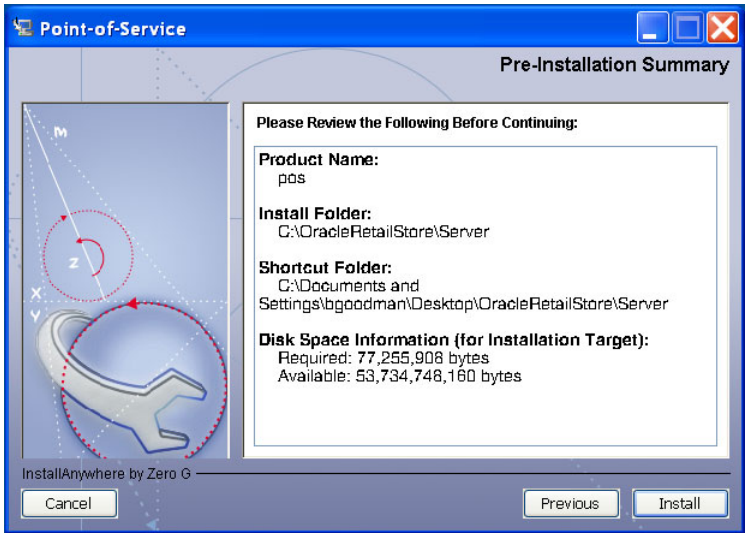
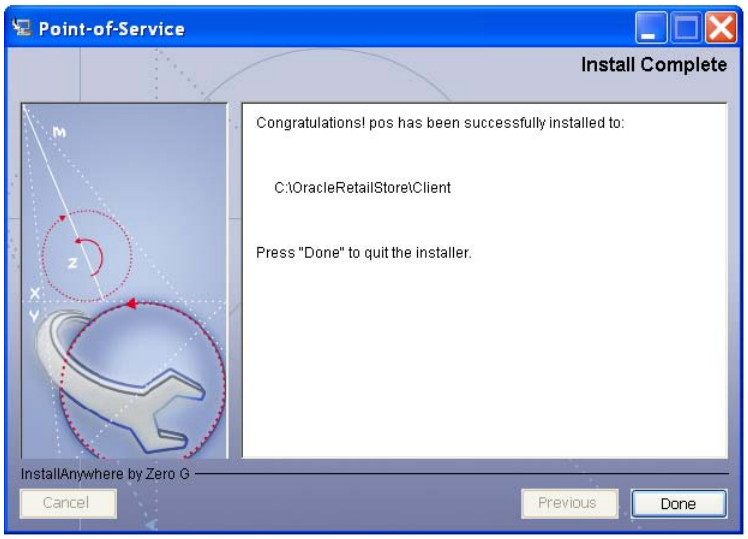


Figure A–37 Install Complete



B

Appendix: Installer Silent Mode

In addition to the GUI interface of the Point-of-Service installer, there is a silent mode that can be run. This mode is useful if you wish to run a repeat installation without reentering the settings you provided in the previous installation.

During installation, the `installvariables.properties` file is created with the settings that were provided during installation. The contents of this file are used as input when installing in silent mode.

To run the installer in silent mode, follow these instructions:

1. Locate the properties file at *<POS_INSTALL_DIRECTORY>* `/pos/UninstallerData/installvariables.properties`.
2. Copy the file to a different directory.
3. Edit the copy of the `installvariables.properties` file to use the settings that you want. You must add the following statement in order for the silent install to work:

   ```
   INSTALL_UI=silent
   ```

   Note: Be certain that the statement you add matches the case show here exactly.

4. Run the installer.

   <INSTALL_DIR>`/posinst.bin -f` *<updated properties file>*

C

Appendix: URL Reference

Both the database schema and application installers for the Point-of-Service 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>*: hostname of the database server
- *<port>*: database listener port
- *<sid>*: system identifier for the database

For example, `jdbc:oracle:thin:@myhost:1521:mysid`

D

Appendix: Common Installation Errors

This appendix describes some common errors encountered during installation of Point-of-Service.

"Pos installer finished with errors"

If you see this error message, there could be some settings incorrectly set or problems with the installer itself. For more information, check the *<POS_install_directory>*/pos/logs/installer_log.txt file.

"Dispatcher.main, Exception: java.security.AccessControlException: access denied (java.util.PropertyPermission * read,write)"

Symptom:

The application dies when starting up:

```
 [java] Dispatcher.main, Exception: java.security.AccessControlException: access
denied (java.util.PropertyPermission * read,write)
     [java] java.security.AccessControlException: access denied
(java.util.PropertyPermission * read,write)
     [java]     at java.security.AccessControlContext.checkPermission(Unknown
Source)
     [java]     at java.security.AccessController.checkPermission(Unknown Source)
     [java]     at java.lang.SecurityManager.checkPermission(Unknown Source)
     [java]     at java.lang.SecurityManager.checkPropertiesAccess(Unknown Source)
     [java]     at java.lang.System.getProperties(Unknown Source)
     [java]     at
com.extendyourstore.foundation.tour.conduit.Dispatcher.<init>(Dispatcher.java:461)
     [java]     at
com.extendyourstore.foundation.tour.conduit.Dispatcher.getDispatcher(Dispatcher.ja
va:1301)
     [java]     at
com.extendyourstore.foundation.tour.conduit.Dispatcher.main(Dispatcher.java:2439)
     [java]     at
com.extendyourstore.foundation.config.TierLoader.main(TierLoader.java:359)
```

Solution:

This error usually occurs because the JRE that you are pointing to does not contain the `updated java.security` and `java.policy` files.

"java.lang.NullPointerException"

Symptom:

The application dies when starting up. Check the *<POS_install_directory>*/pos/logs/installer_log.txt file. In the log file, search for **Database 'offlinedb' not found**.

```
ERROR 2007-07-29 15:54:49,608 4938
(main:com.extendyourstore.foundation.manager.data.JdbcDataConnection):

[com.extendyourstore.foundation.manager.data.JdbcDataConnection.logSQLException
(JdbcDataConnection.java:1355)] Get Connection failed :Database 'offlinedb' not
found.
```

Solution:

This error occurs the first time the client is started after it is installed. The server was unable to establish a connection to the database. This prevented the offlinedb database from being created.

This error usually occurs because incorrect information was entered on the Database Configuration screen during the install. Reinstall the server with the correct database configuration information. Check that the IDDI folder was created for the server in *<POS_install_directory>*/pos/bin.

E

Appendix: Troubleshooting Problems on the Oracle Stack

This appendix contains information that may be useful if you encounter errors running Point-of-Service for the first time after an install.

The configuration steps enable Point-of-Service to communicate with Back Office and Central Office in order to receive parameter updates and to send EJournal and POSLogs up to Central Office. If you have problems, you may want to ensure the steps were successfully completed by the installer.

jndi.properties File Name

On the Central Office/Back Office Server Information screen, you enter the host name for the Central Office server. In the *<POS_install_directory>*/pos/config directory, there is a jndi.properties file for Central Office. When this file is created during installation, the name of the file includes the host name you entered for the Central Office server.

For example, if you enter centraloffice for the host name, the name of the created file is centraloffice.jndi.properties.

Performing a Manual Integration

The following steps need to be completed for Point-of-Service to communicate with Back Office and Central Office. These steps enable Point-of-Service to receive parameter updates and to send EJournal and POSLogs up to Central Office.

Client Configuration

To configure the client:

1. Verify the following class path entries in the *<POS_install_directory>*\pos\bin\posenv.bat file.

```
SET CLASSPATH=%CLASSPATH%;%_360COMMON_PATH%\common\build\oc4j-internal.jar
SET CLASSPATH=%CLASSPATH%;%_360COMMON_PATH%\common\build\javax77.jar
SET CLASSPATH=%CLASSPATH%;%_360COMMON_PATH%\common\build\jta.jar
SET CLASSPATH=%CLASSPATH%;%_360COMMON_PATH%\common\build\jms.jar
SET CLASSPATH=%CLASSPATH%;%_360COMMON_PATH%\common\build\optic.jar
```

2. Change the *<POS_install_directory>*\pos\bin\jndi.properties file to point to Back Office.

```
java.naming.provider.url=
ormi://<Back Office Server Name>:<Back Office Port Number>
java.naming.factory.initial=com.evermind.server.rmi.RMIInitialContextFactory
java.naming.security.principal=oc4jadmin
java.naming.security.credentials=oc4jadmin
```

3. Add the Back Office queue and topic connection factory entries to the *<POS_install_directory>*\pos\bin\comm.properties file.

```
comm.jms.topicConnectionFactory.name=jms/ApplicationTCF
comm.jms.queueConnectionFactory.name=jms/ApplicationQCF
```

4. Edit ParameterTechnician in the *<POS_install_directory>* \pos\config\conduit\ClientConduit.xml file.

```
<TECHNICIAN name="ParameterTechnician" class = "ParameterTechnician"
               package = "com.extendyourstore.foundation.manager.parameter"
               export = "Y" >
           <PROPERTY propname="paramScript"

propvalue="classpath://config/manager/PosParameterTechnician.xml"/>
           <PROPERTY propname="JmsProviderTopicName"
propvalue="jms/parameters"/>
   <PROPERTY propname="listenForUpdates" propvalue="Y"/>
           <PROPERTY propname="clientID" propvalue="reg129"/>
           <PROPERTY propname="jmsID" propvalue="oc4jadmin"/>
           <PROPERTY propname="jmsPassword" propvalue="oc4jadmin"/>
   </TECHNICIAN>
```

Store Server Configuration

To configure the store server:

1. Verify the following class path entries in the *<POS_install_directory>*\pos\bin\posenv.bat file.

```
SET CLASSPATH=%CLASSPATH%;%_360COMMON_PATH%\common\build\oc4j-internal.jar
SET CLASSPATH=%CLASSPATH%;%_360COMMON_PATH%\common\build\javax77.jar
SET CLASSPATH=%CLASSPATH%;%_360COMMON_PATH%\common\build\jta.jar
SET CLASSPATH=%CLASSPATH%;%_360COMMON_PATH%\common\build\jms.jar
SET CLASSPATH=%CLASSPATH%;%_360COMMON_PATH%\common\build\optic.jar
```

2. Change the *<POS_install_directory>*\pos\config\backoffice.jndi.properties and *<POS_install_directory>*\pos\bin\jndi.properties files to point to Back Office.

```
java.naming.provider.url=
ormi://<Back Office Server Name>:<Back Office Port Number>
java.naming.factory.initial=com.evermind.server.rmi.RMIInitialContextFactory
java.naming.security.principal=oc4jadmin
java.naming.security.credentials=oc4jadmin
```

3. Change the *<POS_install_directory>*\pos\config\ *<Central Office Server Name>*.jndi.properties file to point to Central Office.

   - This creates access to the POSLog and EJournalImport queues only:

     ```
     java.naming.provider.url=
         ormi://<Central Office Server Name>:<Central Office Port Number>
     java.naming.factory.initial=
         com.evermind.server.rmi.RMIInitialContextFactory
     java.naming.security.principal=oc4jadmin
     java.naming.security.credentials=oc4jadmin
     ```

   - To enable Centralized Transaction Retrieval to access the EJBs and POSLog and EJournalImport queues:

     ```
     java.naming.provider.url=ormi:
       //<Central Office host name>:<Central Office Port Number>/CentralOffice
     java.naming.factory.initial=
       com.evermind.server.rmi.RMIInitialContextFactory
     java.naming.security.principal=pos
     java.naming.security.credentials=pos
     ```

4. Add the Back Office and Central Office queue and topic connection factory entries to the *<POS_install_directory>*\pos\bin\comm.properties file.

   ```
   comm.jms.topicConnectionFactory.name=jms/ApplicationTCF
   comm.jms.queueConnectionFactory.name=jms/ApplicationQCF
   comm.jms.topicConnectionFactory.name.<Central Office Server Name>=
   jms/ApplicationTCF
   comm.jms.queueConnectionFactory.name.<Central Office Server Name>=
   jms/ApplicationQCF
   ```

5. Delete the comm.properties file from *<POS_install_directory>*\pos\config.

6. Edit the log export configuration in the *<POS_install_directory>* \pos\config\conduit\StoreServerConduit.xml file by changing only one of the following sections.

   - To use data replication, edit the DataReplicationDaemonTechnician section.

     ```
     <TECHNICIAN name="DataReplicationDaemonTechnician"
                   class="DataReplicationDaemonTechnician"
                   package="com.extendyourstore.domain.manager.datareplication"
                   export="Y">
            <PROPERTY propname="daemonClassName"

     propvalue="com.extendyourstore.domain.manager.datareplication.DataReplicati
     onExportDaemonThread"/>
            <PROPERTY propname="sleepInterval"
                      propvalue="15"/>
            <PROPERTY propname="logWriterClass"

     propvalue="com.extendyourstore.domain.manager.datareplication.JMSDataReplic
     ationWriter"/>

            <PROPERTY propname="extractorConfigurationFileName"
                      propvalue="config/ReplicationExportConfig.xml"/>
            <PROPERTY propname="queueHostName"
     ```

```
                    propvalue="<Central Office Server Name>"/>
            <PROPERTY propname="maximumTransactionsToExport"
                    propvalue="2"/>
            <PROPERTY propname="queueName"
                    propvalue="jms/POSLog"/>
        </TECHNICIAN>
```

- To use the POSLog, edit the `PosLogDaemonTechnician` section. Edit the version that exports to a JMS queue.

```
TECHNICIAN name="POSLogDaemonTechnician"
              class="POSLogDaemonTechnician"
              package="com.extendyourstore.domain.manager.export"
              export="Y">
        <PROPERTY propname="daemonClassName"

propvalue="com.extendyourstore.domain.manager.export.POSLogExportDaemonThre
ad"/>
        <PROPERTY propname="sleepInterval"
                  propvalue="5"/>
        <PROPERTY propname="logWriterClass"

propvalue="com.extendyourstore.domain.ixretail.log.POSLogWriter"/>
        <PROPERTY propname="queueHostName"
                  propvalue="<Central Office Server Name>"/>
        <PROPERTY propname="queueName"
                  propvalue="jms/POSLog"/>
        <PROPERTY propname="logWriterClass"

propvalue="com.extendyourstore.domain.ixretail.log.JMSPOSLogWriter"/>
    </TECHNICIAN>
```

  The `queueHostName` must be changed to *`<Central Office Server Name>`* as shown in this example. This will allow the POSLog Export Daemon to use the *`<POS_install_directory>`*`\pos\config\`*`<Central Office Server Name>`*`.jndi.properties` file. Delete the *`<POS_install_directory>`*`\pos\config\`*`<Central Office Server Name>`*`.jndi.properties` file.

7. Edit `JMSJournalTechnician` in the *`<POS_install_directory>`* `\pos\config\conduit\StoreServerConduit.xml` file.

```
 <TECHNICIAN name="JMSJournalTechnician"
               class="JMSJournalTechnician"
               package="com.extendyourstore.foundation.manager.journal"
               export="Y">
               <PROPERTY propname="journalFormatterClass"

propvalue="com.extendyourstore.pos.manager.journal.POSJournalFormatter"/>
               <PROPERTY propname="journalHandlerClass"

propvalue="com.extendyourstore.pos.manager.journal.POSJMSJournalHandler"/>
               <PROPERTY propname="queueName" propvalue="jms/EJournal"/>
               <PROPERTY propname="consolePrintable" propvalue="N"/>
    </TECHNICIAN>
```

8. Edit `MessageCenterDaemonTechnician` in the *<POS_install_directory>* `\pos\config\conduit\StoreServerConduit.xml` file.

```
 <TECHNICIAN name="MessageCenterDaemonTechnician"
              class="MessageCenterDaemonTechnician"
              package="com.extendyourstore.domain.manager.messagecenter"
              export="Y">
       <PROPERTY propname="daemonClassName"

propvalue="com.extendyourstore.domain.manager.messagecenter.MessageCenterDaemon
Thread"/>
       <PROPERTY propname="senderQueueName"
                 propvalue="jms/EJournalImport"/>
       <PROPERTY propname="senderBrokerName"
                 propvalue="<Central Office Server Name>"/>
       <PROPERTY propname="receiverQueueName"
                 propvalue="jms/EJournal"/>
       <PROPERTY propname="receiverBrokerName"
                 propvalue=""/>
   </TECHNICIAN>
```

Note: The value set for the `queueName` property for the `JMSJournalTechnician` and the value set for the `receiverQueueName` property for the `MessageCenterDaemonTechnician` must be the same.

F

Appendix: Troubleshooting Problems on the IBM Stack

This appendix contains information that may be useful if you encounter errors running Point-of-Service for the first time after an install.

The configuration steps enable Point-of-Service to communicate with Back Office and Central Office in order to receive parameter updates and to send EJournal and POSLogs up to Central Office. If you have problems, you may want to ensure the steps were successfully completed by the installer.

jndi.properties File Name

On the Central Office/Back Office Server Information screen, you enter the host name for the Central Office server. In the *<POS_install_directory>*/pos/config directory, there is a jndi.properties file for Central Office. When this file is created during installation, the name of the file includes the host name you entered for the Central Office server.

For example, if you enter centraloffice for the host name, the name of the created file is centraloffice.jndi.properties.

Performing a Manual Integration

The following steps need to be completed for Point-of-Service to communicate with Back Office and Central Office. These steps enable Point-of-Service to receive parameter updates and to send EJournal and POSLogs up to Central Office.

Client Configuration

To configure the client:

1. If the host names of the Back Office and Central Office servers are not available on a DNS server, update the /etc/hosts file with the IP address and host name where Point-of-Service is installed. This step is required for JMS messaging to work properly.
2. Remove the following class path entries from the *<POS_install_directory>*/pos/bin/posenv.sh file.

```
SET CLASSPATH=$CLASSPATH:$_360COMMON_PATH/common/build/oc4j-internal.jar
SET CLASSPATH=$CLASSPATH:$_360COMMON_PATH/common/build/javax77.jar
SET CLASSPATH=$CLASSPATH:$_360COMMON_PATH/common/build/jms.jar
SET CLASSPATH=$CLASSPATH:$_360COMMON_PATH/common/build/optic.jar
SET CLASSPATH=$CLASSPATH:jboss-4.0.2/lib/jboss-common.jar
```

```
SET CLASSPATH=$CLASSPATH:jboss-4.0.2/client/jboss-j2ee.jar
SET CLASSPATH=$CLASSPATH:jboss-4.0.2/client/jbossmq-client.jar
SET CLASSPATH=$CLASSPATH:jboss-4.0.2/client/jnp-client.jar
```

3. Add the following class path entries to the *<POS_install_directory>*/pos/bin/posenv.sh file.

```
CP=$CP:<WAS_INSTALL_DIR>/WebSphere/AppServer/plugins/
com.ibm.ws.runtime_6.1.0.jar
CP=$CP:<WAS_INSTALL_DIR>/WebSphere/AppServer/runtimes/
com.ibm.ws.admin.client_6.1.0.jar
CP=$CP:<MQ_INSTALL_DIR>/java/lib/jms.jar
CP=$CP:<WAS_INSTALL_DIR>/lib/WMQ/java/lib/com.ibm.mqjms.jar
CP=$CP:<WAS_INSTALL_DIR>/lib/WMQ/java/lib/com.ibm.mq.jar
CP=$CP:<WAS_INSTALL_DIR>/lib/WMQ/java/lib/dhbcore.jar
```

4. Change the *<POS_install_directory>*/pos/bin/jndi.properties file to point to Back Office.

```
java.naming.provider.url=
corbaloc:iiop:<Back Office Server Name>:<Back Office Port Number>
```

5. Add the Back Office queue and topic connection factory entries to the *<POS_install_directory>*/pos/bin/comm.properties file.

```
comm.jms.topicConnectionFactory.name=jms/ApplicationTCF
comm.jms.queueConnectionFactory.name=jms/ApplicationQCF
```

6. Delete the comm.properties file from *<POS_install_directory>*/pos/config.

7. Edit ParameterTechnician in the *<POS_install_directory>* /pos/config/conduit/ClientConduit.xml file.

```
<TECHNICIAN name="ParameterTechnician" class = "ParameterTechnician"
               package = "com.extendyourstore.foundation.manager.parameter"
               export = "Y" >
          <PROPERTY propname="paramScript"
propvalue="classpath://config/manager/PosParameterTechnician.xml"/>
          <PROPERTY propname="JmsProviderTopicName"
propvalue="jms/parameters"/>
   <PROPERTY propname="listenForUpdates" propvalue="Y"/>
          <PROPERTY propname="clientID" propvalue="reg129"/>
          <PROPERTY propname="jmsID" propvalue="<UNIX user>"/>
          <PROPERTY propname="jmsPassword" propvalue="<password>"/>
   </TECHNICIAN>
```

Note: The value of clientID must match the WorkstationID specified in the application.properties file.

Note: You must create a UNIX user on the host where Back Office is installed and add that user to the mqm group. The values for jmsID and jmsPassword specified in the Password Technician definition must match the values for the UNIX user and password.

Store Server Configuration

To configure the store server:

1. Update the `/etc/hosts` file with the IP address and host name where Point-of-Service is installed. This step is required for JMS messaging to work properly.
2. Update the `/etc/group` file with the user ID that will be used to run the store server. Add that user ID to the `mqm` group. The user ID must be part of the `mqm` group in order to use JMS.
3. Remove the following class path entries from the *<POS_install_directory>*`/pos/bin/posenv.sh` file.

```
SET CLASSPATH=$CLASSPATH:$_360COMMON_PATH\common\build\oc4j-internal.jar
SET CLASSPATH=$CLASSPATH:$_360COMMON_PATH\common\build\javax77.jar
SET CLASSPATH=$CLASSPATH:$_360COMMON_PATH\common\build\jms.jar
SET CLASSPATH=$CLASSPATH:$_360COMMON_PATH\common\build\optic.jar
SET CLASSPATH=$CLASSPATH:jboss-4.0.2/lib/jboss-common.jar
SET CLASSPATH=$CLASSPATH:jboss-4.0.2/client/jboss-j2ee.jar
SET CLASSPATH=$CLASSPATH:jboss-4.0.2/client/jbossmq-client.jar
SET CLASSPATH=$CLASSPATH:jboss-4.0.2/client/jnp-client.jar
```

4. Add the following class path entries to the *<POS_install_directory>*`/pos/bin/posenv.sh` file.

```
CP=$CP:<WAS_INSTALL_DIR>/AppServer/plugins/com.ibm.ws.runtime_6.1.0.jar
CP=$CP:<WAS_INSTALL_DIR>/AppServer/runtimes/com.ibm.ws.admin.client_6.1.0.jar
CP=$CP:<MQ_INSTALL_DIR>/java/lib/jms.jar
CP=$CP:<WAS_INSTALL_DIR>/lib/WMQ/java/lib/com.ibm.mqjms.jar
CP=$CP:<WAS_INSTALL_DIR>/lib/WMQ/java/lib/com.ibm.mq.jar
CP=$CP:<WAS_INSTALL_DIR>/lib/WMQ/java/lib/dhbcore.jar
```

5. Change the *<POS_install_directory>*`/pos/config/backoffice.jndi.properties` and *<POS_install_directory>*`/pos/bin/jndi.properties` files to point to Back Office.

```
java.naming.provider.url=
corbaloc:iiop:<Back Office Server Name>:<Back Office Port Number>
```

6. To use Centralized Transaction Retrieval, there are jar files that must be copied into the Point-of-Service directory.

> **Note:** Oracle Retail Central Office must be installed and deployed on WebSphere before these jar files can be copied into the Point-of-Service directory. These files are created during the deployment.

Copy the following jar files to *<POS_install_directory>*`/360common/lib`:

- *<WAS_INSTALL_DIR>*`/profiles/`*<AppSrvNN>*`/installedApps/`*<hostnameNodeNNCell>*`/CentralOffice.ear/transaction-retrieval-ejb.jar`
- *<WAS_INSTALL_DIR>*`/profiles/`*<AppSrvNN>*`/installedApps/`*<hostnameNodeNNCell>*`/CentralOffice.ear/customer-retrieval-ejb.jar`

7. Change the *<POS_install_directory>* /pos/config/centraloffice.jndi.properties file to point to Central Office. This creates access to the POSLog and EJournalImport queues and enables Centralized Transaction Retrieval to access the EJBs and POSLog and EJournalImport queues.

   ```
   java.naming.provider.url=
   corbaloc:iiop:<Central Office Server Name>:<Central Office Port Number>
   ```

8. Add the Back Office and Central Office queue and topic connection factory entries to the *<POS_install_directory>*/pos/bin/comm.properties file.

   ```
   comm.jms.topicConnectionFactory.name=jms/ApplicationTCF
   comm.jms.queueConnectionFactory.name=jms/ApplicationQCF
   comm.jms.topicConnectionFactory.name.<Central Office Server Name>=
   jms/ApplicationTCF
   comm.jms.queueConnectionFactory.name.<Central Office Server Name>=
   jms/ApplicationQCF
   ```

9. Delete the comm.properties file from *<POS_install_directory>*/pos/config.

10. Edit the log export configuration in the *<POS_install_directory>* /pos/config/conduit/StoreServerConduit.xml file by changing only one of the following sections.

    - To use data replication, edit the DataReplicationDaemonTechnician section.

      ```
      <TECHNICIAN name="DataReplicationDaemonTechnician"
                    class="DataReplicationDaemonTechnician"
                    package="com.extendyourstore.domain.manager.datareplication"
                    export="Y">
            <PROPERTY propname="daemonClassName"
      propvalue="com.extendyourstore.domain.manager.datareplication.DataReplicati
      onExportDaemonThread"/>
            <PROPERTY propname="sleepInterval"
                      propvalue="50"/>
            <PROPERTY propname="logWriterClass"
      propvalue="com.extendyourstore.domain.manager.datareplication.JMSDataReplic
      ationWriter"/>
            <PROPERTY propname="extractorConfigurationFileName"
                      propvalue="config/ReplicationExportConfig.xml"/>
            <PROPERTY propname="queueHostName"
                      propvalue="<Central Office Server Name>"/>
            <PROPERTY propname="maximumTransactionsToExport"
                      propvalue="2"/>
            <PROPERTY propname="queueName"
                      propvalue="jms/POSLog"/>
        </TECHNICIAN>
      ```

    - To use the POSLog, edit the PosLogDaemonTechnician section. Edit the version that exports to a JMS queue.

      ```
      TECHNICIAN name="POSLogDaemonTechnician"
                    class="POSLogDaemonTechnician"
                    package="com.extendyourstore.domain.manager.export"
                    export="Y">
            <PROPERTY propname="daemonClassName"
      propvalue="com.extendyourstore.domain.manager.export.POSLogExportDaemonThre
      ad"/>
            <PROPERTY propname="sleepInterval"
      ```

```
                    propvalue="60"/>
            <PROPERTY propname="logWriterClass"
    propvalue="com.extendyourstore.domain.ixretail.log.POSLogWriter"/>
            <PROPERTY propname="queueHostName"
                      propvalue="<Central Office Server Name>"/>
            <PROPERTY propname="queueName"
                      propvalue="jms/POSLog"/>
            <PROPERTY propname="logWriterClass"
    propvalue="com.extendyourstore.domain.ixretail.log.JMSPOSLogWriter"/>
        </TECHNICIAN>
```

11. Edit `JMSJournalTechnician` in the *<POS_install_directory>* `/pos/config/conduit/StoreServerConduit.xml` file.

```
 <TECHNICIAN name="JMSJournalTechnician"
                class="JMSJournalTechnician"
                package="com.extendyourstore.foundation.manager.journal"
                export="Y">
              <PROPERTY propname="journalFormatterClass"
propvalue="com.extendyourstore.pos.manager.journal.POSJournalFormatter"/>
               <PROPERTY propname="journalHandlerClass"
propvalue="com.extendyourstore.pos.manager.journal.POSJMSJournalHandler"/>
                <PROPERTY propname="queueName" propvalue="jms/EJournal"/>
                <PROPERTY propname="consolePrintable" propvalue="N"/>
    </TECHNICIAN>
```

12. Edit `MessageCenterDaemonTechnician` in the *<POS_install_directory>* `/pos/config/conduit/StoreServerConduit.xml` file.

```
 <TECHNICIAN name="MessageCenterDaemonTechnician"
               class="MessageCenterDaemonTechnician"
               package="com.extendyourstore.domain.manager.messagecenter"
               export="Y">
        <PROPERTY propname="daemonClassName"
propvalue="com.extendyourstore.domain.manager.messagecenter.MessageCenterDaemon
Thread"/>
        <PROPERTY propname="senderQueueName"
                  propvalue="jms/EJournalImport"/>
        <PROPERTY propname="senderBrokerName"
                  propvalue="<Central Office Server Name>"/>
        <PROPERTY propname="receiverQueueName"
                  propvalue="jms/EJournal"/>
        <PROPERTY propname="receiverBrokerName"
                  propvalue=""/>
    </TECHNICIAN>
```

Note: The value set for the `queueName` property for the `JMSJournalTechnician` and the value set for the `receiverQueueName` property for the `MessageCenterDaemonTechnician` must be the same.
