

# ONESOURCE™ INDIRECT TAX REPORTING

## INSTALLATION GUIDE

MICROSOFT WINDOWS: ORACLE DATABASE AND MICROSOFT SQL  
SERVER DATABASE

6.8.X.X

Document Version 2

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## DOCUMENT HISTORY

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V1	October 10, 2020	Created this Oracle and SQL guide for ONESOURCE Indirect Tax Reporting 6.8.0.x
V2	December 14, 2021	Updated to address newer platform version support.



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# INTRODUCTION

ONESOURCE Indirect Tax Reporting provides fast, accurate, and flexible business intelligent reporting that is fully integrated with the ONESOURCE Indirect Tax Global Software Suite to support your global indirect tax compliance, reconciliation, and data analysis needs. It also allows you to create or customize reports, incorporating data from external sources to meet unique and complex business process needs.

Reporting is composed of several components that work together to give you a powerful, scalable enterprise-class reporting tool. This guide provides the steps you need to successfully install Reporting on the Microsoft Windows platform with the Oracle database and the Microsoft SQL Server database.

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## WHO SHOULD READ THIS GUIDE?

The installation requires the coordination of people in various roles. If you are responsible for overseeing the installation, make this guide available to the following contributors:

- Database administrator
- Application server administrator
- IT administrator
- Tax professional

## CHECKLISTS

Print the following checklists and use them to mark your progress through the prerequisites and installation.

## Prerequisites

PREREQUISITES	
Task	Done?
<a href="#">Download the Software (page 13)</a>	
<a href="#">Sizing (page 14)</a>	
<a href="#">Networking (page 14)</a>	
<a href="#">Operating System (page 14)</a>	
<a href="#">Java (page 14)</a>	
<a href="#">Application Server (page 15)</a>	
<a href="#">Database Preparation (page 15)</a>	

## Installation

Complete the tasks in the order shown in the tables below:

INSTALLATION CHECKLIST A	
<b>Supporting Software: Business Intelligence</b>	
<a href="#">Creating the ODBC Data Source (page 20)</a>	
<a href="#">Installing SAP BusinessObjects BI Platform (page 24)</a>	
<a href="#">Editing the CRConfig File (page 46)</a>	
<a href="#">Configuring Report Timeout and Recycle Bin (page 47)</a>	
<b>Supporting Software: Data Services</b>	
<a href="#">Installing SAP BusinessObjects Data Services (page 51)</a>	
<a href="#">Stopping Services (page 73)</a>	
<a href="#">Checking the LINK_DIR Variable (page 74)</a>	

**INSTALLATION CHECKLIST A**[Changing Socket Timeout \(page 74\)](#)[Modifying Max Return Size \(page 75\)](#)[Configuring the Adapter \(page 75\)](#)[Starting Services \(page 78\)](#)[Configuring Session Security \(page 78\)](#)[Setting Web Service Adapter Parameters \(page 80\)](#)[Adding Administrator to Data Services Groups \(page 83\)](#)**INSTALLATION CHECKLIST B****Reporting Installer**[Creating the Configuration File \(page 85\)](#)[Modifying the Installation Script \(page 97\)](#)[Running the Installer \(page 97\)](#)**Reporting Deployment**[Tomcat \(page 99\)](#)[JBoss Enterprise Edition \(page 102\)](#)[WebLogic](#)[WebSphere \(page 107\)](#)**Initial ETL**[The First Reporting Data ETL \(page 155\)](#)[User ETL \(page 162\)](#)

The basic installation is complete.

# RESOURCES

Several resources help you become familiar with ONESOURCE Indirect Tax Reporting and master its features. Help is installed with the application. All documents are posted on the ONESOURCE Customer Center. To locate documents specific to your application, enter the search term "Reporting documentation."

REPORTING RESOURCES	
Resource	Description
Help	This Help system gives assistance within Reporting. Use Help after Reporting is installed and configured.
Installation Guide	This guide is intended for technical users and contains complete details about how to install and configure Reporting.
Platform Support	This describes the combinations of operating systems, databases, and application servers on which Reporting operates.
Product Support Lifecycle	This lists the end-of-life dates for products in the ONESOURCE Indirect Tax Suite.
Upgrade Guide	This guide describes the procedures for upgrading an instance of Reporting and refers to configuration information in the Installation Guide.
Customization Guide	This guide is intended for technical users. It describes types of customization and shows examples.
Data Dictionary	This resource is intended for technical users. It contains a list of all the fields in the Reporting database.

Still can't find what you're looking for? Try these additional resources:

ONESOURCE RESOURCES	
Resource	Description
ONESOURCE Customer Center <a href="https://tax.thomsonreuters.com/support/onesource/customer-center/">https://tax.thomsonreuters.com/support/onesource/customer-center/</a>	Search for answers in the Knowledge Base, enter product support tickets, and track support ticket history for you and your organization.

ONESOURCE RESOURCES	
Resource	Description
Indirect Tax Customer Center <a href="https://customercenter.sabrix.com/">https://customercenter.sabrix.com/</a>	Download ONESOURCE Indirect Tax software.
Other ONESOURCE Indirect Tax Products and Services <a href="https://tax.thomsonreuters.com/products/brands/onesource/indirect-tax/">https://tax.thomsonreuters.com/products/brands/onesource/indirect-tax/</a>	Browse descriptions of other ONESOURCE Indirect Tax products and services.
Documentation Feedback <a href="mailto:onesource.indirect.tax.fb@thomsonreuters.com">onesource.indirect.tax.fb@thomsonreuters.com</a>	Send feedback about ONESOURCE Indirect Tax documentation.

## DEFINITIONS

The following terms are used throughout this guide. Please take a moment to familiarize yourself with these before proceeding to the architectural details below.

TERM	DESCRIPTION
ONESOURCE Indirect Tax Determination (also called <i>Determination</i> )	This is the transaction tax processing engine (formerly the Sabrix Solution).
Tax database (also called <i>Tax</i> )	A database associated with the ONESOURCE Indirect Tax Determination instance that contains tax configuration data.
Audit database (also called <i>Audit</i> )	A database associated with the ONESOURCE Indirect Tax Determination instance that contains transaction tax results.
ONESOURCE Indirect Tax Reporting (also called <i>Reporting</i> )	This is the reporting tool that helps you gather data about your tax transactions (formerly SabrixReports).
Reporting database	A database associated with the ONESOURCE Indirect Tax Reporting instance. It contains transaction tax results that have been copied from the ONESOURCE Indirect Tax Determination database(s).

TERM	DESCRIPTION
ETL	This refers to the <i>Extract Transform Load</i> process by which data is copied from the Audit database to the Reporting database.
ETL repository	A database containing the definition of the ETL process that manages the transfer of transaction tax results into the Reporting database.
Reporting repository	A database containing report definitions.
SAP Supporting Software	Reporting relies on the following SAP software: <ul style="list-style-type: none"> <li>• SAP BusinessObjects Business Intelligence Platform (abbreviated as SAP BusinessObjects BI Platform)</li> <li>• SAP BusinessObjects Data Services</li> </ul>
<SAPBaseDirectory>	Replace this alias with the directory where you installed SAP BusinessObjects BI Platform
<UnzippedReportingDirectory>	Replace this alias with the directory where you unzipped the file <i>ONESOURCEIDTRouting_68xx.zip</i> .

# STYLE CONVENTIONS

We use the following special formatting throughout this guide:

**Bold** text indicates most user interface elements, such as:

- Data you are expected to enter, such as in a text field
- Pages, buttons, tabs, and field names
- Dialog boxes, drop-down lists, selections within lists, and check box titles
- Windows
- Menu items

*Italic* text indicates the following:

- File and folder names
- Java classes, PL/SQL objects and executable files
- Document titles

CAPITAL text indicates keyboard commands, such as ENTER, or database components.

Courier text indicates command-line input/output.

<brackets> indicate user entry. For example, <host> indicates you should replace the text and angle brackets with your server name.

Book titles are shown in italics and sections within a book are in quotation marks, such as “Starting the Installation” in the *ONESOURCE Indirect Tax Reporting Installation Guide*.

 This pencil symbol indicates suggestions or additional information.

 This warning symbol indicates important text that you should review before proceeding.

➡ This carriage return symbol indicates that a single line of code is divided into multiple lines so you can read it. If you copy and paste code with these symbols, be sure to keep the code before and after the carriage return on the same line.

```
1  /* Code snippets have numbered lines with a gray background. */
2  /* Be cautious if you copy lines from the code snippets-the line
   numbers are included! */
```

## ARCHITECTURE



The n-tier architecture of ONESOURCE Indirect Tax Reporting is designed for a flexible and scalable installation. It consists of several different components all cooperating to ensure that you have a robust tool that meets your reporting needs. Some of the features of this design include:

- Running reports has no impact on the transaction database.
- The Reporting database is optimized specifically for report efficiency.
- You can add your own data to the Reporting data for use by custom reports.

- Reporting database documentation enables you to create your own queries and reports.
- The database is designed to support large volumes of data and provide superior throughput.
- Additional hardware can be added to the installation to increase the Reporting bandwidth. Each server will be used to its fullest extent to maximize the available resources.

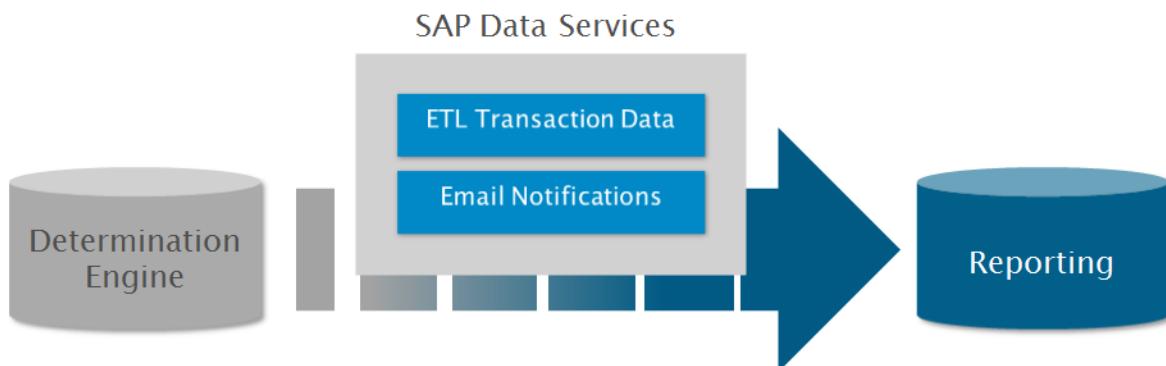
Reporting is an n-tier architecture that allows for both horizontal and vertical scaling. This allows it to be deployed on a single server for small companies with only a few users or in a multi-server clustered environment for customers with more advanced needs. This increase in scale can be highly tailored to each particular need. The diagram below shows the major components and how they can be scaled up using additional hardware.

## Database Tier

The Database Tier for Reporting stores the report data and processes the queries that are used to build the reports. The database level consists of the schemas used to hold the Reporting data as well as metadata defining the ETL process and the report definitions.

## Data Management Tier

ETL stands for *Extract Transform Load* and refers to the transfer of tax transaction results from the Audit database to the Reporting database. This tier is built using components of SAP BusinessObjects Data Services and consists of a Job Service that controls the ETL Job Server.



## Report Processing Tier

The Report Processing Tier is responsible for the generation of the reports. It is built using components from SAP BusinessObjects BI Platform. This tier manages the input and output file requests to the disk storage, submits the report requests, sends the SQL to the database, and builds the reports. It takes requests from the User Interface Tier and sends the completed report back to the User Interface Tier.

This tier also manages a disk cache to hold report data. If you have extremely large data that will be included in your reports, you might consider using a Storage Area Network (SAN) or separate file storage.

This tier consists of several services that cooperate to generate each report. Each service can be tuned individually to best fit your requirements.



The following BI Platform services require additional file system disk space:

- Crystal Reports cache
- Input file repository
- Output tile repository

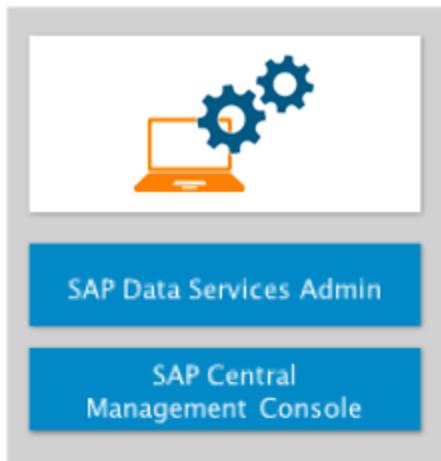
## User Interface Tier

The User Interface Tier provides the user interface for ONESOURCE Indirect Tax Reporting as well as for two administrative consoles. This tier uses a web application server (for example, the Tomcat bundled with SAP BusinessObjects BI Platform). This is the simplest tier because it performs no report processing and makes only minimal database requests to verify user access.

The Reporting application will communicate with the Reporting Processing Tier to provide the user with a list of available reports and to request execution of specific reports. The Reporting application will then receive the finished report and display this for the user.

Two additional applications are part of the User Interface Tier. These are used to administer the ETL and Report Processing Tiers. These applications will not typically be visible to end users and will be used rarely after the initial installation and once your ETL processes are scheduled.

## Back-End Administration



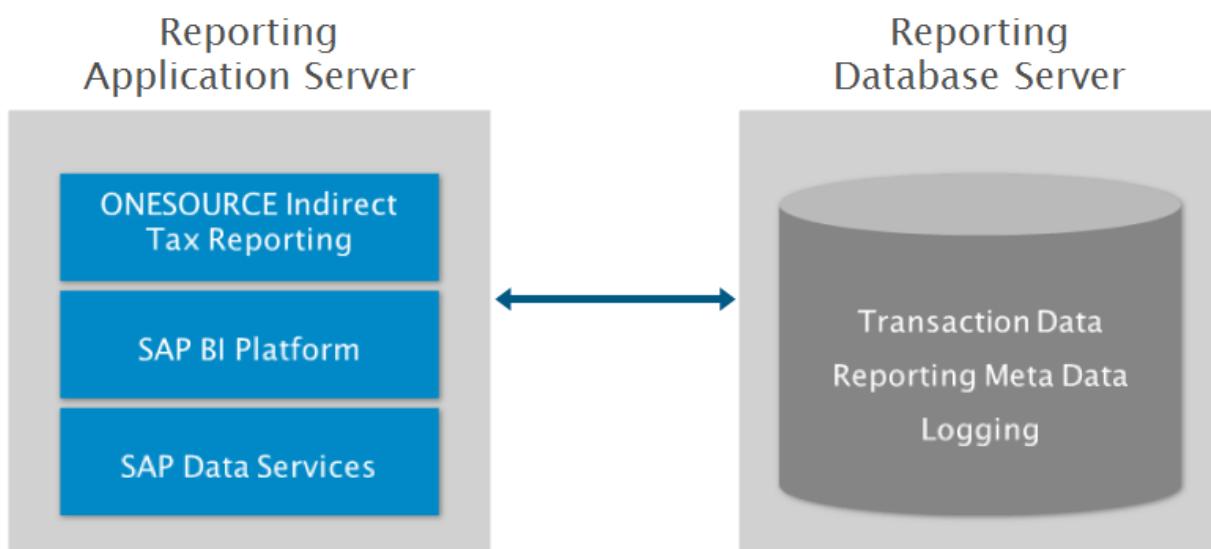
## Generate Reports



## Potential Layouts

Because ONESOURCE Indirect Tax Reporting has a flexible architecture, there are many possible configurations. The configuration you choose will depend on your specific business needs. Please see the [ONESOURCE Customer Center](#) to find the *Platform Support Guide* for your product version.

In this guide, we will assume a simple configuration that will meet the needs of two-to-five concurrent report users against moderate data volumes. This configuration uses two servers: one for the database and one for the User Interface, Reporting, and Data Management Tiers.





# PREREQUISITES

Before you begin the installation, there are several prerequisites to review for your environment. Follow them in the sequence below.

Review System Requirements .....	13
Download the Software .....	13
Sizing .....	14
Networking .....	14
Operating System .....	14
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## REVIEW SYSTEM REQUIREMENTS

ONESOURCE Reporting has detailed requirements for the following:

- Computer hardware
- Operating system
- Database
- Application server/web container

To confirm you are using supported components, review platform support and product support lifecycle information listed in the [ONESOURCE Customer Center](#).

## DOWNLOAD THE SOFTWARE

To download and install the software, get the *ONESOURCEIDTReporting\_68xx.zip* file from the Indirect Tax Customer Center:

1. Open the Indirect Tax Customer Center at <https://customercenter.sabrix.com/>.
2. Log on using the username and password provided by Customer Support.
3. Find Reporting in the **Available Products** list, and verify that **Installed Version** is set to **None**.

4. Select **Download** for Reporting.
5. Save the file.
6. Unzip the *ONESOURCE/DTReporting\_68xx.zip* file.

## SIZING

As noted in the architecture section, there are several tiers in Reporting. Each of these tiers has requirements (hardware, memory, etc.) you should consider to ensure that your Reporting instance meets your performance needs. Search the [ONESOURCE Customer Center](#) to find the Platform Support Guide for your product version.

## NETWORKING

You must have a fixed IP address for the server that is hosting Reporting.

You also need access through your firewall to the servers hosting the ONESOURCE Indirect Tax Determination software. The specific port numbers can vary based on the options you choose during the installation. Typically they are 1521 for Oracle, 6400 and 6410 for the report processing services, and 3500 and 4001 for the ETL processing services.

## OPERATING SYSTEM

Certain prerequisites for Reporting require your Microsoft Windows installation user to have administrative privileges. Without this, you will not be able to complete the prerequisites.

Ensure Windows Scheduler is active because this is used by the scheduled ETL processes.

## JAVA

Reporting requires an application server to host its various components, and the application server should use Java 1.7 or 1.8. For platform information, search the ONESOURCE Customer Center to find the *Platform Support Guide* for your product version. If your application server does not provide its own version of Java 1.7 or 1.8, you must install it separately.



You do not need to install Java separately if you are using Tomcat bundled with SAP Business Intelligence Platform.

# APPLICATION SERVER

This guide is targeted to the following application servers for the three web-based components of ONESOURCE Indirect Tax Reporting:

- **Tomcat**: Central Management Console (SAP BusinessObjects BI Platform)
- **Tomcat**: Data Services Administration Console (SAP BusinessObjects BI Platform)
- **Tomcat, JBoss, WebLogic, or WebSphere** : ONESOURCE Indirect Tax Reporting user interface

To simplify the installation process, we recommend that you use the Tomcat software bundled with SAP Business Objects to host each component. If you prefer to use another supported application server to host the Central Management Console and the Data Services Administration Console, see [Appendix: SAP Administrative Web Applications Deployment \(page 183\)](#).



You may need to increase the Java heap memory settings if you have the Central Management Console, Data Services Administration Console, and Reporting user interface on the same application server. See the instructions from your application server vendor.



SAP BusinessObjects BI Platform and SAP BusinessObjects Data Services do not support JBoss or WebLogic. This software needs to be installed on an alternate application server such as Tomcat. The Reporting application, however, is supported on JBoss and WebLogic.



ONESOURCE Indirect Tax Reporting does not support application server clustering.

## DATABASE PREPARATION

Review the following database prerequisites before you start the installation.

### Oracle



Oracle 19c supports pluggable databases (PDB). This does not impact your installation and you should continue to use your container database (CDB).

Complete each of the tasks below to prepare Oracle for the installation of Reporting:

## Setting the Processes Parameter

The default value for the database initialization parameter called **processes** is 100. If you have not already increased this, raise it to at least 200 to accommodate the processes started by Reporting.

## Installing the Client

Reporting requires 64-bit connectivity to the database. Install one of the following to set up communication between your database and Reporting:

- Oracle Instant Client
- Oracle Client
- Third-party Tool

Please refer to the installation instructions for the tool you choose.



For additional information about setting up Oracle database connectivity, see the [ONESOURCE Customer Center](#).

## Locating the JDBC Driver

A Java 1.8 compliant Oracle JDBC driver is required for this installation (for example,ojdbc8.jar for Oracle). Make a notation of the directory path and name of the JDBC driver because you will use this later in the installation process.



JDBC drivers are usually packaged with the database or database client software on your server. Please consult your DBA or download them from your database vendor's web site.

## Ensuring Connectivity Across Servers

Confirm that your TNS entries are consistent across computers that will be hosting application servers and databases for Reporting.

## Setting GLOBAL\_NAMES

The Reporting software requires the Oracle database initialization parameter of GLOBAL\_NAMES to be false. This is the default setting in Oracle.

## Creating Users

The steps below explain how to use our database scripts, and we recommend these scripts for default installations; however, if you want to customize your environment, see [Appendix: Creating Databases Without Scripts \(page 197\)](#).



These scripts grant the CREATE DATABASE LINK system privilege. If your database policy does not allow this, see [Appendix: Linking to Other Databases \(page 193\)](#).

1. Open a command-line session and navigate to the *scripts* directory.
2. Execute *ConfigureOracle.bat*.
3. Answer the prompts. If you want the default value listed, press ENTER at each prompt.

## SQL Server

Complete each of the tasks below to prepare SQL Server for the installation of Reporting:



Only one installation of Reporting is supported per named or default instance of SQL Server.

### Installing the Microsoft SQL Server Native Client

The Reporting software requires 64-bit native connectivity to the database. If you are installing Reporting on a server that does not have SQL Server database already installed, you will need to install the Microsoft SQL Server Native Client that is compatible with your SQL Server database version. This is part of the SQL Server Feature Pack, and you can download it from Microsoft.

If you plan to use more than one database instance, and you have different SQL Server database versions, install the native client that is compatible with all of your databases.

## Locating the JDBC Driver

A Java 1.6 compliant JDBC driver is required for this installation (for example, *mssql-jdbc-6.4.0.jre7.jar*). Make a notation of the directory path and name of the JDBC driver because you will use this later in the installation process.



JDBC drivers are usually packaged with the database or database client software on your server. Please consult your DBA or download them from your database vendor's web site.

## Creating the Database

The steps below explain how to use our database scripts, and we recommend these scripts for default installations; however, if you want to customize your environment, see [Appendix: Creating Databases Without Scripts \(page 197\)](#).



If you use our scripts to create these objects, you must configure the database to use Mixed Mode Authentication.

Also, these scripts grant the permissions "alter any linked server" and "alter any login." If your database policy does not allow this, see [Appendix: Linking to Other Databases \(page 193\)](#).

1. Open a command-line session and navigate to the *scripts* directory.



When you execute the script below, you will be prompted to create passwords. Ensure that the passwords you enter conform to SQL Server's password policy.

2. Execute *CreateReportingUsersAndTablespaces\_SQLServer.bat*.
3. Answer the prompts. If you want the default value listed in square brackets, press ENTER at each prompt.

# SUPPORTING SOFTWARE

ONESOURCE Indirect Tax Reporting relies on two products from SAP Business Objects: Business Intelligence and Data Services. Complete the following before installing the Reporting user interface.



This guide takes you through the recommended installation path with Tomcat, an application server that is included with the SAP software. If you prefer to use an alternative application server for the SAP software, see [Appendix: SAP Administrative Web Applications Deployment \(page 183\)](#).

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## SAP BUSINESSOBJECTS BI PLATFORM

This section describes how to install SAP BusinessObjects BI Platform. Reporting uses several components of this tool: server processes for generating/caching reports and a web application for administration and troubleshooting (Central Management Console). The following sections explain how to install the software and make initial configurations.

- [Creating the ODBC Data Source \(page 20\)](#)
- [Installing SAP BusinessObjects BI Platform \(page 24\)](#)
- [Editing the CRConfig File \(page 46\)](#)
- [Configuring Report Timeout and Recycle Bin \(page 47\)](#)

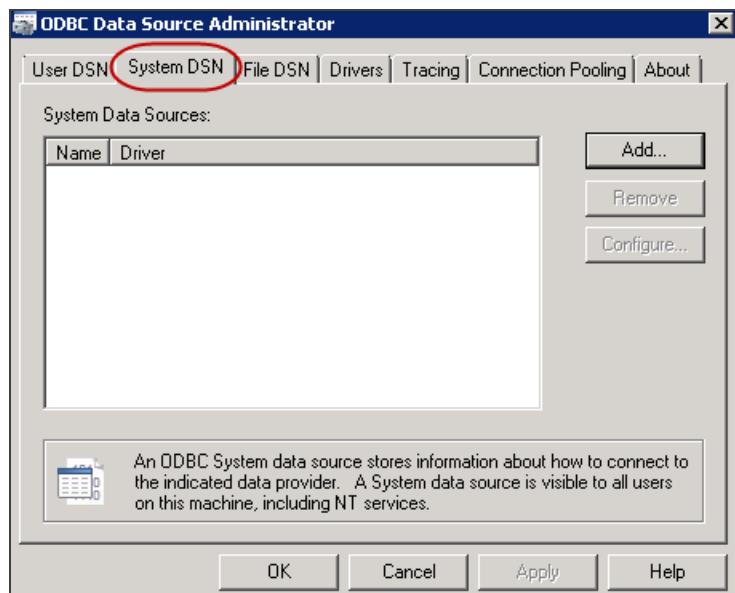


You must install the Thomson Reuters-provided SAP BusinessObjects components even if you have your own BusinessObjects deployment. Reporting uses specific versions and sets of components that may not be compatible with your installed version.

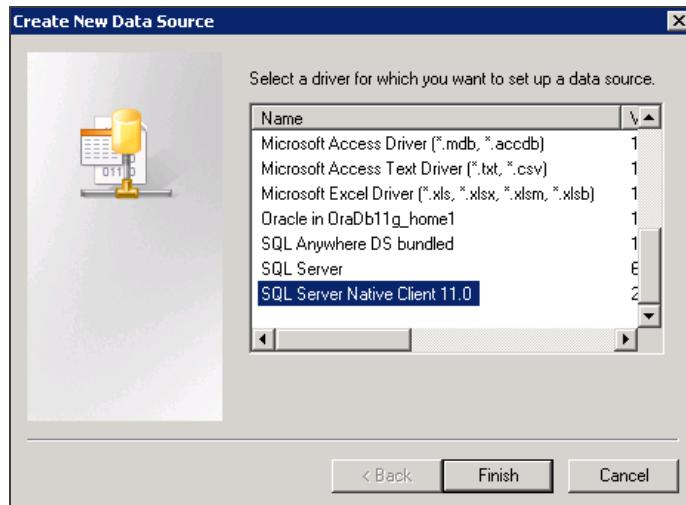
## Creating the ODBC Data Source

To prepare for the installation of SAP BusinessObjects BI Platform, set up an ODBC data source called RPT\_REPO. This corresponds to the Reporting repository database and user you created in [Database Preparation \(page 15\)](#).

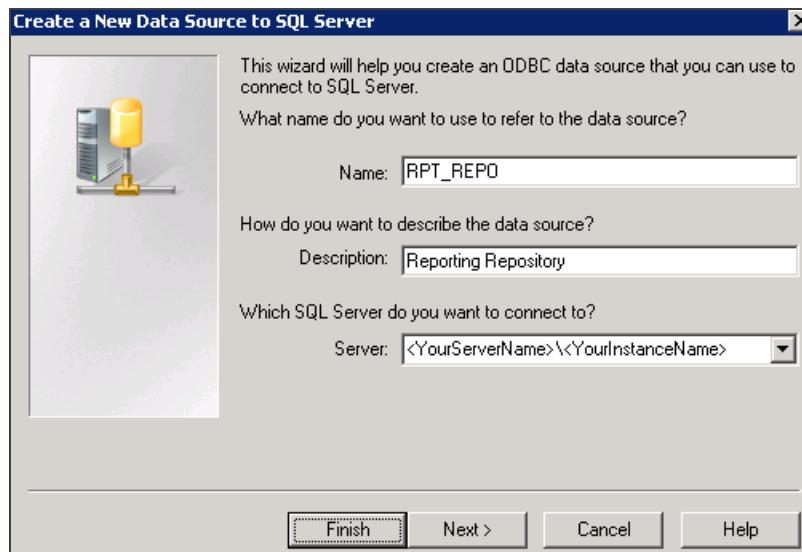
1. Go to the following directory in Windows Explorer: *Windows\System32*.
2. Double-click *odbcad32.exe*.
3. Click **System DSN**, and then click **Add**.



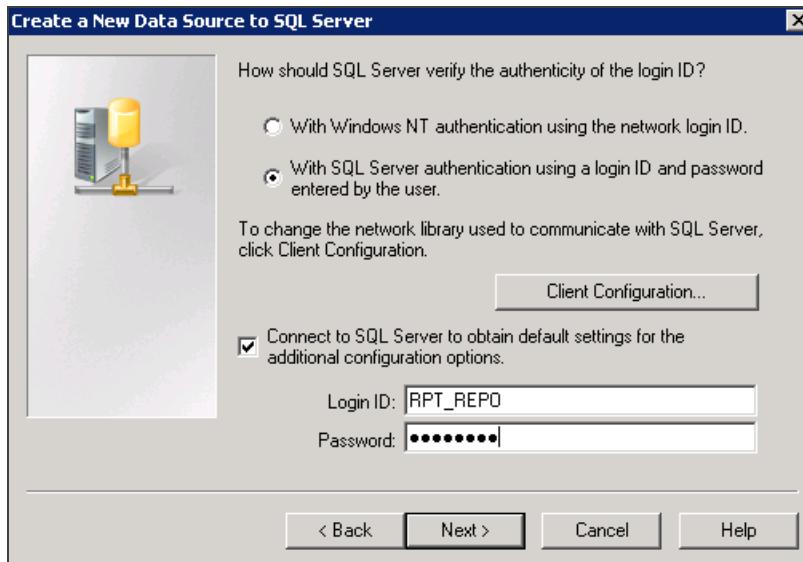
4. Click **SQL Server Native Client**, and then click **Finish**. For SQL Server 2019, select **OEDBC** as the driver.



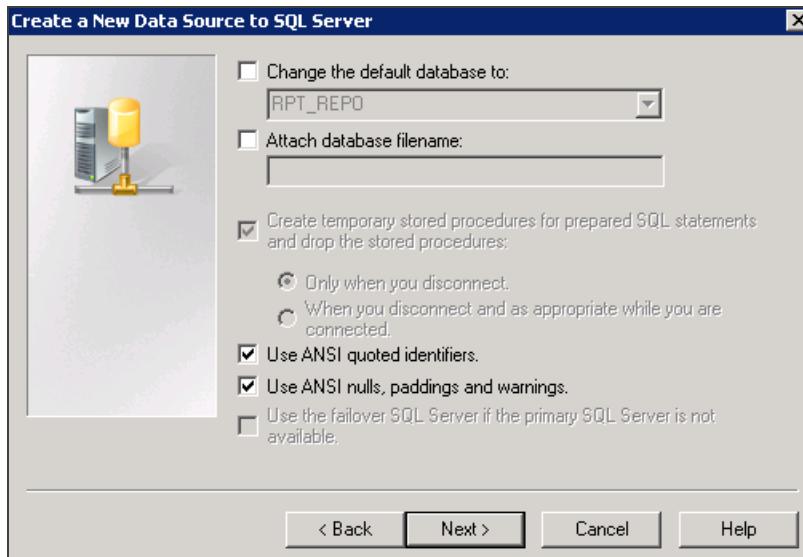
5. Enter *RPT\_REPO* for **Name** and *Reporting Repository* for **Description**. For **Server**, enter your server name, and if you have a named server, add a backslash followed by the name. Click **Next**.



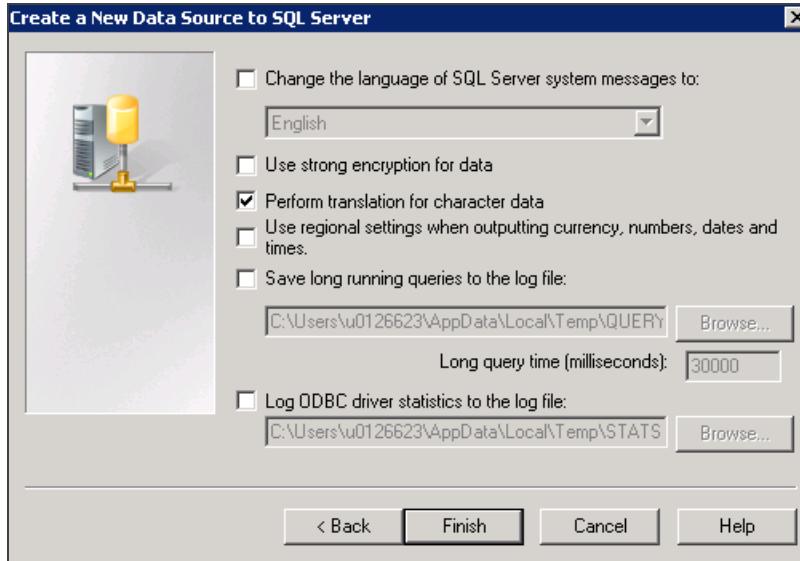
6. Complete the fields appropriate for authentication, and then click **Next**.



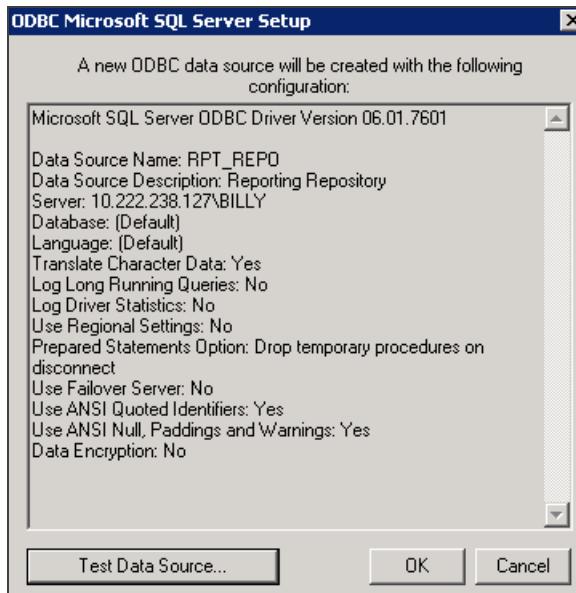
7. Accept the defaults, and then click **Next**.



8. Accept the defaults, and then click **Finish**.



9. Click **Test Data Source**. You should receive the message TESTS COMPLETED SUCCESSFULLY. If you do not receive this message, click **Cancel** and review your previous settings.

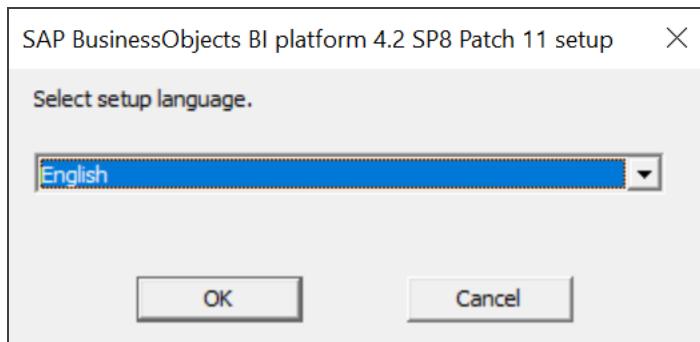


10. When you complete the data source test successfully, click **OK** until you exit the ODBC Data Source Administrator.

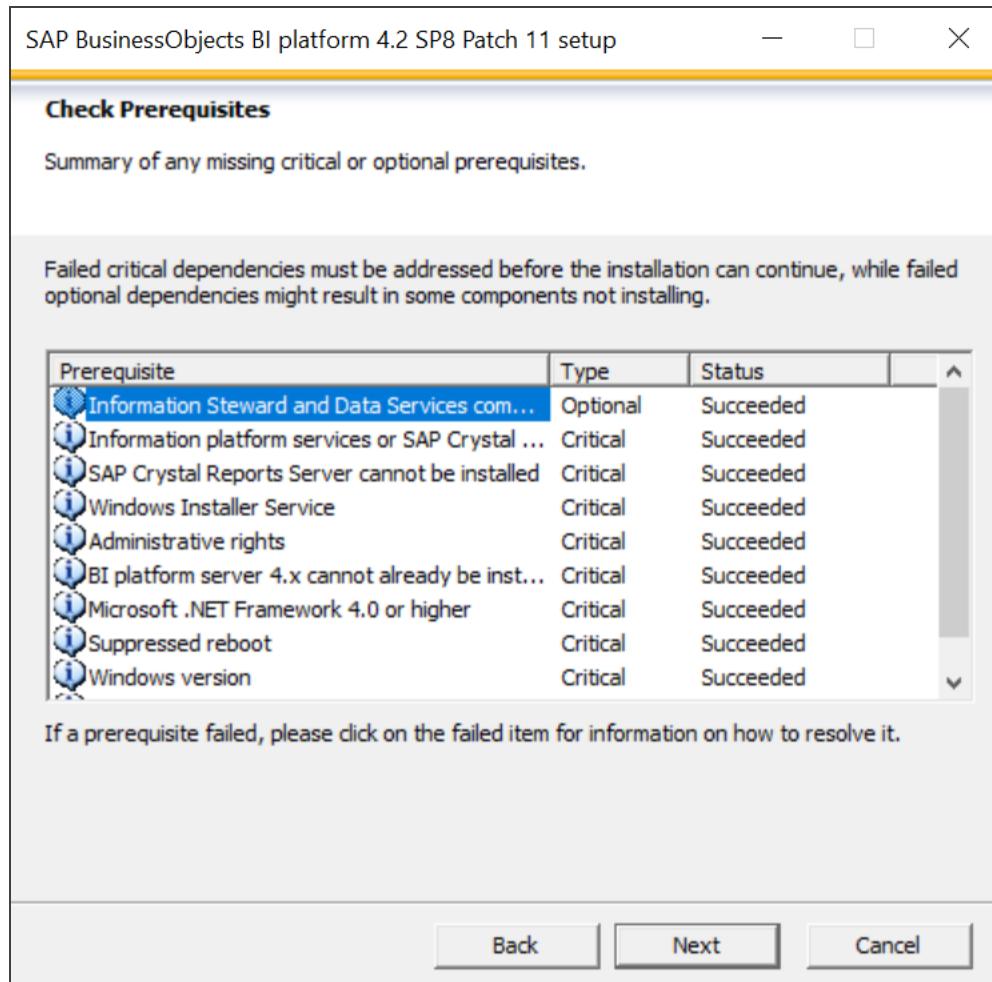
## Installing SAP BusinessObjects BI Platform

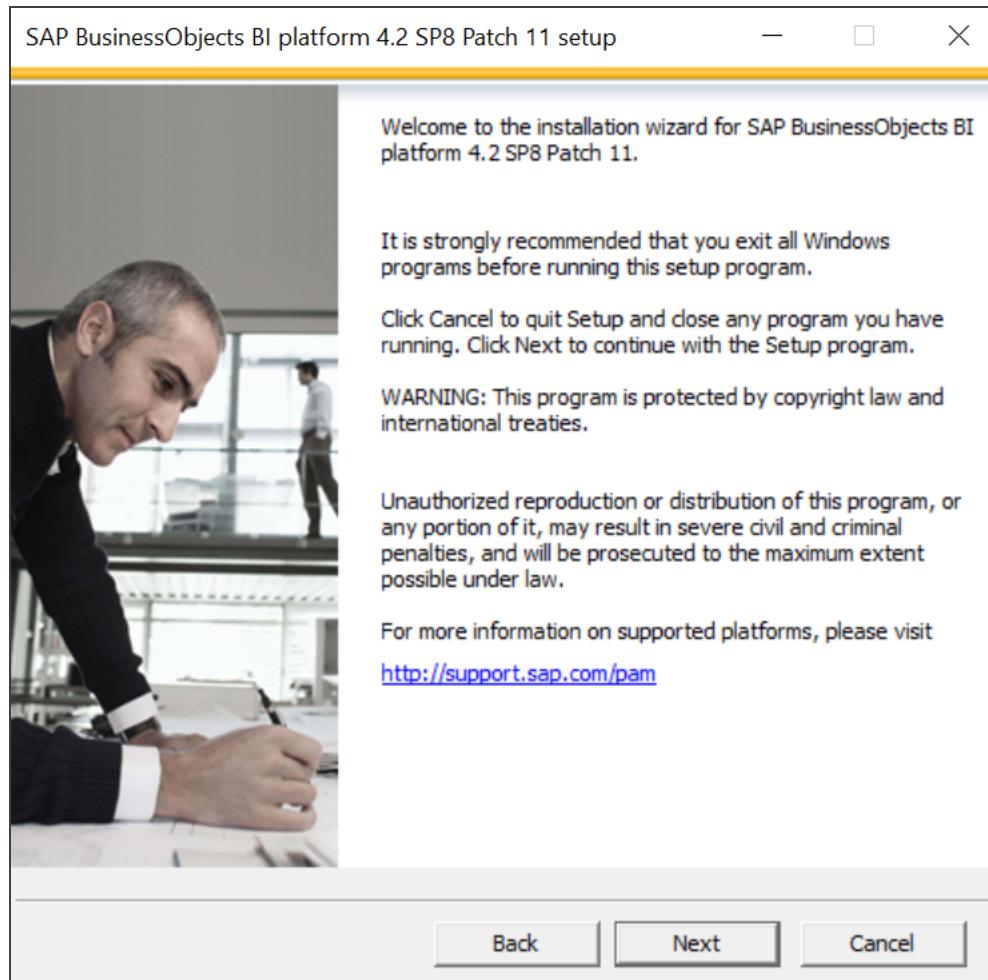
Complete the following to install SAP BusinessObjects BI Platform.

1. Close all Windows programs to prepare for the installation.
2. Create the following temporary directory:  
`C:\bi_temp`
3. Extract *SAPBusinessObjectsBIPlatform4\_windows.zip* into this new temporary directory.
4. Using Windows Explorer, locate *setup.exe* in the unzipped directory structure.
5. Right-click *setup.exe*, and then click **Run as administrator**.
6. Select **English**, and then click **OK**.

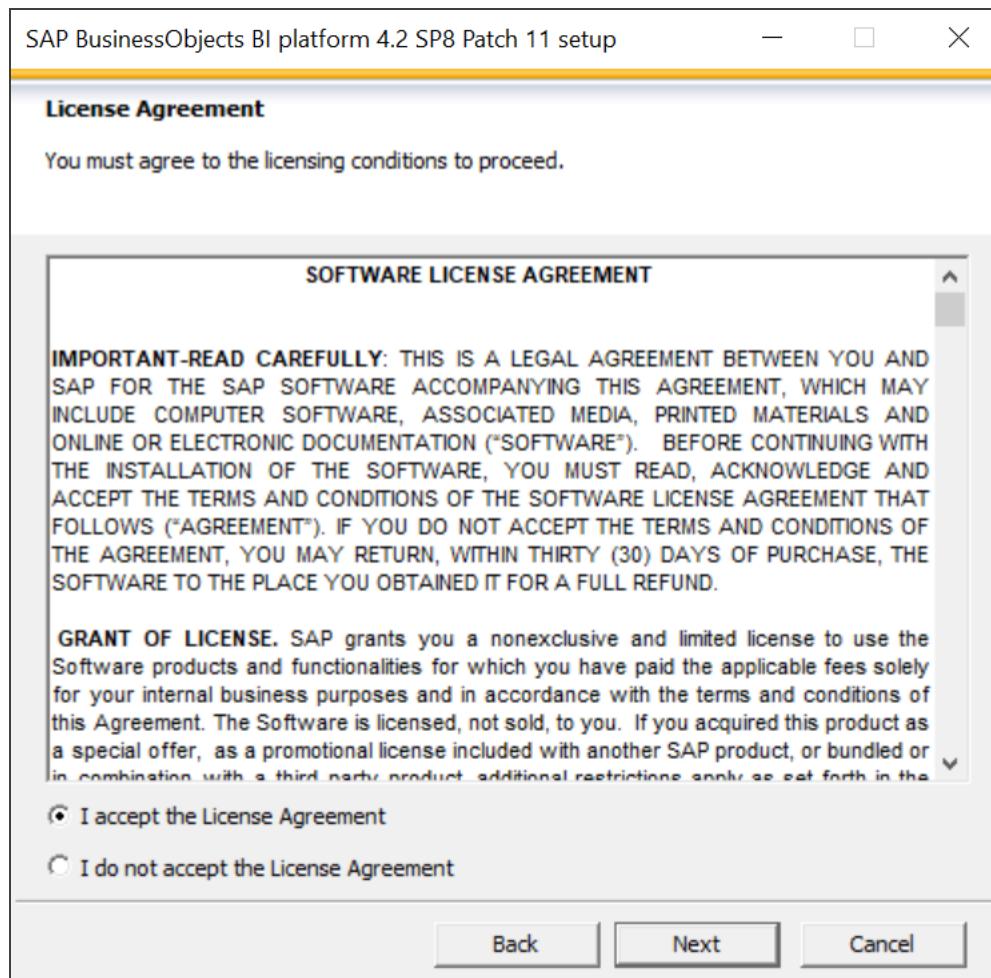


7. Review the summary of requirements, and if all the tests succeeded, click **Next**. If your system does not pass all of the requirements, cancel the installation to correct the problems.

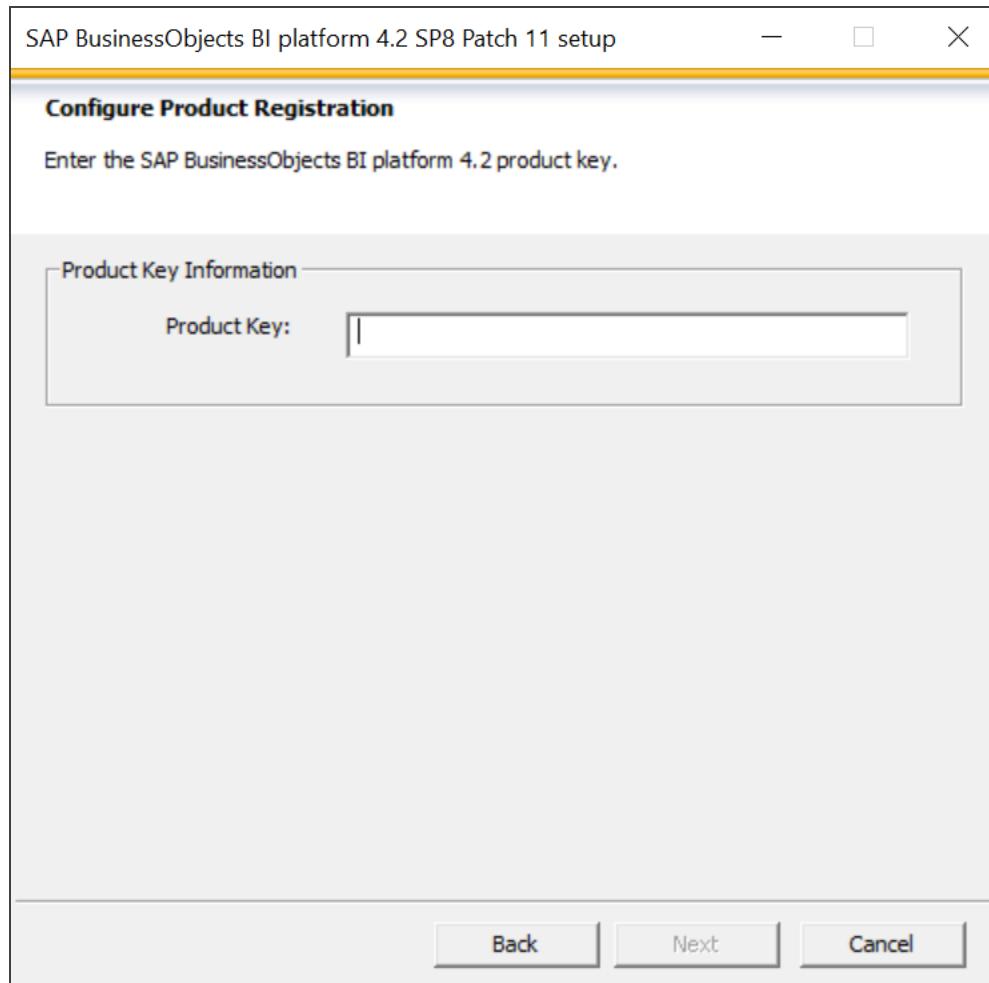


8. Click **Next**.

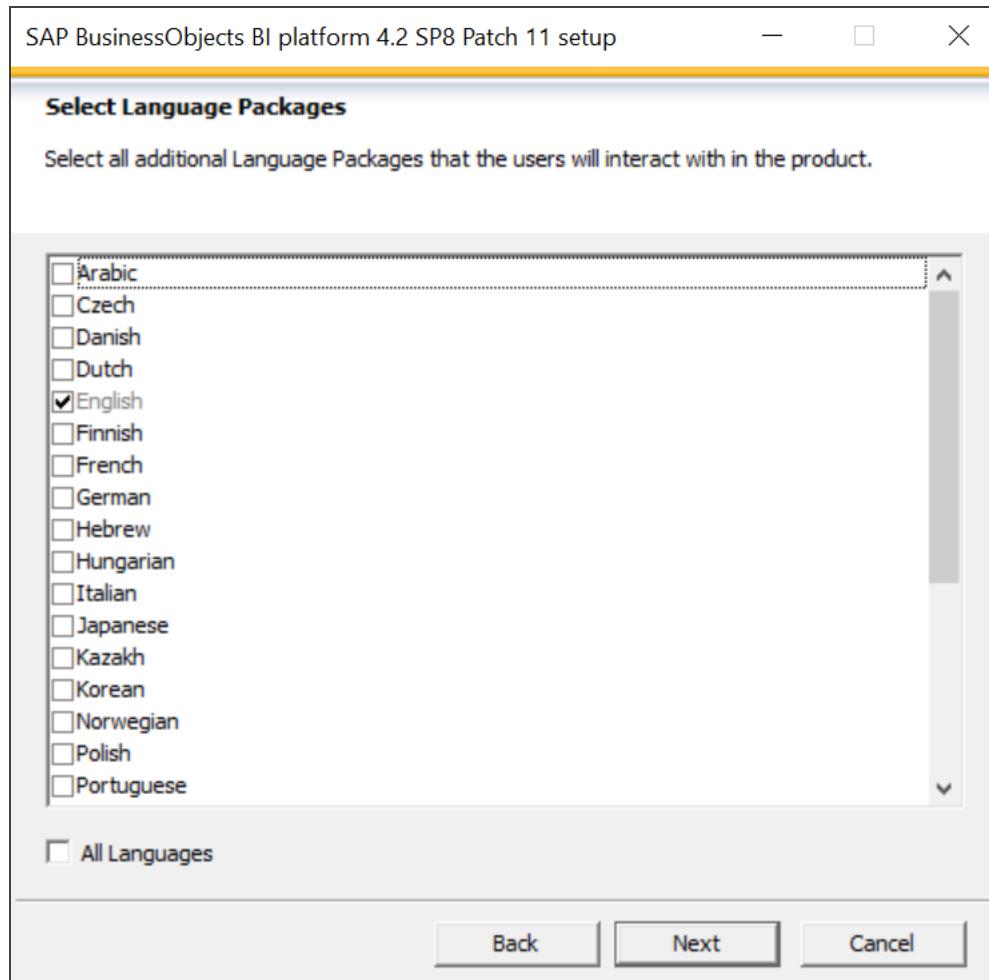
9. Read and accept the license agreement, and then click **Next**.



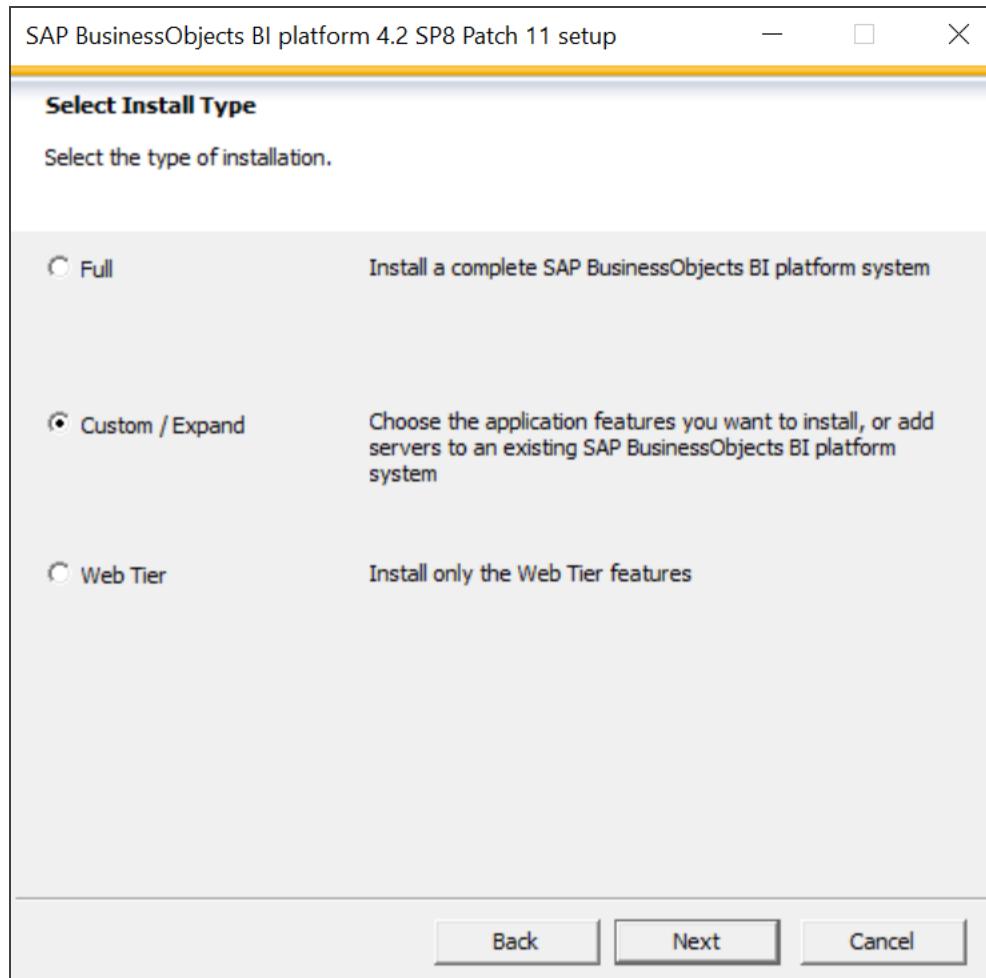
10. Enter the product key, and then click **Next**.



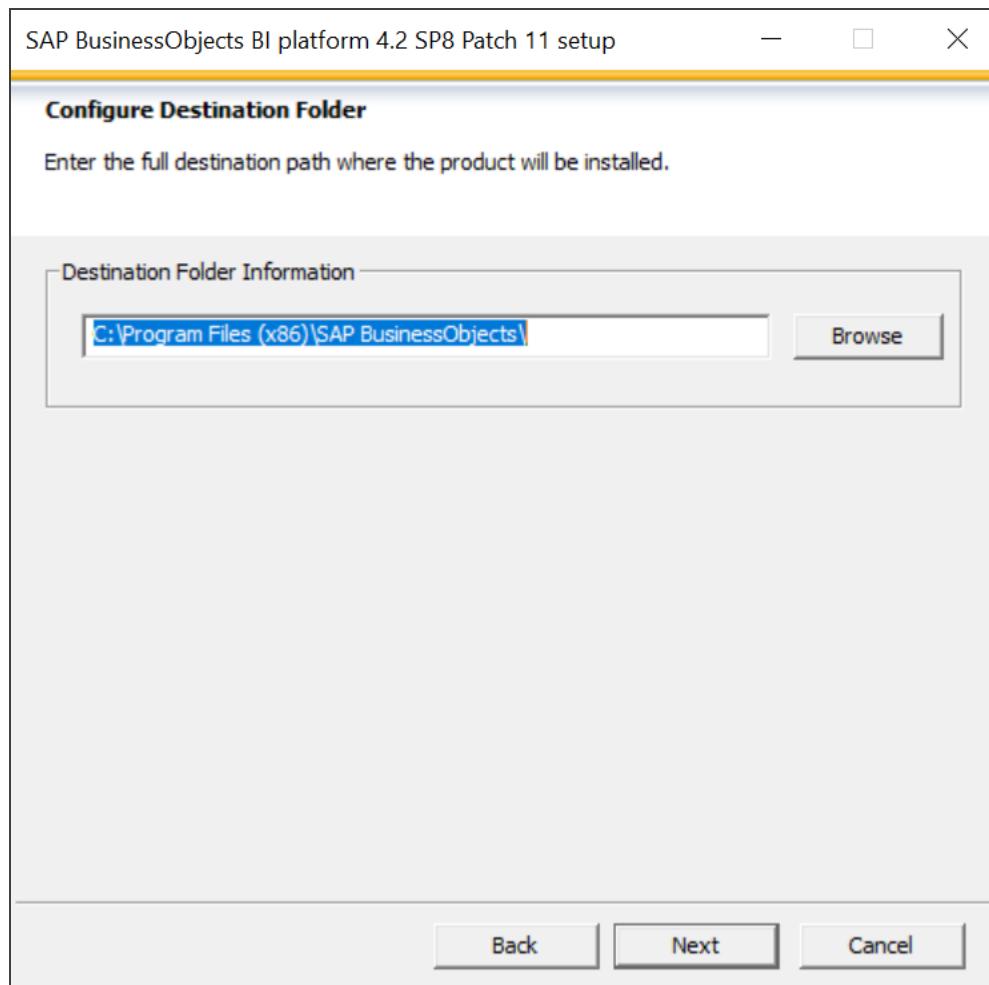
11. Select **English**, and then click **Next**.



12. Select **Custom / Expand**, and then click **Next**.

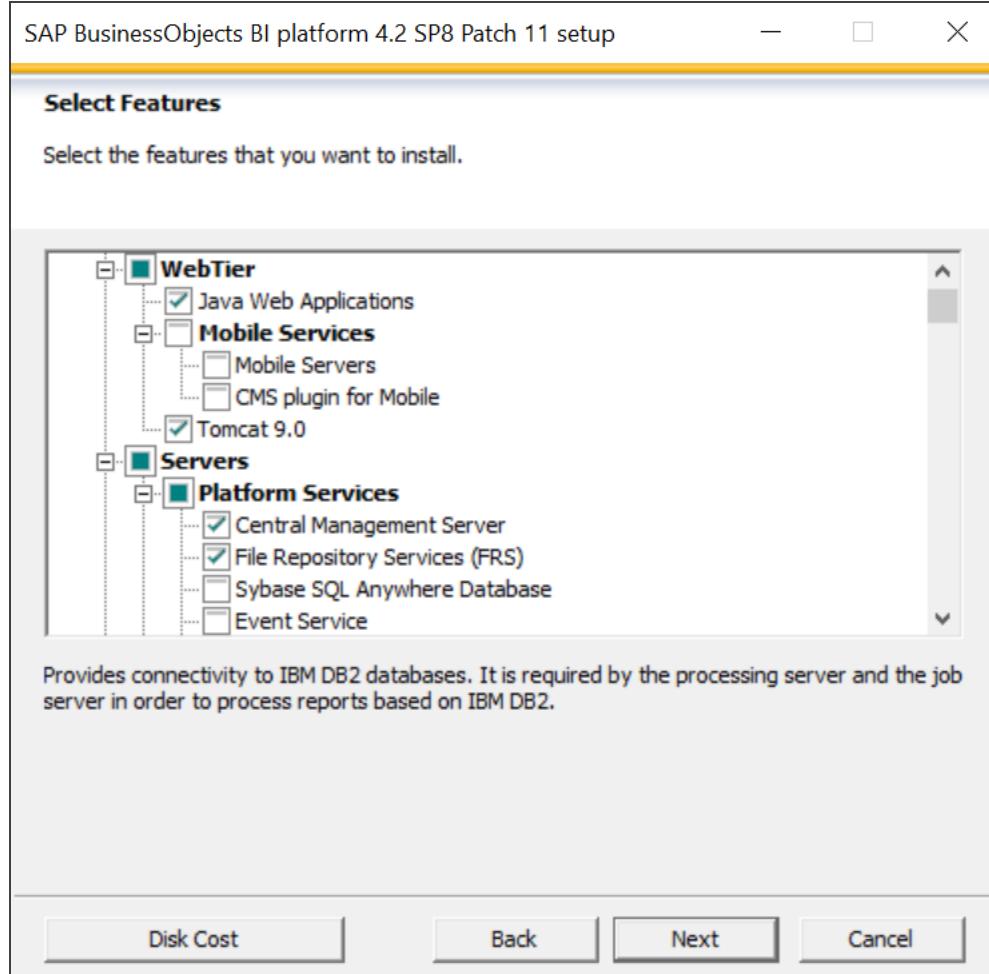


13. Accept the default destination folder, and then click **Next**.

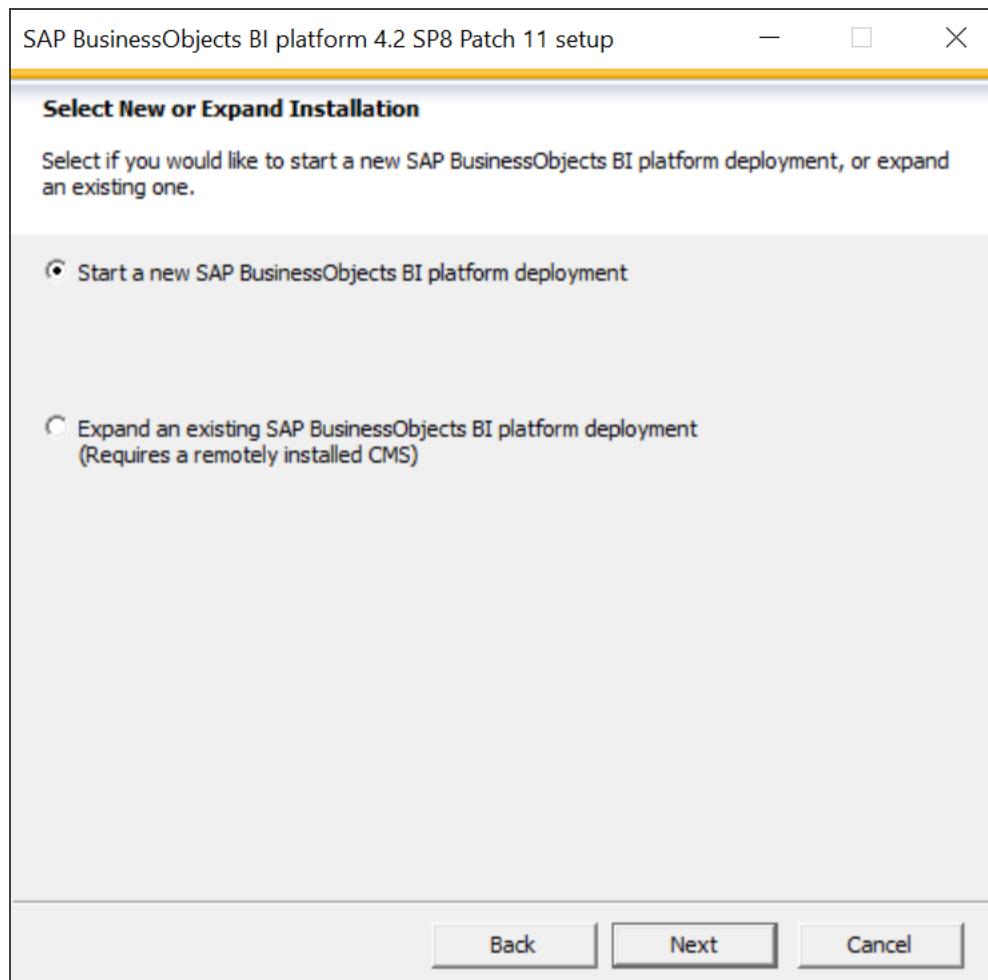


14. On the **Select Features** screen, choose only the components in the bullet list below, and then click **Next**.

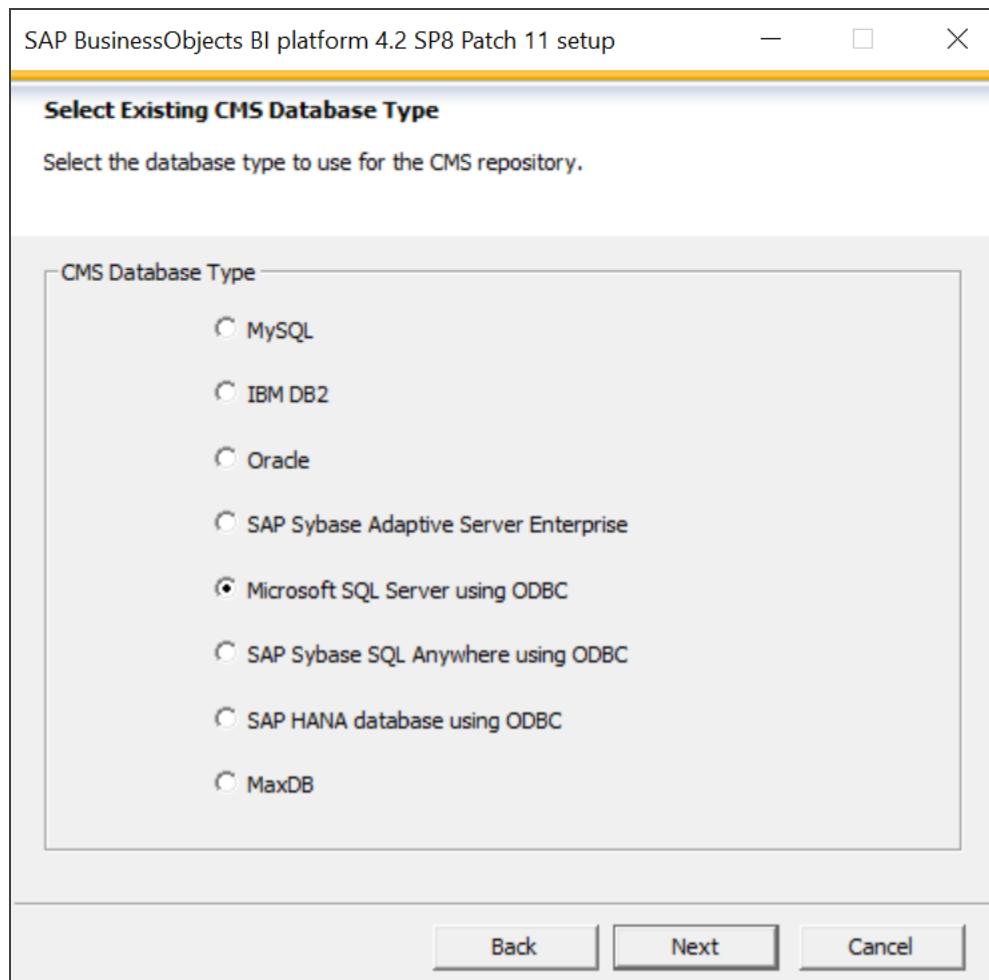
- Instances
  - Web Tier
    - Java Web Applications (only)
    - Tomcat (only)
  - Servers
    - Platform Services
      - Central Management Server (only)
      - File Repository Services (FRS) (only)
      - Platform Processing Services (only)
      - Platform Scheduling Services (only)
    - Connectivity Services (all)
    - SAP Crystal Reports Services (all)
  - Administrator Tools (all)
  - Database Access
    - Generic JDBC (only)
    - IBMDB2 (select this for DB2 installations only)
    - Microsoft (select this for SQL Server installations only)
    - Oracle (select this for Oracle installations only)



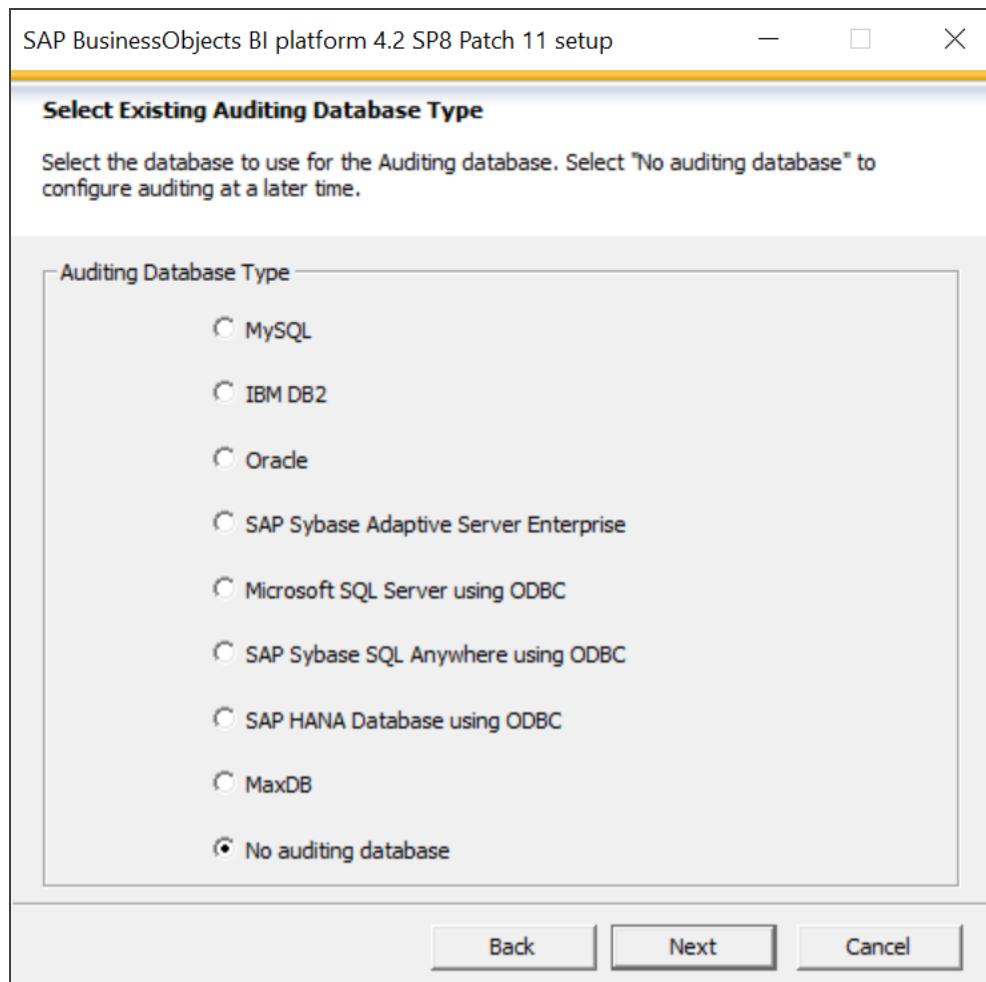
15. Select the first option to start a new installation, and then click **Next**.



16. Select the database type for your CMS (Oracle or SQL Server), and then click **Next**.



17. Select **No auditing database**, and then click **Next**.

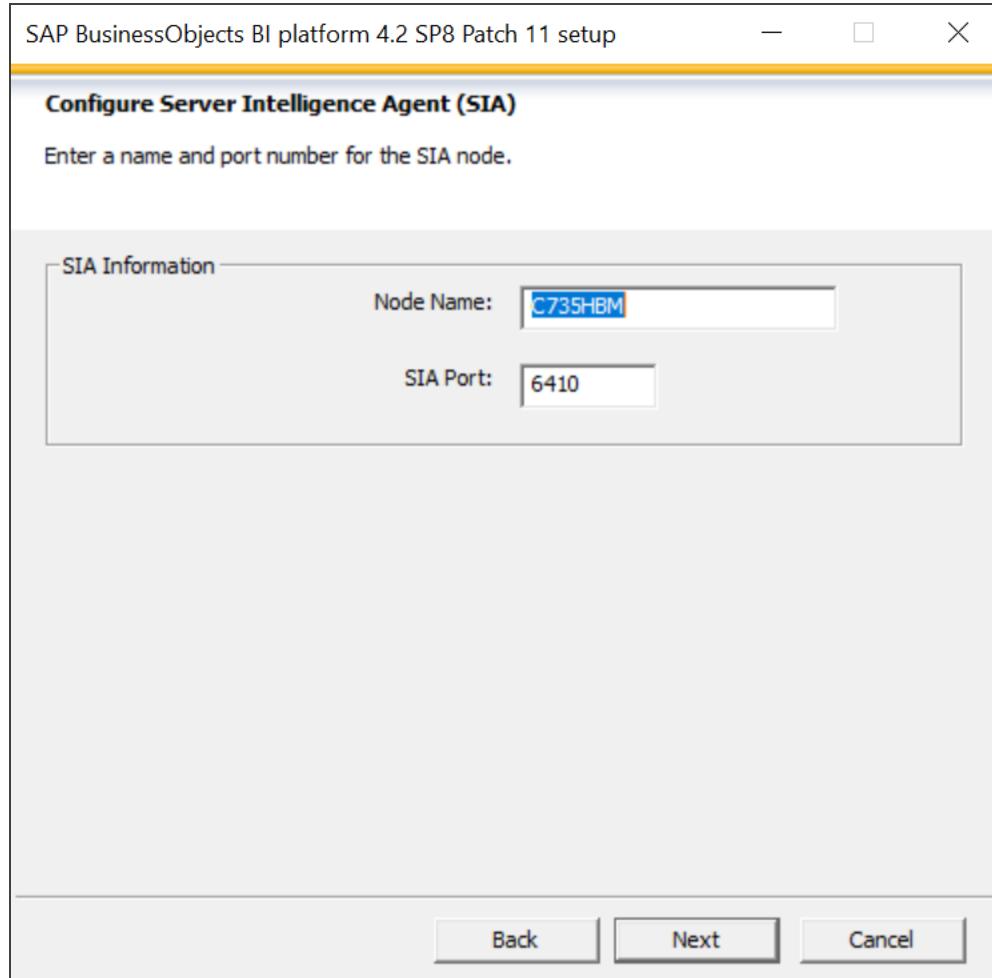


18. Enter a node name and port for the **Server Intelligence Agent**, and then click **Next**.

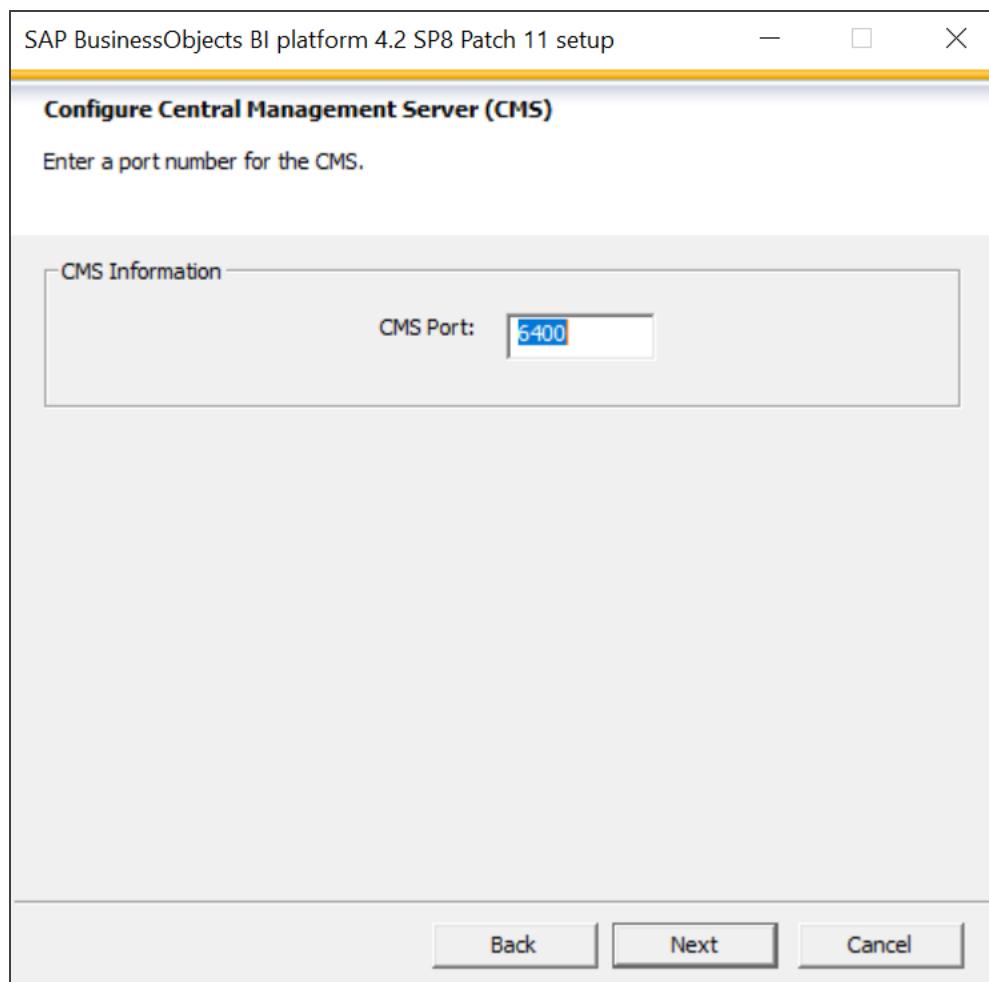


The name of the Server Intelligence Agent node must follow these guidelines:

- The name can only consist of alpha-numeric characters (a-z, A-Z, 0-9).
- The name cannot begin with a number.



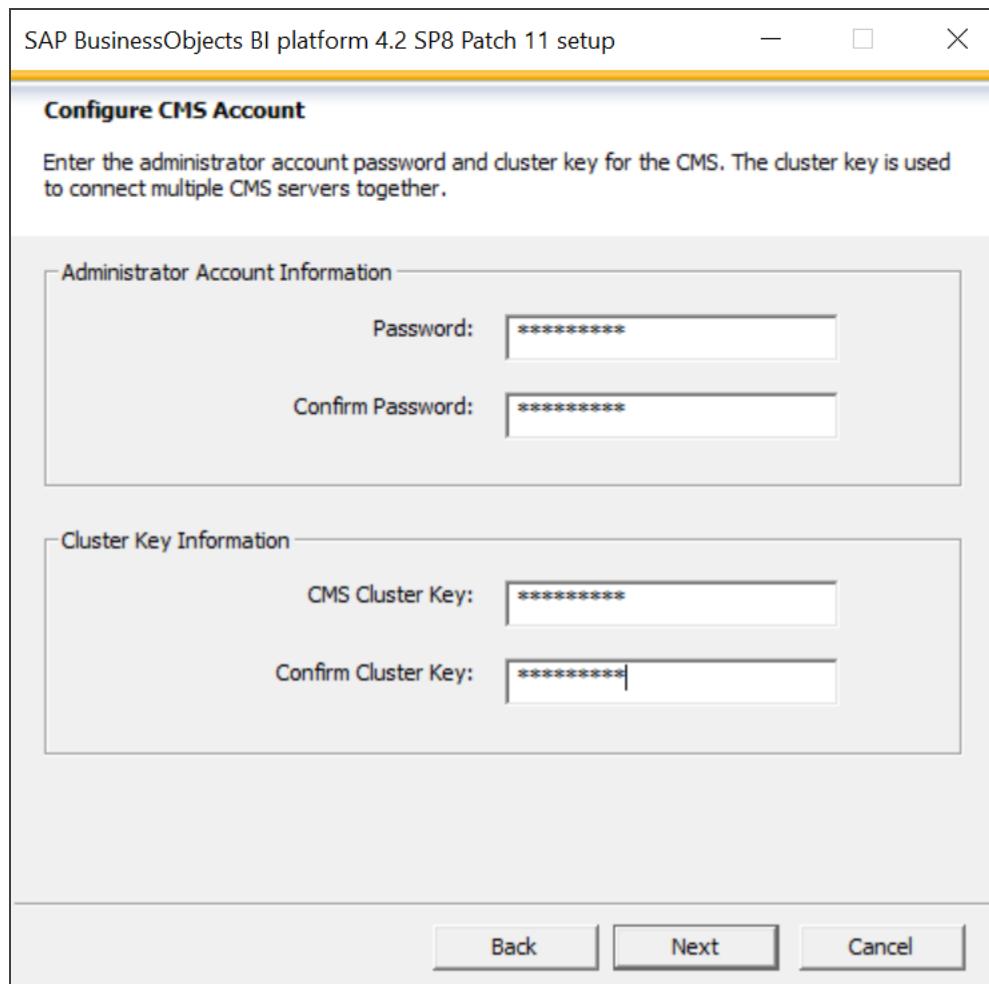
19. Enter a CMS port, and then click **Next**.



20. Enter passwords and password confirmations for the CMS administrator and cluster key, and then click **Next**.



The password must contain uppercase and lowercase characters.



21. On the **Configure CMS Repository Database** screen, complete the fields for your database. The table below has descriptions for each field.

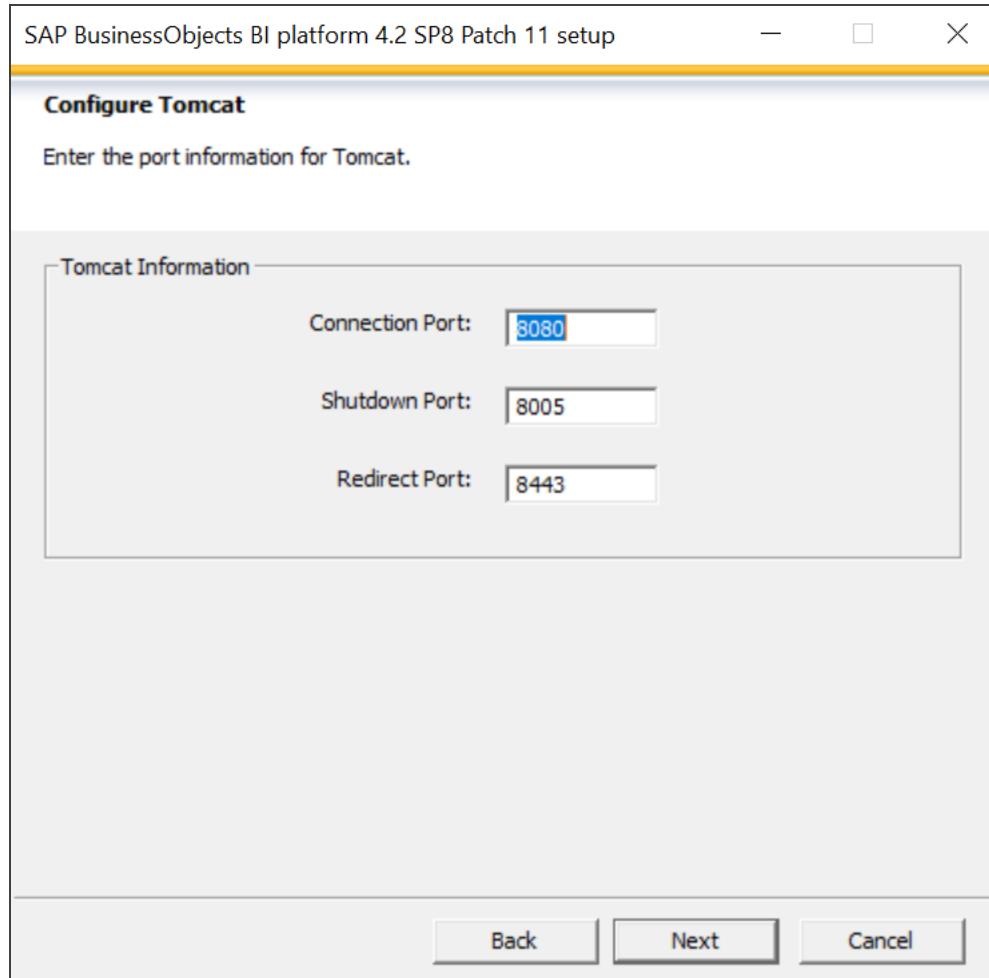
DATABASES	
<b>Oracle</b>	
Oracle TNSNAME	Enter the value from your environment
User Name	The schema name for the Reporting repository (RPT_REPO)
Password	The password for the Reporting repository user  The password must contain uppercase and lowercase characters.
Reset existing database	Select this option
<b>SQL Server</b>	
System DSN	In the System DSN list, select the Reporting repository (RPT_REPO)
User Name	This field is automatically populated
Password	The password for the Reporting repository user  The password must contain uppercase and lowercase characters.
Database	The Reporting repository database (RPT_REPO)
Use Trusted Connection	Clear this option
Show system database	Clear this option
Reset existing database	Select this option
Consume DSN created under WOW64	Clear this option

22. Click **Next** after you enter the database values.

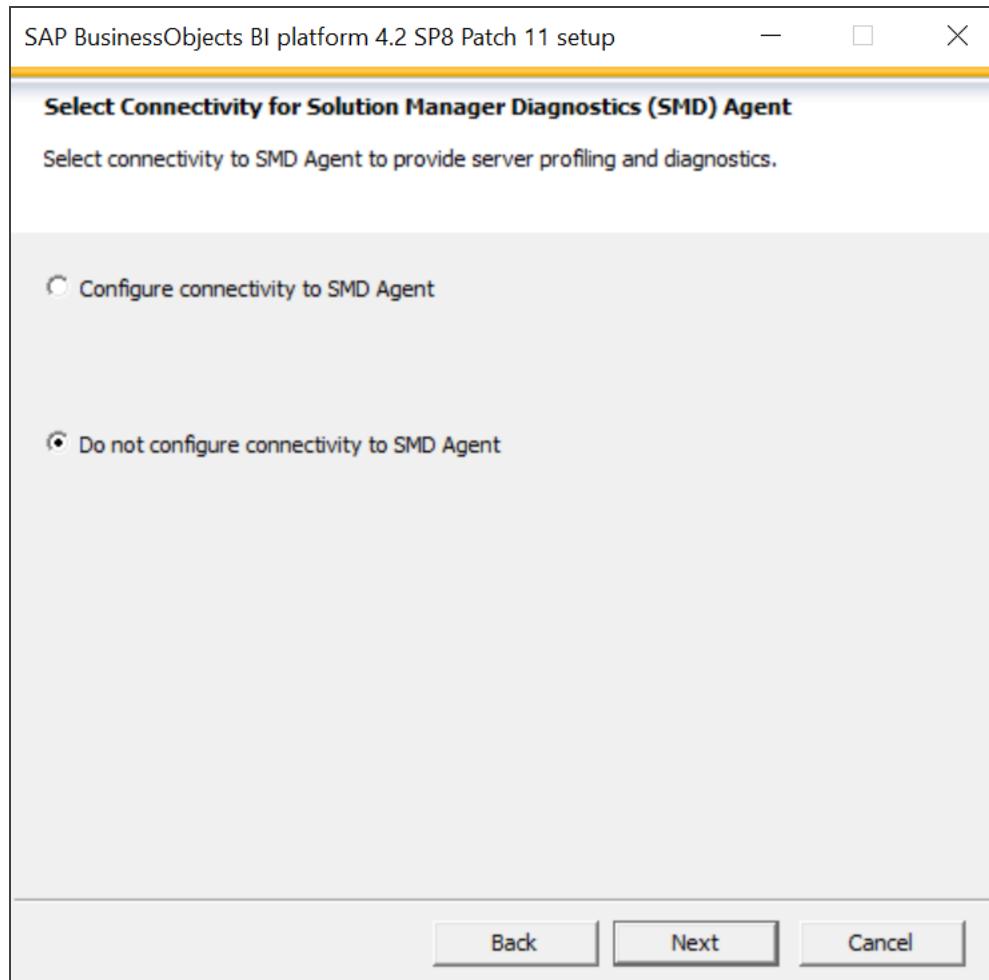
23. Enter ports for Tomcat, and then click **Next**.



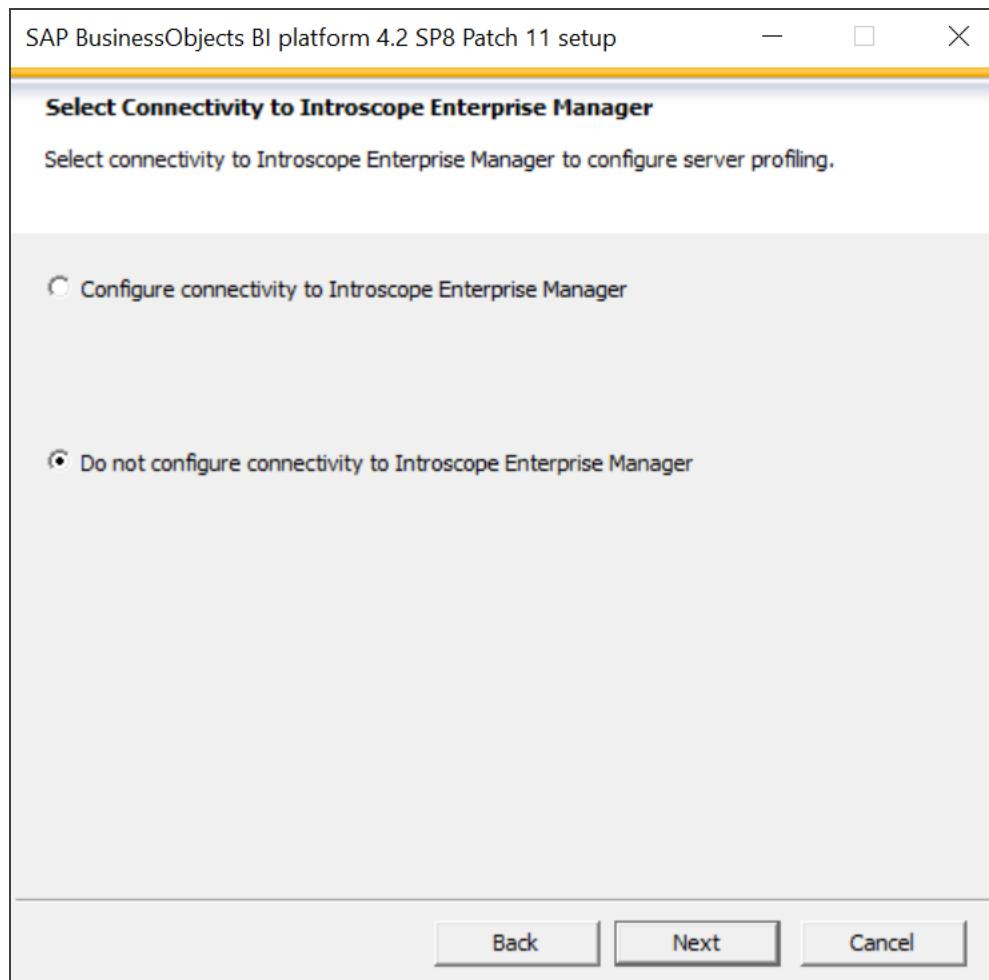
Make a note of the Tomcat connection port. This screen only appears if you selected Tomcat previously.



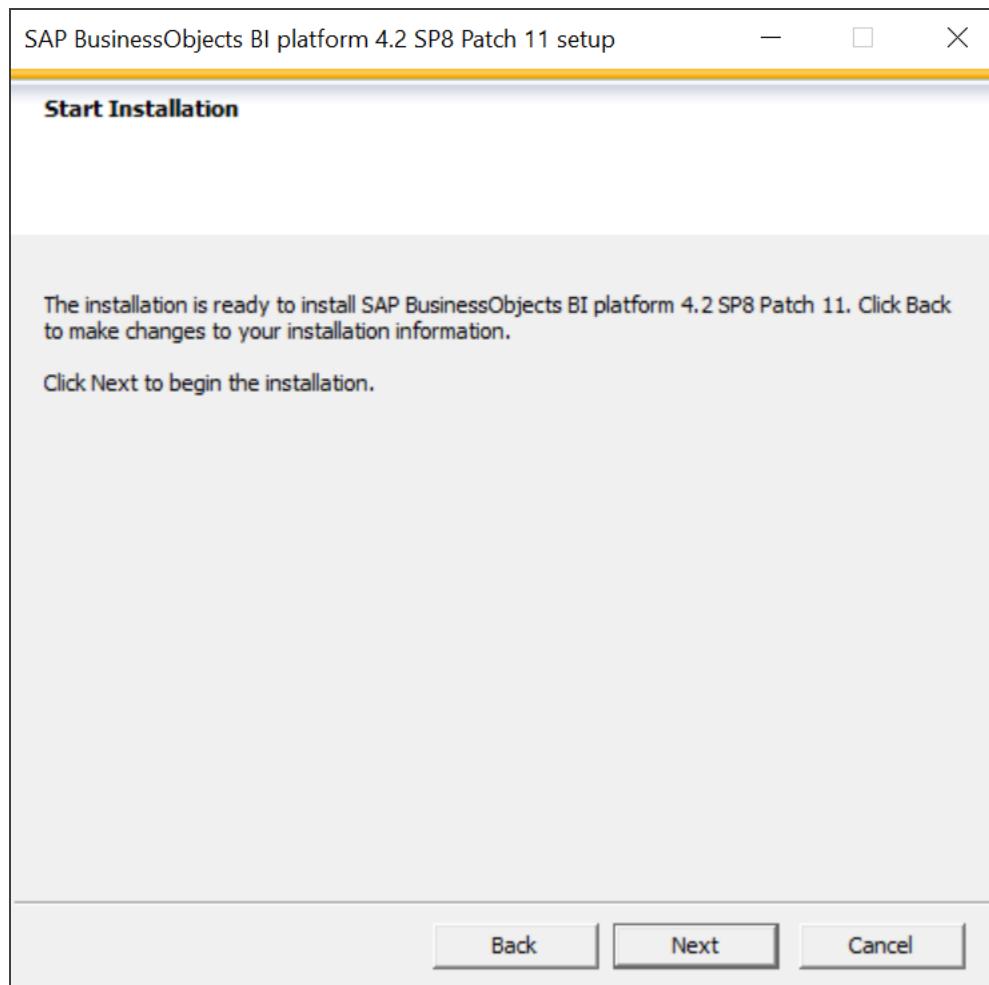
24. Select **Do not configure connectivity to SMD Agent**, and then click **Next**.



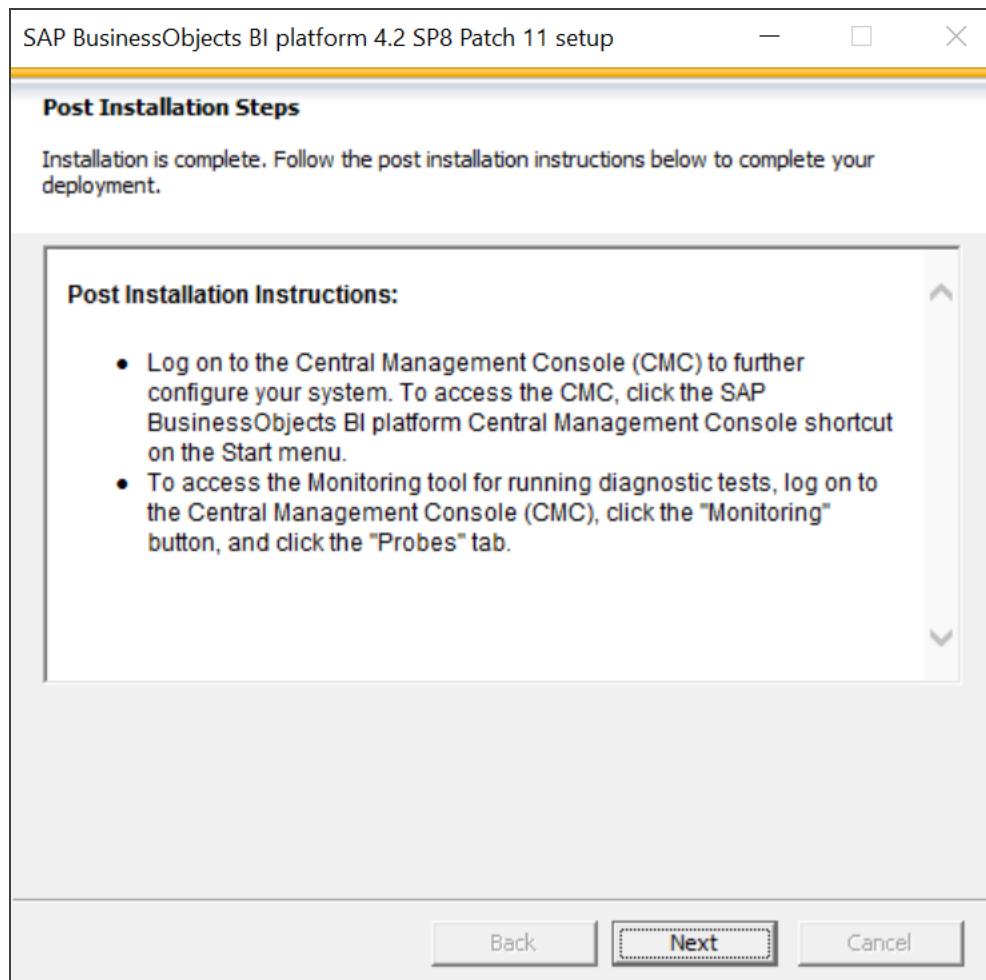
25. Select **Do not configure connectivity to Introscope Enterprise Manager**, and then click **Next**.



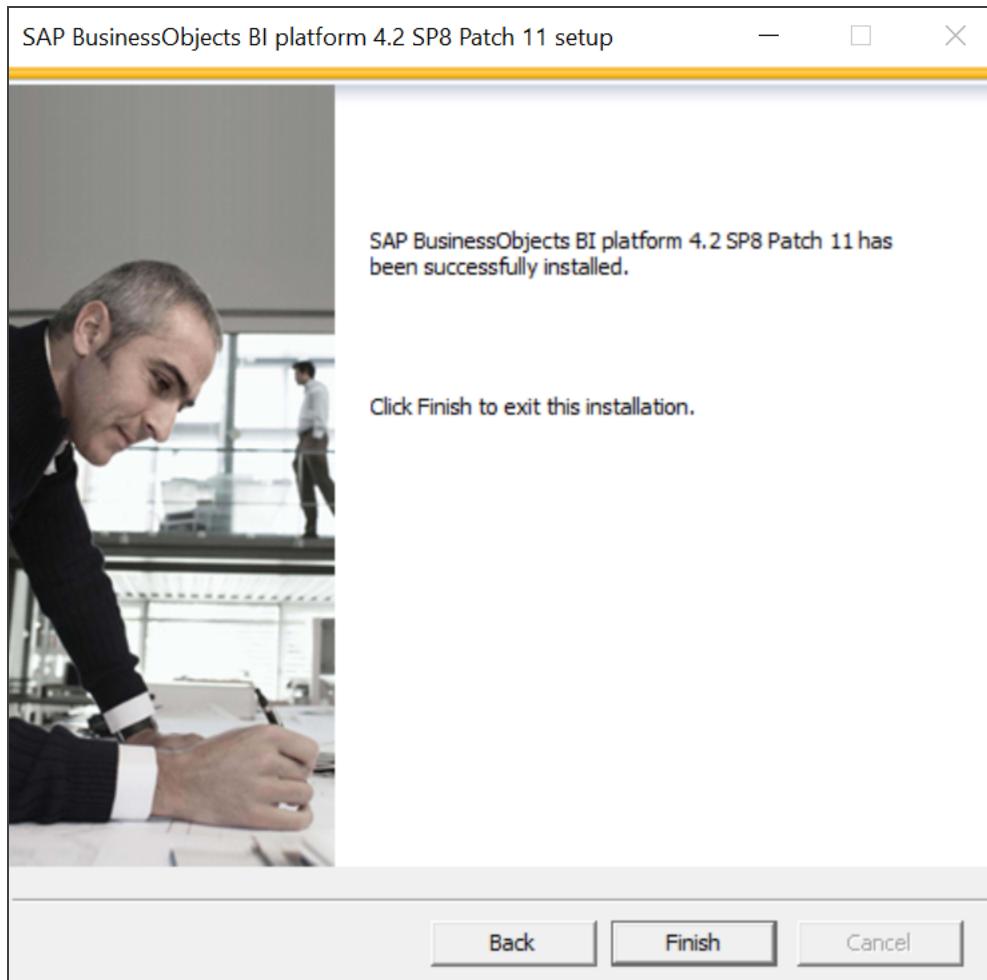
26. Click **Next** to start the installation.



27. Click **Next** to advance beyond the post-installation steps.



28. Click **Finish** to exit the installer.



## Editing the CRConfig File

Insert the following information in the file *CRConfig.xml*:

1. Change to the directory *C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\java*.
2. Open the file *CRConfig.xml* in a text editor and navigate to the *<Classpath>* tag under the *<DataDriverCommon>* tag.

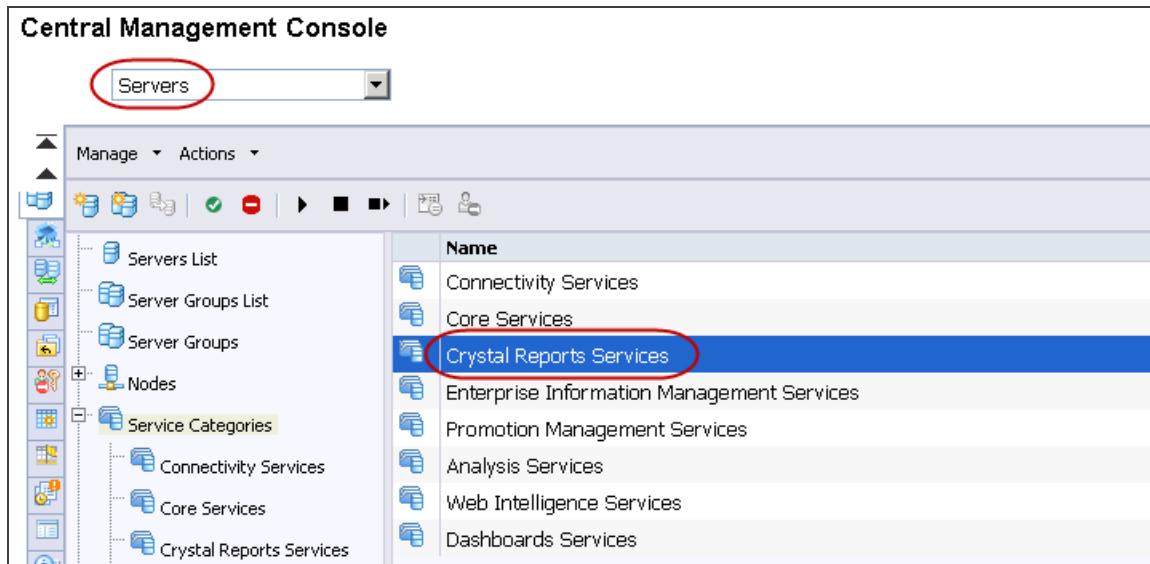
3. Immediately following the <classpath> tag, insert the full path and file name of the JDBC driver you located for [Database Preparation \(page 15\)](#). Ensure that there is a semi-colon separating your path from the next entry in the classpath (for example, C:\instantclient\11.2\lib\ojdbc6.jar;).
4. Continuing under the <DataDriverCommon> tag, navigate to the <JavaServerTimeout> tag.
5. Change the default timeout value from **1800** to **7200**.
6. Save the file.
7. Open Windows Services (**Start > Run > services.msc**).
8. Stop Tomcat: Right-click **Apache Tomcat for BI 4**, and click **Stop**.
9. Stop Server Intelligence Agent: Right-click **Server Intelligence Agent**, and click **Stop**.
10. Start Server Intelligence Agent: Right-click **Server Intelligence Agent**, and click **Start**.
11. Start Tomcat: Right-click **Apache Tomcat for BI 4**, and click **Start**.

## Configuring Report Timeout and Recycle Bin

Set a parameter to control the length of time that reports may run before they time out. We recommend the setting below, but if your reports require more time to complete, you may need to increase this value.

1. Log on to the Central Management Console as **Administrator** (for example, <http://<host>:8080/BOE/CMC>).
2. If the System Configuration Wizard appears, click **Don't show this wizard when the CMC is started**, and then click **CLOSE**.
3. Click **Applications** in the drop-down box at the top.
4. Right-click **Recycle Bin Application** in the left pane, and then select **Properties**.
5. Clear the **Enable recycle bin** check box.
6. Click **Save**.

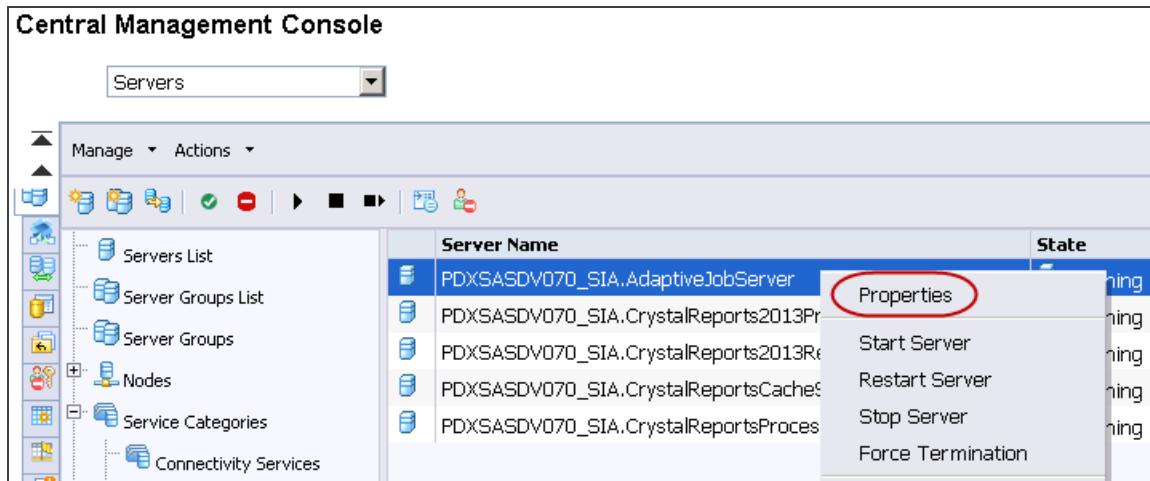
7. Click **Servers** in the drop-down box at the top, and then click **Crystal Reports Services** in the right pane.



The screenshot shows the Central Management Console interface. The top navigation bar has a dropdown menu set to 'Servers'. The main pane displays a list of service categories and their sub-services. The 'Crystal Reports Services' item is highlighted with a red circle, indicating it is the target for the next step.

Name
Connectivity Services
Core Services
<b>Crystal Reports Services</b>
Enterprise Information Management Services
Promotion Management Services
Analysis Services
Web Intelligence Services
Dashboards Services

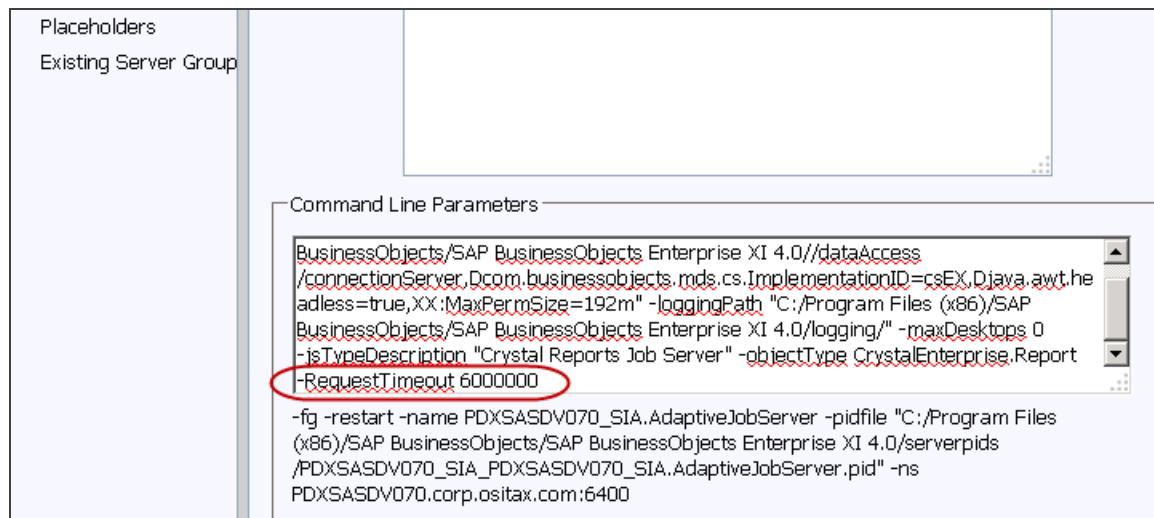
8. Right-click **AdaptiveJobServer**, and then click **Properties**.



The screenshot shows the Central Management Console interface with the 'Servers' dropdown menu selected. The main pane displays a list of servers. The 'AdaptiveJobServer' is selected, and a context menu is open, with the 'Properties' option highlighted with a red circle.

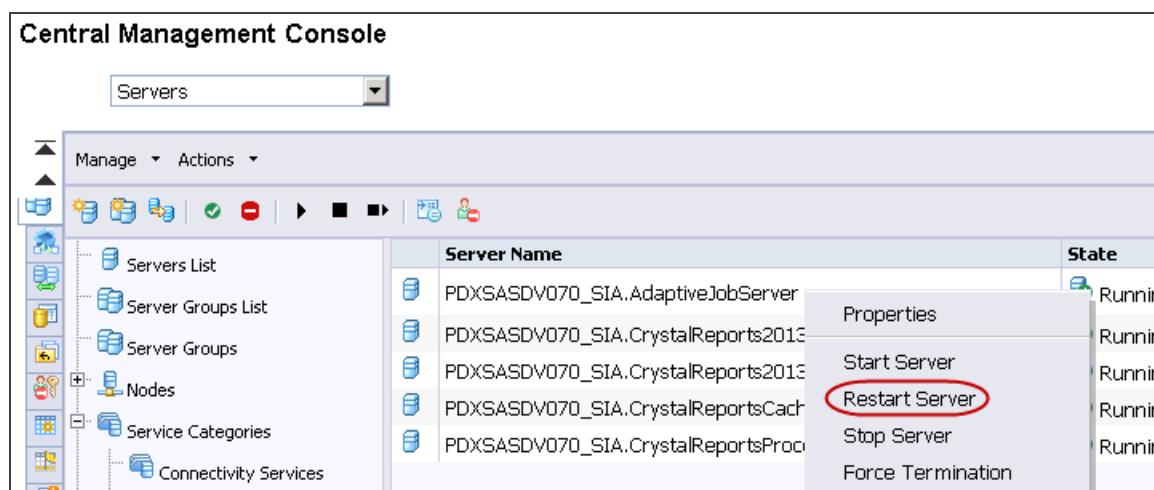
Server Name	State
PDXSASDV070_SIA.AdaptiveJobServer	Running
PDXSASDV070_SIA.CrystalReports2013Pr	Running
PDXSASDV070_SIA.CrystalReports2013Re	Running
PDXSASDV070_SIA.CrystalReportsCacheS	Running
PDXSASDV070_SIA.CrystalReportsProces	Running

9. Add the following to the end of the **Command Line Parameters** field: **-RequestTimeout 6000000**. This adds the equivalent of 100 minutes for your reports to complete. If your reports are not completing within 100 minutes, you may need to increase this number.



10. Save and close the **Properties** window.

11. Right-click **AdaptiveJobServer**, and then select **Restart Server**.



12. Wait for your server to restart, and then log out of the Central Management Console.

## SAP DATA SERVICES

Reporting uses SAP BusinessObjects Data Services to transfer data from Determination to Reporting. This data transfer is called the ETL process (Extract, Transform, and Load). The ETL relies on two components of SAP BusinessObjects Data Services: a server process to run ETL jobs and a web application for administration (Data Services Management Console).

The following sections explain how to install SAP BusinessObjects Data Services and make initial configurations:

- [Installing SAP BusinessObjects Data Services \(page 51\)](#)
- [Stopping Services \(page 73\)](#)
- [Checking the LINK\\_DIR Variable \(page 74\)](#)
- [Changing Socket Timeout \(page 74\)](#)
- [Modifying Max Return Size \(page 75\)](#)
- [Configuring the Adapter \(page 75\)](#)
- [Starting Services \(page 78\)](#)
- [Configuring Session Security \(page 78\)](#)
- [Setting Web Service Adapter Parameters \(page 80\)](#)
- [Adding Administrator to Data Services Groups \(page 83\)](#)

## Installing SAP BusinessObjects Data Services

Complete the following to install SAP BusinessObjects Data Services.



If you receive the following error messages when beginning the installation process, see the SAP support article at <https://launchpad.support.sap.com/#/notes/2244157> for a description of the issue. The available workaround involves removing files from the installation directory.

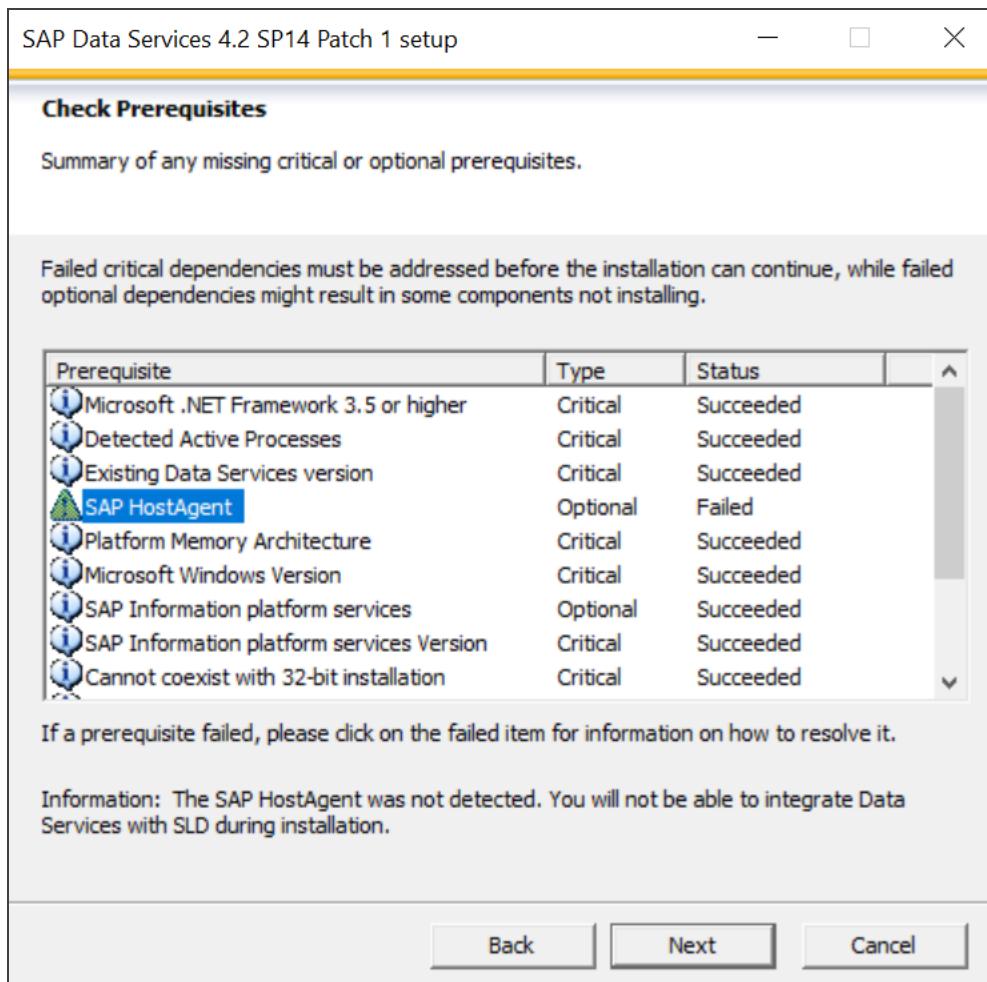


1. Close all Windows programs to prepare for the installation.
2. Locate `setup.exe` in the directory structure where you unzipped the file `SAPDataServices4_windows.zip`.
3. Right-click the program `setup.exe`, and then click **Run as administrator**. There may be a significant delay between the extraction of the files and the start of the installer.

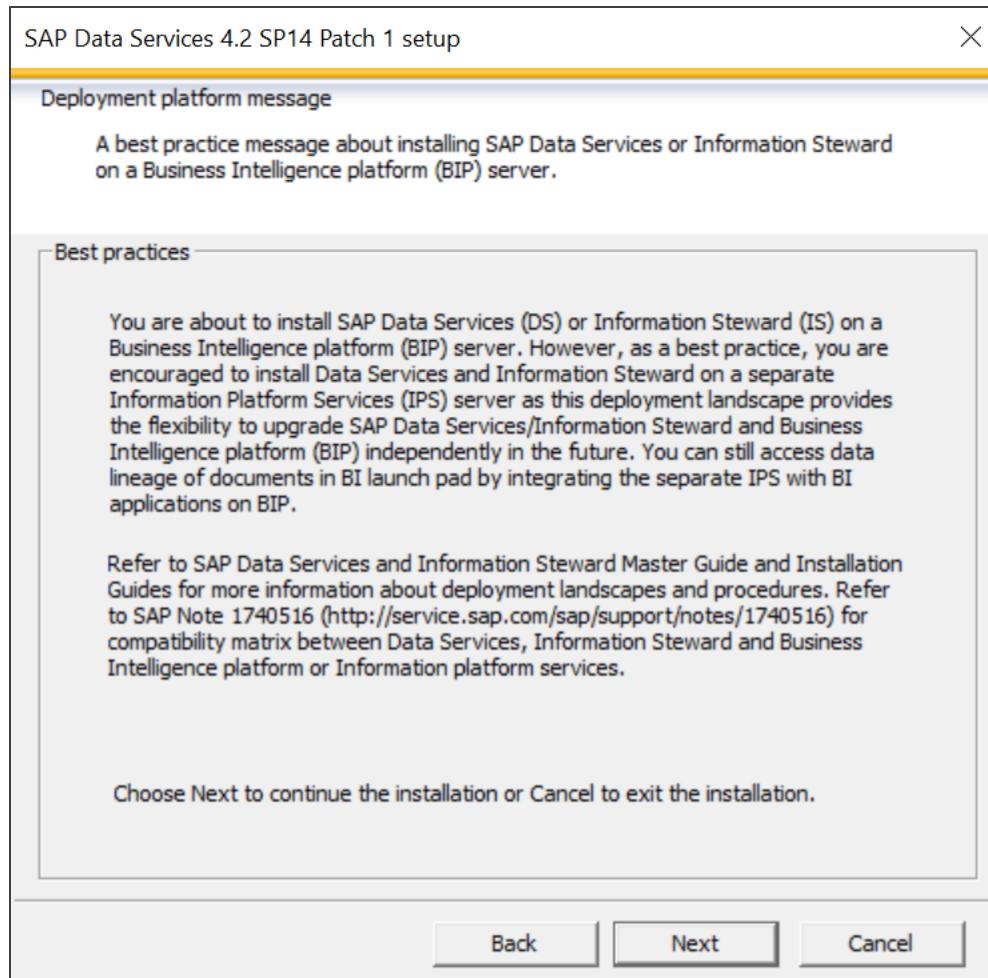
4. On the first screen, click **No** to skip the preview video.

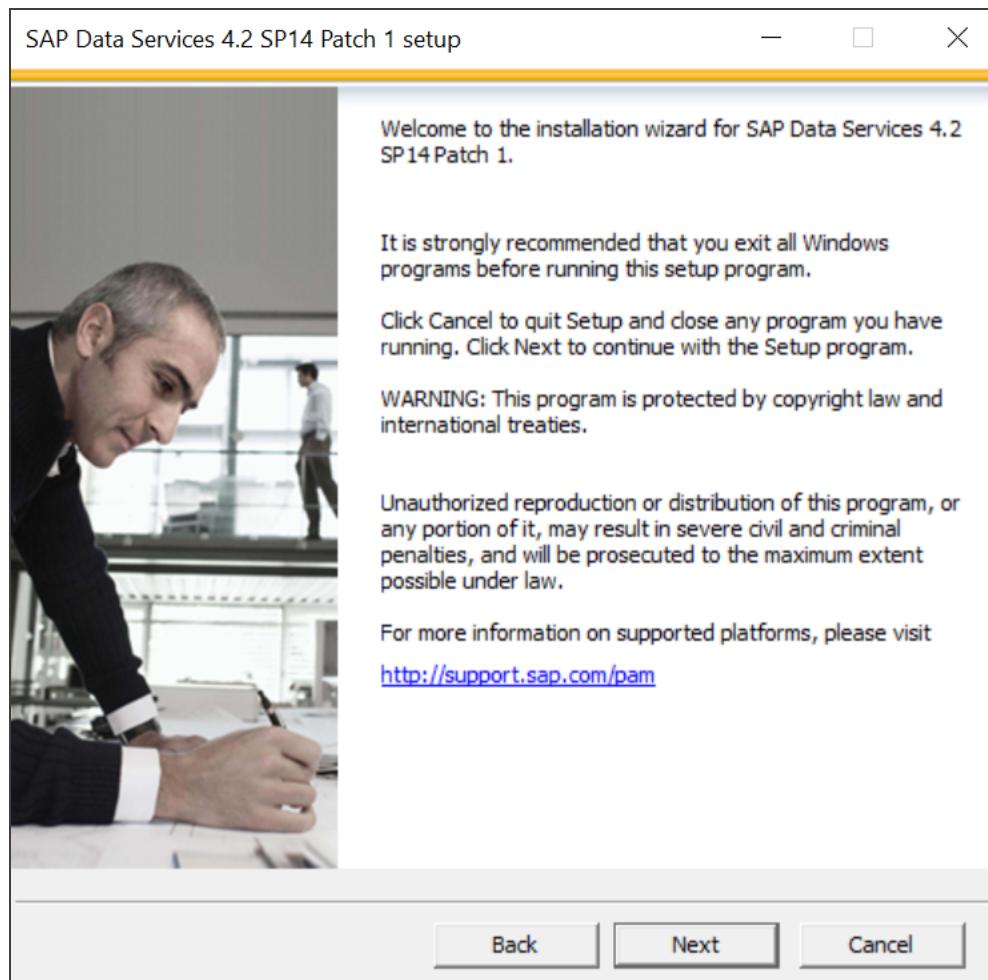


5. Review the summary of requirements, and if all the tests except SAP HostAgent succeed, click **Next**. If your system does not pass the other requirements, cancel the installation and correct the problems listed by the installer.

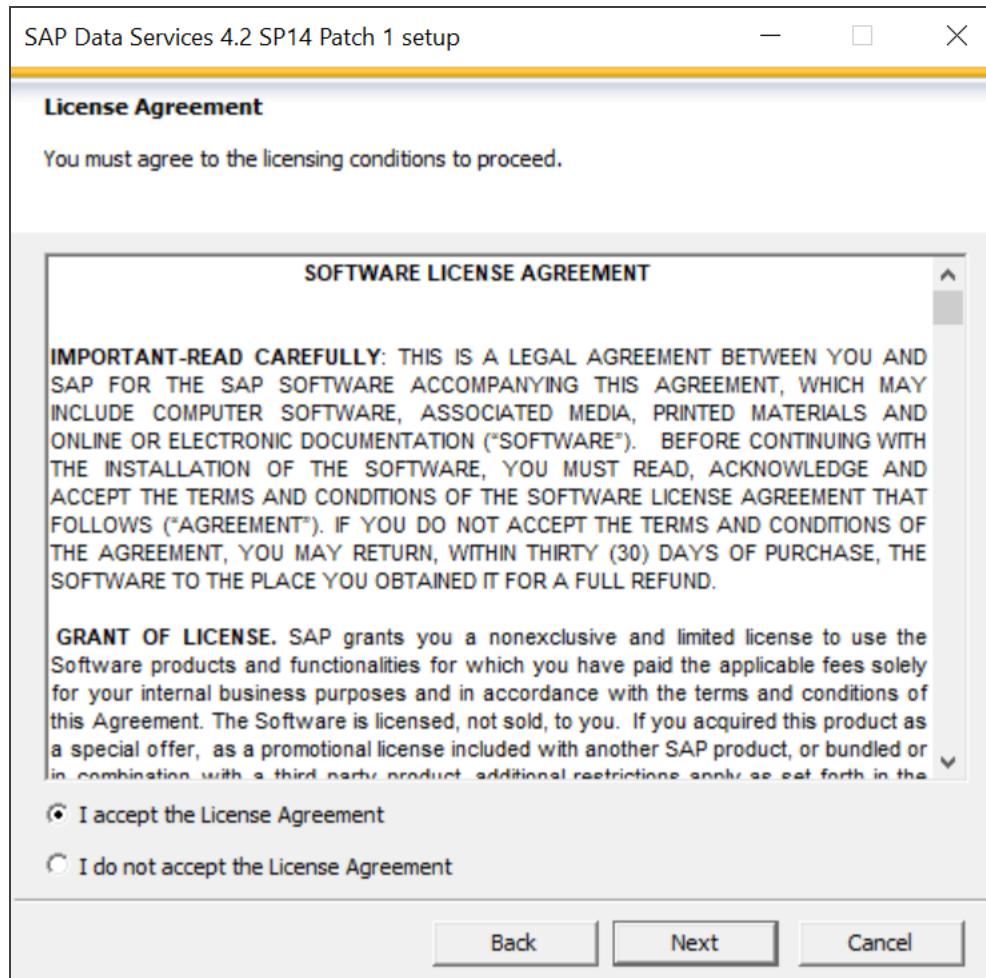


6. Click **Next** on the deployment platform message.

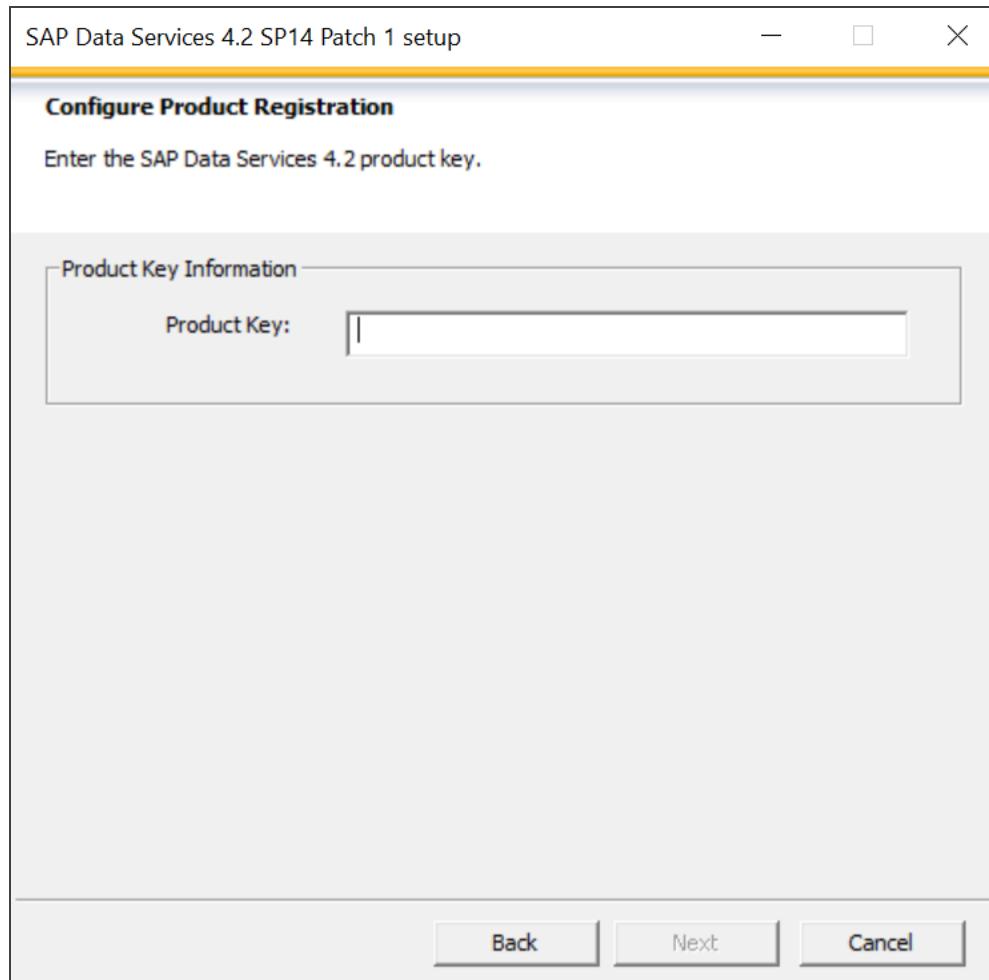


7. Click **Next**.

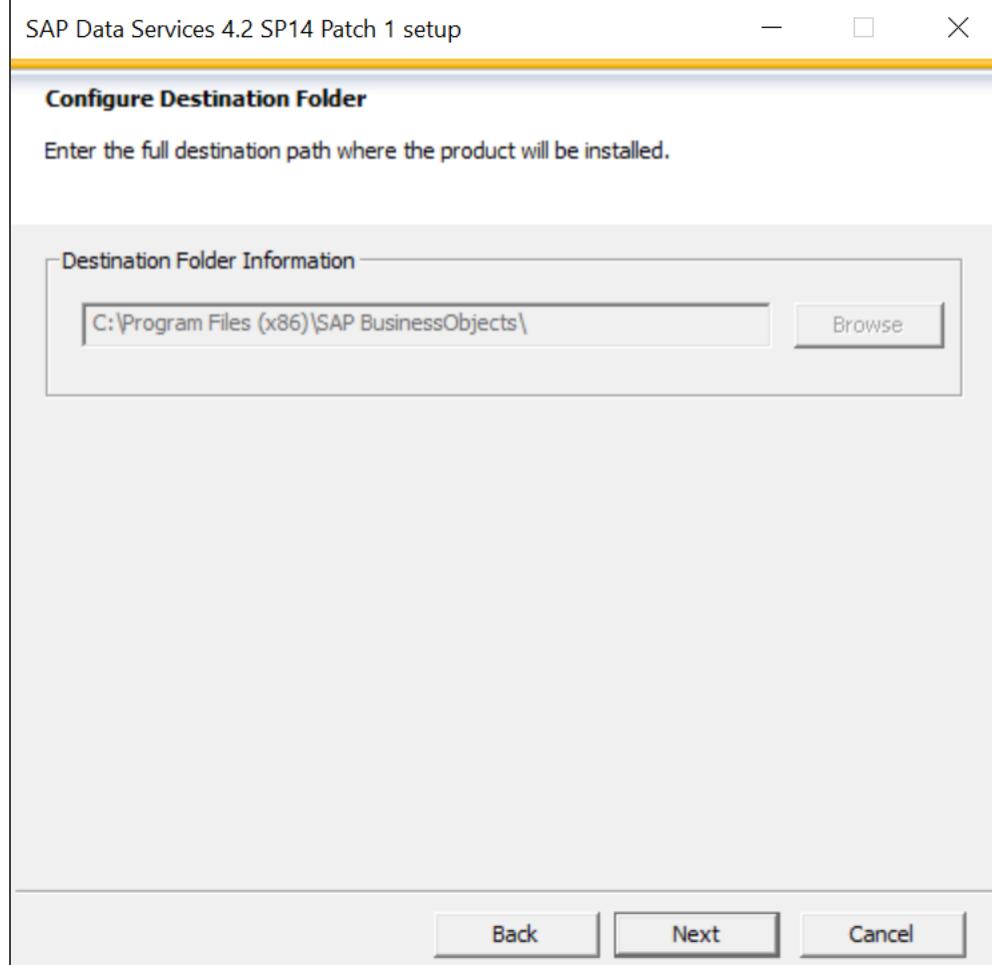
8. Read and accept the license agreement, and then click **Next**.

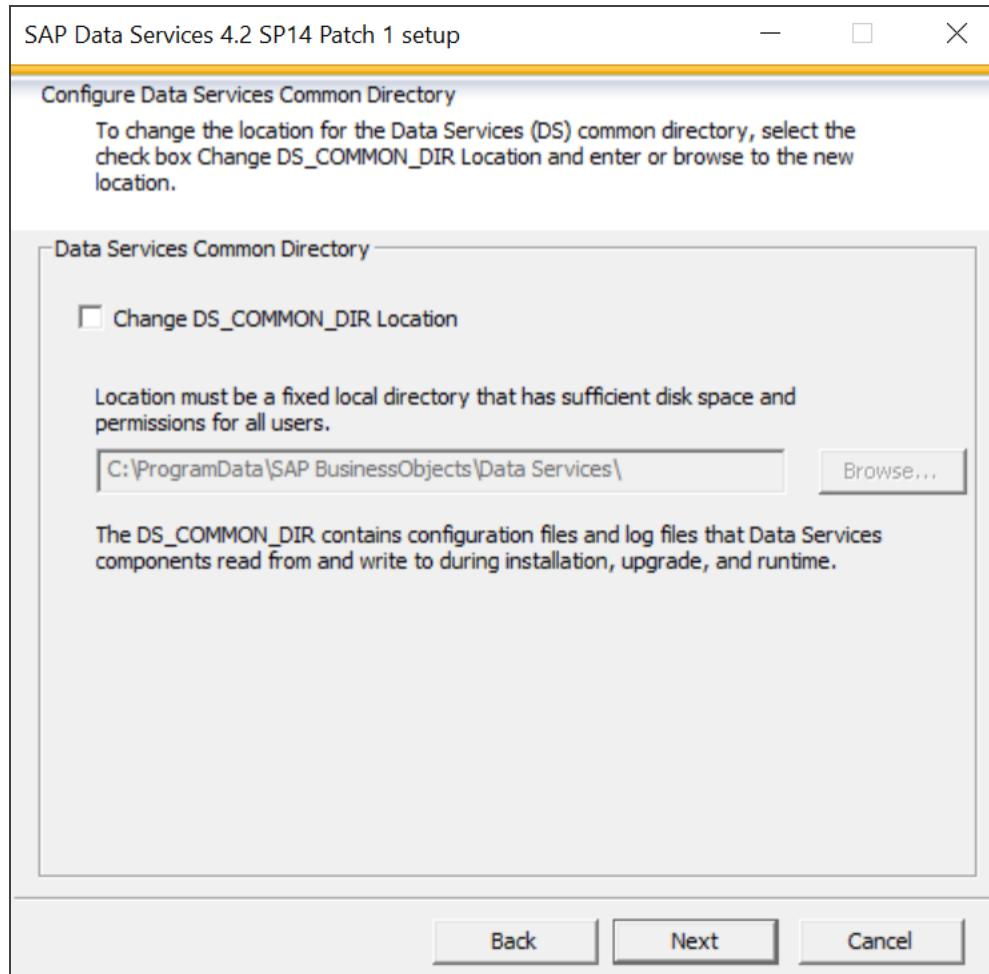


9. Enter the product key, and then click **Next**.

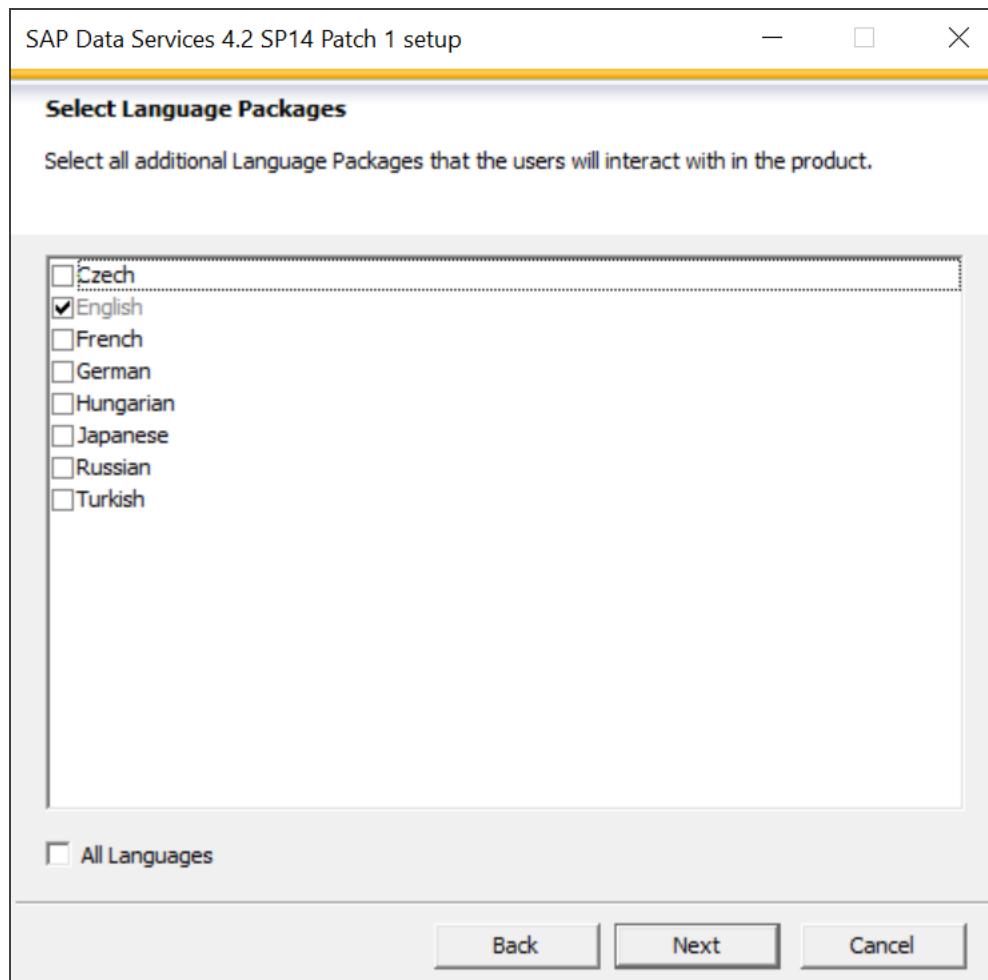


10. Click **Next** on **Configure Destination Folder**.



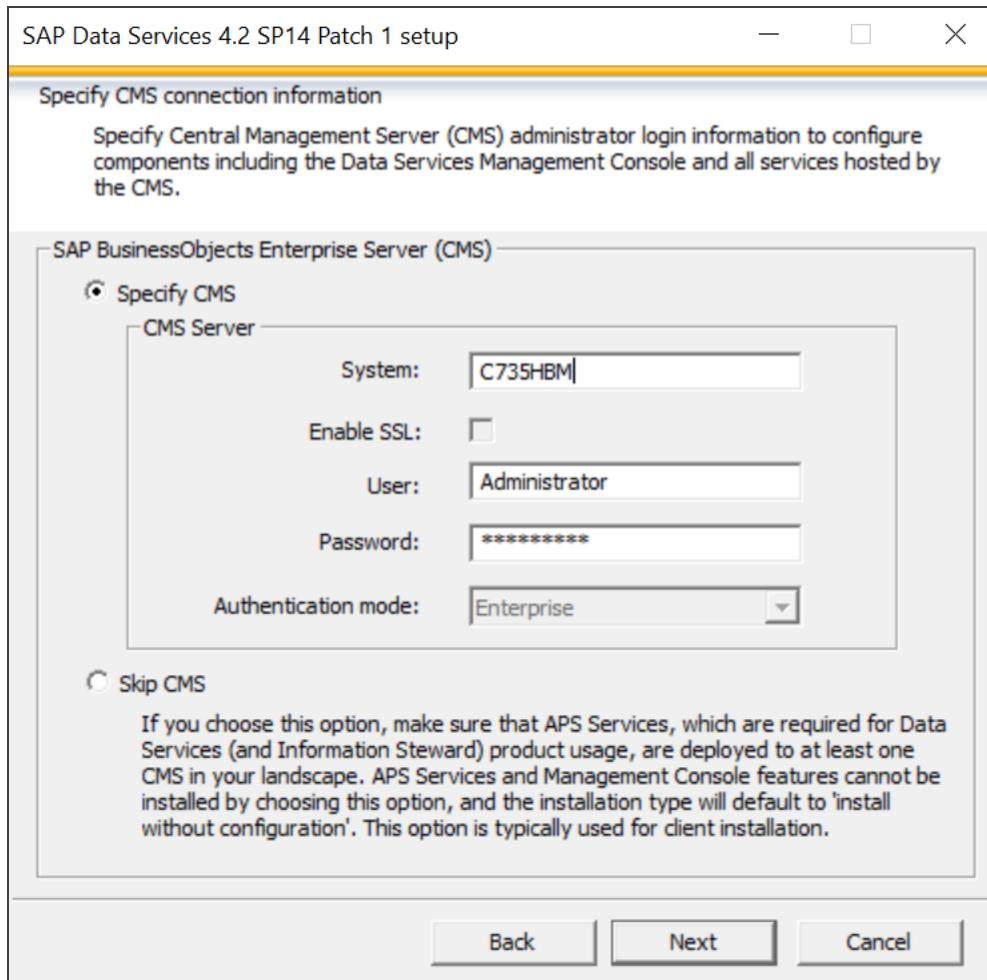


11. Ensure **English** is selected, and then click **Next**.

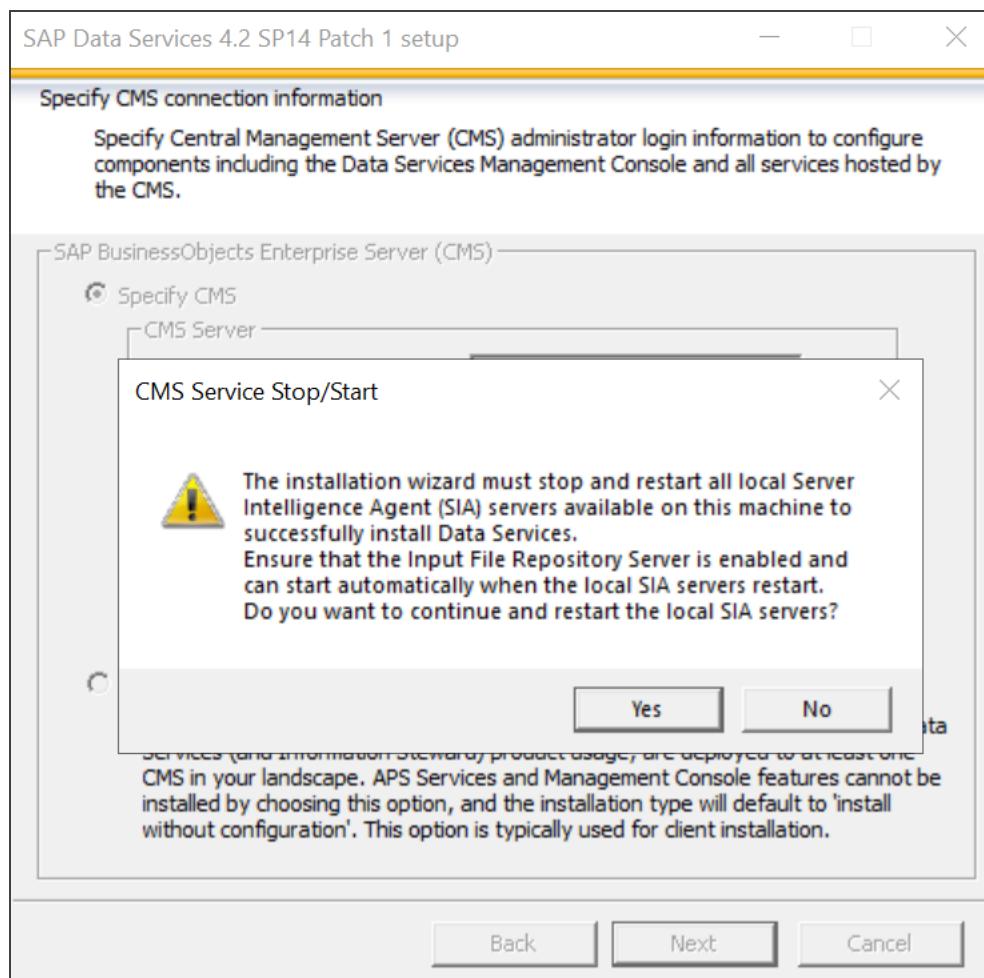


12. Select **Specify CMS** and enter the CMS Server information. See the table below for field descriptions.

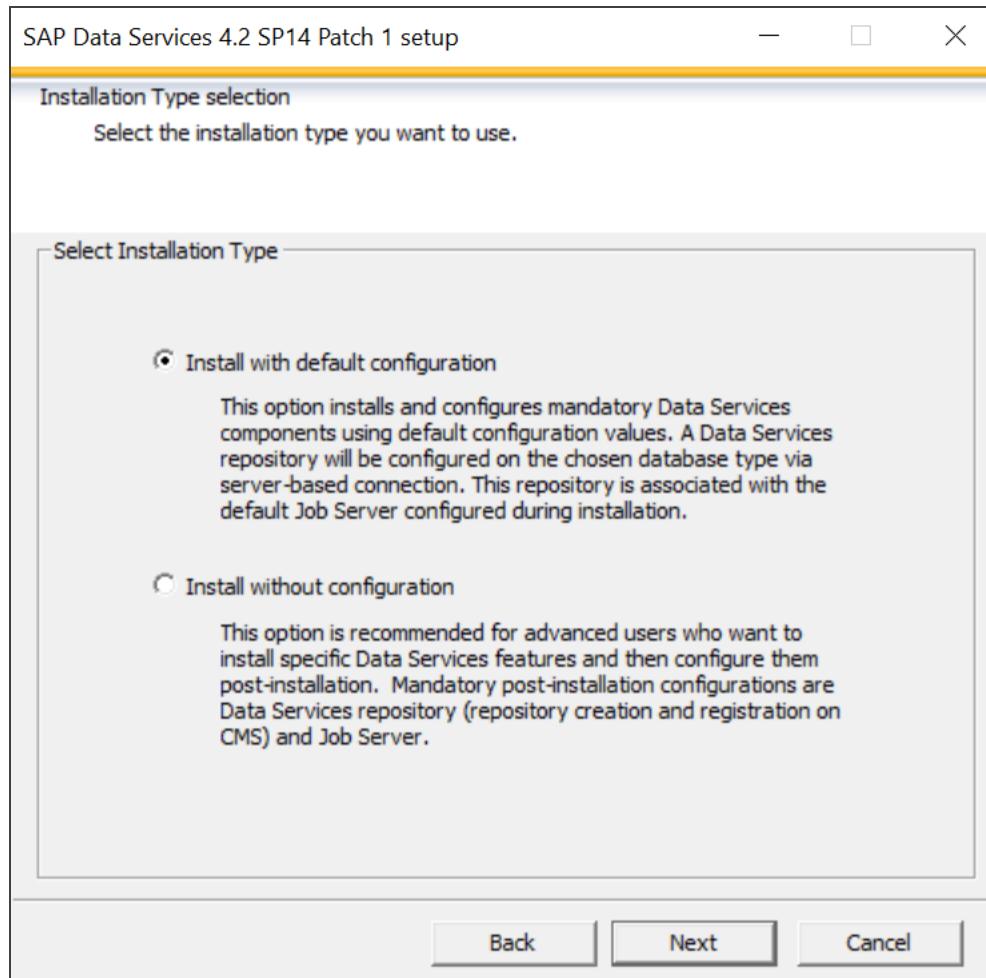
FIELD	DESCRIPTION
System	The name of the server hosting the Central Management Server (CMC)
User	The name of the administrative account you created when you installed Business Intelligence (usually "Administrator")
Password	The password for the administrative account for the CMC user



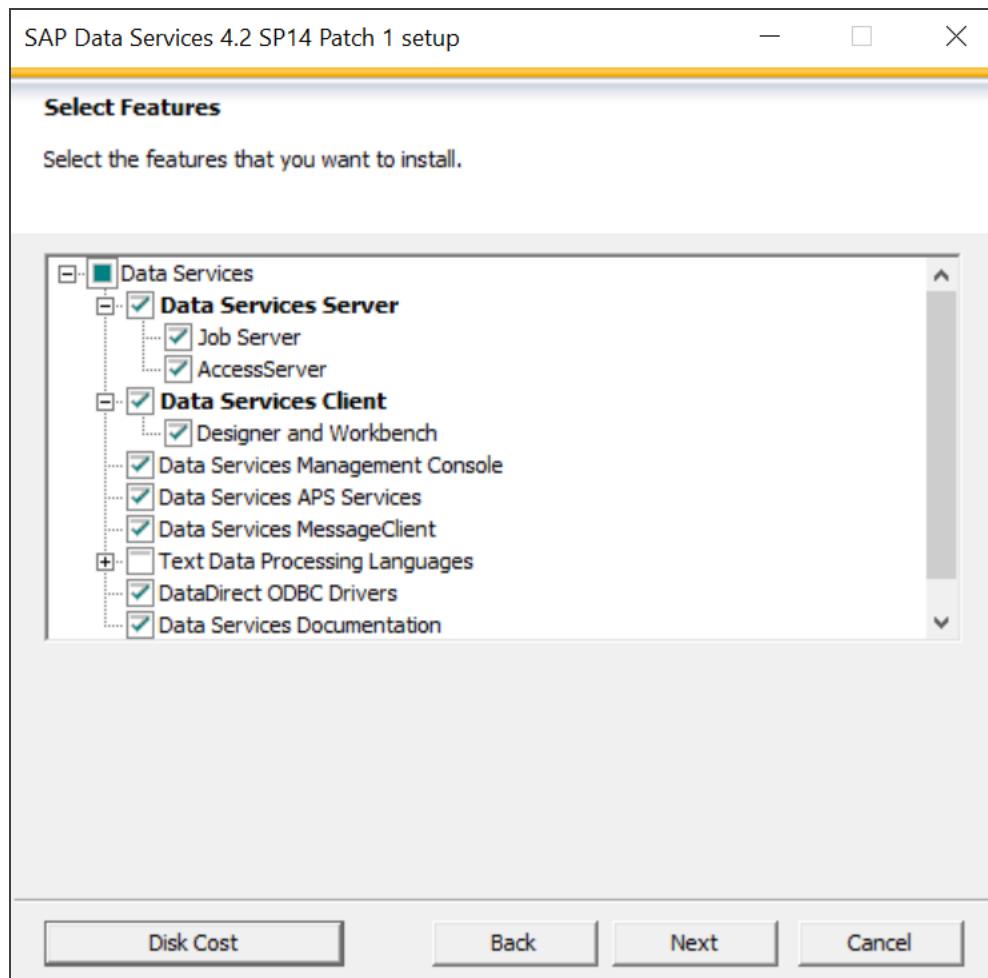
13. Click **Yes** to restart the SIA servers.



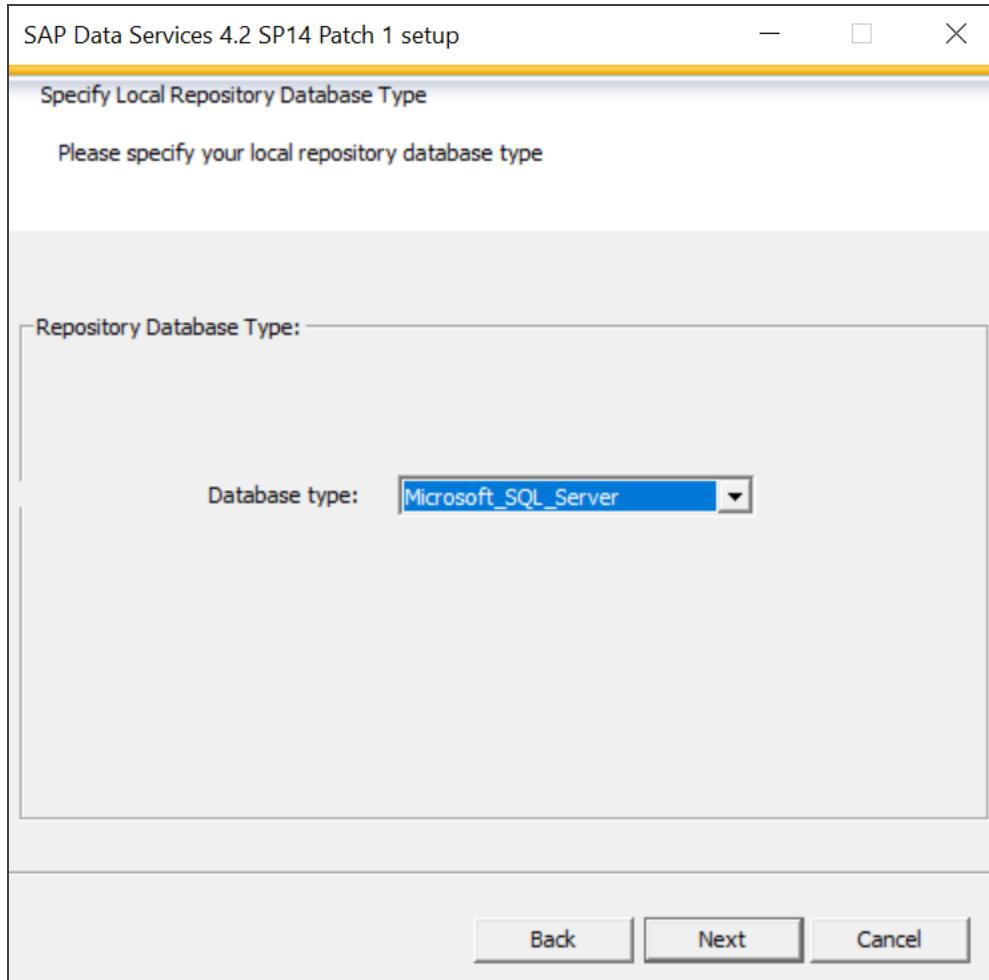
14. Select **Install with default configuration**, and then click **Next**.



15. Accept all the features by clicking **Next**.



16. Select the database type. If you select SQL Server, skip to step 19. If you select Oracle, continue with the steps below.



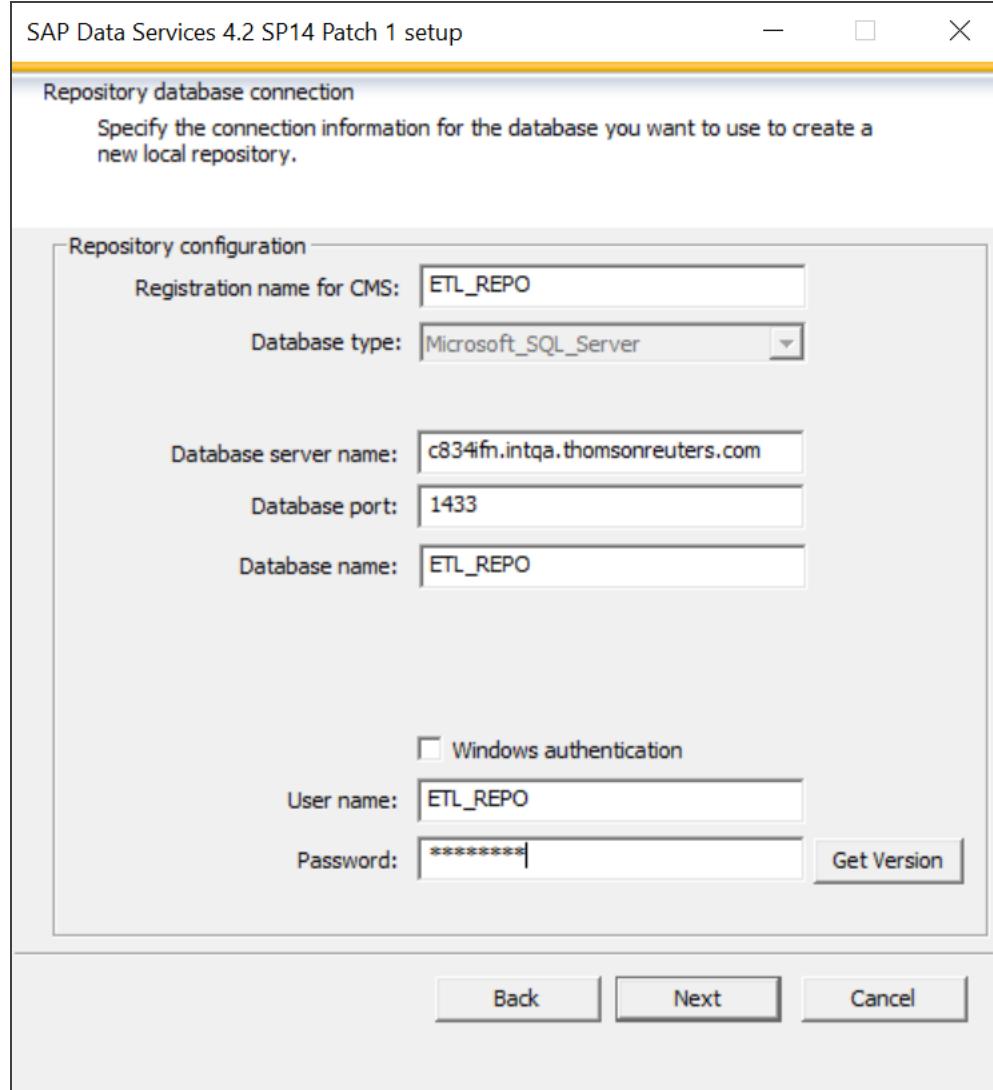
17. Select the driver based on the database type selection.

- For the Oracle 19c database, the driver is: ojdbc8.jar
- For the SQL Server 2019 the driver is: mssql-jdbc-9.4  
(See the Microsoft driver compatibility page.)



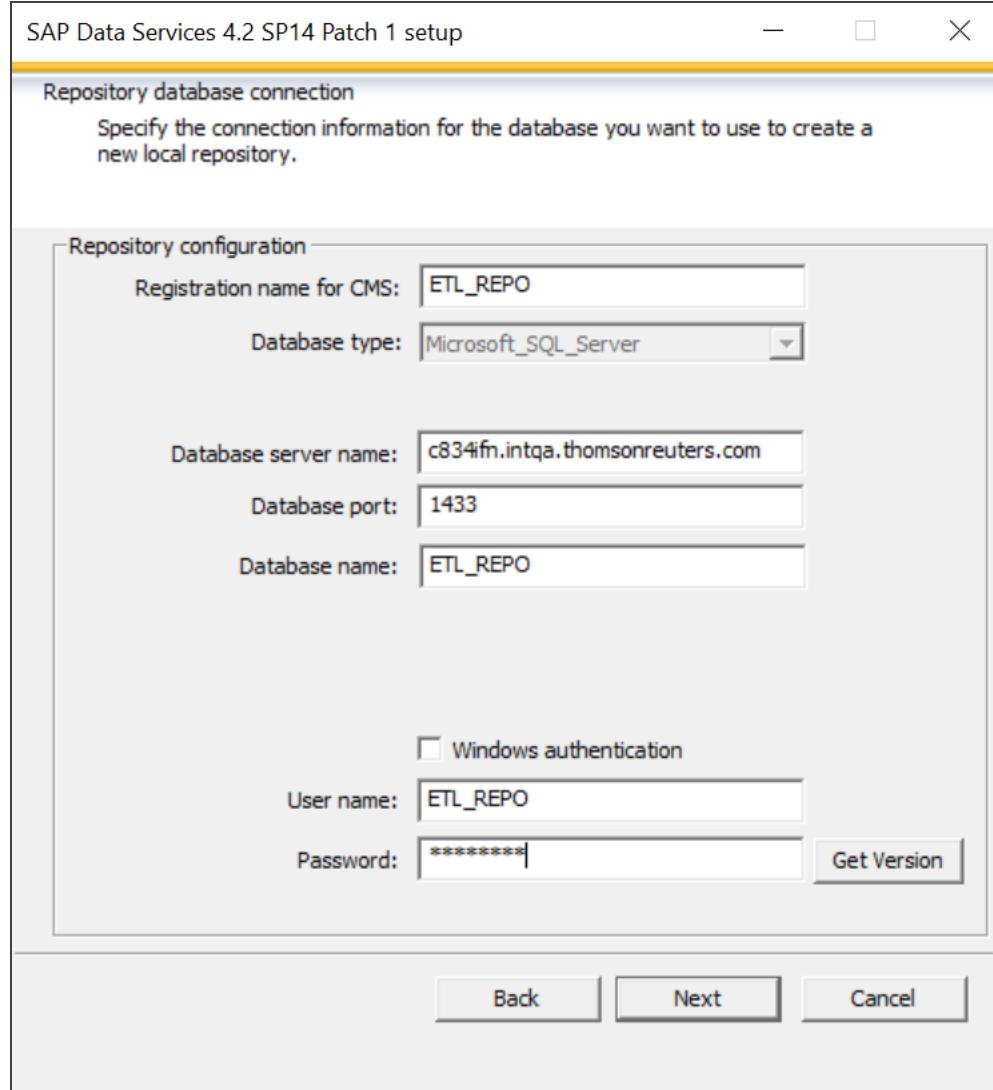
18. Enter the fields for the Oracle database.

ORACLE	
Registration name for CMS	Remove the default value and insert ETL_REPO   Make a note of the registration name ETL_REPO because it is required later for <b>Repository Name</b> in <a href="#">Creating the Configuration File (page 85)</a> .
Database server version	19c
Database server name	The name of the server housing the ETL database schema
Database port	The database port (for example, 1521)
SID	The Oracle System ID
User name	The schema name for the ETL repository (ETL_REPO if you used the database creation scripts)
Password	The password for the ETL repository user (for example, ETL_REPO)

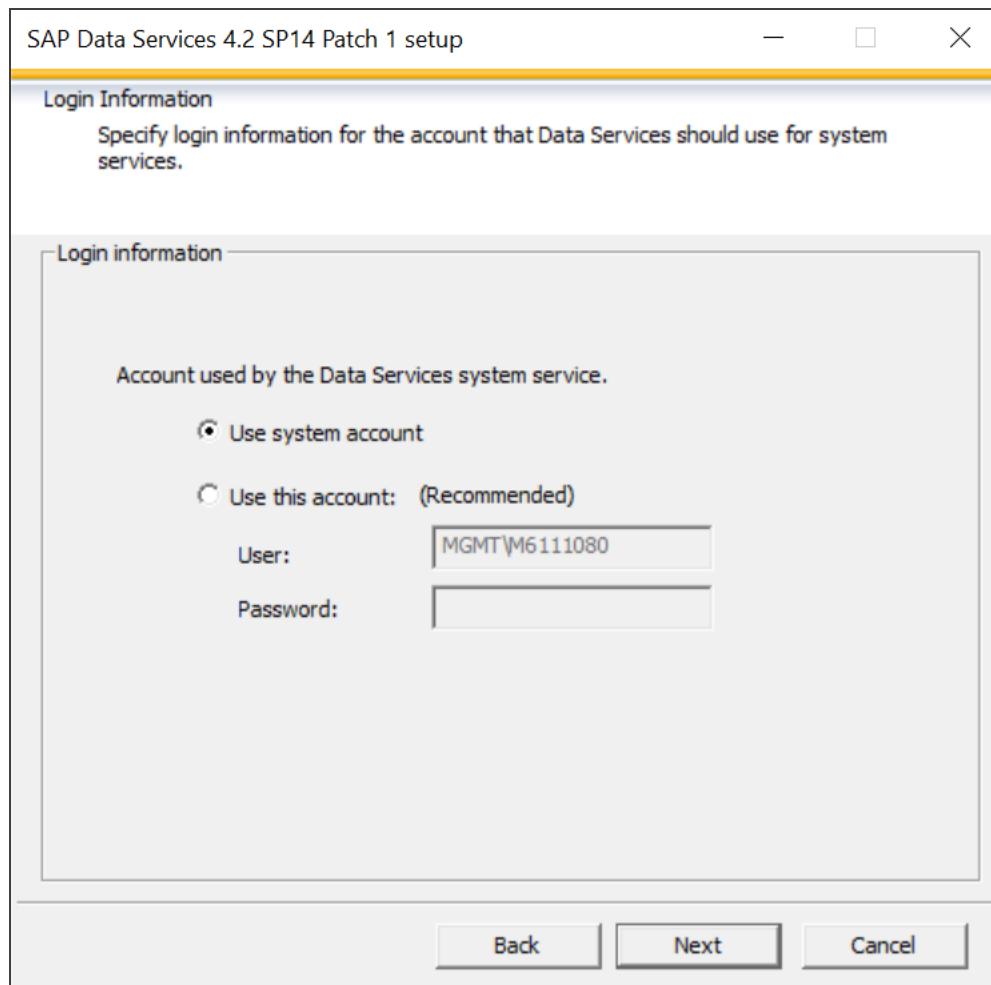


19. Enter the SQL Server database fields listed in the table below.

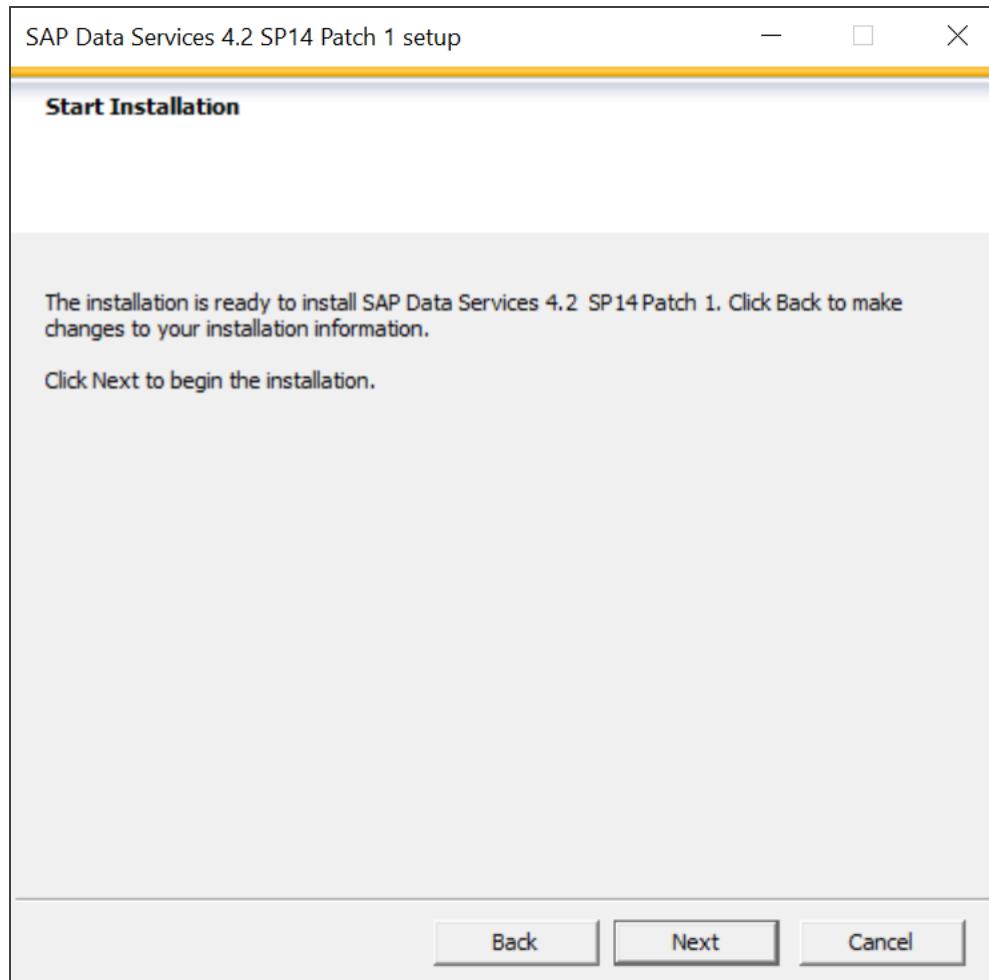
SQL SERVER	
Registration name for CMS	Remove the default value and insert ETL_REPO   Make a note of the registration name ETL_REPO because it is required later for <b>Repository Name</b> in <a href="#">Creating the Configuration File (page 85)</a> .
Database server name	Enter the name of the server housing the ETL database schema
Database port	Enter the database port (for example, 1433)
Database name	Enter the name of the database (for example, ETL_REPO)
Windows Authentication	Clear the box for Windows authentication
User name	The database user name for the ETL repository (for example, ETL_REPO)
Password	The user password for ETL repository (for example, ETL_REPO)



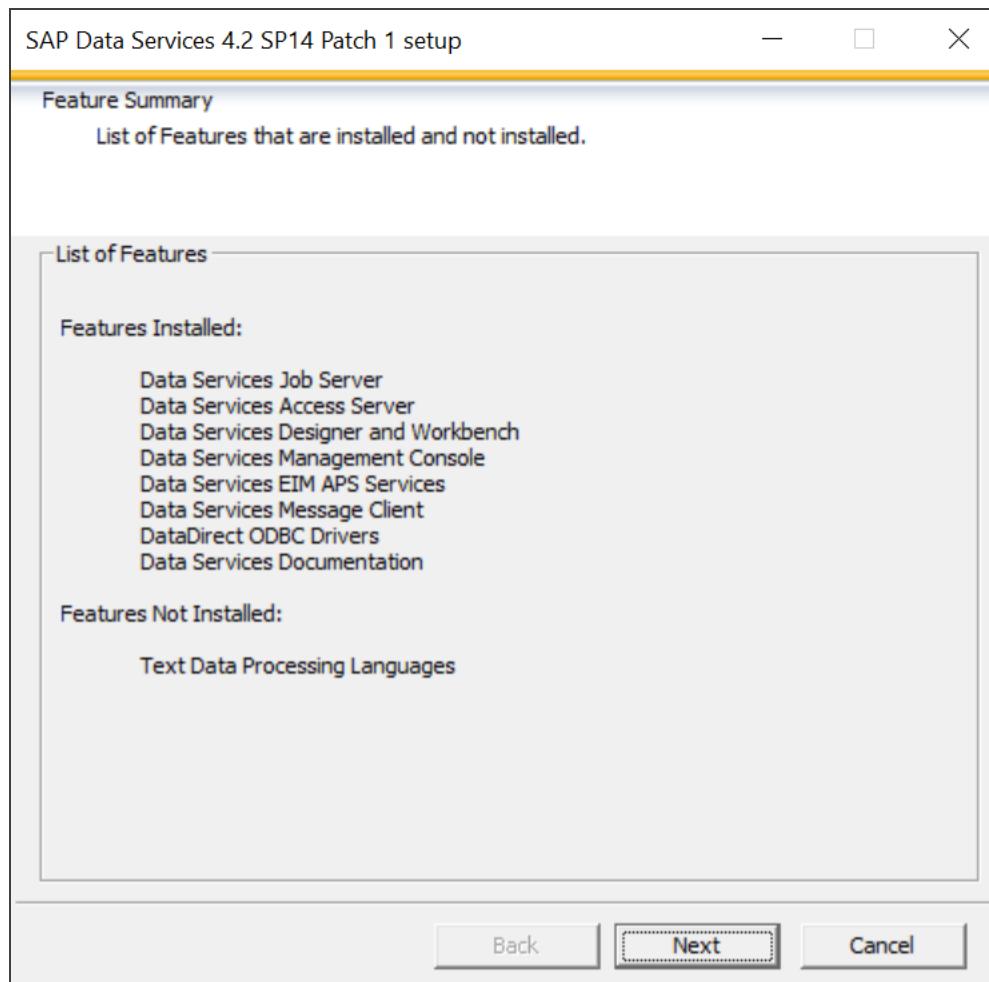
20. Select **Use system account**, and then click **Next**.



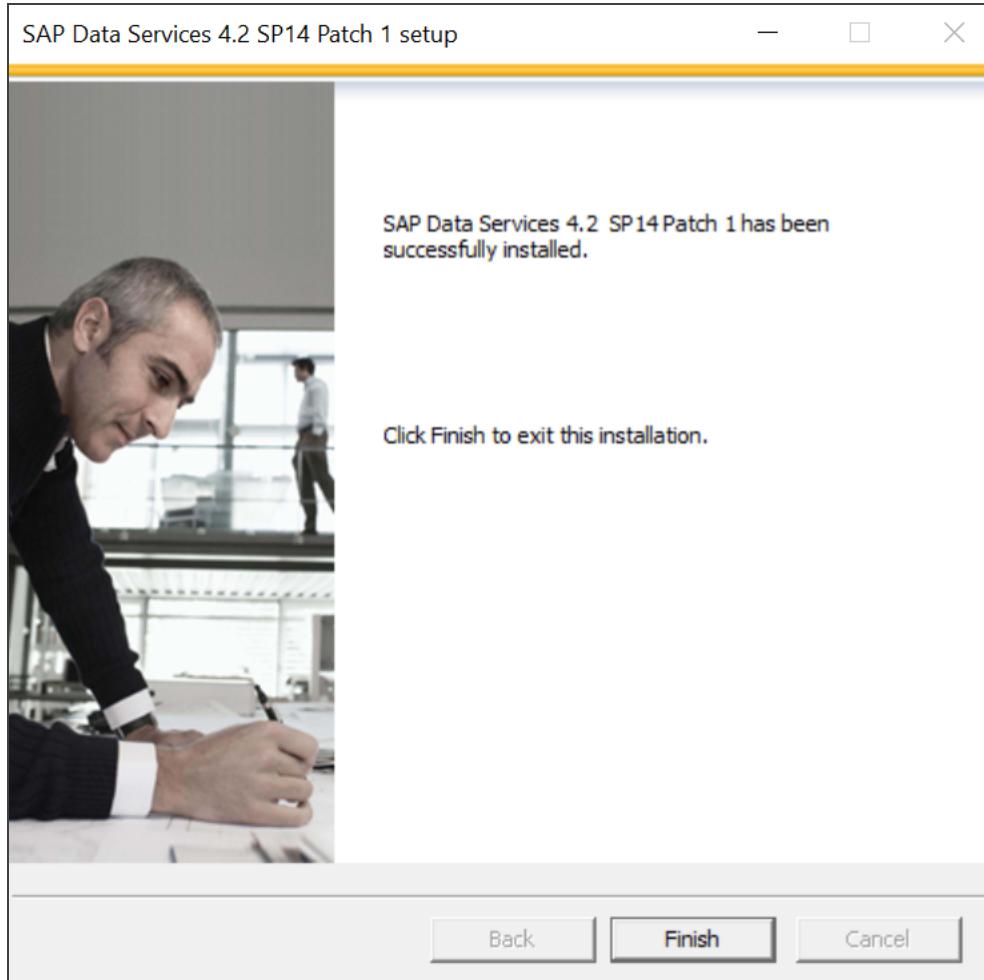
21. Click **Next** to start the installation.



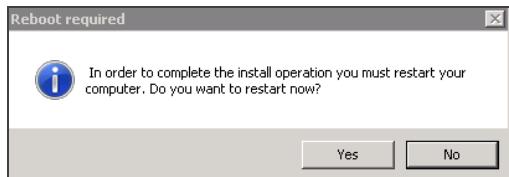
22. Click **Next** on the **Feature Summary**.



23. Click **Finishing** to exit this installation.



24. Click **Yes** to restart your computer.



## Stopping Services

To prepare for additional configurations, stop Tomcat and SAP BusinessObjects Data Services:

- Open Windows Services (**Start > Run > services.msc**).
- Right-click **Apache Tomcat for BI 4**, and click **Stop**.
- Right-click **SAP Data Services**, and click **Stop**.

## Checking the LINK\_DIR Variable

SAP BusinessObjects Data Services requires the environment variable **LINK\_DIR** for the Reporting user. Confirm that the SAP BusinessObjects Data Services installer created this environment variable and that it points to the directory where you installed SAP Data Services (for example, *C:\Program Files (x86)\SAP BusinessObjects\Data Services*). Add **LINK\_DIR** if it is not in the profile.



If you are not using Tomcat to host SAP BusinessObjects Data Services, ensure your application server user has *write* permissions to the directory where SAP BusinessObjects Data Services is installed.

## Changing Socket Timeout

SAP BusinessObjects Data Services requires a javascript socket timeout change.

1. Go to the following directory:

*C:\ProgramData\SAP BusinessObjects\Data Services\conf*



Go to *C:\ProgramData*—not *C:\Program Files*.

2. Open *admin.xml* in a text editor.
3. Find the element *<js-socket-timeout>*.
4. Set the value to *900000*. The final text looks like this:  

```
<js-socket-timeout>900000</js-socket-timeout>
```
5. Save and close the file.

## Modifying Max Return Size

Edit the *DSConfig.txt* file:

1. Return to the following directory:

*C:\ProgramData\SAP BusinessObjects\Data Services\conf*

2. Open *DSConfig.txt* in a text editor.

3. Go to the line with this setting:

*Replace\_Substr\_Max\_Return\_Size\_Characters =*

4. Change the value of the parameter to 500500:

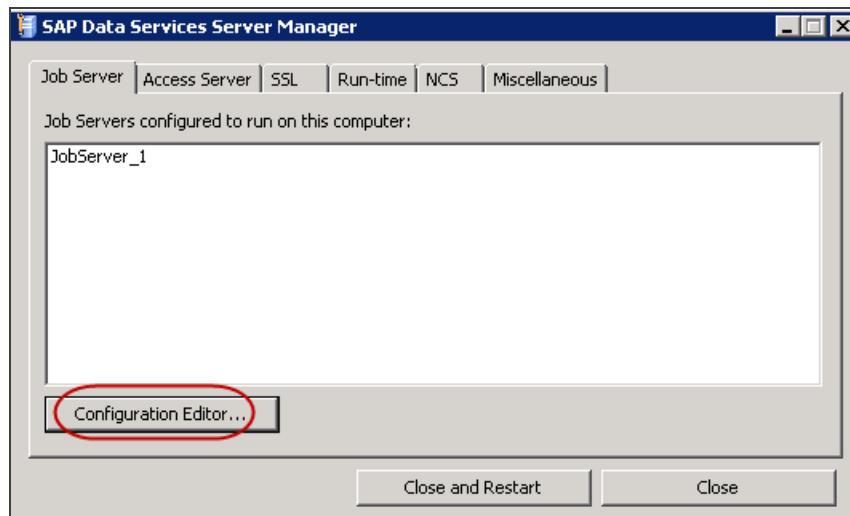
*Replace\_Substr\_Max\_Return\_Size\_Characters = 500500*

5. Save and close the file.

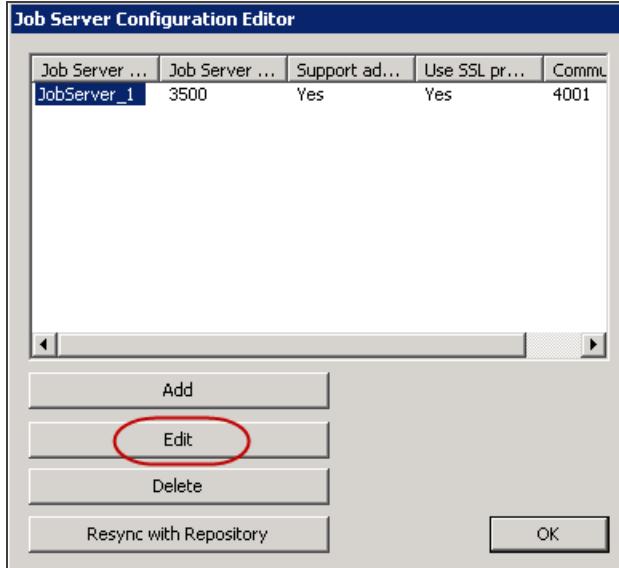
## Configuring the Adapter

Launch the SAP BusinessObjects Data Services Server Manager (**Start > SAP Data Services 4.2 > Data Services Server Manager**).

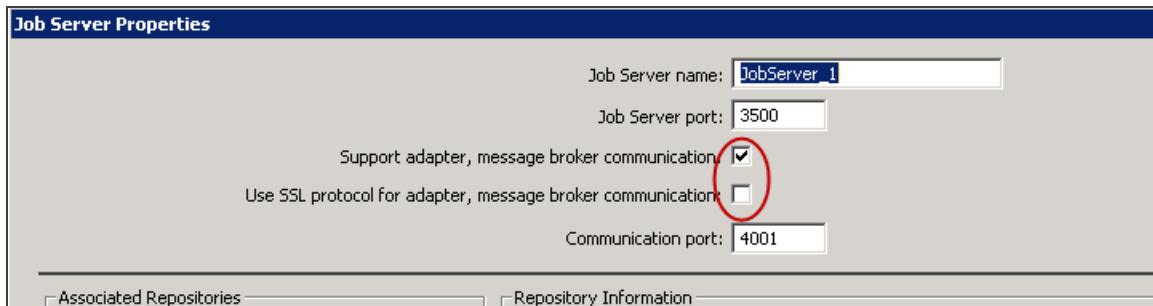
1. Click **Configuration Editor**.



2. Click **JobServer\_1** to select it, and then click **Edit**.



3. Select **Support adapter, message broker communication**, and clear **Use SSL protocol for adapter, message broker communication**.

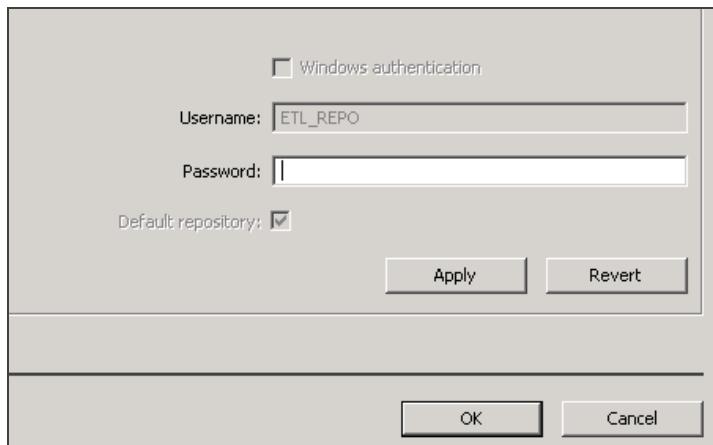


4. Click **OK** on Job Server Properties.

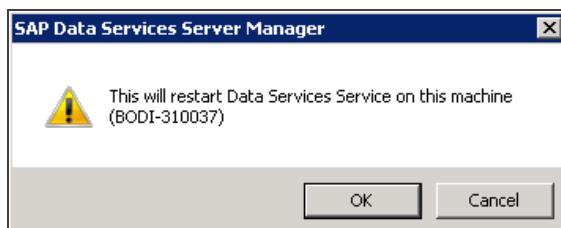
5. Click **OK** on the pop-up about re-entering the repository password.



6. Enter the repository password, and then click **OK**.



7. Click **OK** on Job Server Configuration Editor.
8. Click **Close and Restart** on SAP Data Services Server Manager.
9. Click **OK** on the pop-up about restarting services.



## Starting Services

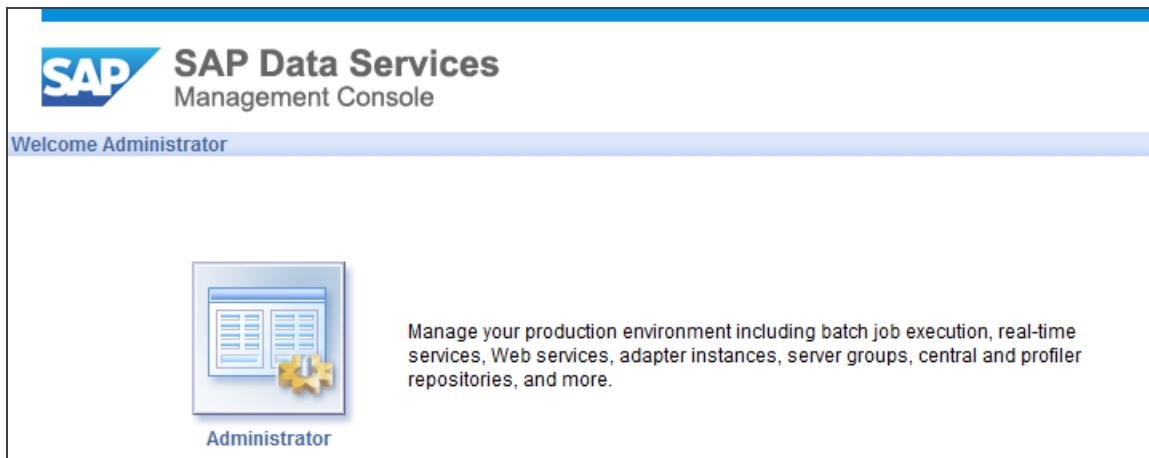
Confirm that Data Services is running, and then start Tomcat:

1. Return to Windows Services (**Start > Run > services.msc**).
2. Confirm that **SAP Data Services** is running. If it is not running, right-click **SAP Data Services**, and then click **Start**.
3. Right-click **Apache Tomcat for BI 4**, and then click **Start**.

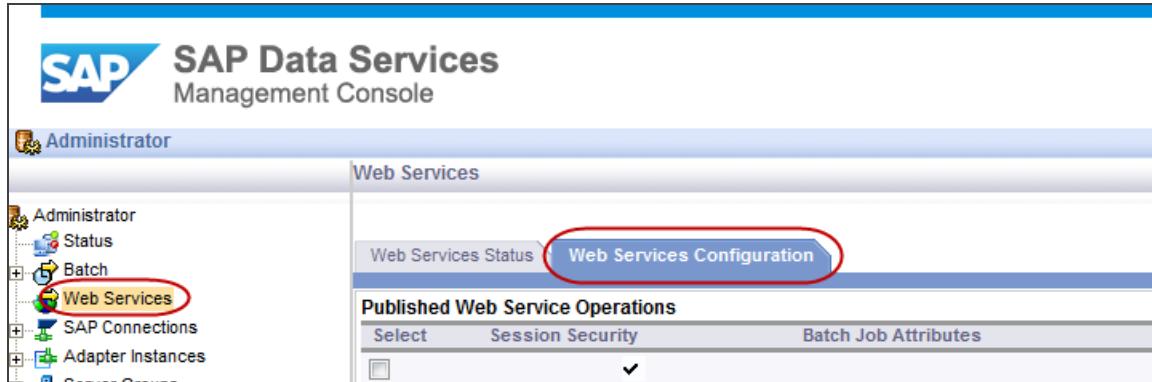
## Configuring Session Security

Configure session security in the SAP BusinessObjects Data Services Management Console.

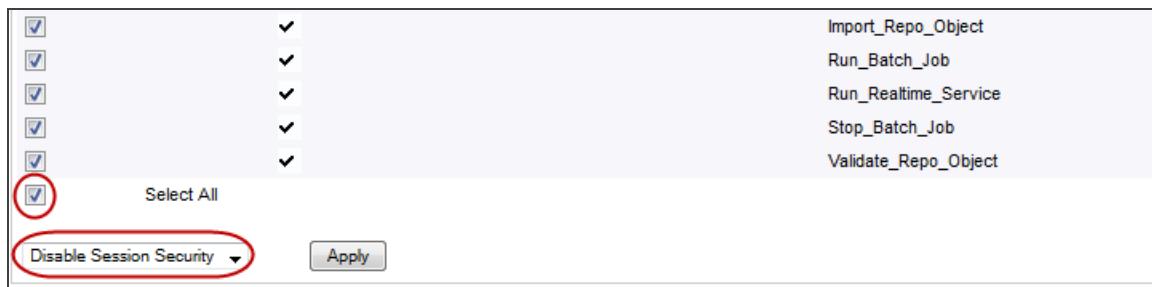
1. Go to the URL for SAP BusinessObjects Data Services Management Console. The URL follows this format:  
`http://<host>:8080/DataServices`
2. Log on as **Administrator**, and use the password you created during the installation of SAP BusinessObjects BI Platform.
3. Click **Administrator**.



4. Click **Web Services** in the left pane, and then click **Web Services Configuration** in the right pane.



5. Click **Select All**, and then select **Disable Session Security** in the drop-down.

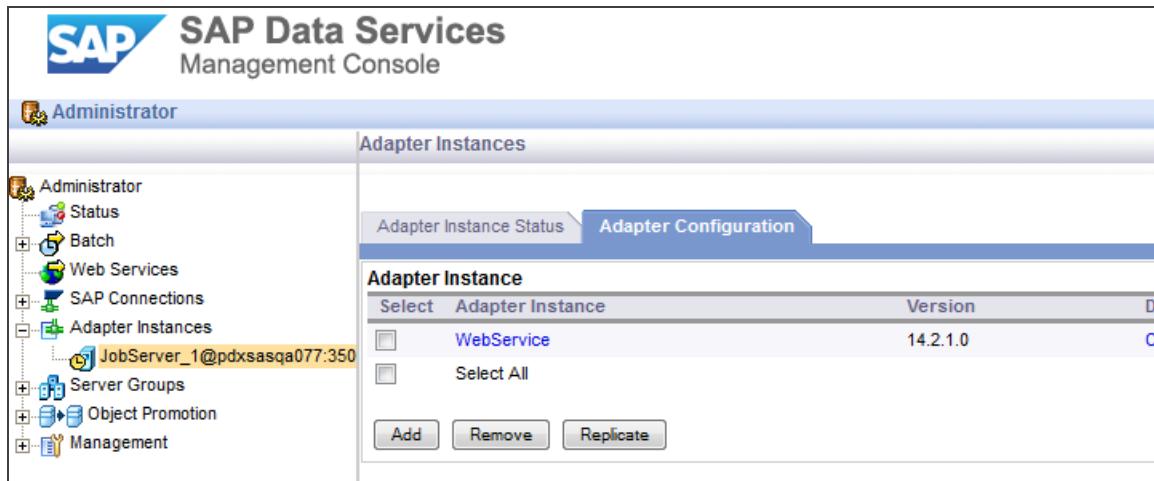


6. Click **Apply**.

## Setting Web Service Adapter Parameters

Continue in the SAP BusinessObjects Data Services Management Console, and modify parameters for the Web Service Adapter.

1. Expand the **Adapter Instances** node in the left pane, select your **Job Server**
2. In the right pane, click the **Adapter Configuration** tab.



3. Click **WebService** if there is an adapter instance on the **Adapter Configuration** tab, and then go to step 5 to edit the parameters. If **WebService** is not in the list of adapter instances, click **Add**.

4. Click **WebServiceAdapter** on the **Installed Adapters** tab.

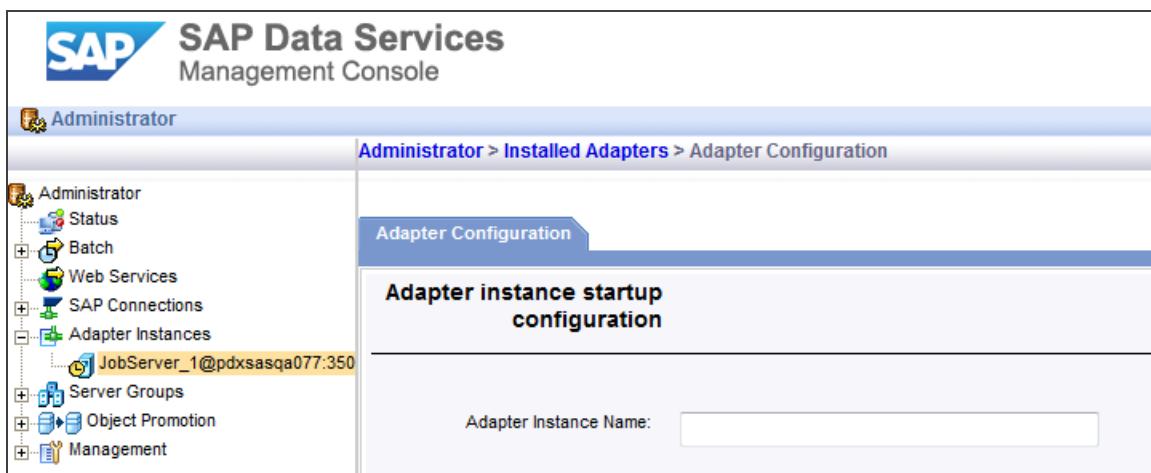


The screenshot shows the SAP Data Services Management Console interface. The left sidebar is titled 'Administrator' and contains the following tree structure: Administrator, Status, Batch, Web Services, SAP Connections, Adapter Instances (selected), Server Groups, Object Promotion, Management. Under 'Adapter Instances', 'JobServer\_1@pdxsasqa077:350' is selected. The main content area is titled 'Adapter Instances > Installed Adapters' and shows a table titled 'Adapters Managed by Job Server: JobServer\_1'. The table has two columns: 'Installed Adapters' and 'Type'. The 'Installed Adapters' column lists: JMSAdapter, HiveAdapter, SalesForceAdapter, SuccessFactorsAdapter, HTTPAdapter, MSExcelAdapter, VCFAdapter, TestAdapter, and WebServiceAdapter. The 'Type' column shows all entries as 'JAVA'. The 'WebServiceAdapter' row is circled in red.

Installed Adapters	Type
JMSAdapter	JAVA
HiveAdapter	JAVA
SalesForceAdapter	JAVA
SuccessFactorsAdapter	JAVA
HTTPAdapter	JAVA
MSExcelAdapter	JAVA
VCFAdapter	JAVA
TestAdapter	JAVA
WebServiceAdapter	JAVA

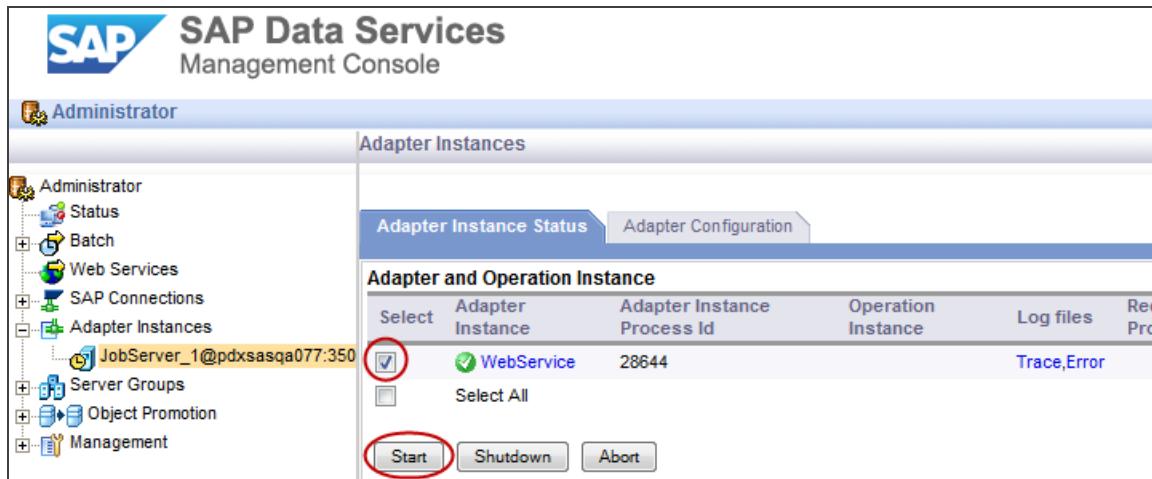
5. On the **Adapter Configuration** tab, enter the parameter values listed in the table below.

FIELD	VALUE
Adapter Instance Name	WebService (this is case sensitive)
Adapter Retry Count	5
Adapter Retry Interval	150000



The screenshot shows the SAP Data Services Management Console interface. The left sidebar is titled 'Administrator' and contains the same tree structure as the previous screenshot. Under 'Adapter Instances', 'JobServer\_1@pdxsasqa077:350' is selected. The main content area is titled 'Administrator > Installed Adapters > Adapter Configuration' and shows a section titled 'Adapter instance startup configuration'. A text input field labeled 'Adapter Instance Name:' is present, with the value 'WebService' entered. The 'WebServiceAdapter' row in the tree on the left is circled in red.

6. Accept the defaults for the remaining fields, and then click **Apply**.
7. Click the **Adapter Instance Status** tab, select the **WebService** check box, and then click **Start**.

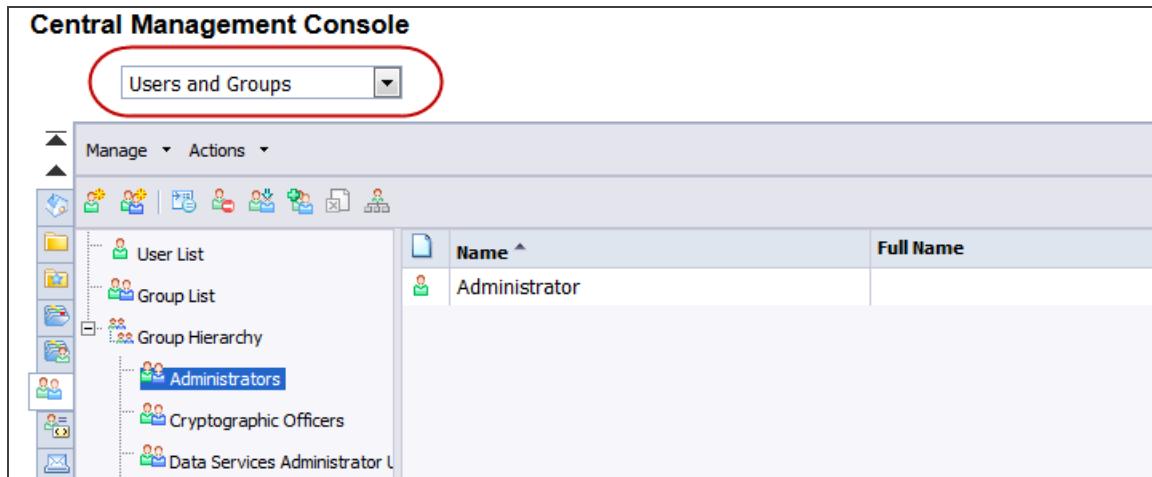


 You will receive errors later in the Reporting installation if the WebService is not running.

## Adding Administrator to Data Services Groups

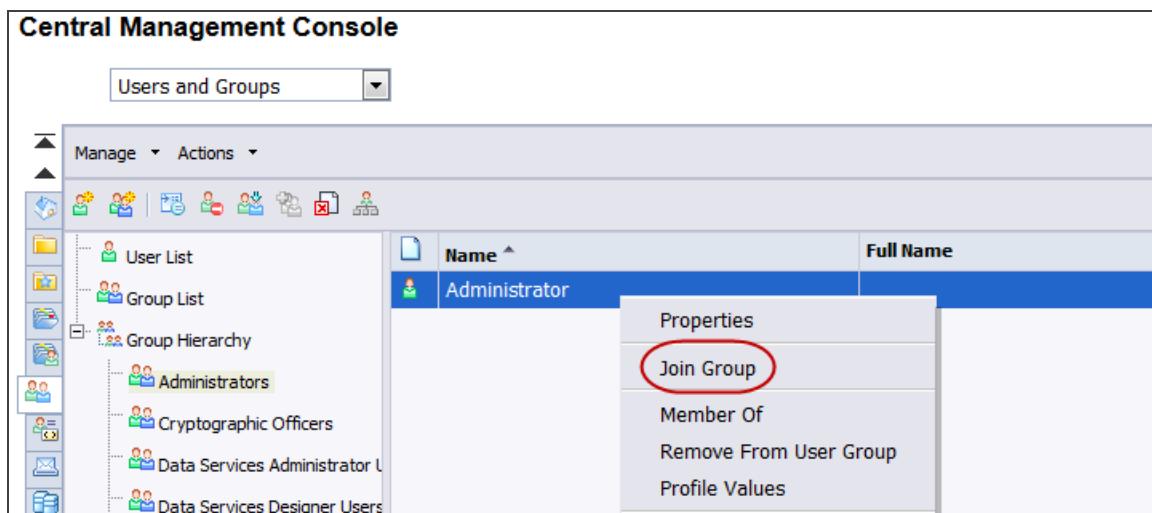
Complete the following to insert the SAP BusinessObjects BI Platform administrator user into the SAP BusinessObjects Data Services groups.

1. Log on to the Central Management Console (for example, <http://<host>:8080/BOE/CMC>).
2. Select **Users and Groups**, and then click **Administrators** in the left pane.



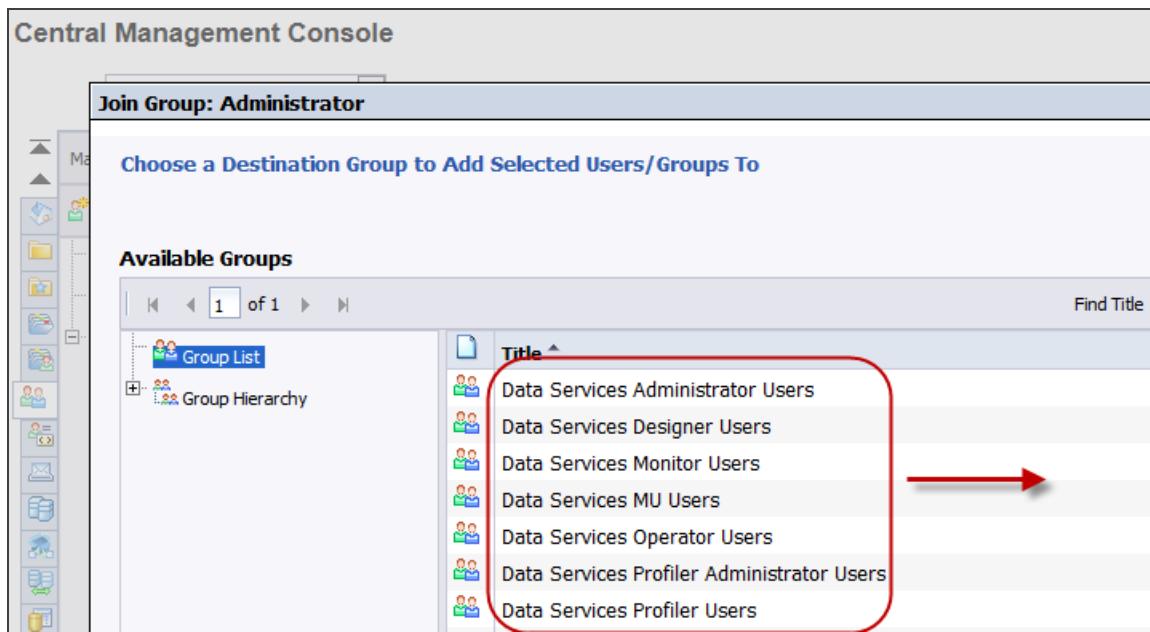
The screenshot shows the SAP Central Management Console interface. The top navigation bar has a dropdown menu set to 'Users and Groups'. The left sidebar contains a tree structure with 'Manage' and 'Actions' buttons. Under 'Group Hierarchy', the 'Administrators' group is selected and highlighted in blue. The right pane displays a table with columns 'Name' and 'Full Name'. A single row for 'Administrator' is shown, with the 'Name' column value being 'Administrator'.

3. Right-click **Administrator** in the right pane, and then click **Join Group**.



The screenshot shows the SAP Central Management Console interface. The 'Users and Groups' selection is still active in the top dropdown. The 'Administrators' group is selected in the left sidebar. The 'Administrator' user is selected in the right pane. A context menu is open over the 'Administrator' row, with the 'Join Group' option highlighted and circled in red. Other options in the menu include 'Properties', 'Member Of', 'Remove From User Group', and 'Profile Values'.

4. Move each Data Services group to the **Destination Group(s)** pane using the > symbol.



5. Click **OK**.

# REPORTING INSTALLER

The installation of the Reporting user interface is composed of two parts: running the installer and deploying the web application. This section describes how to run the installer.

Creating the Configuration File .....	85
Modifying the Installation Script .....	97
Running the Installer .....	97

## CREATING THE CONFIGURATION FILE

In this step of the Reporting installation, you use a utility to create a configuration file. The utility asks for information about your environment and inserts the data in the file *installation-config.xml*.

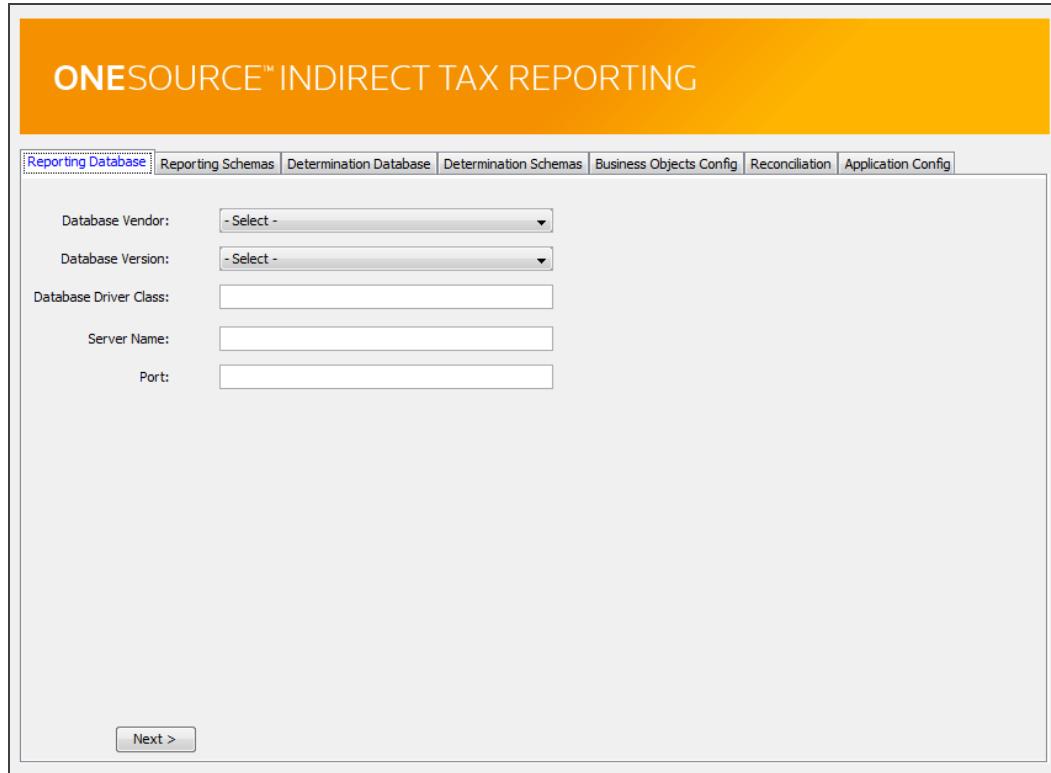
Begin by launching the program:

1. Go to the directory where you unzipped *ONESOURCEIDTReporting\_68xx.zip* ( shown as *<UnzippedReportingDirectory>* below).
2. Start a command-line session, and then change to the *install* directory of the Reporting software:  
*<UnzippedReportingDirectory>\install*
3. Type the following and then press ENTER:

```
java -jar ONESOURCEInstallationConfigurator.jar
```

The utility is organized by tabs for each group of configuration data. Proceed from left to right through the tabs (see the screen example below). You can navigate either by clicking **Next** at the bottom-right of each tab or by clicking the next tab at the top.

All the fields are required, with the exception of **ONESOURCE CD Directory** on the final tab.



ONESOURCE™ INDIRECT TAX REPORTING

Reporting Database Reporting Schemas Determination Database Determination Schemas Business Objects Config Reconciliation Application Config

Database Vendor: - Select -

Database Version: - Select -

Database Driver Class:

Server Name:

Port:

Next >



If you are interrupted and need to return to this configuration later, save your work by selecting **File > Save**. Enter the directory path and file name as follows:

*<UnzippedReportingDirectory>\install\installation-config.xml*

When you restart the utility to finish the configuration file, choose **File > Open** and select your file.

The tables in the following steps contain information about each tab. You can also hover over field names to see descriptions.

1. **Reporting Database** tab:

REPORTING DATABASE	
Database Vendor	Select the vendor of the database that is hosting Reporting: <ul style="list-style-type: none"><li>• Oracle</li><li>• SQL Server</li></ul>
Database Version	Select 19c for Oracle 19
Database Driver Class	Accept the default, or enter a different class
Server Name	The server hosting the Reporting schemas
Port Number	The port number of the database server hosting the Reporting schemas
Named Instance (for SQL Server)	If you have a named instance, check the box and enter the name in this field

2. **Reporting Schemas** tab: First, complete the Reporting Control section followed by the Reporting Audit section. Two sets of tables follow below, one set for Oracle and one set for SQL Server. The tables may appear on adjacent pages.

REQUIRED REPORTING SCHEMAS (ORACLE)	
<b>Reporting Control</b>	
Username	The Reporting Control schema name (the default is SBXRPTCTRL)
Password	The Reporting Control schema password (the default is SBXRPTCTRL)
Database SID	The database SID (the default is ORCL)

## REQUIRED REPORTING SCHEMAS (ORACLE)

### Reporting Control

TNS Name	The Reporting Control schema TNS name
Create DB URL	<p>If you are using SID Format should be as below.</p> <p><code>jdbc:oracle:thin:@Acme_Server:1521:orcl</code></p> <p>If you are using oracle service modify the format as below.</p> <p><code>jdbc:oracle:thin:@Acme_Server:1521/orcl</code></p>
Test DB Connection	<p>Click this button to test the database connection</p> <p> If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature</p>

## REQUIRED REPORTING SCHEMAS (ORACLE)

### Reporting Audit

Username	The Reporting Audit schema name (the default is SBXRPTAUD)
Password	The Reporting Audit schema password (the default is SBXRPTAUD)
Database SID	The database SID (the default is ORCL)
TNS Name	The Reporting Audit schema TNS name
Create DB URL	<p>If you are using SID Format should be as below.</p> <p><code>jdbc:oracle:thin:@Acme_Server:1521:orcl</code></p> <p>If you are using oracle service modify the format as below.</p> <p><code>jdbc:oracle:thin:@Acme_Server:1521/orcl</code></p>

**REQUIRED REPORTING SCHEMAS (ORACLE)****Reporting Audit**

Test DB Connection

Click this button to test the database connection



If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature

**REQUIRED REPORTING SCHEMAS (SQL SERVER)****Reporting Control**

Username

The Reporting Control database user name (the default is SBXRPTCTRL)

Password

The Reporting Control database user password (the default is SBXRPTCTRL)

Database Name

The Reporting Control database name (for example, SBXRPTCTRL)

Data Source Name

Repeat the Reporting Control database name (for example, SBXRPTCTRL)

Create DB URL

Click this button to create the database URL (the utility concatenates your previous entries)

Test DB Connection

Click this button to test the database connection



If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature

REQUIRED REPORTING SCHEMAS (SQL SERVER)	
<b>Reporting Audit</b>	
Username	The Reporting Audit database user name (the default is SBXRPTAUD)
Password	The Reporting Audit database user password (the default is SBXRPTAUD)
Database Name	The Reporting Audit database name (for example, SBXRPTAUD)
Data Source Name	Repeat the Reporting Audit database name (for example, SBXRPTAUD)
Create DB URL	Click this button to create the database URL (the utility concatenates your previous entries)
Test DB Connection	Click this button to test the database connection   If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature

3. Skip **Optional Schemas** on the **Reporting Schemas** tab, unless you created optional Utility schemas. For more information see [Appendix: Utility Schemas \(page 203\)](#).
4. **Determination Database** tab: Complete the following:
  - If the Determination and Reporting databases are on the same database server, skip to the **Determination Schemas** tab.
  - If Determination is on a separate database server, then continue on the **Determination Database** tab and clear the **Use Reporting Database** check box. Complete the Determination database fields.

DETERMINATION DATABASE	
Database Vendor	Select the vendor of the database that is hosting Reporting: <ul style="list-style-type: none"> <li>• Oracle</li> <li>• SQL Server</li> </ul>
Database Version	Select the database version
Database Driver Class	Accept the default, or enter a different class
Server Name	The server hosting the Reporting schemas
Port Number	The port number of the server hosting the Reporting schemas

5. **Determination Schemas** tab: Complete the sections for the Audit and Tax schemas. Two sets of tables follow below, one set for Oracle and one set for SQL Server. The tables may appear on adjacent pages.

DETERMINATION SCHEMAS (ORACLE)	
Determination Audit Schema	
Username	The Determination Audit schema name (the default is SBXAUD)
Password	The Determination Audit schema password (the default is SBXAUD)
Database SID	The database SID (the default is ORCL)
TNS Name	The Determination Audit schema TNS name
Create DB URL	If you are using SID Format should be as below <code>jdbc:oracle:thin:@Acme_Server:1521:orcl</code> If you are using oracle service modify the format as below. <code>jdbc:oracle:thin:@Acme_Server:1521/orcl</code>

## DETERMINATION SCHEMAS (ORACLE)

### Determination Audit Schema

Test DB Connection

Click this button to test the database connection



If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature

## DETERMINATION SCHEMAS (ORACLE)

### Determination Tax Schema

Username	The Determination Tax schema name (the default is SBXTAX)
----------	---

Password	The Determination Tax schema password (the default is SBXAUD)
----------	---

Database SID	The database SID (the default is ORCL)
--------------	--

TNS Name	The Determination Tax schema TNS name
----------	---------------------------------------

Create DB URL	If you are using SID Format should be as below
---------------	--

`jdbc:oracle:thin:@Acme_Server:1521:orcl`

If you are using oracle service modify the format as below.

`jdbc:oracle:thin:@Acme_Server:1521/orcl`

Test DB Connection	Click this button to test the database connection
--------------------	---



If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature

**DETERMINATION SCHEMAS (SQL SERVER)****Determination Tax Schema**

Username	The Determination Audit database user name (for example, SBXAUD)
Password	The Determination Audit database user password
Database Name	The Determination Audit database name (for example, SBXAUD)
Data Source Name	Repeat the Determination Audit database name (for example, SBXAUD)
Create DB URL	Click this button to create the database URL (the utility concatenates your previous entries)
Test DB Connection	Click this button to test the database connection   If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature

**DETERMINATION SCHEMAS (SQL SERVER)****Determination Tax Schema**

Username	The Determination Tax database user name (for example, SBXTAX)
Password	The Determination Tax database user password
Database Name	The Determination Tax database name (for example, SBXTAX)
Data Source Name	Repeat the Determination Tax database name (for example, SBXTAX)

DETERMINATION SCHEMAS (SQL SERVER)	
Determination Tax Schema	
Create DB URL	Click this button to create the database URL (the utility concatenates your previous entries)
Test DB Connection	<p>Click this button to test the database connection</p> <p> If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature</p>

6. **Business Objects Config** tab: Complete the information for Configuration Management Server and Data Extract Transform Load (ETL). If you want a separate User ETL, complete User Extract Transform Load (ETL).

BUSINESS OBJECTS CONFIG	
Configuration Management Server	
Server Name	The host, domain, and top-level domain for the server where SAP BusinessObjects BI Platform is installed (for example, MyServer.acme.com)
User Name	Enter your CMS administrator user name or accept the default of Administrator
Password	Enter the password for the CMS administrator
Data Extract Transform Load (ETL)	
Server Name	Enter the host, domain, and top-level domain of the server where SAP BusinessObjects Data Services is installed (for example, MyServer.acme.com)
Job Server Name	Accept the default value JobServer_1
Job Server Port	Accept the default value 3500

BUSINESS OBJECTS CONFIG	
Web Services Port	Enter the SAP BusinessObjects Data Services Tomcat port (the default is 8080)  If you installed another application server instead of Tomcat, enter your port number
Repository Name	Enter ETL_REPO (the same value you entered during the installation of Data Services)
User Extract Transform Load (ETL)	
Use Data ETL	Uncheck this box if you want to configure a separate user ETL   Only configure this if you are advised by Thomson Reuters Professional Services
Server Name	Enter the host, domain, and top-level domain of the server where SAP BusinessObjects Data Services is installed (for example, MyServer.acme.com)
Job Server Name	Accept the default value JobServer_1
Job Server Port	Accept the default value 3500
Web Services Port	Enter the SAP BusinessObjects Data Services Tomcat port (the default is 8080)  If you installed another application server instead of Tomcat, enter your port number
Repository Name	Enter ETL_REPO (the same value you entered during the installation of Data Services)

7. Continue on the **Business Objects Config** tab by clicking on **Test Web Services** to confirm that your settings are valid. If this test fails, double-check your entries.



You cannot use this test feature if you are running the utility on a machine that does not have network access to SAP BusinessObjects Data Services.

8. **Reconciliation** tab: Use the table below to complete the fields. If you do not plan to use the ERP Document Reconciliation report, accept the defaults even if they do not apply because there should be no null values:

RECONCILIATION	
Source Folder	Enter the Reporting server directory that contains the comma separated source file, for example, <i>C:\Users\Reporting</i>
Source File Name	Enter the name of the comma separated source file that contains transaction data from your business source system, for example, <i>ReconInputFile.csv</i>
Error Folder	Enter the Reporting server directory where the reconciliation error log should be written, for example <i>C:\Users\Reporting</i>
Error File Name	Enter the file name for the reconciliation error log, for example <i>ReconLoadErrors.log</i>

9. **Application Config** tab:

APPLICATION CONFIG	
Reporting Application Server Name	Enter the host, domain, and top-level domain for the server hosting Reporting (for example, <i>MyServer.acme.com</i> )
Use https	Check this box if you use https
Web Services Port	The application server port number for Reporting
Create URL	This concatenates your previous entries into a URL

10. When you finish, click **Save**. Choose the following directory and file name:

*<InstallationBaseDirectory>\install\installation-config.xml*.



Do not save the file in either of the following directories:

- *<InstallationBaseDirectory>\install\distribution-config\*
- *<InstallationBaseDirectory>\install\template-config\*

# MODIFYING THE INSTALLATION SCRIPT

Complete the following steps to prepare the Reporting installation scripts:

1. Go to the directory where you unzipped *ONESOURCEIDTReporting\_68xx.zip*.
2. Open *install.bat* in a text editor and modify the sample entries for the following parameters.
  - **-o:** This is the full path to your Java compliant JDBC driver (see [Database Preparation \(page 15\)](#)).
  - **-c:** This is the path and name of the installation configuration file *installation-config.xml* in the *install* directory.
3. After you make these directory changes, save the file and exit.

The following is an example of this file. Note that the carriage returns are for clarity only—this command should be on one line. The example below shows the JDBC driver for an Oracle database:

```
1  scripts\reporting-install.bat
2  -o "c:\drivers\ojdbc8.jar"
3  -c "c:\reportsinstallfolder\install\installation-config.xml"
```

# RUNNING THE INSTALLER



Check the following before proceeding:

- **Oracle:** Check your TNS entries before executing the installer below. They should be consistent across the systems if more than one system is hosting Reporting.
- **SAP BusinessObjects Data Services:** Confirm that the WebService for Data Services is running.

Execute the Reporting installation script:

1. Return to *<UnzippedReportingDirectory>*.
2. Execute *install.bat*.
3. Look for a completion message at the bottom of the output.

4. When the installation script completes successfully, move these files with plain-text passwords to a secure location:

- *<UnzippedReportingDirectory>\install\installation-config.xml*
- *<UnzippedReportingDirectory>\reports-installer.log*

# REPORTING DEPLOYMENT

After the Reporting installer finishes, deploy the Reporting user interface. Complete the steps below for your application server.

Tomcat .....	99
JBoss Enterprise Edition .....	102
WebSphere .....	107



If you are installing Reporting 6.8.x.x, but you are using a version of Determination that is prior to 5.5.0.0, the Product Qualifiers, Reference List Usage, Reference Lists, and Tax Code Qualifiers reports are not available.

## TOMCAT

The following instructions explain how to deploy the Reporting user interface with Tomcat. The setup is divided into two sections:

- [Configuring the Data Source \(page 99\)](#)
- [Inserting Additional Files Into Tomcat \(page 101\)](#)

### Configuring the Data Source

Complete the following to set up the data source.

1. Stop Tomcat.
2. If present, delete the following items from the `<SAPBaseDirectory>\tomcat\webapps` directory:
  - `reporting.war`
  - `reporting-private-ws.war`
  - `reporting` directory
  - `reporting-private-ws` directory

3. Go to the directory where you unzipped *ONESOURCEIDTReporting\_68xx.zip* (shown as *<UnzippedReportingDirectory>* below).

4. Change to the *tomcat* directory under *deployments*.

*<UnzippedReportingDirectory>\deployments\tomcat*

5. Open *reporting-combined-context.xml* in a text editor.

6. Copy the two *<Resource>* sections in preparation for pasting them into the Tomcat file *context.xml*. Some of your values will differ from the sample below:

If you are using SID Format should be

*jdbc:oracle:thin:@Acme\_Server:1521:orcl*

If you are using oracle service modify the format as below

*jdbc:oracle:thin:@Acme\_Server:1521/orcl*

```
1  <Resource name="jdbc/ReportingCtrlDataSource"
2  auth="Container"
3  type="javax.sql.DataSource"
4  username="SBXRPTCTRL"
5  password="SBXRPTCTRL"
6  driverClassName="oracle.jdbc.OracleDriver"
7  url="jdbc:oracle:thin:@Acme_Server:1521:orcl"
8
9  maxActive="25"
10 maxIdle="4"
11 testOnBorrow="true"
12 validationQuery="select 1 from dual"
13 />
14 <Resource name="jdbc/ReportingOnesourceDataSource"
15 auth="Container"
16 type="javax.sql.DataSource"
17 username="SBXAUD"
18 password="SBXAUD"
19 driverClassName="oracle.jdbc.OracleDriver"
20 url="jdbc:oracle:thin:@Acme_Server:1521:orcl"
21 maxActive="25"
22 maxIdle="4"
23 testOnBorrow="true"
24 validationQuery="select 1 from dual"
25 />
```

7. Go to the following directory under SAP Business Intelligence:

`<SAPBaseDirectory>\tomcat\conf`

8. Open `context.xml` in a text editor.
9. Paste the `<Resource>` snippets between the `<Context>` tags in `context.xml`.
10. Save and close the file.

## Inserting Additional Files Into Tomcat

Complete the following to finish the Tomcat deployment:

1. Copy the file `reporting-configuration.jar` from this directory:

`<UnzippedReportingDirectory>\deployments\tomcat`

2. Paste `reporting-configuration.jar` into this directory:

`<SAPBaseDirectory>\tomcat\lib`

3. Copy the files `reporting.war` and `reporting-private-ws.war` from this directory:

`<UnzippedReportingDirectory>\deployments\tomcat`

4. Paste `reporting.war` and `reporting-private-ws.war` into this directory:

`<SAPBaseDirectory>\tomcat\webapps`

5. Copy the Java 1.6 compliant JDBC Driver into this directory  
(see [Database Preparation \(page 15\)](#)):

`<SAPBaseDirectory>\tomcat\lib`

6. Start Tomcat.

7. Open a browser and enter the Reporting URL (`http://<host>:<port>/reporting`). Reporting is running if the logon page loads. You will not be able to log on until you complete the ETLs later.

8. If you reach the Reporting logon page, continue to the section [Initial ETL Configuration \(page 155\)](#). If the logon page does not load, double check your previous settings.

# JBOSS ENTERPRISE EDITION

The following instructions explain how to deploy the Reporting user interface with JBoss.

- [Configuring the Data Source \(page 102\)](#)
- [Inserting Additional Files into JBoss \(page 107\)](#)

## Configuring the Data Source

Complete the following to set up the data source.

1. Stop JBoss.
2. Go to the directory where you unzipped *ONESOURCEIDTReporting\_68xx.zip* (shown as *<UnzippedReportingDirectory>* below).
3. Change to the *jboss-enterprise* directory under *deployments*:  
*<UnzippedReportingDirectory>\deployments\jboss-enterprise*
4. Open *reporting-combined-ds.xml* in a text editor.
5. Review the data source values in *reporting-combined-ds.xml* to confirm they are appropriate for your environment. The following tables list each data source. Change any values that are not correct.

## &lt;JNDI-NAME&gt;JDBC/REPORTINGCTRLDATASOURCE&lt;/JNDI-NAME&gt;

<connection-url>	<p>Confirm that the bold values shown below in the JDBC URL are appropriate for your environment:</p> <p>Oracle Example: <code>jdbc:oracle:thin:@<b>host</b>:<b>port</b>:<b>service</b></code></p> <ul style="list-style-type: none"> <li>• <b>host</b>: The name of the system hosting the database</li> <li>• <b>port</b>: The database port (for example, 1521)</li> <li>• <b>service</b>: The name of your Oracle service</li> </ul> <p>SQL Server Examples:</p> <ul style="list-style-type: none"> <li>• Default:</li> </ul> <pre>"jdbc:sqlserver://<b>host</b>:<b>port</b>;  <b>databaseName=value</b>"</pre> <ul style="list-style-type: none"> <li>• Named Instance:</li> </ul> <pre>"jdbc:sqlserver://<b>host</b>:<b>port</b>;  <b>instanceName=value</b>;  <b>databaseName=value</b>"</pre>
<driver>	<p>Replace <i>driver-jar-name.jar</i> with the value of the JDBC <b>Runtime Name</b> shown in the Red Hat JBoss Enterprise Application Platform console</p> <p> This value might not be identical to the actual name of a driver such as <i>ojdbc6.jar</i></p>
<user-name>	The Reporting Control user (SBXRPTCTRL)
<password>	The password for the Reporting Control user

<JNDI-NAME>JDBC/REPORTINGONESOURCEDATASOURCE</JNDI-NAME>	
<connection-url>	<p>Confirm that the bold values shown below in the JDBC URL are appropriate for your environment:</p> <p>Oracle Example: <code>jdbc:oracle:thin:@<b>host</b>:<b>port</b>:<b>service</b></code></p> <ul style="list-style-type: none"> <li>• <b>host</b>: The name of the system hosting the database</li> <li>• <b>port</b>: The database port (for example, 1521)</li> <li>• <b>service</b>: The name of your Oracle service</li> </ul> <p>SQL Server Examples:</p> <ul style="list-style-type: none"> <li>• Default:</li> </ul> <pre>"jdbc:sqlserver://<b>host</b>:<b>port</b>;  databaseName=<b>value</b>"</pre> <ul style="list-style-type: none"> <li>• Named Instance:</li> </ul> <pre>"jdbc:sqlserver://<b>host</b>:<b>port</b>;  instanceName=<b>value</b>;  databaseName=<b>value</b>"</pre>
<driver>	<p>Replace <i>driver-jar-name.jar</i> with the value of the <b>JDBC Runtime Name</b> shown in the Red Hat JBoss Enterprise Application Platform console</p> <p> This value might not be identical to the actual name of a driver such as <i>ojdbc6.jar</i></p>
<user-name>	The Determination Audit user (SBXAUD)
<password>	Password for the Determination Audit user

6. Copy the two <datasource> sections in preparation for pasting them into the JBoss file *standalone.xml*. The example below shows an Oracle snippet:

```

1  <datasource jndi-name="java:/jdbc/ReportingCtrlDataSource" pool-na
2    me="RptCtrlPool" enabled="true" use-java-context="true">
  <connection-url>jdbc:oracle:thin:@ACME_Database:1521:O
  RCL</connection-url>

```

```
3  <!-- Replace the driver value with the name of the JDBC driver fil
e deployed on the application server (for
example ojdbc6.jar) -->
4  <driver>ojdbc6.jar</driver>
5  <pool>
6  <min-pool-size>10</min-pool-size>
7  <max-pool-size>50</max-pool-size>
8  <prefill>true</prefill>
9  </pool>
10 <security>
11 <user-name>SBXRPTCTRL</user-name>
12 <password>SBXRPTCTRL</password>
13 </security>
14 </datasource>
15 <datasource jndi-name="java:/jdbc/ReportingOnesourceDataSource" po
ol-name="OnesourceAudPool" enabled="true" use-java-context="true">
16 <connection-url>jdbc:oracle:thin:@ACME_Database:1521:O
RCL</connection-url>
17 <!-- Replace the driver value with the name of the JDBC driver fil
e deployed on the application server (for
example ojdbc6.jar) -->
18 <driver>ojdbc6.jar</driver>
19 <pool>
20 <min-pool-size>10</min-pool-size>
21 <max-pool-size>50</max-pool-size>
22 <prefill>true</prefill>
23 </pool>
24 <security>
25 <user-name>SBXAUD</user-name>
26 <password>SBXAUD</password>
27 </security>
28 </datasource>
```

7. Go to the location where you installed JBoss (shown below as *<JBossBaseDirectory>*).
8. Change to the *configuration* directory under *standalone*.  
*<JBossBaseDirectory\standalone\configuration*
9. Open *standalone.xml* in a text editor.
10. Paste the two *<datasource>* sections into *standalone.xml* between the "*<datasources>...</datasources>*" elements.
11. If you are using a JBOSS version greater than 6.4 EAP, follow the steps below. Otherwise, skip to step 18.

12. Add "iiop-openjdk" extension, subsystem, and its dependencies in *standalone.xml* by referring to *standalone-full.xml*.

```
<extension module="org.wildfly.iiop-openjdk"/>
```

13. Add the attributes for iiop.

```
<iiop enable-by-default="false" use-qualified-name="false"/>
```

14. Add the subsystem.

```
<subsystem xmlns="urn:jboss:domain:iiop-openjdk:2.1">  
  <orb socket-binding="iiop"/>  
  <initializers security="identity" transactions="spec"/>  
  <security server-requires-ssl="false" client-requires-ssl="false"/>  
</subsystem>
```

15. Add Interface.

```
<interface name="unsecure">  
  <inet-address value="${jboss.bind.address.unsecure:127.0.0.1}"/>  
</interface>
```

16. Add socket-binding.

```
<socket-binding name="iiop" interface="unsecure" port="3528"/>  
<socket-binding name="iiop-ssl" interface="unsecure" port="3529"/>
```

17. Configure Lock Striping and Timeout.

Add the following attributes to the Cache container for the module:

```
module="org.wildfly.clustering.web.infinispan"  
  striping="false" acquire-timeout="60000"
```

18. Save and close *standalone.xml*.

## Inserting Additional Files into JBoss

Complete the following to finish the JBoss deployment:

1. Copy all of files, except *jboss-deployment-structure.xml*, from this directory:

*<SAP BO Install Dir>/SAP BusinessObjects Enterprise XI 4.0/wdeploy/rsa\_module*

2. On the JBoss application server, create an rsa/main directory structure under *<JBOSS\_INSTALL\_DIR>/modules/com*.
3. Paste all files copied at the beginning of this procedure to the new *<JBOSS\_INSTALL\_DIR>/modules/com/rsa/main* directory.

4. Copy the file *reporting.ear* from this directory:

*<UnzippedReportingDirectory>\deployments\jboss-enterprise*

5. Paste *reporting.ear* into this directory.

*<JBossBaseDirectory>\standalone\deployments*

6. Copy the Java 1.6 compliant JDBC Driver into this directory (see [Database Preparation \(page 15\)](#)).

*<JBossBaseDirectory>\standalone\deployments*

7. Start JBoss.

8. Open a browser and enter the Reporting URL (<http://host:port/reporting>). Reporting is running if the logon page loads. You will not be able to log on until you complete the ETLs later.

9. If you reach the Reporting logon page, continue to the section [Initial ETL Configuration \(page 155\)](#). If the logon page does not load, double check your previous settings.

## WEBSHERE

Complete the following steps for deploying in WebSphere.

- [Configuring the WebSphere Environment Variable \(page 108\)](#)
- [Reporting Control Authentication \(page 109\)](#)
- [Audit User Security \(page 112\)](#)
- [JDBC Provider \(page 114\)](#)

- [Reporting Control Data Source \(page 117\)](#)
- [Reporting ONESOURCE Data Source \(page 126\)](#)
- [Deploying the Application \(page 136\)](#)

Complete each of these steps in the WebSphere Integrated Solutions Console.

## Configuring the WebSphere Environment Variable

Set up the environment variable for the JDBC driver:

1. In the Console, go to **Environment > WebSphere Variables**.
2. Set the scope of the data sources for your environment.
3. Click the driver appropriate for your database version (your selection may be on the second page of driver options):
  - **ORACLE\_JDBC\_DRIVER\_PATH**
  - **MICROSOFT\_JDBC\_DRIVER\_PATH**
4. On the **WebSphere Variables** page, enter the following.

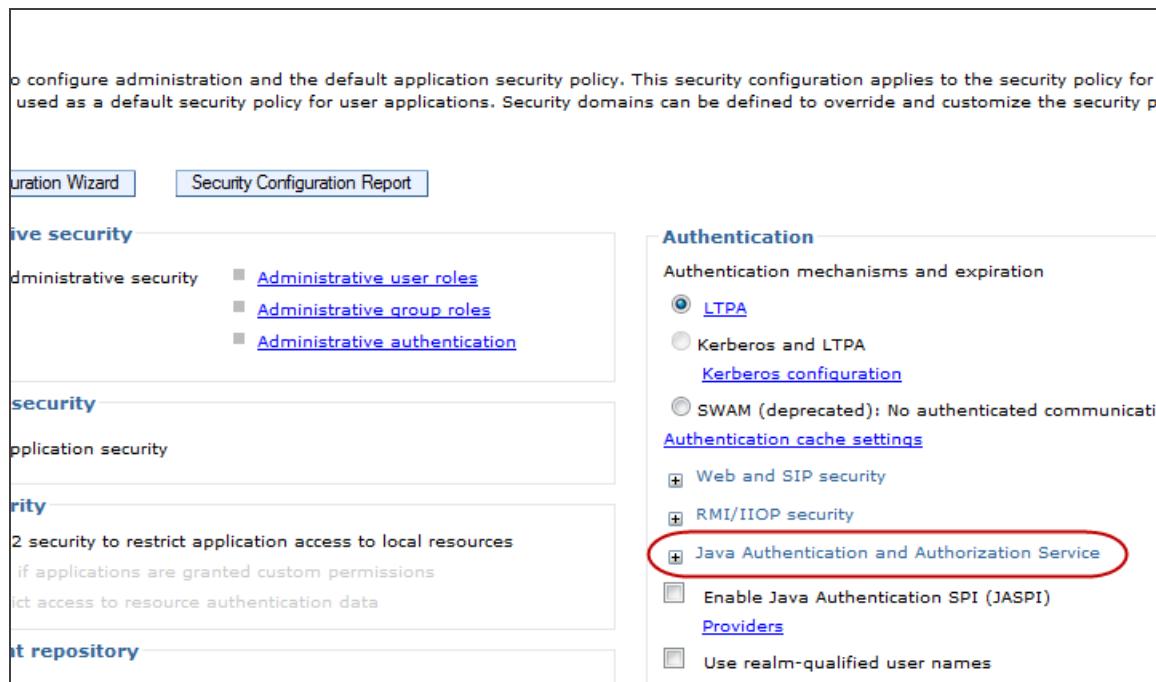
FIELD	DESCRIPTION
Name	Enter the value for your database: <ul style="list-style-type: none"><li>• <b>ORACLE_JDBC_DRIVER_PATH</b></li><li>• <b>MICROSOFT_JDBC_DRIVER_PATH</b></li></ul>
Value	Enter the path to the JDBC driver
Description	Enter <b>JDBC Driver Path</b>

5. Click **OK**, and then click **Save directly to the master configuration**.

## Reporting Control Authentication

Set up authentication for the Reporting control database user.

1. In the left pane, go to **Security > Global security**.
2. Expand the **Java Authentication and Authorization Service** in the **Authentication** section.



The screenshot shows the 'Global security' configuration page in the WebSphere interface. The 'Authentication' section is expanded, displaying several options: LTPA (selected), Kerberos and LTPA, SWAM (deprecated), Web and SIP security, RMI/IIOP security, Java Authentication and Authorization Service (circled in red), Enable Java Authentication SPI (JASPI) Providers, and Use realm-qualified user names.

3. Click **J2C authentication data**.

to configure administration and the default application security policy. This security configuration applies to the security policy for used as a default security policy for user applications. Security domains can be defined to override and customize the security p

uration Wizard    Security Configuration Report

**Administrative security**

- Administrative user roles
- Administrative group roles
- Administrative authentication

**Application security**

**Security**

2 security to restrict application access to local resources

if applications are granted custom permissions

Restrict access to resource authentication data

**Repository**

FileBasedRealm

**Authentication**

Authentication mechanisms and expiration

- LTPA
- Kerberos and LTPA
- SWAM (deprecated): No authenticated communicati

[Authentication cache settings](#)

- Web and SIP security
- RMI/IOP security
- Java Authentication and Authorization Service
  - [Application logins](#)
  - [System logins](#)
  - [J2C authentication data](#)
- Enable Java Authentication SPI (JASPI)

4. Click **New**.

Global security

[Global security](#) > [JAAS - J2C authentication data](#)

Specifies a list of user identities and passwords for Java(TM) 2 connector security to use.

Prefix new alias names with the node name of the cell (for compatibility with earlier releases)

**Apply**

**Preferences**

**New...** **Delete**

**Select** **Alias** **User ID** **Description**

None

Total 0

5. Create the Reporting Control user as shown in the following table:

FIELD	VALUE
Alias	Enter <b>SBXRPTCTRL</b>
User ID	Enter <b>SBXRPTCTRL</b>
Password	Enter the password for <b>SBXRPTCTRL</b>
Description	Enter <b>Reporting Control User</b>

Global security

[Global security](#) > [JAAS - J2C authentication data](#) > New...

Specifies a list of user identities and passwords for Java(TM) 2 connector security to use.

**General Properties**

\* Alias

\* User ID

\* Password

Description

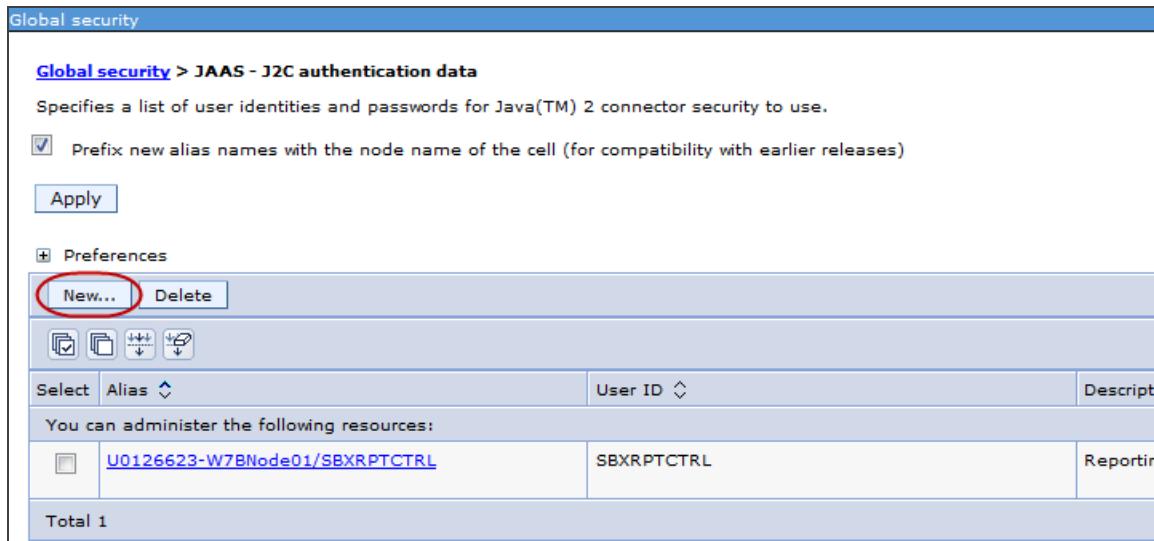
6. Click **OK**, and then click **Save directly to the master configuration**.

7. Remain in **Global Security** and continue to the next section.

## Audit User Security

Continue in **Global Security** to set up authentication for the Audit database user.

1. Click **New**.



The screenshot shows the 'Global security' interface with the 'JAAS - J2C authentication data' tab selected. The 'New...' button in the toolbar is highlighted with a red circle. The table below lists a single entry:

Select	Alias	User ID	Description
<input type="checkbox"/>	U0126623-W7BNode01/SBXRPTCTRL	SBXRPTCTRL	Reporting

Total 1

2. Create the Audit user as shown in the following table:

FIELD	VALUE
Alias	Enter <b>SBXAUD</b>
User ID	Enter <b>SBXAUD</b>
Password	Enter the password for SBXAUD
Description	Enter <b>Determination Audit User</b>

Global security

[Global security](#) > [JAAS - J2C authentication data](#) > New...

Specifies a list of user identities and passwords for Java(TM) 2 connector security to use.

**General Properties**

\* Alias  
SBXAUD

\* User ID  
SBXAUD

\* Password  
\*\*\*\*\*

Description  
Determination Audit User

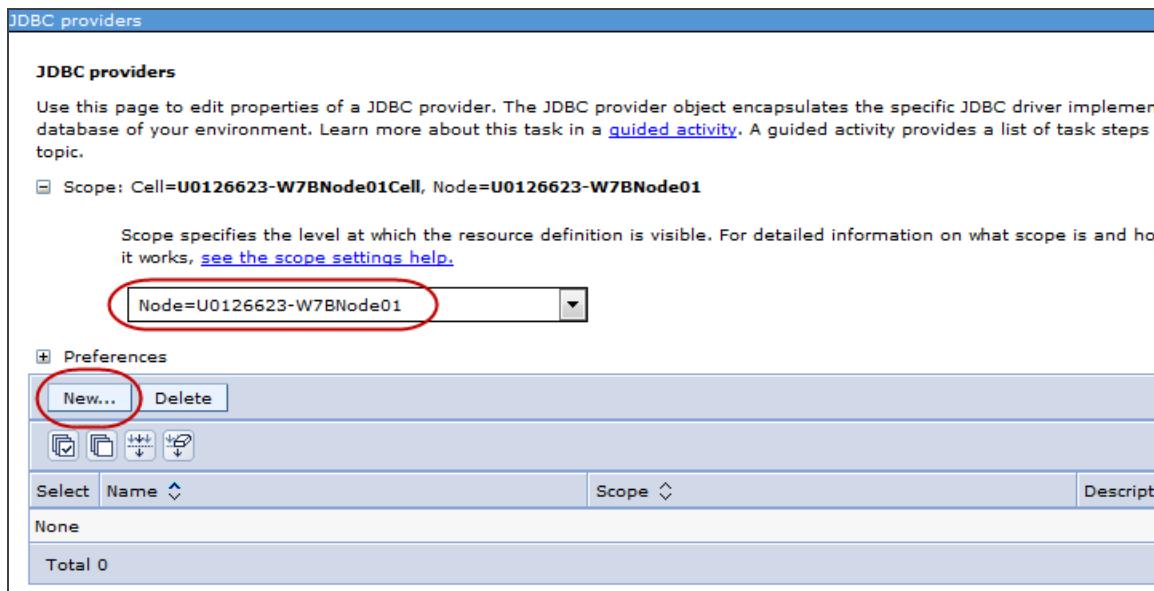


3. Click **OK**, and then click **Save directly to the master configuration**.

## JDBC Provider

Complete the following to set up the JDBC Provider:

1. Go to **Resources > JDBC > JDBC Providers**.
2. Set the scope that is appropriate for your environment, and then click **New**.



The screenshot shows the 'JDBC providers' page. At the top, there is a header with the title 'JDBC providers'. Below the header, there is a brief description of what the page does: 'Use this page to edit properties of a JDBC provider. The JDBC provider object encapsulates the specific JDBC driver implementation of your environment. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and links to relevant topics.' There is a section titled 'Scope' with a dropdown menu set to 'Scope: Cell=U0126623-W7BNode01Cell, Node=U0126623-W7BNode01'. Below this, there is a note: 'Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, [see the scope settings help](#).' A red circle highlights the dropdown menu. At the top of the main content area, there is a toolbar with buttons for 'New...', 'Delete', and other actions. The 'New...' button is also circled in red. Below the toolbar, there is a table with columns for 'Select', 'Name', 'Scope', and 'Description'. The table shows one entry: 'None' in the 'Name' column and 'Total 0' in the 'Scope' column. The bottom of the table has a 'Select' button.

3. Add the following JDBC provider values, and then click **Next**.

CREATE NEW JDBC PROVIDER		
Database Type	Provider Type	Implementation Type
Oracle	Oracle JDBC Driver	Connection pool data source

Create a new JDBC Provider

Create a new JDBC Provider

→ Step 1: Create new JDBC provider

Step 2: Enter database class path information

Step 3: Summary

**Create new JDBC provider**

Set the basic configuration values of a JDBC provider, which encapsulates the specific classes that are required to access the database. The wizard fills in the name and different values.

Scope  
cells:U0126623-W7BNode01Cell:nodes:U0126623-W7BNode01

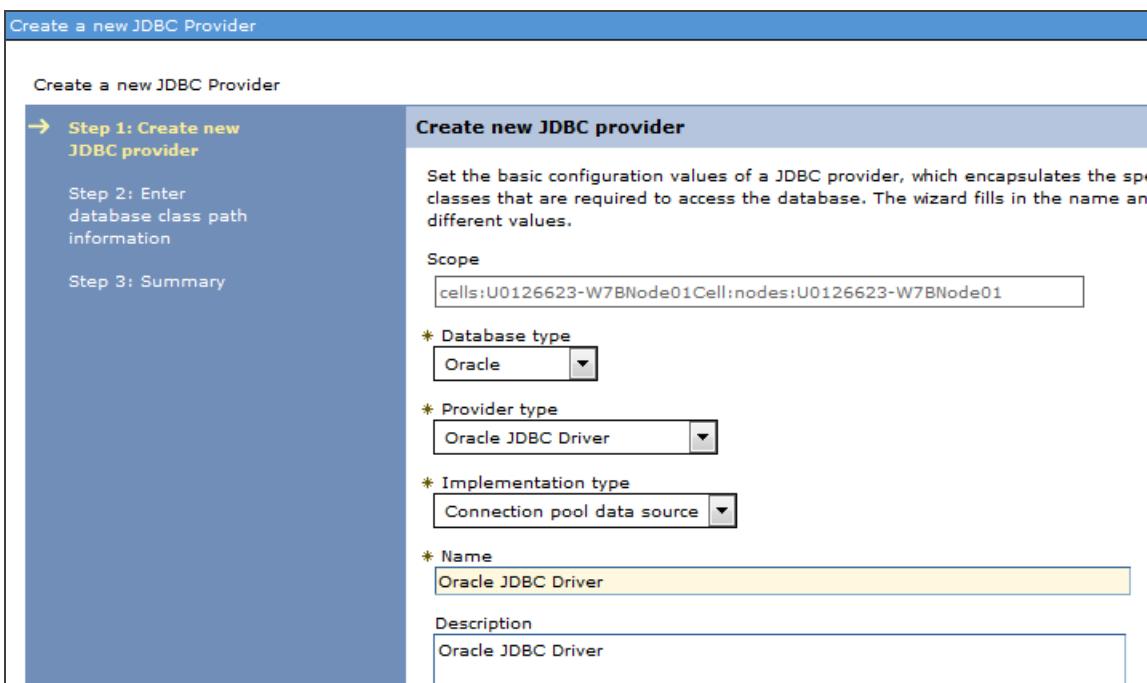
\* Database type  
Oracle

\* Provider type  
Oracle JDBC Driver

\* Implementation type  
Connection pool data source

\* Name  
Oracle JDBC Driver

Description  
Oracle JDBC Driver



4. The fields in **Enter database class path information** are populated automatically from your previous setup of the WebSphere Environment Variable. click **Next**.

**Create a new JDBC Provider**

Create a new JDBC Provider

Step 1: Create new JDBC provider	<b>Enter database class path information</b>
→ Step 2: Enter database class path information	<p>Set the class path for the JDBC driver class files, which WebSphere(R) Application provider. This wizard page displays a default list of jars and allows you to set the directory locations of the files. Use complete directory paths when you type the JD C:\SQLLIB\java on Windows(R) or /home/db2inst1/sqllib/java on Linux(TM).</p> <p>Entries are separated by using the ENTER key and must not contain path separator value is specified for you, you may click Next to accept the value.</p> <p>Class path:</p> <div style="border: 1px solid #ccc; padding: 5px; width: 100%;">\${ORACLE_JDBC_DRIVER_PATH}/ojdbc6.jar</div> <p>Directory location for "ojdbc6.jar" which is saved as WebSphere variable \${ORACLE_JDBC_DRIVER_PATH} is C:\app\u0126623\product\11.2.0\dbhome_1\jdbc\lib</p>
Step 3: Summary	<p>Previous   Next   Cancel</p>

5. On the **Summary** page, click **Finish**.

**Create a new JDBC Provider**

Create a new JDBC Provider

Step 1: Create new JDBC provider	<b>Summary</b>														
Step 2: Enter database class path information	<p>Summary of actions:</p> <table border="1"> <thead> <tr> <th>Options</th> <th>Values</th> </tr> </thead> <tbody> <tr> <td>Scope</td> <td>cells:U0126623-W7BNode01Cell:nodes</td> </tr> <tr> <td>JDBC provider name</td> <td>Oracle JDBC Driver</td> </tr> <tr> <td>Description</td> <td>Oracle JDBC Driver</td> </tr> <tr> <td>Class path</td> <td>`\${ORACLE_JDBC_DRIVER_PATH}/ojdbc6.jar</td> </tr> <tr> <td>`\${ORACLE_JDBC_DRIVER_PATH}</td> <td>C:\app\u0126623\product\11.2.0\dbhome_1\jdbc\lib</td> </tr> <tr> <td>Implementation class name</td> <td>oracle.jdbc.pool.OracleConnectionPool</td> </tr> </tbody> </table>	Options	Values	Scope	cells:U0126623-W7BNode01Cell:nodes	JDBC provider name	Oracle JDBC Driver	Description	Oracle JDBC Driver	Class path	`\${ORACLE_JDBC_DRIVER_PATH}/ojdbc6.jar	`\${ORACLE_JDBC_DRIVER_PATH}	C:\app\u0126623\product\11.2.0\dbhome_1\jdbc\lib	Implementation class name	oracle.jdbc.pool.OracleConnectionPool
Options	Values														
Scope	cells:U0126623-W7BNode01Cell:nodes														
JDBC provider name	Oracle JDBC Driver														
Description	Oracle JDBC Driver														
Class path	`\${ORACLE_JDBC_DRIVER_PATH}/ojdbc6.jar														
`\${ORACLE_JDBC_DRIVER_PATH}	C:\app\u0126623\product\11.2.0\dbhome_1\jdbc\lib														
Implementation class name	oracle.jdbc.pool.OracleConnectionPool														
→ Step 3: Summary	<p>Previous   Finish   Cancel</p>														

6. Click **Save directly to the master configuration**.
7. Remain on the JDBC Provider screen to complete the steps in the next section.

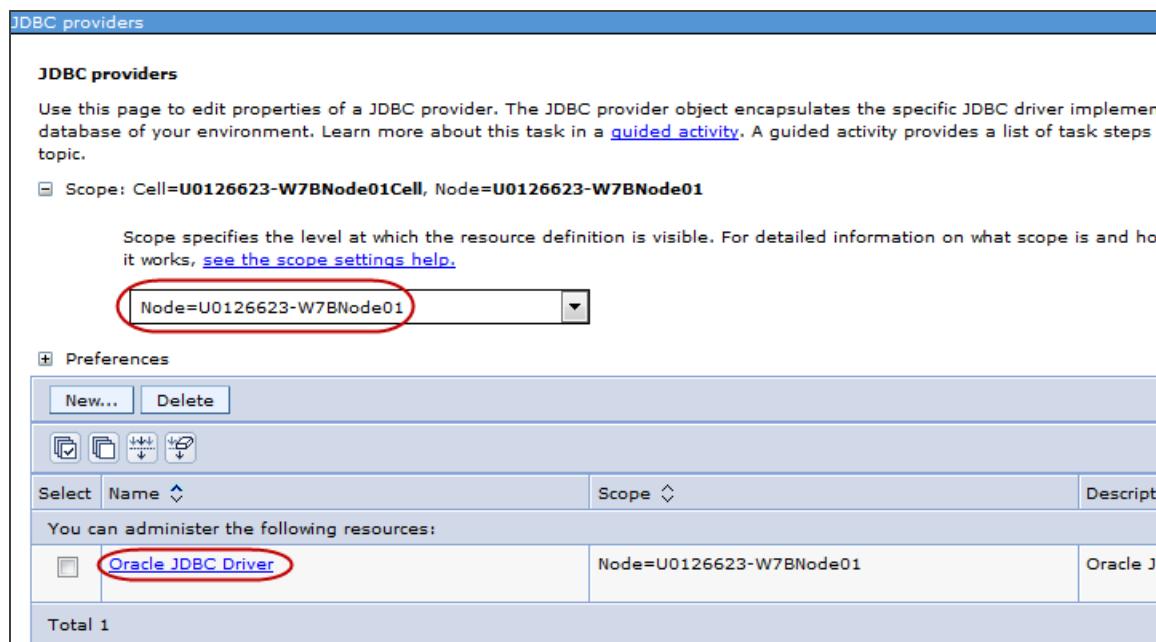
## Reporting Control Data Source

The data source creation has many steps, and for your convenience, the descriptions of these screens are divided into the sections below. Remain in the console as you move between sections.

### *Creating the Data Source*

Continue in JDBC Providers from the previous section.

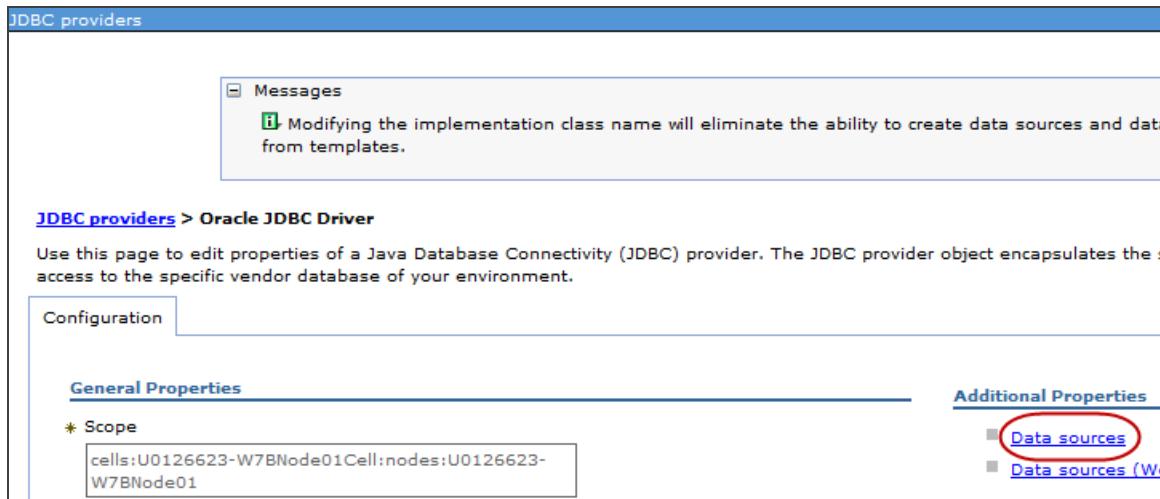
1. In **Resources > JDBC > JDBC providers** click the JDBC driver you created previously.



The screenshot shows the 'JDBC providers' page in the WebSphere console. The 'Scope' dropdown menu is highlighted with a red circle. Below it, a table lists a single resource: 'Oracle JDBC Driver'. This row is also circled in red. The table has columns for 'Select', 'Name', 'Scope', and 'Description'. The 'Name' column shows 'Oracle JDBC Driver', the 'Scope' column shows 'Node=U0126623-W7BNode01', and the 'Description' column shows 'Oracle JDBC Driver'.

Select	Name	Scope	Description
<input type="checkbox"/>	Oracle JDBC Driver	Node=U0126623-W7BNode01	Oracle JDBC Driver

2. On the **Configuration** tab for your JDBC driver under **Additional Properties** section, click **Data Sources**.



JDBC providers

Messages

Modifying the implementation class name will eliminate the ability to create data sources and data from templates.

JDBC providers > Oracle JDBC Driver

Use this page to edit properties of a Java Database Connectivity (JDBC) provider. The JDBC provider object encapsulates the access to the specific vendor database of your environment.

Configuration

General Properties

\* Scope

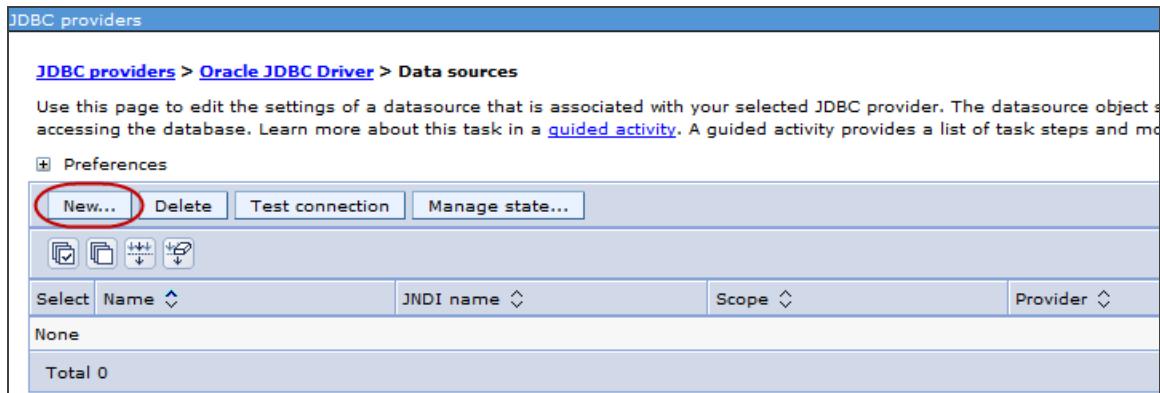
cells:U0126623-W7BNode01Cell:nodes:U0126623-W7BNode01

Additional Properties

Data sources (circled in red)

Data sources (W)

3. Click **New**.



JDBC providers

JDBC providers > Oracle JDBC Driver > Data sources

Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object is accessing the database. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more.

Preferences

New... (circled in red) Delete Test connection Manage state...

Select Name ^ JNDI name ^ Scope ^ Provider ^

None

Total 0

4. Enter basic data source information, and then click **Next**.

CREATE A DATA SOURCE	
Database source name	Enter <b>Reporting Control Data Source</b>
JNDI name	Enter <b>ReportingCtrlDataSource</b>

The screenshot shows the 'Create a data source' wizard. The current step is 'Step 1: Enter basic data source information'. The 'Data source name' field is highlighted in yellow, and the 'JNDI name' field is also highlighted in yellow. The 'Scope' field contains the value 'cells:U0126623-W7BNode01Cell:nodes:U0126623-W7BNode01'. The 'JDBC provider name' is set to 'Oracle JDBC Driver'. The 'Data source name' is 'Reporting Control Data Source' and the 'JNDI name' is 'ReportingCtrlDataSource'. The 'Next' and 'Cancel' buttons are at the bottom.

5. Set up the data source URL and additional properties.

ORACLE	
URL	<pre>jdbc:oracle:thin:@host:port:service</pre> <ul style="list-style-type: none"> <li>• Replace <b>host</b> with the name of the server running the Oracle database</li> <li>• Replace <b>port</b> with the database port number (for example, 1521)</li> <li>• Replace <b>service</b> with the name of your database service</li> </ul>
Data store helper class name	Select <b>Oracle 12c data store helper</b>
Use this data source in container managed persistence (CMP)	Clear this box

Create a data source

Create a data source

Step 1: Enter basic data source information

→ Step 2: Enter database specific properties for the data source

Step 3: Setup security aliases

Step 4: Summary

Enter database specific properties for the data source

Set these database-specific properties, which are required by the database vendor that are managed through the datasource.

Name	Value
* URL	jdbc:oracle:thin:@acme:1521:ORCL
* Data store helper class name	Oracle12c data store helper
<input type="checkbox"/> Use this data source in container managed persistence (CMP)	

Previous Next Cancel

6. Click **Next**.

7. Complete the fields for security aliases, and then click **Next**.

FIELD	VALUE
Component-managed authentication alias	Choose the Reporting Control authentication alias you created previously (SBXRPTCTRL).
Mapping-configuration alias	Select <b>DefaultPrincipalMapping</b>
Container-managed authentication alias	Choose the Reporting Control authentication alias you created previously (SBXRPTCTRL).

**Create a data source**

**Create a data source**

Step 1: Enter basic data source information

Step 2: Enter database specific properties for the data source

→ **Step 3: Setup security aliases**

Step 4: Summary

**Setup security aliases**

Select the authentication values for this resource.

Component-managed authentication alias  
U0126623-W7BNode01/SBXRPTCTRL ▾

Mapping-configuration alias  
DefaultPrincipalMapping ▾

Container-managed authentication alias  
U0126623-W7BNode01/SBXRPTCTRL ▾

Note: You can create a new J2C authentication alias by accessing one of the following and your current wizard selections will be lost.

[Global J2C authentication alias](#)  
[Security domains](#)

[Previous](#) [Next](#) [Cancel](#)

8. On the **Summary** screen, click **Finish**.

Create a data source

Create a data source

Step 1: Enter basic data source information

Step 2: Enter database specific properties for the data source

Step 3: Setup security aliases

→ Step 4: Summary

Summary	
Summary of actions:	
Options	Values
Scope	cells:U0126623-W7BN W7BNode01
Data source name	Reporting Control Data
JNDI name	ReportingCtrlDataSou
Select an existing JDBC provider	Oracle JDBC Driver
Implementation class name	oracle.jdbc.pool.Oracle
URL	jdbc:oracle:thin:@acm
Data store helper class name	com.ibm.websphere.rs
Use this data source in container managed persistence (CMP)	false
Component-managed authentication alias	U0126623-W7BNode0
Mapping-configuration alias	DefaultPrincipalMappi
Container-managed authentication alias	U0126623-W7BNode0

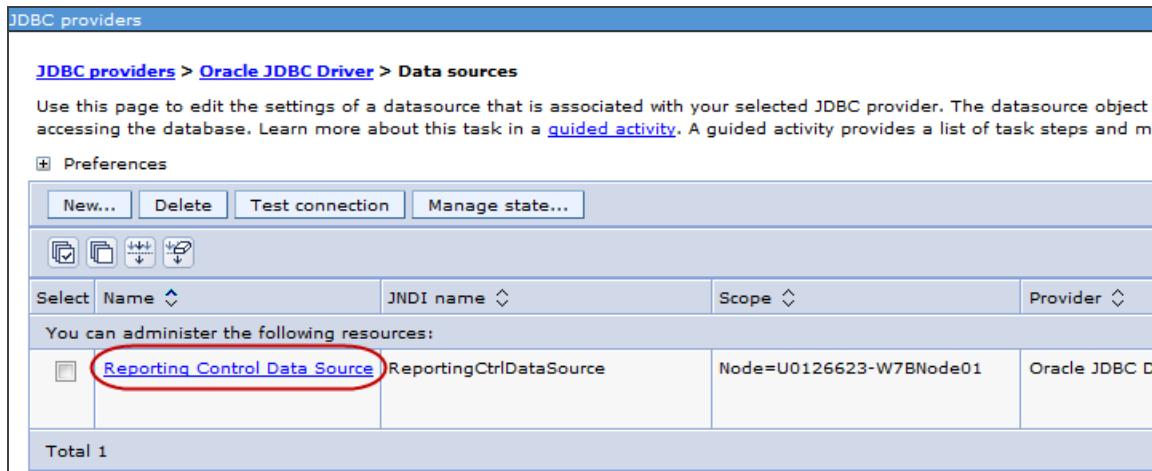
Previous | Finish | Cancel

9. Click **Save directly to the master configuration**.
10. Remain on the **Data sources** screen, and continue to the section below.

## Setting Parameter Values

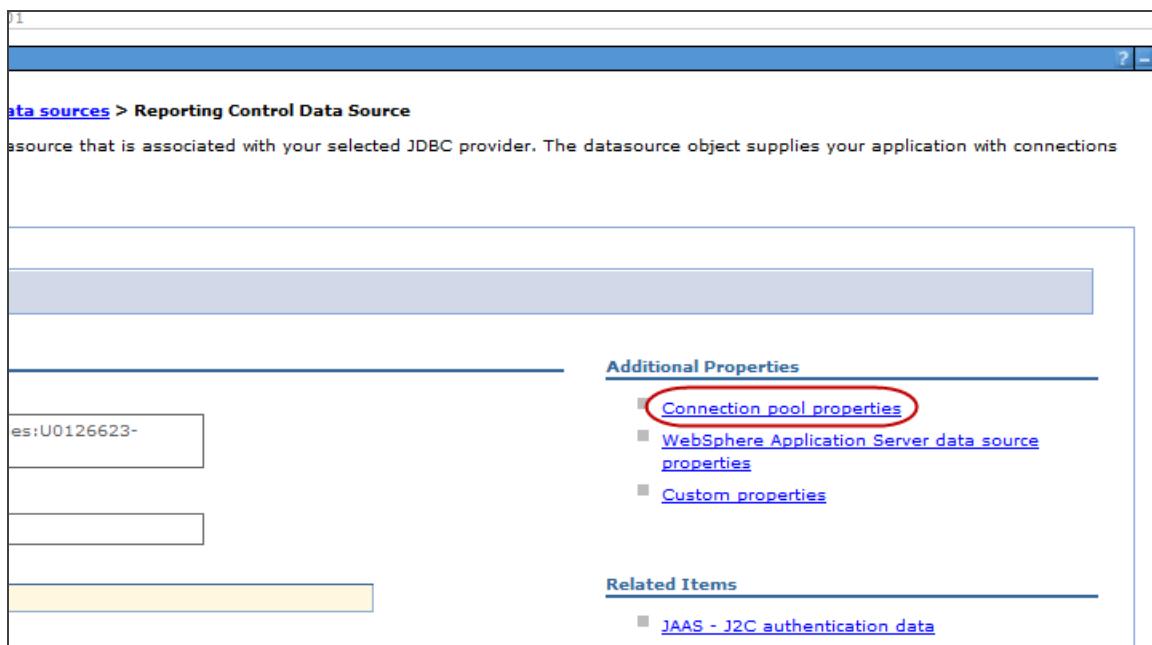
Set parameter values for the Reporting Control Data Source.

1. Click the new **Reporting Control Data Source**.



The screenshot shows the 'JDBC providers' interface with the 'Oracle JDBC Driver' selected. The 'Data sources' list is displayed, showing one entry: 'Reporting Control Data Source'. The 'Name' column shows 'ReportingCtrlDataSource', the 'Scope' column shows 'Node=U0126623-W7BNode01', and the 'Provider' column shows 'Oracle JDBC D'. The 'Reporting Control Data Source' link is circled in red.

2. Under **Additional Properties**, click **Connection pool properties**.



The screenshot shows the 'Data sources > Reporting Control Data Source' properties interface. The 'Additional Properties' section is expanded, showing three options: 'Connection pool properties' (highlighted with a red circle), 'WebSphere Application Server data source properties', and 'Custom properties'. The 'Related Items' section shows a link to 'JAAS - J2C authentication data'.

3. Modify the general properties, and then click **OK**.

FIELD	VALUE
Connection timeout	30
Maximum connections	64
Minimum connections	16
Reap time	30
Unused timeout	60
Aged timeout	0
Purge Policy	EntirePool

**JDBC providers**

**JDBC providers > Oracle JDBC Driver > Data sources > Reporting Control Data Source > Connection pools**

Use this page to set properties that impact the timing of connection management tasks, which can affect the performance of carefully; your application requirements might warrant changing these values.

Configuration

**General Properties**

Scope  
cells:U0126623-W7BNode01Cell:nodes:U0126623-W7BNode01

\* Connection timeout  
30 seconds

\* Maximum connections  
64 connections

\* Minimum connections  
16 connections

\* Reap time  
30 seconds

\* Unused timeout  
60 seconds

\* Aged timeout  
0 seconds

Purge policy  
EntirePool

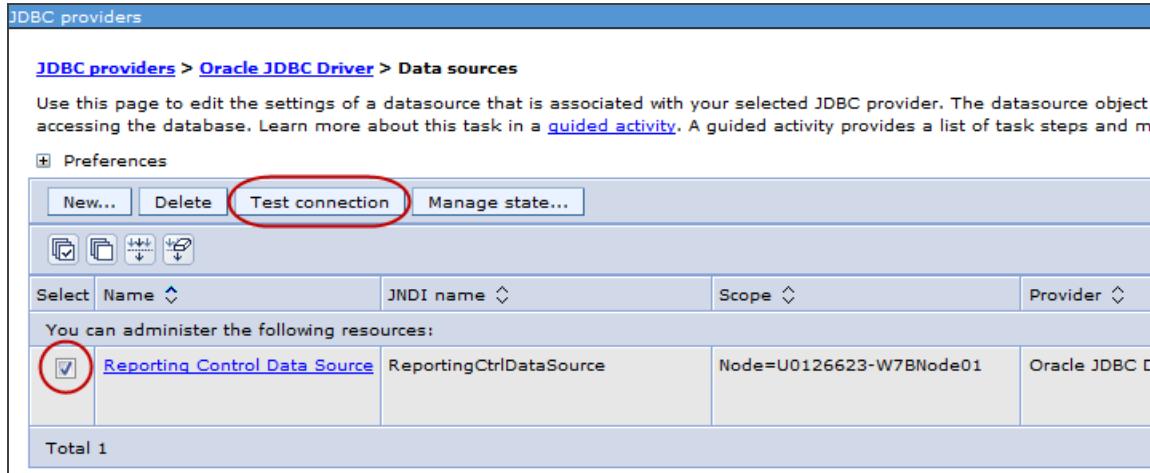
**Additional Properties**

- Advanced connection pool
- Connection pool

Apply OK Reset Cancel

4. Click **Save directly to the master configuration**.

5. Select the **Reporting Control Data Source** check box, and then click **Test Connection**.



6. If you do not receive a success message, edit the data source, and run the test again.
7. Remain on the JDBC Providers page and continue to the next section.

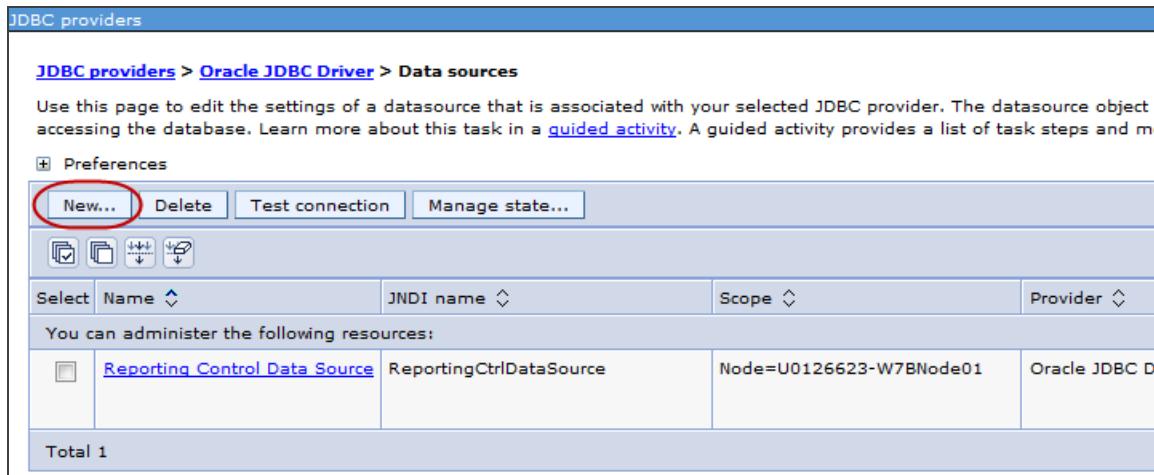
## Reporting ONESOURCE Data Source

The data source creation has many steps, and for your convenience, the descriptions of these screens are divided into the sections below. Remain in the console as you move between sections.

## Creating the Data Source

Continue in **Resources > JDBC > JDBC providers > Oracle JDBC Driver > Data sources**.

1. Click **New** to create the ONESOURCE data source.



The screenshot shows the 'Data sources' page for the Oracle JDBC Driver. At the top, there is a header with the path: 'JDBC providers > Oracle JDBC Driver > Data sources'. Below the header, there is a brief description: 'Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object is used for accessing the database. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more information on how to perform the task.' There is a 'Preferences' link and a toolbar with buttons for 'New...', 'Delete', 'Test connection', and 'Manage state...'. Below the toolbar, there are filter buttons for 'Select', 'Name', 'JNDI name', 'Scope', and 'Provider'. A table titled 'You can administer the following resources:' lists one item: 'Reporting Control Data Source' (ReportingCtrlDataSource) with 'Node=U0126623-W7BNode01' and 'Oracle JDBC Dr'. At the bottom of the table, it says 'Total 1'.

2. Enter the basic data source information, and then click **Next**.

CREATE A DATA SOURCE	
Database source name	Enter <b>Reporting Onesource Data Source</b>
JNDI name	Enter <b>ReportingOnesourceDataSource</b>

Create a data source

Create a data source

→ Step 1: Enter basic data source information

Step 2: Enter database specific properties for the data source

Step 3: Setup security aliases

Step 4: Summary

**Enter basic data source information**

Set the basic configuration values of a datasource for association with your JDBC physical connections between the application server and the database.

Requirement: Use the Datasources (WebSphere(R) Application Server V4) console the Enterprise JavaBeans(TM) (EJB) 1.0 specification or the Java(TM) Servlet 2.2 s

Scope

cells:U0126623-W7BNode01Cell:nodes:U0126623-W7BNode01

JDBC provider name

Oracle JDBC Driver

\* Data source name

Reporting Onesource Data Source

\* JNDI name

ReportingOnesourceDataSource

Next | Cancel

3. Set up the data source URL and additional properties.

ORACLE	
URL	<p>jdbc:oracle:thin:@<b>host:port:service</b></p> <ul style="list-style-type: none"> <li>• Replace <b>host</b> with the name of the server running the Oracle database</li> <li>• Replace <b>port</b> with the database port number (for example, 1521)</li> <li>• Replace <b>service</b> with the name of your database service</li> </ul>
Data store helper class name	Select <b>Oracle 12c data store helper</b>
Use this data source in container managed persistence (CMP)	Clear this check box

Create a data source

Create a data source

Step 1: Enter basic data source information	<b>Enter database specific properties for the data source</b>				
→ Step 2: Enter database specific properties for the data source	Set these database-specific properties, which are required by the database vendor that are managed through the datasource.				
Step 3: Setup security aliases	<table border="1"> <tr> <td>Name</td> <td>Value</td> </tr> <tr> <td>* URL</td> <td>jdbc:oracle:thin:@acme:1521:ORCL</td> </tr> </table>	Name	Value	* URL	jdbc:oracle:thin:@acme:1521:ORCL
Name	Value				
* URL	jdbc:oracle:thin:@acme:1521:ORCL				
Step 4: Summary	<p>* Data store helper class name</p> <p>Oracle12c data store helper</p> <p><input type="checkbox"/> Use this data source in container managed persistence (CMP)</p>				
<input type="button" value="Previous"/> <input type="button" value="Next"/> <input type="button" value="Cancel"/>					

4. Click **Next**.

5. Complete the fields for security aliases, and then click **Next**.

FIELD	VALUE
Component-managed authentication alias	Choose the Audit authentication alias you created previously (SBXAUD).
Mapping-configuration alias	Select <b>DefaultPrincipalMapping</b>
Container-managed authentication alias	Choose the Audit authentication alias you created previously (SBXAUD).

Create a data source

Create a data source

Step 1: Enter basic data source information

Step 2: Enter database specific properties for the data source

→ Step 3: Setup security aliases

Step 4: Summary

**Setup security aliases**

Select the authentication values for this resource.

Component-managed authentication alias  
U0126623-W7BNode01/SBXAUD

Mapping-configuration alias  
DefaultPrincipalMapping

Container-managed authentication alias  
U0126623-W7BNode01/SBXAUD

Note: You can create a new J2C authentication alias by accessing one of the following wizard and your current wizard selections will be lost.

[Global J2C authentication alias](#)  
[Security domains](#)

Previous | Next | Cancel

6. On the **Summary** screen, click **Finish**.

Create a data source

Create a data source

Step 1: Enter basic data source information

Step 2: Enter database specific properties for the data source

Step 3: Setup security aliases

→ Step 4: Summary

Summary	
Summary of actions:	
Options	Values
Scope	cells:U0126623-W7BN W7BNode01
Data source name	Reporting Oneresource
JNDI name	ReportingOnesourceD
Select an existing JDBC provider	Oracle JDBC Driver
Implementation class name	oracle.jdbc.pool.Oracle
URL	jdbc:oracle:thin:@acm
Data store helper class name	com.ibm.websphere.rs
Use this data source in container managed persistence (CMP)	false
Component-managed authentication alias	U0126623-W7BNode0
Mapping-configuration alias	DefaultPrincipalMappin
Container-managed authentication alias	U0126623-W7BNode0

Previous | Finish | Cancel

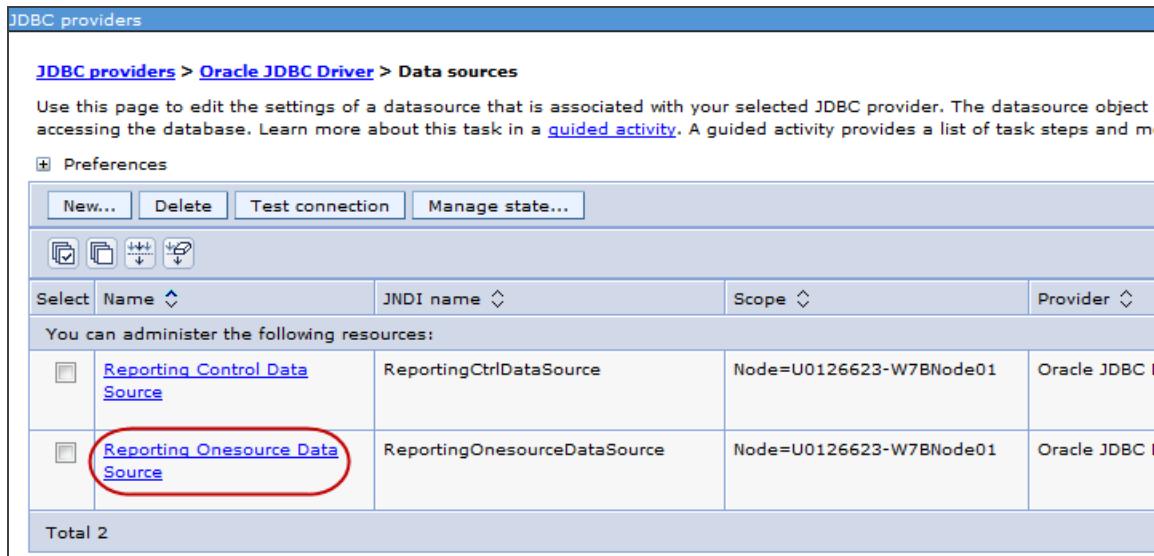
7. Click **Save directly to the master configuration**.

8. Remain on the **Data sources** screen, and continue to the section below.

## Setting Parameter Values

Set parameter values for the Reporting Onesource Data Source.

1. Click **Reporting Onesource Data Source**.



The screenshot shows the 'JDBC providers' interface with the 'Oracle JDBC Driver' selected. The 'Data sources' list contains two entries:

Select	Name	JNDI name	Scope	Provider
<input type="checkbox"/>	<a href="#">Reporting Control Data Source</a>	ReportingCtrlDataSource	Node=U0126623-W7BNode01	Oracle JDBC Driver
<input checked="" type="checkbox"/>	<a href="#">Reporting Onesource Data Source</a>	ReportingOnesourceDataSource	Node=U0126623-W7BNode01	Oracle JDBC Driver

Total 2

2. Under **Additional Properties**, click **Connection pool properties**.



The screenshot shows the 'Data sources > Reporting Onesource Data Source' properties window. The 'Additional Properties' section is expanded, showing the following options:

- [Connection pool properties](#) (highlighted with a red circle)
- [WebSphere Application Server data source properties](#)
- [Custom properties](#)

3. Modify the fields listed in the table below, and then click **OK**.

FIELD	VALUE
Connection timeout	30
Maximum connections	64
Minimum connections	16
Reap time	30
Unused timeout	60
Aged timeout	0
Purge Policy	EntirePool

**JDBC providers**

**JDBC providers > Oracle JDBC Driver > Data sources > Reporting Onesource Data Source > Connection pools**

Use this page to set properties that impact the timing of connection management tasks, which can affect the performance of carefully; your application requirements might warrant changing these values.

Configuration

**General Properties**

Scope  
cells:U0126623-W7BNode01Cell:nodes:U0126623-W7BNode01

**Additional Properties**

- [Advanced connection](#)
- [Connection pool](#)

\* Connection timeout  
30 seconds

\* Maximum connections  
64 connections

\* Minimum connections  
16 connections

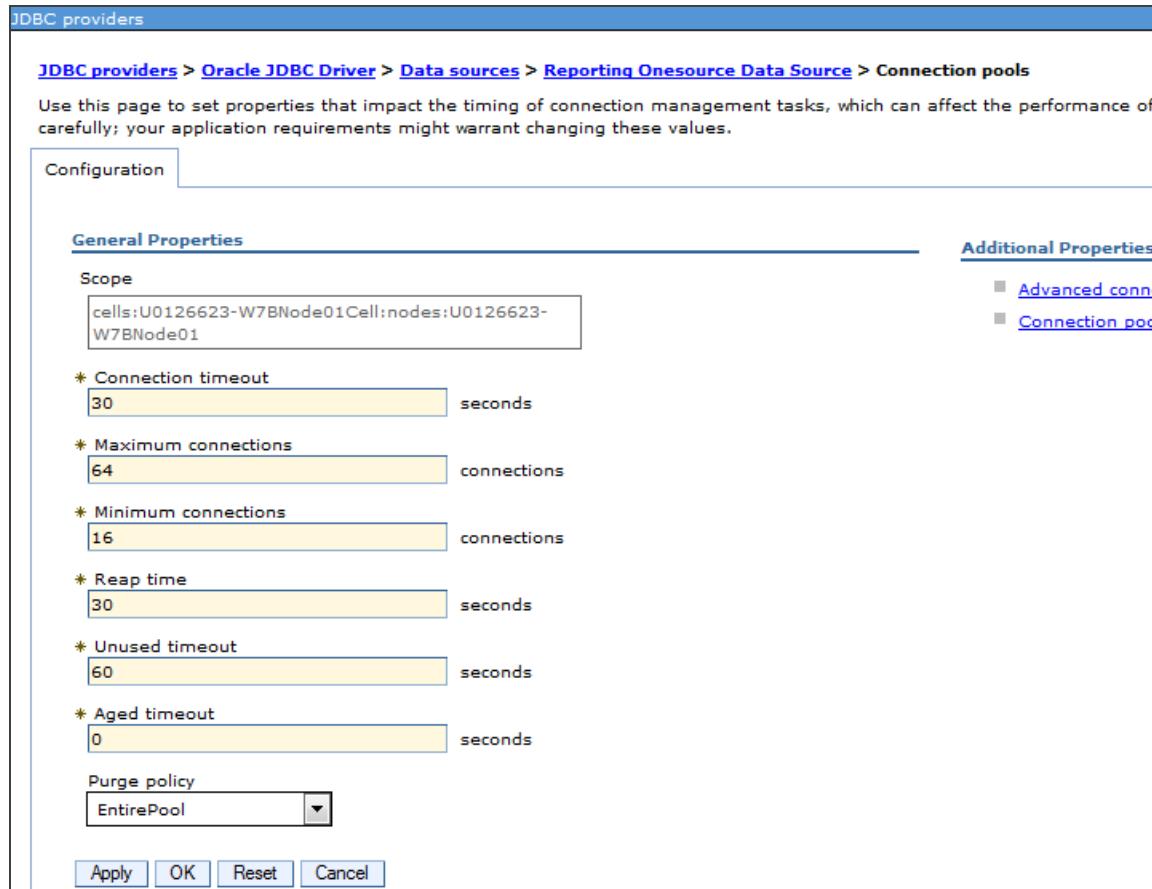
\* Reap time  
30 seconds

\* Unused timeout  
60 seconds

\* Aged timeout  
0 seconds

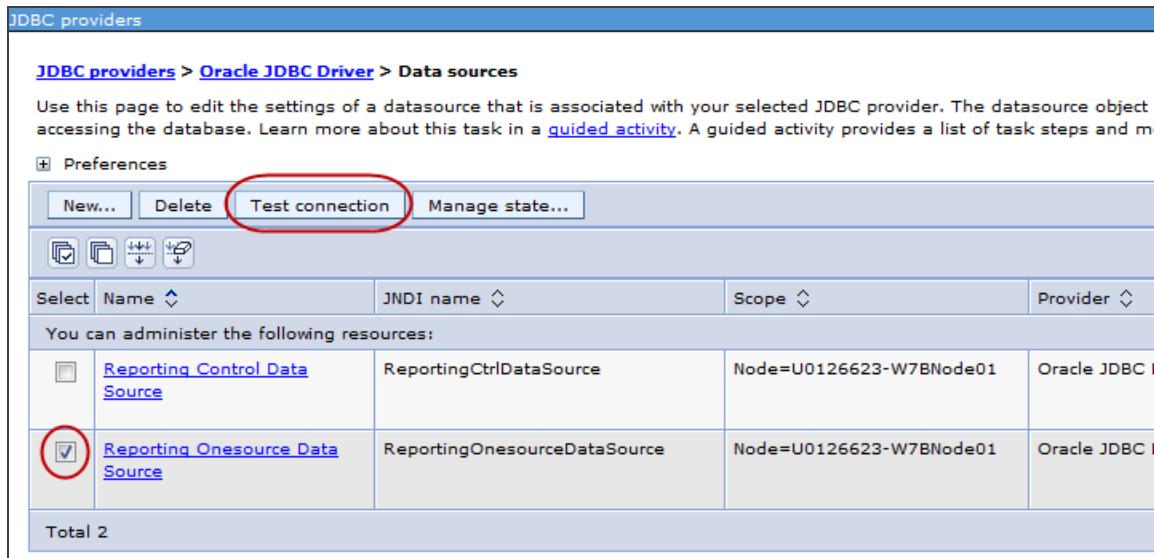
Purge policy  
EntirePool

Apply OK Reset Cancel



4. Click **Save directly to the master configuration**.

5. Select the **Reporting Onesource User Service Data Source** check box, and then click **Test Connection**.



The screenshot shows the 'JDBC providers' interface. The 'Data sources' tab is selected. At the top, there are buttons for 'New...', 'Delete', 'Test connection' (which is circled in red), and 'Manage state...'. Below these are icons for creating, deleting, and managing resources. A table lists data sources with columns for 'Select', 'Name', 'JNDI name', 'Scope', and 'Provider'. Two rows are shown: 'Reporting Control Data Source' (unchecked) and 'Reporting Onesource Data Source' (checked). A red circle highlights the checked checkbox in the first column of the second row. At the bottom, it says 'Total 2'.

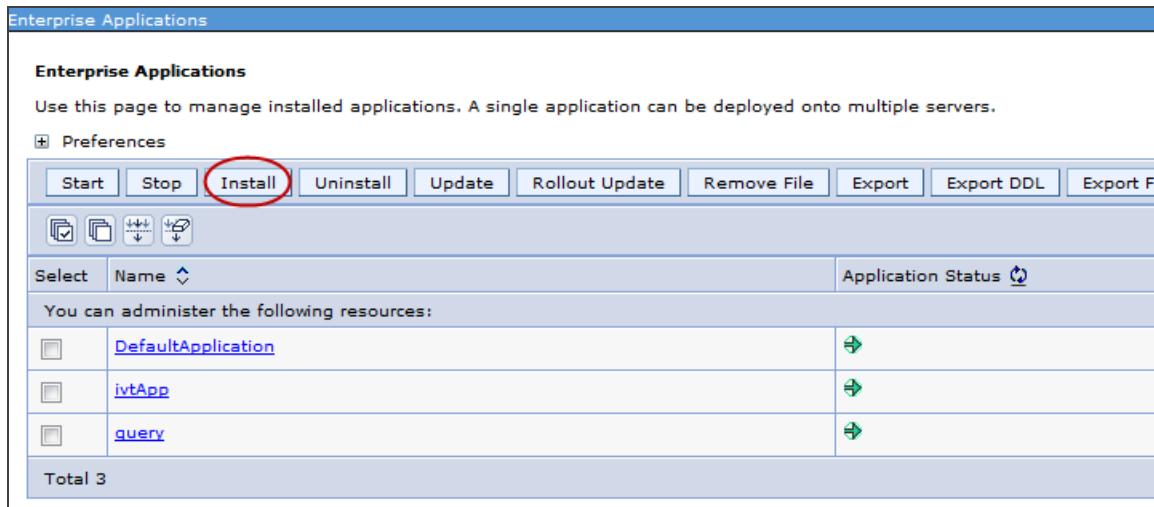
Select	Name	JNDI name	Scope	Provider
<input type="checkbox"/>	<a href="#">Reporting Control Data Source</a>	ReportingCtrlDataSource	Node=U0126623-W7BNode01	Oracle JDBC D
<input checked="" type="checkbox"/>	<a href="#">Reporting Onesource Data Source</a>	ReportingOnesourceDataSource	Node=U0126623-W7BNode01	Oracle JDBC D

6. If you do not receive a success message, edit the data source, and run the test again.

## Deploying the Application

The following steps guide you through the Reporting application deployment.

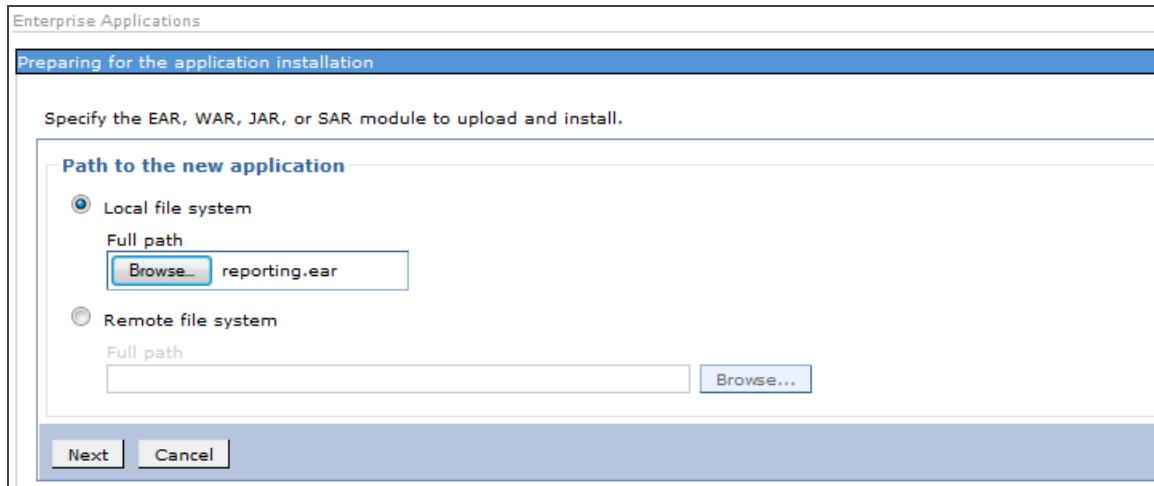
1. From the console, go to **Applications > Application Types > WebSphere enterprise applications**.
2. Click **Install**.



The screenshot shows the 'Enterprise Applications' page. The toolbar at the top includes buttons for Start, Stop, Install (which is circled in red), Uninstall, Update, Rollout Update, Remove File, Export, Export DDL, and Export File. Below the toolbar is a table with columns for Select, Name, and Application Status. The table lists three applications: DefaultApplication, ivtApp, and query, each with a green status icon. At the bottom of the table, it says 'Total 3'.

3. Enter the path to the *reporting.ear* file in the directory structure where you unzipped *ONESOURCEIDTReporting\_68xx.zip*:

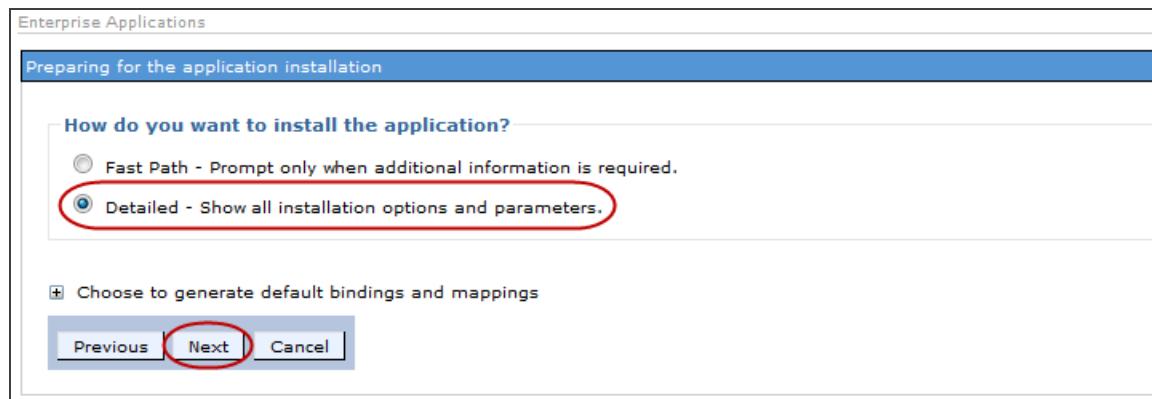
*<UnzippedReportingDirectory>\deployments*



The screenshot shows the 'Preparing for the application installation' step. It asks to 'Specify the EAR, WAR, JAR, or SAR module to upload and install.' Below this, the 'Path to the new application' section is shown. The 'Local file system' radio button is selected, and the 'Full path' field contains 'reporting.ear', with a 'Browse...' button next to it. The 'Remote file system' radio button is also present but not selected. At the bottom are 'Next' and 'Cancel' buttons.

4. Click **Next**.

5. Select **Detailed - Show all installation options and parameters**, and then click **Next**.



6. On **Step 1: Select installation options**, choose the following installation options, and then click **Next**.

FIELD	VALUE
Distribute application	Check the box
Create MBeans for resources	Check the box
Override class reloading settings for Web and EJB modules	Check the box
Reload interval in seconds	Enter the number zero: <b>0</b>

Install New Application

Specify options for installing enterprise applications and modules.

→ Step 1: Select installation options

Step 2 Map modules to servers

Step 3 Provide JSP reloading options for Web modules

Step 4 Map shared libraries

Step 5 Map shared library relationships

Step 6 Initialize parameters for servlets

Step 7 Map resource references to resources

Select installation options

Specify the various options that are available for your application.

Precompile JavaServer Pages files

Directory to install application

Distribute application

Use Binary Configuration

Deploy enterprise beans

Application name

Reporting J2EE Application (BOE a)

Create MBeans for resources

Override class reloading settings for Web and EJB modules

Reload interval in seconds

0

7. On **Step 2: Map modules to servers**, if there is just one entry in **Clusters and servers**, accept the defaults, and then click **Next**. If there are multiple entries in **Clusters and servers**, highlight the container(s) for deployment, select the two modules for Reporting, click **Apply**, and then click **Next**.

Install New Application

Specify options for installing enterprise applications and modules.

<a href="#">Step 1 Select installation options</a> <b>→ Step 2: Map modules to servers</b> <a href="#">Step 3 Provide JSP reloading options for Web modules</a> <a href="#">Step 4 Map shared libraries</a> <a href="#">Step 5 Map shared library relationships</a> <a href="#">Step 6 Initialize parameters for servlets</a> <b>+ Step 7 Map resource references to resources</b>	<b>Map modules to servers</b> <p>Specify targets such as application servers or clusters of application servers where contained in your application. Modules can be installed on the same application server or on different application servers. Also, specify the Web servers as targets that serve as routers. A plug-in configuration file (plugin-cfg.xml) for each Web server is generated, based on the target application server.</p> <p><b>Clusters and servers:</b></p> <div style="border: 2px solid red; padding: 2px; display: inline-block;"> WebSphere:cell=U0126623-W7BNode01Cell,node=U0126623-W7BNode01,server=W7BNode01 </div> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Select</th> <th>Module</th> <th>URI</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td>Reports Web Application</td> <td>reporting.war,WEB-INF/web.xml</td> <td>WebSphere:cell=U0126623-W7BNode01Cell,node=U0126623-W7BNode01,server=W7BNode01</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Reports Private Web Services</td> <td>reporting-private-ws.war,WEB-INF/web.xml</td> <td>WebSphere:cell=U0126623-W7BNode01Cell,node=U0126623-W7BNode01,server=W7BNode01</td> </tr> </tbody> </table>	Select	Module	URI	Server	<input checked="" type="checkbox"/>	Reports Web Application	reporting.war,WEB-INF/web.xml	WebSphere:cell=U0126623-W7BNode01Cell,node=U0126623-W7BNode01,server=W7BNode01	<input checked="" type="checkbox"/>	Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml	WebSphere:cell=U0126623-W7BNode01Cell,node=U0126623-W7BNode01,server=W7BNode01
Select	Module	URI	Server										
<input checked="" type="checkbox"/>	Reports Web Application	reporting.war,WEB-INF/web.xml	WebSphere:cell=U0126623-W7BNode01Cell,node=U0126623-W7BNode01,server=W7BNode01										
<input checked="" type="checkbox"/>	Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml	WebSphere:cell=U0126623-W7BNode01Cell,node=U0126623-W7BNode01,server=W7BNode01										

8. On **Step 3: Provide JSP reloading options for Web modules**, click **Next** to accept the defaults.

Install New Application

Specify options for installing enterprise applications and modules.

<a href="#">Step 1 Select installation options</a> <a href="#">Step 2 Map modules to servers</a> <b>→ Step 3: Provide JSP reloading options for Web modules</b> <a href="#">Step 4 Map shared libraries</a>	<b>Provide JSP reloading options for Web modules</b> <p><b>JSP reloading options for Web modules</b></p> <p>Configure Servlet and JSP reload attributes in web modules.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Web module</th> <th>URI</th> <th>JSP enable c reloading</th> </tr> </thead> <tbody> <tr> <td>Reports Web Application</td> <td>reporting.war,WEB-INF/web.xml</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Reports Private Web Services</td> <td>reporting-private-ws.war,WEB-INF/web.xml</td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table>	Web module	URI	JSP enable c reloading	Reports Web Application	reporting.war,WEB-INF/web.xml	<input checked="" type="checkbox"/>	Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml	<input checked="" type="checkbox"/>
Web module	URI	JSP enable c reloading								
Reports Web Application	reporting.war,WEB-INF/web.xml	<input checked="" type="checkbox"/>								
Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml	<input checked="" type="checkbox"/>								

9. On **Step 4: Map shared libraries**, click **Next** to accept the defaults.

Install New Application

Specify options for installing enterprise applications and modules.

<a href="#">Step 1 Select installation options</a>	<b>Map shared libraries</b>															
<a href="#">Step 2 Map modules to servers</a>	Specify shared libraries that the application or individual modules reference. These configuration at the appropriate scope.															
<a href="#">Step 3 Provide JSP reloading options for Web modules</a>	<a href="#">Reference shared libraries</a>															
<b>→ Step 4: Map shared libraries</b>	<table border="1"> <thead> <tr> <th>Select</th> <th>Application</th> <th>URI</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td>Reporting J2EE Application (BOE and OneSource Extract)</td> <td>META-INF/application.xml</td> </tr> <tr> <td><b>Select</b></td> <td><b>Module</b></td> <td><b>URI</b></td> </tr> <tr> <td><input type="checkbox"/></td> <td>Reports Web Application</td> <td>reporting.war,WEB-INF/web.xml</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Reports Private Web Services</td> <td>reporting-private-ws.war,WEB-INF/web.xml</td> </tr> </tbody> </table>	Select	Application	URI	<input type="checkbox"/>	Reporting J2EE Application (BOE and OneSource Extract)	META-INF/application.xml	<b>Select</b>	<b>Module</b>	<b>URI</b>	<input type="checkbox"/>	Reports Web Application	reporting.war,WEB-INF/web.xml	<input type="checkbox"/>	Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml
Select	Application	URI														
<input type="checkbox"/>	Reporting J2EE Application (BOE and OneSource Extract)	META-INF/application.xml														
<b>Select</b>	<b>Module</b>	<b>URI</b>														
<input type="checkbox"/>	Reports Web Application	reporting.war,WEB-INF/web.xml														
<input type="checkbox"/>	Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml														
<a href="#">Step 5 Map shared library relationships</a>																
<a href="#">Step 6 Initialize parameters for servlets</a>																

10. On **Step 5: Map shared library relationships**, click **Next** to accept the defaults.

Install New Application

Specify options for installing enterprise applications and modules.

<a href="#">Step 1 Select installation options</a>	<b>Map shared library relationships</b>															
<a href="#">Step 2 Map modules to servers</a>	Specify asset or composition unit IDs as shared libraries that the application or individual modules reference. If a composition unit ID is specified, it must be part of the business level application to which the application belongs. If an asset ID is specified, a composition unit is created from the asset. When unit IDs can be specified as shared libraries.															
<a href="#">Step 3 Provide JSP reloading options for Web modules</a>	<a href="#">Reference shared libraries</a>															
<b>→ Step 5: Map shared library relationships</b>	<table border="1"> <thead> <tr> <th>Select</th> <th>Application</th> <th>URI</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td>Reporting J2EE Application (BOE and OneSource Extract)</td> <td>META-INF/application.xml</td> </tr> <tr> <td><b>Select</b></td> <td><b>Module</b></td> <td><b>URI</b></td> </tr> <tr> <td><input type="checkbox"/></td> <td>Reports Web Application</td> <td>reporting.war,WEB-INF/web.xml</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Reports Private Web Services</td> <td>reporting-private-ws.war,WEB-INF/web.xml</td> </tr> </tbody> </table>	Select	Application	URI	<input type="checkbox"/>	Reporting J2EE Application (BOE and OneSource Extract)	META-INF/application.xml	<b>Select</b>	<b>Module</b>	<b>URI</b>	<input type="checkbox"/>	Reports Web Application	reporting.war,WEB-INF/web.xml	<input type="checkbox"/>	Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml
Select	Application	URI														
<input type="checkbox"/>	Reporting J2EE Application (BOE and OneSource Extract)	META-INF/application.xml														
<b>Select</b>	<b>Module</b>	<b>URI</b>														
<input type="checkbox"/>	Reports Web Application	reporting.war,WEB-INF/web.xml														
<input type="checkbox"/>	Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml														
<a href="#">Step 6 Initialize parameters for servlets</a>																
<b>★ Step 7 Map resource references</b>																

11. On **Step 6: Initialize parameters for servlets**, click **Next** to accept the defaults.

Install New Application

Specify options for installing enterprise applications and modules.

<a href="#">Step 1</a> Select installation options	<b>Initialize parameters for servlets</b>			
Configure values for servlet's initial parameters in web modules.				
Web module	URI	Servlet	Name	Description
Reports Web Application	reporting.war,WEB-INF/web.xml	rpcServices	contextConfigLocation	
Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml	privateWebServices	contextConfigLocation	
Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml	privateWebServices	transformWsdlLocations	

→ **Step 6: Initialize parameters for servlets**

12. On **Step 7: Map resource references to resources**, browse to the JNDI name for each module, and then click **Next**.

RESOURCE REFERENCE	TARGET RESOURCE JNDI NAME
jdbc/ReportingCtrlDataSource	ReportingCtrlDataSource
jdbc/ReportingOnesourceDataSource	ReportingOnesourceDataSource

Install New Application

Specify options for installing enterprise applications and modules.

**Step 1** Select installation options  
**Step 2** Map modules to servers  
**Step 3** Provide JSP reloading options for Web modules  
**Step 4** Map shared libraries  
**Step 5** Map shared library relationships  
**Step 6** Initialize parameters for servlets  
**→ Step 7: Map resource references to resources**  
**★ Step 8** Map virtual hosts for Web modules  
**Step 9** Map context roots for Web

**Map resource references to resources**

Each resource reference that is defined in your application must be mapped to a resource.

**javax.sql.DataSource**

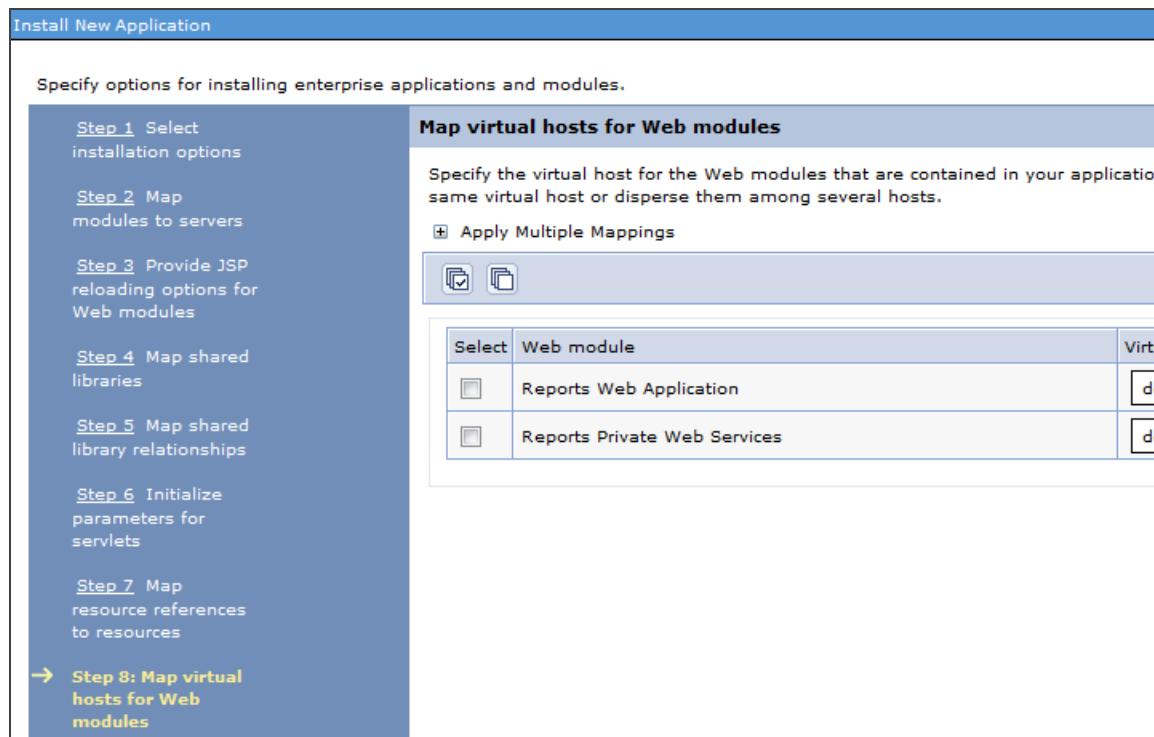
Set Multiple JNDI Names... Modify Resource Authentication Method... Extended Properties...

Select Module Bean URI Resource Reference Target Resource JNDI Name

Reports Web Application reporting.war,WEB-INF/web.xml jdbc/ReportingCtrlDataSource ReportingCtrlDataSource Browse...

Reports Web Application reporting.war,WEB-INF/web.xml jdbc/ReportingOnesourceDataSource ReportingOnesourceDataSource Browse...

13. On Step 8: Map virtual hosts for Web modules, click **Next**, unless you want to specify the virtual host.



14. On Step 9: Map context roots for Web modules, click **Next** to accept the defaults.

Install New Application

Specify options for installing enterprise applications and modules.

**Step 1** Select installation options

**Step 2** Map modules to servers

**Step 3** Provide JSP reloading options for Web modules

**Step 4** Map shared libraries

**Step 5** Map shared library relationships

**Step 6** Initialize parameters for servlets

**Step 7** Map resource references to resources

**Step 8** Map virtual hosts for Web modules

→ **Step 9: Map context roots for Web modules**

**Map context roots for Web modules**

Configure values for context roots in web modules.

Web module	URI
Reports Web Application	reporting.war,WEB-INF/web.xml
Reports Private Web Services	reporting-private-ws.war,WEB-INF/web.xml

15. On Step 10: Map JASPI provider, click **Next** to accept the defaults.

Install New Application

Specify options for installing enterprise applications and modules.

**Step 1** Select installation options

**Step 2** Map modules to servers

**Step 3** Provide JSP reloading options for Web modules

**Step 4** Map shared libraries

**Step 5** Map shared library relationships

**Step 6** Initialize parameters for servlets

**Step 7** Map resource references to resources

**Step 8** Map virtual hosts for Web modules

**Step 9** Map context roots for Web modules

→ **Step 10: Map JASPI provider**

**Map JASPI provider**

JASPI providers offer an alternative to JAAS pluggable authentication for web modules. The JASPI settings defined in the WebSphere Application Server global or domain inherit the application setting. However, you can override these defaults by using this dialog.

Select JASPI provider ▾

Select	Application	URI
<input type="checkbox"/>	Reporting J2EE Application (BOE and OneSource Extract)	META-INF/application.
Select	Module	URI
<input type="checkbox"/>	Reports Web Application	reporting.war,WEB-INF
<input type="checkbox"/>	Reports Private Web Services	reporting-private-ws.w INF/web.xml

16. On Step 11: Display module build IDs, click **Next** to accept the defaults.

Install New Application

Specify options for installing enterprise applications and modules.

Display module build IDs	
Display module build IDs.	
Module	URI
Reports Web Application	reporting.war,WEB-INF/web.xml
Reports Private Web Services	reporting-private-ws.war,WEB-INF/we

**Step 1** Select installation options  
**Step 2** Map modules to servers  
**Step 3** Provide JSP reloading options for Web modules  
**Step 4** Map shared libraries  
**Step 5** Map shared library relationships  
**Step 6** Initialize parameters for servlets  
**Step 7** Map resource references to resources  
**Step 8** Map virtual hosts for Web modules  
**Step 9** Map context roots for Web modules  
**Step 10** Map JASPI provider

→ **Step 11: Display module build IDs**

17. On Step 10: Summary, click **Finish**, unless you need to return to the previous steps to make corrections.

Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options	Summary	
<a href="#">Step 1 Select installation options</a>	Summary of installation options	
<a href="#">Step 2 Map modules to servers</a>	Options	Values
<a href="#">Step 3 Provide JSP reloading options for Web modules</a>	Precompile JavaServer Pages files	No
<a href="#">Step 4 Map shared libraries</a>	Directory to install application	
<a href="#">Step 5 Map shared library relationships</a>	Distribute application	Yes
<a href="#">Step 6 Initialize parameters for servlets</a>	Use Binary Configuration	No
<a href="#">Step 7 Map resource references to resources</a>	Deploy enterprise beans	No
<a href="#">Step 8 Map virtual hosts for Web modules</a>	Application name	Reporting J2EE App
<a href="#">Step 9 Map context roots for Web modules</a>	Create MBeans for resources	Yes
<a href="#">Step 10 Map JASPI provider</a>	Override class reloading settings for Web and EJB modules	No
<a href="#">Step 11 Display module build Ids</a>	Reload interval in seconds	
→ <a href="#">Step 12: Summary</a>	Deploy Web services	No
	Validate Input off/warn/fail	warn
	Process embedded configuration	No
	File Permission	.*\*.dll=755#.*\*.so
	Application Build ID	Unknown
	Allow dispatching includes to remote resources	No
	Allow servicing includes from remote resources	No
	Business level application name	
	Asynchronous Request Dispatch Type	Disabled
	Allow EJB reference targets to resolve automatically	No
	Deploy client modules	No
	Client deployment mode	Isolated
	Validate schema	No
	Cell/Node/Server	<a href="#">Click here</a>

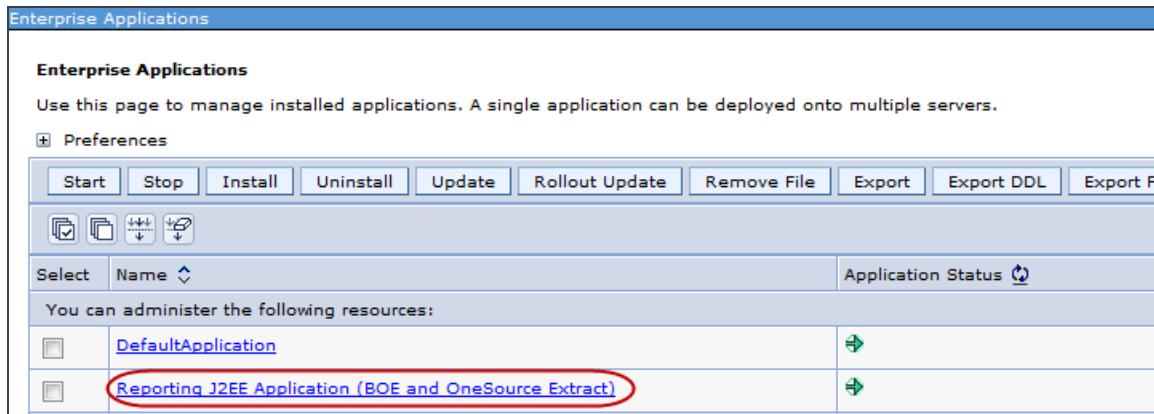
Previous [Finish](#) Cancel

18. When the deployment finishes, click **Save directly to the master configuration**.

## Configuring Class Loading

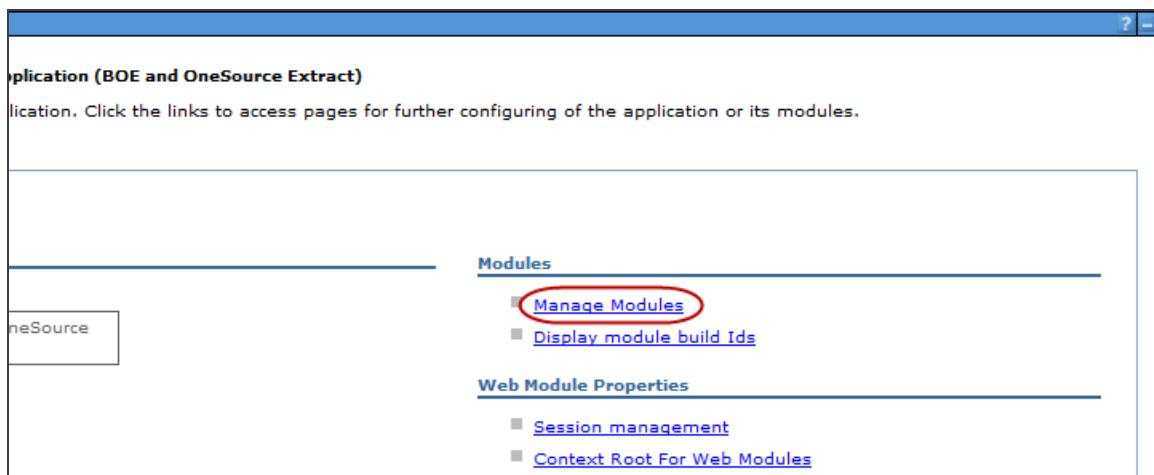
Set up class loading for the Reporting application.

1. Go to **Applications > Application Types > WebSphere enterprise applications**.
2. Click **Reporting J2EE Application (BOE and OneSource Extract)**.



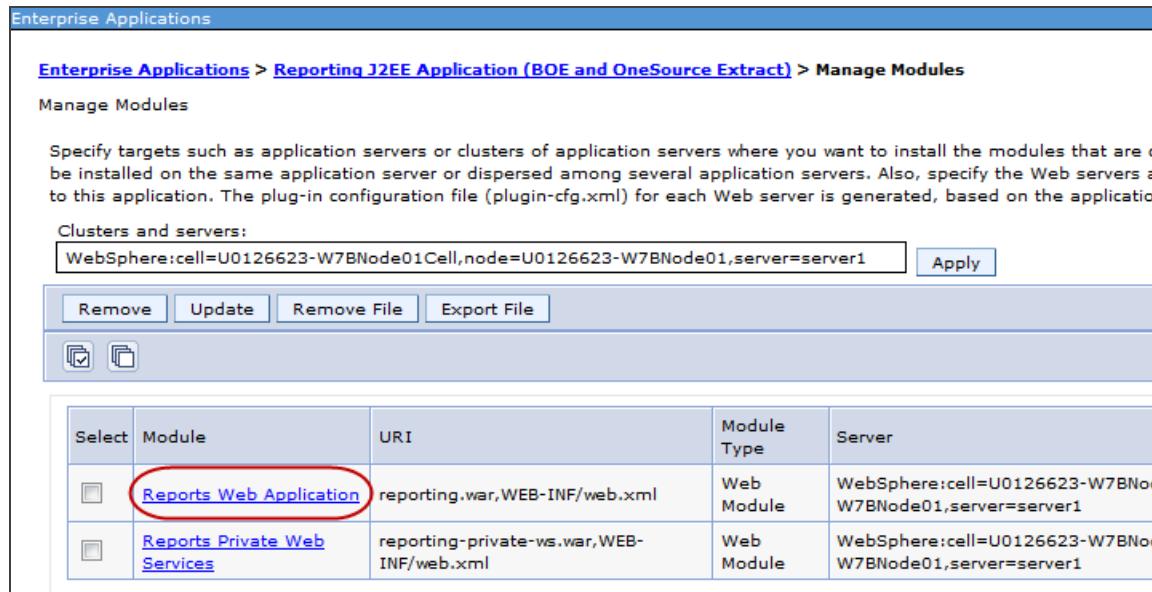
The screenshot shows the 'Enterprise Applications' management interface. At the top, there are buttons for Start, Stop, Install, Uninstall, Update, Rollout Update, Remove File, Export, Export DDL, and Export File. Below these are icons for creating, deleting, and modifying applications. A search bar allows filtering by 'Select' and 'Name'. A table lists applications, with 'DefaultApplication' and 'Reporting J2EE Application (BOE and OneSource Extract)' shown. The second row is circled in red.

3. Under **Modules**, click **Manage Modules**.



The screenshot shows the configuration page for the 'Reporting J2EE Application (BOE and OneSource Extract)'. It includes sections for 'Application Properties' and 'Web Module Properties'. Under 'Web Module Properties', the 'Manage Modules' link is circled in red.

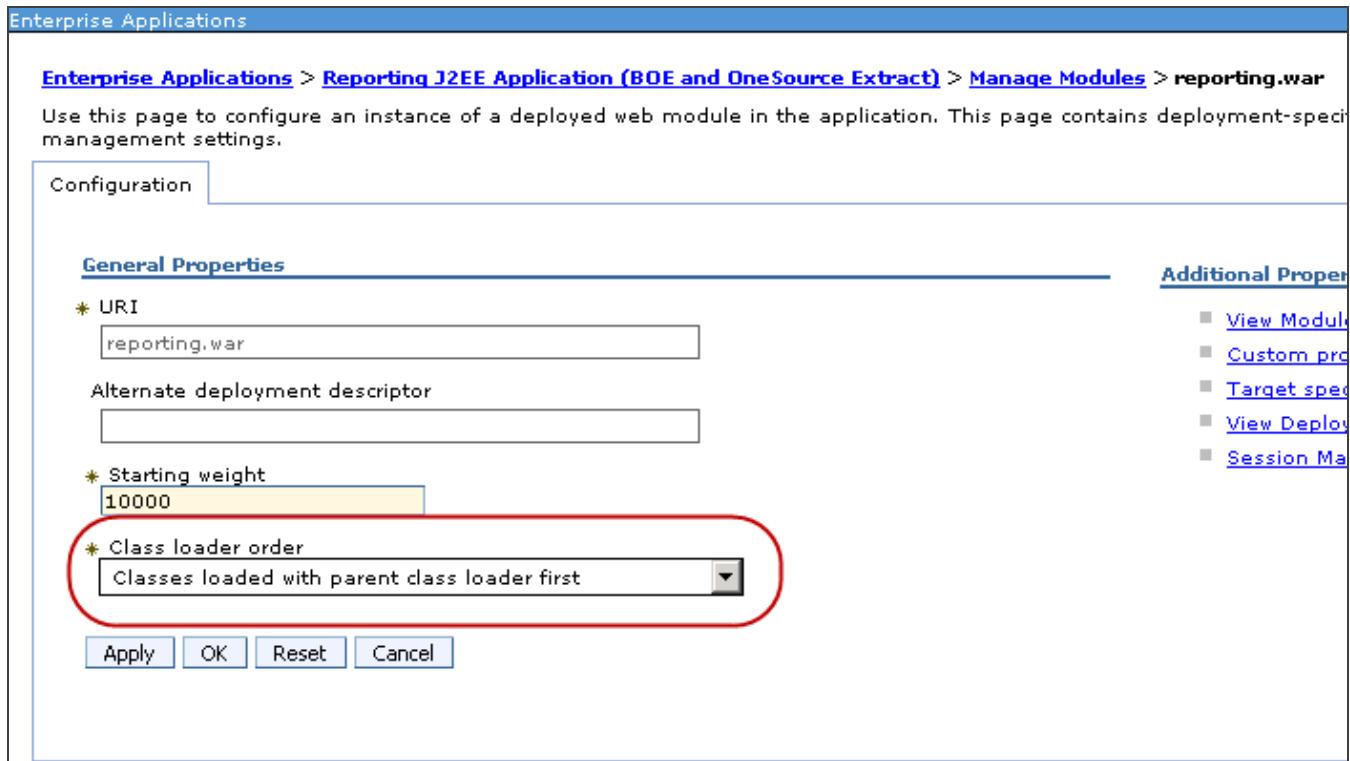
4. Click Reports Web Application.



The screenshot shows the 'Enterprise Applications' interface. The 'Manage Modules' screen for the 'Reporting J2EE Application (BOE and OneSource Extract)' is displayed. A text box at the top specifies targets: 'WebSphere:cell=U0126623-W7BNode01Cell,node=U0126623-W7BNode01,server=server1'. Below this are buttons for 'Remove', 'Update', 'Remove File', and 'Export File'. A checkbox is checked. The main table lists two modules:

Select	Module	URI	Module Type	Server
<input type="checkbox"/>	<a href="#">Reports Web Application</a>	reporting.war,WEB-INF/web.xml	Web Module	WebSphere:cell=U0126623-W7BNode01,server=server1
<input type="checkbox"/>	<a href="#">Reports Private Web Services</a>	reporting-private-ws.war,WEB-INF/web.xml	Web Module	WebSphere:cell=U0126623-W7BNode01,server=server1

5. Confirm that **Classes loaded with parent class loader first** is selected for **Class loader order**.



Enterprise Applications

[Enterprise Applications](#) > [Reporting J2EE Application \(BOE and OneSource Extract\)](#) > [Manage Modules](#) > [reporting.war](#)

Use this page to configure an instance of a deployed web module in the application. This page contains deployment-specific management settings.

Configuration

**General Properties**

\* URI: reporting.war

Alternate deployment descriptor:

\* Starting weight: 10000

\* Class loader order:

Additional Properties

- [View Module](#)
- [Custom properties](#)
- [Target specification](#)
- [View Deployment Log](#)
- [Session Management](#)

Apply OK Reset Cancel

6. Click **Save directly to the master configuration**.

7. Click **Reports Private Web Services**.

Enterprise Applications

Enterprise Applications > Reporting J2EE Application (BOE and OneSource Extract) > Manage Modules

Manage Modules

Specify targets such as application servers or clusters of application servers where you want to install the modules that are to be installed on the same application server or dispersed among several application servers. Also, specify the Web servers as to this application. The plug-in configuration file (plugin-cfg.xml) for each Web server is generated, based on the application

Clusters and servers:

WebSphere:cell=U0126623-W7BNode01Cell,node=U0126623-W7BNode01,server=server1

Select	Module	URI	Module Type	Server
<input type="checkbox"/>	<a href="#">Reports Web Application</a>	reporting.war,WEB-INF/web.xml	Web Module	WebSphere:cell=U0126623-W7BNode01,server=server1
<input type="checkbox"/>	<a href="#">Reports Private Web Services</a>	reporting-private-ws.war,WEB-INF/web.xml	Web Module	WebSphere:cell=U0126623-W7BNode01,server=server1

8. Confirm that **Classes loaded with parent class loader first** is selected for **Class loader order**.

Enterprise Applications

Enterprise Applications > Reporting J2EE Application (BOE and OneSource Extract) > Manage Modules > reporting-private-ws.war

Use this page to configure an instance of a deployed web module in the application. This page contains deployment-specific information management settings.

Configuration

**General Properties**

\* URI: reporting-private-ws.war

Alternate deployment descriptor:

\* Starting weight: 10000

\* Class loader order:

**Additional Properties**

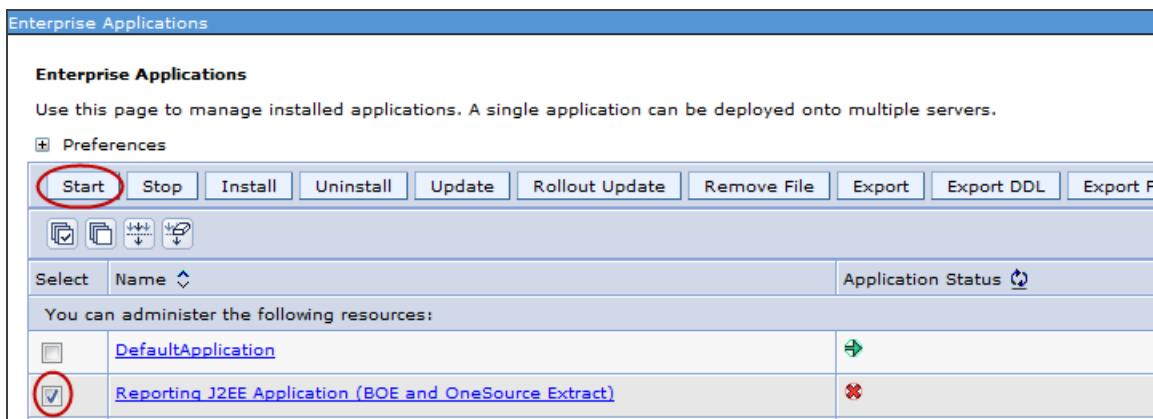
- [View Module Class Load](#)
- [Custom properties](#)
- [Target specific application](#)
- [View Deployment Desc](#)
- [Session Management](#)

9. Click **Save directly to the master configuration**.

## Restarting Server

When you finish the class loading configuration, restart the server.

1. Go to **Applications > Application Types > WebSphere enterprise applications**, select the Reporting application, and then click **Start**.



The screenshot shows the 'Enterprise Applications' page. At the top, there is a toolbar with buttons for Start, Stop, Install, Uninstall, Update, Rollout Update, Remove File, Export, Export DDL, and Export File. Below the toolbar, there are filter buttons for Select and Name. A table lists applications with columns for Name and Application Status. The 'DefaultApplication' row has an empty checkbox in the Name column and a green checkmark in the Application Status column. The 'Reporting J2EE Application (BOE and OneSource Extract)' row has a checked checkbox in the Name column and a red X in the Application Status column. The 'Start' button for the Reporting application is circled in red.

Name	Application Status
DefaultApplication	✓
Reporting J2EE Application (BOE and OneSource Extract)	✗

2. Wait a few minutes to allow the application to initialize.
3. Open a browser and enter the Reporting URL (`http://<host>:<port>/reporting`). Reporting is running if the logon page loads.
4. If you reach the Reporting logon page, continue to the section [Initial ETL Configuration \(page 155\)](#). If the logon page does not load, double check your previous settings.



You will not be able to log on until you complete the ETLs later.

# TRANSACTION EXTRACT REPORT CONFIGURATION

On the Transaction Extract Report, it is possible to configure the number of decimal places visible in the **Tax Rate** field for the .CSV format output.

 **Tax Rate** is the only field that supports this functionality.

To modify the decimal places, you must change the value directly in the database. The table below shows the database table `RC_COLUMN_ALIAS_OVERRIDE` in the control schema that contains these defaults (this is usually `SBXRPTCTRL`). To change these, you must update the table, either using SQL or a database management tool.

COLUMN NAME	DEFAULT VALUE	DESCRIPTION
SCALE	6	<p>Number of digits to the right of the decimal.</p> <p> This value is rounded appropriately. For example, if setting the value to <b>6</b> results in 0.123456, then setting the value to <b>4</b> for the same number would result in 0.1235, and so on.</p>



# INITIAL ETL CONFIGURATION

After you install and deploy Reporting, load your Reporting data and users using the ETL process. The basic installation is complete after you complete these tasks.

The First Reporting Data ETL .....	155
User ETL .....	162



You cannot log on to Reporting before you ETL audit data.

You must ETL your audit data prior to the user data because company data from the transactions is required for successful user setup.

There is an optional ETL called `ERP_Recon_Load` that is not discussed here. You can use it to transfer data related to financial system reconciliation. See Reporting Help for details.

## THE FIRST REPORTING DATA ETL

The first time you transfer data from your Audit database to the Reporting database, you need to decide how much data to make available to the reports. This block of data is marked at the beginning by a starting date and at the close by an ending date. You can either ETL your data all at once or, if you have a lot of data, you can divide it into smaller blocks to ETL sequentially.



If you have a large amount of data and prefer to divide it into a series of ETLs, the recommended routine is to supply a starting date and ending date only for the first ETL. For the subsequent ETLs, you do not specify any dates; instead, you choose a load type (a pre-set block of time) of DAILY, WEEKLY, or MONTHLY. For subsequent transfers after that first ETL, the system knows when to start and stop if you specify one of these load types.

### Determining the Start Date

Because the ETL process is designed to begin at a historical date and progress toward the current date, it is important that you carefully choose the date from which you want to begin loading data to the Reporting database.

The ETL process requires you to load data in chronological order, starting from a certain date. While you could insert date gaps between the data, you must follow a chronological pattern. For example, if you ETL data from July 2010, August 2010, and October 2010, you cannot go back and ETL data from September 2010.



If you decide later that you really wanted to start your ETL from an earlier date, you can remove data

We suggest that you pick a start date that is the first day of the first month for which you want to report on audit data. If you are interested in starting with the oldest creation date in your Audit database, you could use the following procedure to determine that date:

1. Using your database query tool, log on to your database to look at the Audit tables ( in SBXAUD).
2. Enter the following command:

```
1  SELECT MIN(CREATION_DATE)  FROM TB_INVOICES;
```

3. Note the creation date returned. Disregard the time portion of the date; your first ETL session will include all invoices audited on the given date. The ETL uses inclusive start dates (all the data including the start date) and exclusive end dates (all the data before the end date).

## Determining the End Date

This is the end date of the first block of data you want to transfer. The ETL gathers records with dates less than this date; in other words, it does not include data from this day.

If you are transferring a small number of transactions, you could use today's date by leaving the field blank; however, if you need to transfer many transactions spanning many years, we recommend that you divide this into smaller blocks. If you need to ETL a large volume of data, use the end date of the first block.

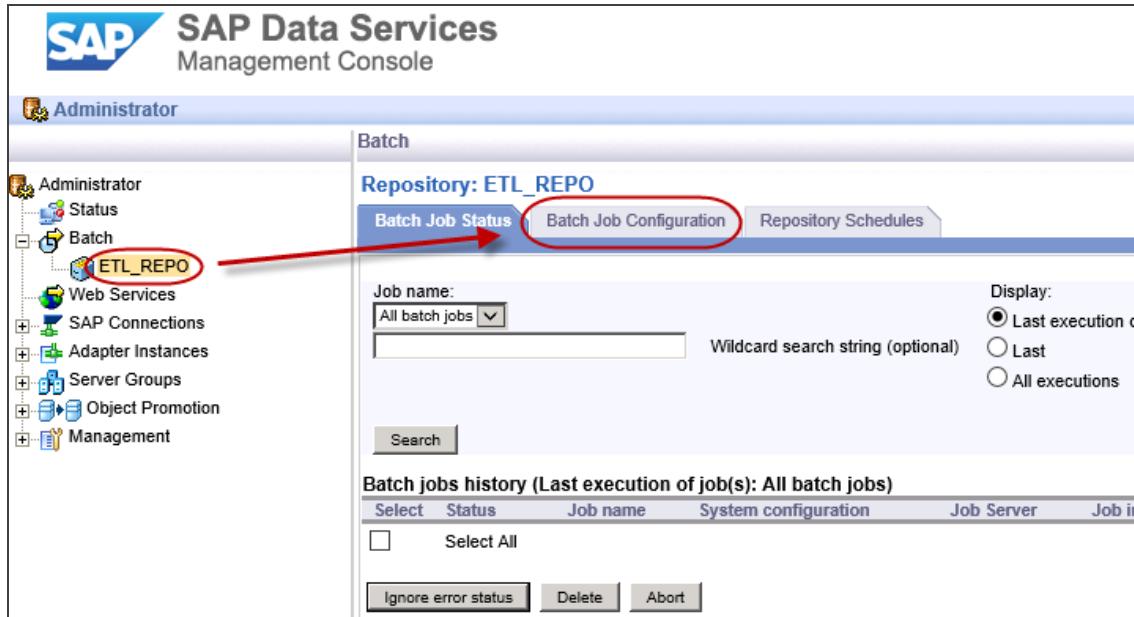
## Configuring and Running the First Data Load



If you will be running the EC Sales list reports, you need to activate the EC Sales list process before transferring data. See [Setting Default ETL Configurations \(page 176\)](#) for details.

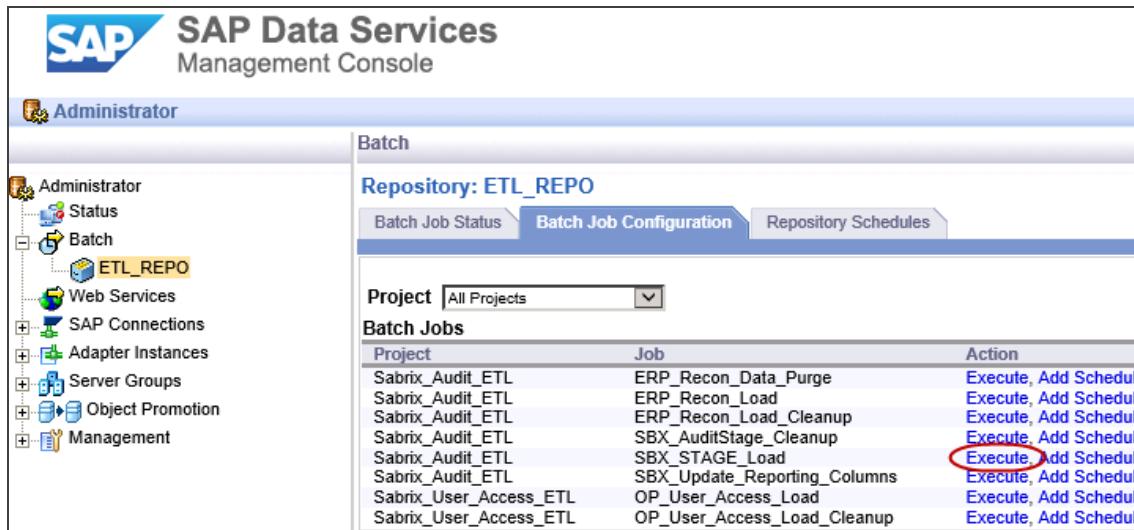
Once you have determined the start date for your reporting data, return to the SAP BusinessObjects Data Services Management Console to set up and run the ETL process.

1. Click the ETL repository under the **Batch** node, and then click the **Batch Job Configuration** tab.



The screenshot shows the SAP Data Services Management Console interface. The left sidebar is titled 'Administrator' and contains a tree view of management nodes: Administrator, Status, Batch (with 'ETL\_REPO' selected), Web Services, SAP Connections, Adapter Instances, Server Groups, Object Promotion, and Management. The main content area is titled 'Batch' and 'Repository: ETL\_REPO'. It has three tabs: 'Batch Job Status' (selected), 'Batch Job Configuration' (circled in red), and 'Repository Schedules'. The 'Batch Job Status' tab displays a search interface with 'Job name:' dropdown set to 'All batch jobs', a 'Wildcard search string (optional)' input field, and a 'Display:' section with radio buttons for 'Last execution of' (selected), 'Last', and 'All executions'. Below this is a table titled 'Batch jobs history (Last execution of job(s): All batch jobs)' with columns: Select, Status, Job name, System configuration, Job Server, and Job in. A 'Select All' checkbox is at the top of the table. At the bottom are buttons for 'Ignore error status', 'Delete', and 'Abort'.

2. Find the job **SBX\_STAGE\_Load** and then click **Execute**.



The screenshot shows the same SAP Data Services Management Console interface as the previous one, but with the 'Batch Job Configuration' tab selected. The left sidebar is identical. The main content area shows a table titled 'Batch Jobs' with columns: Project, Job, and Action. The 'Project' dropdown is set to 'All Projects'. The table lists several jobs under the 'SBX' project, including 'SBX\_STAGE\_Load' (which is circled in red). The 'Action' column for each job lists the available options: 'Execute, Add Schedule'. The 'SBX\_STAGE\_Load' row has the 'Execute' option highlighted with a red circle.

3. Scroll down to the bottom of the page, and then expand the **Global Variables** node.

The screenshot shows the SAP Data Services Management Console interface. The left sidebar is titled 'Administrator' and contains the following nodes: Administrator, Status, Batch, ETL\_REPO (which is expanded to show Web Services, SAP Connections, Adapter Instances, Server Groups, Object Promotion, and Management), and Management. The 'ETL\_REPO' node is highlighted with a yellow background. The main content area has a title 'Global Variables' which is circled in red. Below this, there are several input fields for global variables:

- \$G\_LOAD\_TYPE (varchar): [Input Field]
- \$G\_SOURCE\_DB (varchar): [Input Field]
- \$G\_SYSDATE (datetime): [Input Field]
- \$G\_START\_DATE (datetime): [Input Field]
- \$G\_END\_DATE (datetime): [Input Field]
- \$G\_ERROR\_EMAIL (varchar): [Input Field]
- \$G\_SUCCESS\_EMAIL (varchar): [Input Field]
- \$G\_PERFORM\_JOB\_AUDIT (varchar): [Input Field]

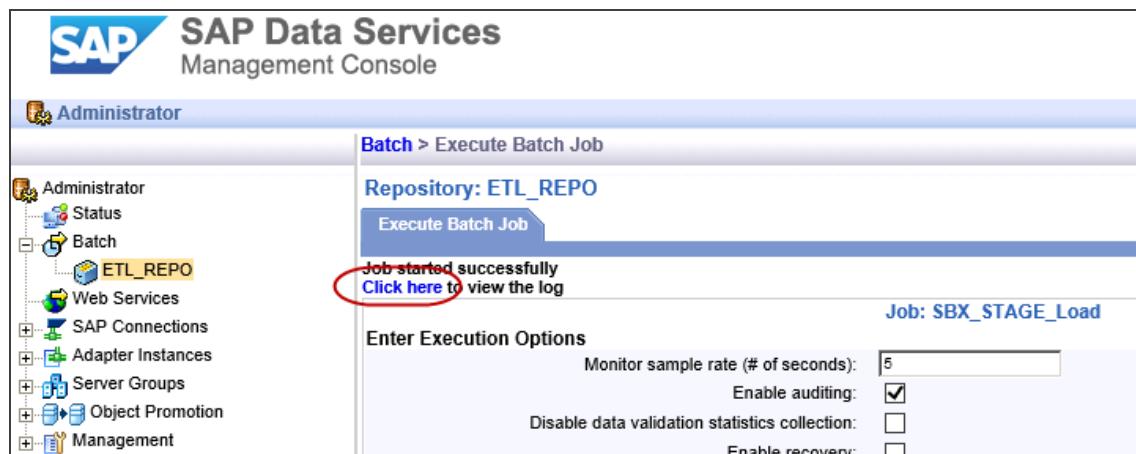
Below these fields, there is a section titled 'Substitution Parameters' with a link 'Add Overridden Parameter'. At the bottom of the page are two buttons: 'Reset' and 'Execute'.

4. Enter the **Global Variables** in the table below:

FIELD	VALUE
\$G_LOAD_TYPE	<p>Enter '<b>CUSTOM</b>' (The single quotes are required. Case does not matter.)</p> <p>If you will be transferring data in calendar units, you can use 'DAILY', 'WEEKLY', or 'MONTHLY'.</p> <p>'CURRENT' is also a valid value, and this brings all your data from the start date to the current date (or 90 days if current date is beyond). Use caution with this if you have large amounts of data for your first ETL.</p> <p> If you omit the start date for any of these load types, the ETL goes back to the shorter of 90 days or to the previously completed ETL.</p>
\$G_SOURCE_DB	Skip this configuration.
\$G_SYSDATE	Skip this configuration.
\$G_START_DATE	<p>Enter the date you chose as the first day of your date range, using the format 'YYYY.MM.DD' (the single quotes are required). For example, if you want to perform an ETL starting from July 2008, your start date would be this: '2008.07.01'</p> <p>The ETL gathers records with dates either greater than or equal to this date.</p> <p> If you omit the start date for any of these load types, the ETL goes back to the shorter of 90 days or to the previously completed ETL.</p>

FIELD	VALUE
\$G_END_DATE	<p>This is the end date of the first block of data you want to transfer. The ETL gathers records with dates less than this date; in other words, it does not include data from this day.</p> <p>If you are transferring a small number of transactions, you could use today's date by leaving the field blank; however, if you need to transfer many transactions spanning many years, we recommend that you divide them into smaller pieces. In the case of large volumes to ETL, this would be the last date for the first piece.</p> <p>If you did not use 'CUSTOM' for your load type, leave this value blank.</p>
\$G_ERROR_EMAIL	Skip this configuration.
\$G_SUCCESS_EMAIL	Skip this configuration.
\$G_PERFORM_JOB_AUDIT	Set this value to 'N' (single quotes are required).

5. Click **Execute** after you enter the global parameters.
6. At the top of the **Execute Batch Job** tab, click **Click here** to view the log.



7. In the **Job Trace Log** tab, click **View From End** in the upper right corner. When the job completes, a success message appears.

Batch > Execute Batch Job > Log Viewer

Repository: ETL\_REPO

Job Trace Log Job Monitor Log Job Error Log

Log: trace\_07\_18\_2014\_17\_37\_28\_8\_b18d3877\_6224\_4df6\_8b11\_dee1621875db.

Job name: SBX\_STAGE\_Load

```
(14.2) 07-18-14 17:37:32 (15684:13512) DATAFLOW: Data flow <DF_BATCH_CONTROL> is completed successfully.
(14.2) 07-18-14 17:37:32 (15684:13512) DATAFLOW: Process to execute data flow <DF_BATCH_CONTROL> is completed.
(14.2) 07-18-14 17:37:32 (12340:16376) PRINTFN: The BATCH_CONTROL_KEY value for this job run is 1.
(14.2) 07-18-14 17:37:32 (12340:16376) WORKFLOW: Work flow <WF_BATCH_CONTROL_INSERT_RECORD> is completed successfully.
(14.2) 07-18-14 17:37:32 (12340:16376) WORKFLOW: Work flow <WF_BUILD_LOOKUPS> is started.
(14.2) 07-18-14 17:37:32 (12340:16376) WORKFLOW: Work flow <WF_INITIALIZE_RS_LOOKUPS> is started.
(14.2) 07-18-14 17:37:33 (15472:13012) DATAFLOW: Process to execute data flow <DF_TB_LOOKUPS> is started.
(14.2) 07-18-14 17:37:33 (15472:13012) DATAFLOW: Data flow <DF_TB_LOOKUPS> is started.
(14.2) 07-18-14 17:37:33 (15472:13012) DATAFLOW: Cache statistics for data flow <DF_TB_LOOKUPS> are not available.
```

8. If you are performing many smaller ETLs (instead of one large one), repeat the previous steps, but choose a **\$G\_LOAD\_TYPE** of DAILY, WEEKLY, or MONTHLY. You only need to specify a start date if you wish to leave gaps in your data; otherwise, the system will automatically start where the previous ETL ended. Repeat this process until your Reporting database is populated with data up to the current day. When this is complete, see the next section for details about scheduling ongoing ETLs to keep your data current.



The ETL does not support concurrent processing. If an ETL process is already running when you invoke a second ETL session, you will receive an error on the second process.

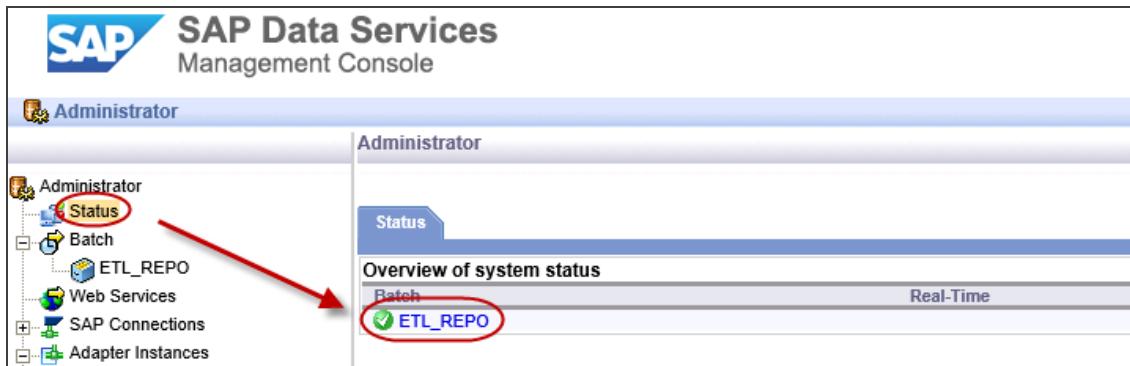


Once you complete the ETL(s) for your initial load, we recommend that you run statistics in your database to ensure that you have the best possible performance when you begin running reports.

## USER ETL

Now that you have loaded the Reporting data, add users to the system so they can begin running reports. Users are copied from the Tax database via an ETL process. Before you perform this user load, confirm that your users have the Report Console User role in ONESOURCE Indirect Tax Determination. If you need help with this, check the Determination Help.

1. Click the **Status** node in the left pane, and then click your ETL repository in the right pane.

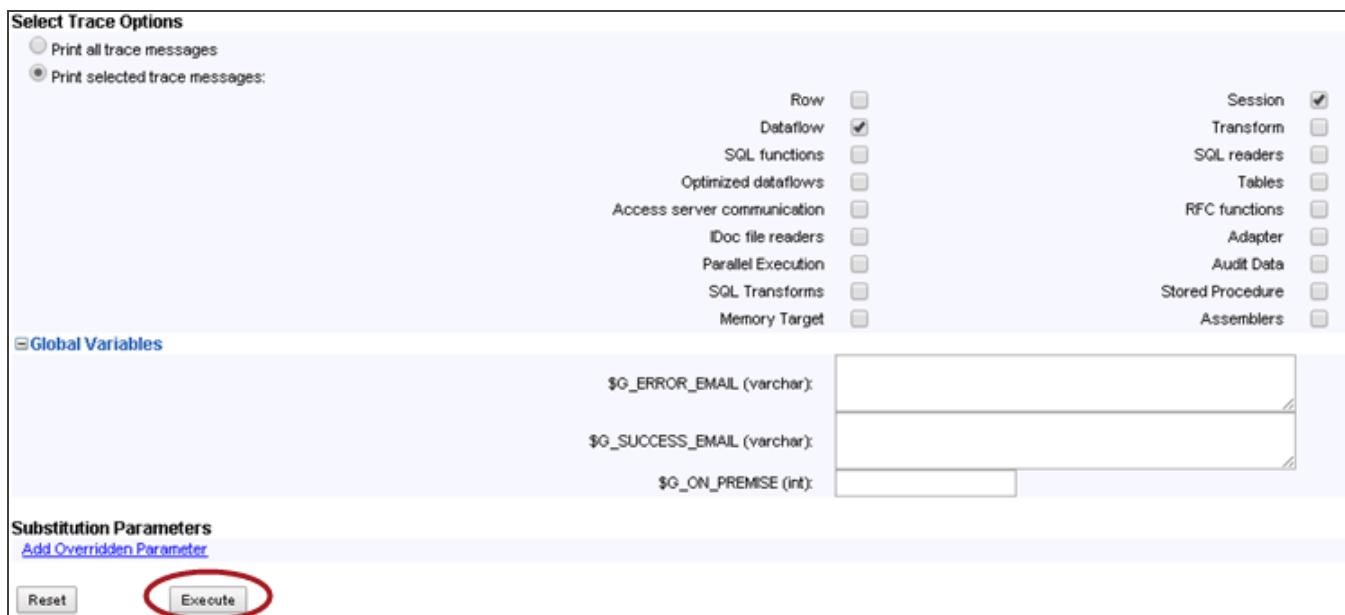


2. Click the **Batch Job Configuration** tab, and then click **Execute** for the job **OP\_USER\_Access\_Load**.

The screenshot shows the 'Batch Job Configuration' tab selected in the SAP Data Services Management Console. The 'Batch' tab is also visible. The 'Batch Jobs' table lists various jobs under the 'Project' 'All Projects' dropdown. The 'OP\_USER\_Access\_Load' job is highlighted with a red circle and a red arrow pointing to the 'Action' column, which shows the 'Execute' option.

Project	Job	Action
Sabrix_Audit_ETL	ERP_Recon_Data_Purge	Execute, Add Schedule, Export Exe
Sabrix_Audit_ETL	ERP_Recon_Load	Execute, Add Schedule, Export Exe
Sabrix_Audit_ETL	ERP_Recon_Load_Cleanup	Execute, Add Schedule, Export Exe
Sabrix_Audit_ETL	SBX_AuditStage_Cleanup	Execute, Add Schedule, Export Exe
Sabrix_Audit_ETL	SBX_STAGE_Load	Execute, Add Schedule, Export Exe
Sabrix_Audit_ETL	SBX_Update_Reportng_Columns	Execute, Add Schedule, Export Exe
Sabrix_User_Access_ETL	OP_User_Access_Load	Execute, Add Schedule, Export Exe
Sabrix_User_Access_ETL	OP_User_Access_Load_Cleanup	Execute, Add Schedule, Export Exe

3. Accept the default parameters, and then click **Execute** at the bottom of the page.



**Select Trace Options**

Print all trace messages  
 Print selected trace messages:

Row	<input type="checkbox"/>	Session	<input checked="" type="checkbox"/>
Dataflow	<input checked="" type="checkbox"/>	Transform	<input type="checkbox"/>
SQL functions	<input type="checkbox"/>	SQL readers	<input type="checkbox"/>
Optimized dataflows	<input type="checkbox"/>	Tables	<input type="checkbox"/>
Access server communication	<input type="checkbox"/>	RFC functions	<input type="checkbox"/>
IDoc file readers	<input type="checkbox"/>	Adapter	<input type="checkbox"/>
Parallel Execution	<input type="checkbox"/>	Audit Data	<input type="checkbox"/>
SQL Transforms	<input type="checkbox"/>	Stored Procedure	<input type="checkbox"/>
Memory Target	<input type="checkbox"/>	Assemblers	<input type="checkbox"/>

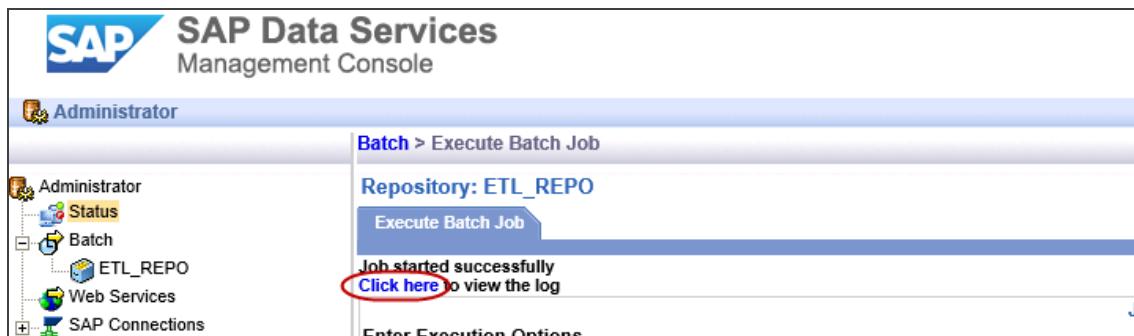
**Global Variables**

\$G_ERROR_EMAIL (varchar):	
\$G_SUCCESS_EMAIL (varchar):	
\$G_ON_PREMISE (int):	

**Substitution Parameters**  
[Add Overridden Parameter](#)

**Buttons:** Reset, Execute (circled in red)

4. To view the log, click **Click here** at the top of the **Execute Batch Job** tab.



**SAP Data Services**  
Management Console

**Administrator**

**Batch > Execute Batch Job**

**Repository: ETL\_REPO**

**Execute Batch Job**

Job started successfully  
[Click here to view the log](#)

**Enter Execution Options**

5. In the **Job Trace Log** tab, click **View From End** in the upper right corner. When the job completes, a success message appears.

After the User ETL successfully completes, you are finished with the installation. You can log on to Reporting (<http://<host>:<port>/reporting/>).



To access Reporting from the ONESOURCE Indirect Tax Determination menu, you must enable the Determination configuration parameter **SABRIX\_REPORTS\_URL**. The value for this configuration parameter is <http://<host>:<port>/reporting/service/>, which is different from the URL you use directly with a browser (<http://<host>:<port>/reporting>). For more information about setting configuration parameters, see Help for Determination.



# SECURE YOUR INSTALLATION

Once you have completed the installation of Reporting and verified that it was successful, you must secure the installation package. The Reporting installation package includes XML and log files, which contain sensitive authentication information.

Complete the following steps to enhance security:

1. Navigate to the directory where you unzipped *ONESOURCEIDTReporting\_68xx.zip*.
2. Move the entire unzipped Reporting software package to a secure location off of the host server.

 You may need files contained in the installation package for future Reporting updates, such as when you change database credentials.

3. Encrypt the relocated Reporting installation package using your organization's standards.
4. Delete the unencrypted ZIP file from the original download directory and remove it from your temporary storage for deleted files.



# ETL ADMINISTRATIVE TASKS

There are several optional tasks you can perform to refine the ETL processing.

Scheduling ETL Processes .....	167
Setting Default ETL Configurations .....	176
Configuring ETL Email Notification .....	179
Gathering ETL Statistics .....	179
Stopping and Starting ETL Processes .....	180
Cleaning Up ETL Jobs .....	180

## SCHEDULING ETL PROCESSES

After you complete the initial ETL loads, schedule subsequent ETLs to keep your data current. First review the material below about the ETL load type and then proceed to the section about scheduling ETLs.

### The ETL Load Type

Just as you set the start and end dates for your first series of ETLs, choose a time range for your ongoing ETLs. This is done by selecting the appropriate load type. Each time you run the ETL process, the date and time of your last run is automatically recorded. For example, if you completed your initial database load on April 30, 2011 and you set up a monthly load, the ETL automatically knows to start on May 1, 2011. The ETL tracks down to the millisecond, so you do not have to run only for complete days. Here are the load type options:

\$G_LOAD_TYPE	DESCRIPTION
'MONTHLY'	Use this load type if you plan to run the ETL monthly. If your last ETL ended on the 15th of the month and you scheduled a monthly ETL, the process would move the data starting from the 16th to the last day of the month.
'WEEKLY'	Use this load type if you plan to run the ETL weekly. This type only moves up to a week of data. So, if your Reporting data were in a state where it had not been updated for three weeks, you would need to run this type three times to bring your Reporting data to the current date.
'DAILY'	Use this load type if you plan to run the ETL daily. This type only moves up to one day of data per ETL.

\$G_LOAD_TYPE	DESCRIPTION
'CURRENT'	Use this load type if you plan to run the ETL several times per day. This load type always updates your Reporting data from the last ETL date to the current date and time.
'CUSTOM'	Use this load type to create special ETL date ranges. Custom is not recommended for ongoing ETL processes because it is possible to skip data when setting a start date.



The load type 'CURRENT' is the recommended option for ongoing ETLs.

If you omit the start date for any of these load types, the ETL goes back to the shorter of 90 days or to the last completed ETL.

## The ETL Schedule

Return to the SAP BusinessObjects Data Services Management Console.

1. In the left pane, expand the **Batch** node, and then click your ETL repository.
2. In the right pane, click the **Batch Job Configuration** tab, and then click **Add Schedule** for the job **SBX\_STAGE\_Load**.

Project	Job	Action
Sabrix_Audit_ETL	ERP_Recon_Data_Purge	Execute, Add Schedule, Export Exe
Sabrix_Audit_ETL	ERP_Recon_Load	Execute, Add Schedule, Export Exe
Sabrix_Audit_ETL	ERP_Recon_Load_Cleanup	Execute, Add Schedule, Export Exe
Sabrix_Audit_ETL	SBX_AuditStage_Cleanup	Execute, Add Schedule, Export Exe
Sabrix_Audit_ETL	SBX_STAGE_Load	Execute, Add Schedule, Export Exe
Sabrix_Audit_ETL	SBX_Update_Reportng_Columns	Execute, Add Schedule, Export Exe
Sabrix_User_Access_ETL	OP_User_Access_Load	Execute, Add Schedule, Export Exe
Sabrix_User_Access_ETL	OP_User_Access_Load_Cleanup	Execute, Add Schedule, Export Exe

3. Complete the **Schedule Batch Job** fields listed below:

SECTION: ENTER A JOB SCHEDULE	
Field	Value
Schedule name	Enter a description to identify the schedule, such as "Daily."

SECTION: SELECT A SCHEDULER	
Field	Value
Data Services scheduler	Under <b>Select a scheduler</b> , ensure this is selected.
<b>Select scheduled day(s) for executing the job</b>	
Field	Value
Calendar	Select either <b>Day of Week</b> or <b>Day of Month</b> from the drop-down and click the days you want the ETL to run.
<b>Select scheduled time for executing the jobs</b>	
Field	Value
Only once a day	To run this only once per day, select the <b>Start time, hours, and minutes</b> .
Multiple times per day	<p>To run this multiple times a day, complete these fields:</p> <ul style="list-style-type: none"> <li>• <b>Start time, Hours, and Minutes</b> at which the schedule becomes active each day.</li> <li>• <b>Duration</b>: This is the length of the time you want the scheduler to be active in minutes—not the duration of the ETL process. As an example, you might insert <b>1439</b> to keep the scheduler active for an entire day.</li> <li>• <b>Repeat interval (minutes)</b>: This is how often you want the ETL to run while the schedule is active. For example, to have the ETL run every 10 minutes every day starting at midnight, you would set the following: <ul style="list-style-type: none"> <li>◦ Start Time: 12:00:00 AM</li> <li>◦ Duration: 1430 minutes</li> <li>◦ Repeat Interval: 10 minutes</li> </ul> </li> </ul>

**SECTION: ENTER A JOB SCHEDULE**

Field	Value
Schedule name	Enter a description to identify the schedule, such as "Daily."

**SECTION: SELECT A SCHEDULER**

Field	Value
Data Services scheduler	Under <b>Select a scheduler</b> , ensure this is selected.
<b>Select scheduled day(s) for executing the job</b>	
Field	Value
Calendar	Select either <b>Day of Week</b> or <b>Day of Month</b> from the drop-down and click the days you want the ETL to run.
<b>Select scheduled time for executing the jobs</b>	
Field	Value
Only once a day	To run this only once per day, select the <b>Start time, hours, and minutes</b> .

**SECTION: SELECT A SCHEDULER**

Multiple times per day	<p>To run this multiple times a day, complete these fields:</p> <ul style="list-style-type: none"><li>• <b>Start time, Hours, and Minutes</b> at which the schedule becomes active each day.</li><li>• <b>Duration:</b> This is the length of the time you want the scheduler to be active in minutes—not the duration of the ETL process. As an example, you might insert <b>1439</b> to keep the scheduler active for an entire day.</li><li>• <b>Repeat interval (minutes):</b> This is how often you want the ETL to run while the schedule is active. For example, to have the ETL run every 10 minutes every day starting at midnight, you would set the following:<ul style="list-style-type: none"><li>◦ Start Time: 12:00:00 AM</li><li>◦ Duration: 1430 minutes</li><li>◦ Repeat Interval: 10 minutes</li></ul></li></ul>
------------------------	---

**Repository: ETL\_REPO**

**Schedule Batch Job**

Job: SBX\_STAGE\_Load

Enter a job schedule. Select Active to enable the schedule.

Schedule name:  Active:

Select a scheduler

Data Services scheduler  
 BOE scheduler(PDXSASDV070.corp.ositax.com:6400)

Select scheduled day(s) for executing the job

Day of month						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Recurring

Select scheduled time for executing the jobs

Only once a day:

Start time:  Hours  Minutes  PM



To prevent multiple ETLs from trying to start at the same time, keep the duration shorter than 24 hours (1440 minutes).

4. Expand the **Global Variables** node and scroll down so you can view all the parameters in that section. Complete the fields listed in the table below:

FIELD	VALUE
\$G_LOAD_TYPE	<p>Enter one of the following:</p> <ul style="list-style-type: none"> <li>• <b>'CURRENT'</b></li> <li>• <b>'MONTHLY'</b></li> <li>• <b>'WEEKLY'</b></li> <li>• <b>'DAILY'</b></li> <li>• <b>'CUSTOM'</b> (not recommended for ongoing ETLs)</li> </ul> <p> The single quotes are required. Case does not matter.</p>
\$G_SOURCE_DB	Skip this configuration.
\$G_SYSDATE	Skip this configuration.
\$G_START_DATE	<p>Leave blank unless you are using <b>'CUSTOM'</b>. Use this format: 'YYYY.MM.DD' (the single quotes are required).</p> <p> The ETL gathers records with dates that are either greater than or equal to the start date.</p>
\$G_END_DATE	<p>Leave blank unless you are using <b>'CUSTOM'</b>. Use this format: 'YYYY.MM.DD' (the single quotes are required).</p> <p> The ETL gathers records with dates less than this date; in other words, it does not include data from this day.</p>

FIELD	VALUE
\$G_ERROR_EMAIL	To receive email notifications about errors, enter an email address in this format: 'name@domain.com' (the single quotes are required). Additionally, you need to configure your SMTP server. See <a href="#">Configuring ETL Email Notification (page 179)</a> . To send notifications to several recipients, create an email group and insert that address here.
\$G_SUCCESS_EMAIL	To receive email notifications about completed jobs, enter an email address in this format: 'name@domain.com' (the single quotes are required). Additionally, you need to configure your SMTP server. See <a href="#">Configuring ETL Email Notification (page 179)</a> . To send notifications to several recipients, create an email group and insert that address here.
\$G_PERFORM_JOB_AUDIT	Set this value to 'Y' (single quotes are required) if you want the ETL to log the number of records processed for each company. See the section below for details about how to access this data.

Global Variables

\$G_LOAD_TYPE (varchar):	<input type="text"/>
\$G_SOURCE_DB (varchar):	<input type="text"/>
\$G_SYSDATE (datetime):	<input type="text"/>
\$G_START_DATE (datetime):	<input type="text"/>
\$G_END_DATE (datetime):	<input type="text"/>
\$G_ERROR_EMAIL (varchar):	<input type="text"/>
\$G_SUCCESS_EMAIL (varchar):	<input type="text"/>
\$G_PERFORM_JOB_AUDIT (varchar):	<input type="text"/>

Substitution Parameters

[Add Overridden Parameter](#)

- Click **Apply** after you complete the global variables.
- Check **Active** at the top of the page, and then click **Apply** at the bottom of the page.

## SETTING DEFAULT ETL CONFIGURATIONS

The ETL process has a variety of default values. You can adjust these values by changing their values directly in the database. The table below shows the database table RS\_NAME\_VALUES in the control schema that contains these defaults (this is usually SBXRPTCTRL). To change these, you must update the table, either using SQL or a database management tool.

NAME	DEFAULT VALUE	DESCRIPTION
DEFAULT CURRENT TIME OFFSET	0.006944444444	<p>This is the number of minutes subtracted from the end time of the ETL when the load type 'CURRENT' is selected. This offset helps you avoid loading incomplete transactions from Audit. It is expressed as the decimal of the time offset divided by the total number of minutes in a day (1440). The default value is 0.006944444444, which is "10 minutes"/"1440 minutes."</p> <p>For example, if you were to specify an ETL range up to 1:00 PM, the actual ETL would stop gathering records stamped with 12:50 PM.</p> <p> If your Audit and Reporting databases are configured with different time zones (and they must remain in these time zones), you need to adjust the value of this offset to compensate for the time difference.</p>
DEFAULT ESL PERSPECTIVE	X	<p>This value is used by logic in the ETL while processing EC Sales audit data when no value is found for the Reporting VAT Number, Buyer Country, or Customer VAT Number. A value of X for Reporting VAT Number or Buyer Country eliminates that tax record from EC Sales reporting.</p> <p>If the DEFAULT ESL PERSPECTIVE value other than X is returned for one of these data elements and the tax record is identified for EC Sales reporting, then that value will display on the ESL report for that tax.</p>
DEFAULT LOAD TYPE	CURRENT	Valid values are CURRENT, MONTHLY, WEEKLY, DAILY, and CUSTOM.

NAME	DEFAULT VALUE	DESCRIPTION
DEFAULT PERFORM JOB AUDIT	Y	<p>This signals the ETL to record details about the data processed, such as the number of records transferred per company. The other valid value is <b>N</b>.</p> <p>If this is turned on, you can find the ETL details in the Job Monitor Log of the SAP BusinessObjects Data Services Management Console.</p> <p> This option may affect performance, so we recommend you turn this off if you are not using this data.</p>
ESL	Y	If you are not using the EC Sales Report, set this value to <b>N</b> (case sensitive). The default is <b>Y</b> . The value controls whether the ETL should perform the EC Sales Report processing.
JOB LOG	N	This flag controls whether an audit of your ETL is made. The other valid value is <b>Y</b> . This is typically used only for troubleshooting.

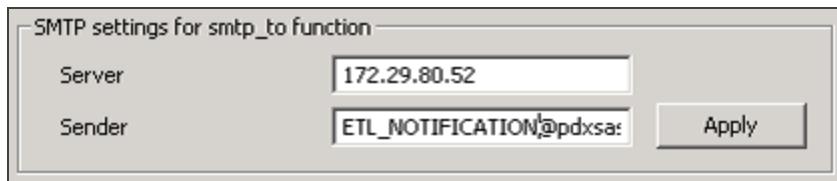
NAME	DEFAULT VALUE	DESCRIPTION												
RUN TO CURRENT PERIOD FLAG	N	<p>The value is used for ETL Load Type of DAILY, WEEKLY and MONTHLY to determine the End Date for the job. Values are <b>Y</b> and <b>N</b> (case insensitive). The default <b>N</b> is used if no record is found or if an unsupported value is found.</p> <ul style="list-style-type: none"> <li>• DAILY <ul style="list-style-type: none"> <li>◦ If the value is <b>Y</b> then the ETL End Date will be midnight of Start Date.</li> <li>◦ If the value is <b>N</b> then the ETL End Date will be midnight of the day after Start Date.</li> </ul> </li> <li>• WEEKLY <ul style="list-style-type: none"> <li>◦ If the value is <b>Y</b> then the ETL End Date will be midnight of Sunday of the week for Start Date.</li> <li>◦ If the value is <b>N</b> then the ETL End Date will be midnight of Sunday of the next week for Start Date.</li> </ul> </li> <li>• MONTHLY <ul style="list-style-type: none"> <li>◦ If the value is <b>Y</b> then the ETL End Date will be midnight of the first day of the month for Start Date.</li> <li>◦ If the value is <b>N</b> then the ETL End Date will be midnight of the first day of the next month for Start Date.</li> </ul> </li> </ul> <p>If Start Date = 25-Feb-2011, the following table shows the DAILY, WEEKLY and MONTHLY End Dates.</p> <table border="1"> <thead> <tr> <th>LOAD TYPE</th> <th>VALUE = Y</th> <th>VALUE = N</th> </tr> </thead> <tbody> <tr> <td>DAILY</td> <td>25-Feb-2011</td> <td>26-Feb-2011</td> </tr> <tr> <td>WEEKLY</td> <td>20-Feb-2011</td> <td>27-Feb-2011</td> </tr> <tr> <td>MONTHLY</td> <td>1-Feb-2011</td> <td>1-Mar-2011</td> </tr> </tbody> </table>	LOAD TYPE	VALUE = Y	VALUE = N	DAILY	25-Feb-2011	26-Feb-2011	WEEKLY	20-Feb-2011	27-Feb-2011	MONTHLY	1-Feb-2011	1-Mar-2011
LOAD TYPE	VALUE = Y	VALUE = N												
DAILY	25-Feb-2011	26-Feb-2011												
WEEKLY	20-Feb-2011	27-Feb-2011												
MONTHLY	1-Feb-2011	1-Mar-2011												

NAME	DEFAULT VALUE	DESCRIPTION
REPORTING ADDRESS VALIDATION STATUS	CORRECTED	Reserved for future use.
DEFAULT EMAIL		 This is an optional default you could add using SQL. This is the email address to send messages if none is entered for the ETL.

## CONFIGURING ETL EMAIL NOTIFICATION

To use the automatic email notifications during ETL processing, you must add your SMTP information to the system.

1. From the start menu, select **SAP Data Services 4.2 > Data Services Server Manager**.
2. Click the **Miscellaneous** tab.
3. Enter the following information in the section **SMTP settings for smtp\_to function** (your information will differ from the values in the example below):



- **Server:** Enter the name or IP Address of your SMTP server.
- **Sender:** Enter the name of the sender of the notifications. For example, **ETL\_Notifications@yourcompany.com**. This account must include the @ symbol.

## GATHERING ETL STATISTICS

By default, the system does not gather ETL statistics because the default value of the JOB\_LOG parameter is set to **N**. To record ETL statistics, set JOB\_LOG to **Y** (see **JOB\_LOG** under [Setting Default ETL Configurations \(page 176\)](#)). Note that a value of **Y** can affect ETL processing performance.

If the JOB\_LOG parameter is set to **Y**, a record of the run details is written to the database each time you run the ETL process. Use a database query or management tool to view the results in the table SBXRPTAUD.RS\_JOB\_COMPANY\_AUDITS. The columns available to query include:

- MERCHANT\_ID
- NAME
- BATCH\_CONTROL\_KEY
- DOCUMENTS\_LOADED
- LINES\_LOADED
- INVOICE\_RECORDS\_LOADED
- LINE\_RECORDS\_LOADED
- TAX\_RECORDS\_LOADED
- TAXES\_LOADED

## STOPPING AND STARTING ETL PROCESSES

```
1 ps | grep -i al_
```

To stop and start the ETL processing software, you use the **Services** window (**Start > Run > services.msc**) and scroll down to check the status of **BusinessObjects Data Services**. Simply stop and restart the Windows service.

## CLEANING UP ETL JOBS

If you ever run the ETL process and decide you do not want that data, run an ETL cleanup to remove the data from the Reporting database. The following jobs help you manage data and user ETLs:

- SBX\_AuditStage\_Cleanup (Execute this to remove all the records for a particular audit data ETL).
- OP\_User\_Access\_Load\_Cleanup (Execute this to remove all the user records).



There are also cleanup and purge jobs related to the ERP\_Recon\_Load ETL. See Help for details.

Run each of these jobs in the SAP BusinessObjects Data Services Management Console.

1. Log on to the Console and click your repository on the opening **Status** tab.
2. Click **Batch Job Configuration** tab.
3. Click **Execute** for the particular cleanup job.
4. For SBX\_AuditStage\_Cleanup, expand the **Global Variables** node and enter into **\$LOAD\_NUMBER** the number of the ETL for the data you want to remove. There is no load number for OP\_User\_Access\_Load\_Cleanup.
5. Click **Execute**.
6. You can monitor the process by clicking on **Click here to view the log** at the top of the page.



# APPENDIX: SAP ADMINISTRATIVE WEB APPLICATIONS DEPLOYMENT

The primary focus of the Installation Guide is the installation of the administrative consoles using Tomcat bundled with SAP. This appendix shows an alternative to Tomcat, explaining how to deploy the SAP Central Management Console and the SAP BusinessObjects Data Services Management Console in JBoss, WebLogic, and WebSphere.

The process requires a different installation sequence from the primary installation guide, so we provide an alternative checklist below. Please print this checklist and use it to install the SAP supporting software.

Non-Tomcat Checklist .....	183
Editing the Configuration File .....	184
Executing WDeploy .....	190
Configuring CMS Connection .....	190

## NON-TOMCAT CHECKLIST

INSTALLATION CHECKLIST (JBoss, WebLogic, or WebSphere)	
<b>Installing Supporting Software</b>	
<a href="#">Installing SAP BusinessObjects BI Platform (page 24)</a>	
<a href="#">Installing SAP BusinessObjects Data Services (page 51)</a>	
Return to <a href="#">Appendix: SAP Administrative Web Applications Deployment (page 183):</a>	
<ul style="list-style-type: none"><li>• Complete the steps shown in <a href="#">Editing the Configuration File (page 184)</a></li><li>• Complete the steps shown in <a href="#">Executing WDeploy (page 190)</a></li><li>• Complete the following step in <a href="#">Configuring CMS Connection (page 190)</a></li></ul>	
<b>Configuring SAP Business Intelligence</b>	
<a href="#">Editing the CRConfig File (page 46)</a>	
<a href="#">Configuring Report Timeout and Recycle Bin (page 47)</a>	

<b>INSTALLATION CHECKLIST (JBoss, WebLogic, or WebSphere)</b>	
<b>Configuring SAP Data Services</b>	
<a href="#">Stopping Services (page 73)</a>	
<a href="#">Checking the <code>LINK_DIR</code> Variable (page 74)</a>	
<a href="#">Changing Socket Timeout (page 74)</a>	
<a href="#">Modifying Max Return Size (page 75)</a>	
<a href="#">Configuring the Adapter (page 75)</a>	
<a href="#">Starting Services (page 78)</a>	
<a href="#">Configuring Session Security (page 78)</a>	
<a href="#">Setting Web Service Adapter Parameters (page 80)</a>	
<a href="#">Adding Administrator to Data Services Groups (page 83)</a>	
Complete the remaining installation guide tasks starting with <a href="#">Creating the Configuration File (page 85)</a>	

## EDITING THE CONFIGURATION FILE

Enter your application server details into a configuration file:

1. Go to the directory where you installed SAP Business Intelligence (shown below as <SAPBaseDirectory> ).
2. Change to the following directory:

*<SAPBaseDirectory>\SAP BusinessObjects Enterprise XI 4.0\wdeploy\conf*

3. Find and edit the configuration file that corresponds to your application server (for example, edit `config.websphere8` for WebSphere 8.5).



The SAP administrative consoles do not support WebLogic 12.

APPLICATION SERVER	CONFIGURATION FILE
JBoss 6 EAP	<code>config.jboss7</code>
WebLogic 11	<code>config.weblogic11</code>
WebSphere 7	<code>config.websphere7</code>
WebSphere 8	<code>config.websphere8</code>

4. Find the table below that corresponds to your application server and use it as a guide to modify several parameters in the file. For each item, substitute your value to the right of the equals sign.

CONFIG.JBOSS7	
Field	Value Description
as_dir=	The installation directory of the application server.
as_instance=	The application server instance to deploy to (as_instance represents a folder in the \${as_dir}/server/ directory).

CONFIG.WEBLOGIC11	
Field	Value Description
as_domain_dir=	The home directory of the domain to deploy to (this is NOT WebLogic's installation directory).  <i>as_domain_dir=C:\weblogic11\user_projects\domains\base_domain</i>
as_instance=	The application server instance to deploy to. In the Weblogic console under <b>Domain &gt; Environment &gt; Server</b> , there is a list of "instance names." For a default installation, this value is AdminServer.
as_admin_port=	The administration port of the application server.
as_admin_username=	The administration user name. The name must be the administration user that the domain was created with (for example, <i>as_admin_username=weblogic</i> ).
as_admin_password=	The admin user password (mandatory).

CONFIG.WEBSPHERE7	
Field	Value Description
as_dir=	The installation directory of the application server.
as_instance=	The application server instance to deploy to. In the Integrated Solutions Console, this is listed in the <b>Name</b> column at <b>Servers &gt; Server Types &gt; Websphere application servers</b> .
as_profile_name=	The name of the profile created for Websphere application server. The default profile name is AppSrv01.
as_virtual_host=	The virtual host the application will be bound to.
as_soap_port=	<p>The SOAP administration port to the administration server (SOAP_CONNECTOR_ADDRESS). This value should be the same as the scripting port. To confirm this, do the following:</p> <p>a. <b>Identify the Scripting Port:</b> Find your scripting port (com.ibm.ws.scripting.port):</p> <pre>&lt;WebSphereBaseDirectory&gt;\AppServer\profiles\{AppSrv01\properties\wsadmin.properties</pre> <p>b. <b>Identify the SOAP Port</b></p> <ol style="list-style-type: none"> <li>In the Integrated Solutions Console, go to <b>Servers &gt; Server Types &gt; Websphere application servers</b>.</li> <li>In the <b>Name</b> column, click on your AS_INSTANCE, and then select <b>Ports</b> under <b>Communications</b>.</li> <li>Click <b>SOAP_CONNECTOR_ADDRESS</b>, and then confirm that this matches the scripting port. If it does not, modify the port number to match your scripting port.</li> </ol>
as_admin_is_secure=	The default is <b>false</b> . This indicates whether security is activated in WebSphere.

CONFIG.WEBSPHERE7	
Field	Value Description
as_admin_username=	This is an authenticated WebSphere username. It is used only if 'as_admin_is_secure=true'; it can be commented out with a '#' if 'as_admin_is_secure=false.'
as_admin_password=	This is the password of the username listed above. It is used only if 'as_admin_is_secure=true'; it can be commented out with a '#' if 'as_admin_is_secure=false.'

CONFIG.WEBSPHERE8	
Field	Value Description
as_dir=	The installation directory of the application server.
as_instance=	The application server instance to deploy to. In the Integrated Solutions Console, this is listed in the <b>Name</b> column at <b>Servers &gt; Server Types &gt; Websphere application servers</b> .
as_profile_name=	The name of the profile created for Websphere application server. The default profile name is AppSrv01.
as_virtual_host=	The virtual host the application will be bound to.

CONFIG.WEBSPHERE8	
Field	Value Description
as_soap_port=	<p>The SOAP administration port to the administration server (SOAP_CONNECTOR_ADDRESS). This value should be the same as the scripting port. To confirm this, do the following:</p> <ol style="list-style-type: none"> <li><b>Identify the Scripting Port:</b> Find your scripting port (com.ibm.ws.scripting.port):  <code>&lt;WebSphereBaseDirectory&gt;\AppServer\profiles\# AppSrv01\properties\wsadmin.properties</code> </li> <li><b>Identify the SOAP Port</b> <ol style="list-style-type: none"> <li>In the Integrated Solutions Console, go to <b>Servers &gt; Server Types &gt; Websphere application servers</b>.</li> <li>In the <b>Name</b> column, click on your AS_INSTANCE, and then select <b>Ports</b> under <b>Communications</b>.</li> <li>Click <b>SOAP_CONNECTOR_ADDRESS</b>, and then confirm that this matches the scripting port. If it does not, modify the port number to match your scripting port.</li> </ol> </li> </ol>
as_admin_is_secure=	The default is <b>false</b> . This indicates whether security is activated in WebSphere.
as_admin_username=	This is an authenticated WebSphere username. It is used only if 'as_admin_is_secure=true'; it can be commented out with a '#' if 'as_admin_is_secure=false.'
as_admin_password=	This is the password of the username listed above. It is used only if 'as_admin_is_secure=true'; it can be commented out with a '#' if 'as_admin_is_secure=false.'

- Save the file when you are finished.

## EXECUTING WDEPLOY

The script *wdeploy.sh* deploys the SAP administrative applications directly into the application server.



On WebSphere, we recommend you increase the SOAP timeout in the file *soap.client.props* (<profile>\properties):

*com.ibm.SOAP.requestTimeout=1800*

1. Change to the following directory:

*<SAPBaseDirectory>\SAP BusinessObjects Enterprise XI 4.0\wdeploy*

2. Execute the following command as either the operating system user who installed the application server or as a user with administrative privileges. Insert the application server name as a parameter (this is the extension of the configuration file you edited above):

- a. *./wdeploy.bat <TheConfigurationFileExtension> deployall*

The example below shows the format for WebSphere 8:

```
1 ./wdeploy.bat websphere8 deployall
```



On WebSphere, ignore the following harmless warning:

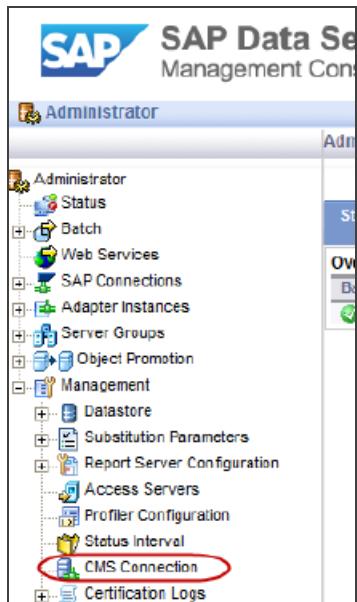
**ADMA0080W: A template policy file without any permission set is included in the 1.2.x enterprise application. You can modify the Java 2 Security policy for the enterprise application by editing the was.policy file that is located in the \${user.install.root}/config/cells/(yourCellName)/applications/(yourAppName).ear/deployments/(yourAppName)/META-INF directory after the application is installed.**

## CONFIGURING CMS CONNECTION

Complete the following to set up the CMS connection:

1. Log on to the SAP BusinessObjects Data Services Management Console (<http://<host>:<port>/DataServices/>).
2. Click **Administrator**.

3. Expand the **Management** node, and then click **CMS Connection**.



4. On the **CMS Connection** tab, complete the following fields:

FIELD	DESCRIPTION
System	The name of the server hosting SAP BusinessObjects BI Platform
User name	The administrator name for SAP BusinessObjects BI Platform
Password	The administrator password for SAP BusinessObjects BI Platform
Authentication	Select <b>Enterprise</b>

5. Click **Test**.

6. If you do not receive the following success message, correct your entries and try again.



7. Exit the Management Console when the test is successful.

# APPENDIX: LINKING TO OTHER DATABASES

Use the information below if your database policy does not allow users to link to other databases. Since the installer for the Reporting User Interface expects the Reporting Control user to do this, the installer will not execute successfully if you either revoked what was granted by our creation script or did not grant this when you created the users yourself.

To ensure that the installer executes successfully, you must temporarily allow users to create links. Then, once you create the links following the steps below, you can revoke this privilege to stay in compliance with your database policy. The final step is to complete one additional configuration change to ensure that your installer finishes successfully.

## ORACLE

There are two parts to this procedure:

1. Execute database commands to create the links
2. Modify an installation configuration file

### Executing Database Commands

In the database commands below, substitute values from your environment for any of the strings highlighted in red. For example, you might insert SBXRPTCTRL for **Sabrix.ReportsControl.Schema.Username**. Be sure to keep the single quotes in all of the commands.

Log on to SQL\*Plus as a user with administrative privileges and execute the following command:

```
1  grant create database link to Sabrix.ReportsControl.Schema.Username;
```

Switch your SQL\*Plus session to the Reporting Control User (typically SBXRPTCTRL) and execute the following commands (Be sure to insert values from your environment):

```
1  create database link SBXAUDSTG
2  connect to Sabrix.ReportsAudit.Schema.Username
3  identified by Sabrix.ReportsAudit.Schema.Password
4  using 'Sabrix.ReportsAudit.Schema.TNSName';
5  create database link SBXTAX
6  connect to Sabrix.TaxEngineTax.Schema.Username
7  identified by Sabrix.TaxEngineTax.Schema.Password
8  using 'Sabrix.TaxEngineTax.Schema.TNSName';
```

Switch your SQL\*Plus session to a user with administrative privileges and execute the following:

```
1  revoke create database link from Sabrix.ReportsControl.Schema.Use
rname;
```

## Modifying the Configuration File

After you create the database links, you must perform an additional step later in the installation. When you complete the steps in [Creating the Configuration File \(page 85\)](#), open the configuration file *installation-config.xml* in a text editor.



Edit the file in *<InstallationBaseDirectory>\install\*—not the default versions of this file in either *<InstallationBaseDirectory>\install\distribution-config\* or *<InstallationBaseDirectory>\install\template-config\*.

1. Find the line that looks like this:

```
1  id="Sabrix.ReportsControl.Schema.Recreate.Database.Links" value="t
rue"/>
```

2. Change "true" to "false" and then save and close the file.
3. Continue with the remainder of the installation in [Modifying the Installation Script \(page 97\)](#).

## SQL SERVER

There are two parts to this procedure: execute database commands to create the objects to link databases and then modify an installation configuration file.

## Executing Database Commands

In the database commands below, substitute values from your environment for any of the strings highlighted in red. For example, you might insert SBXRPTCTRL for *Sabrix.ReportsControl.Schema.Username*. Be sure not to remove the single quotes in any of the commands.

Log on to your SQL Server administration tool as the **sa** user, and then execute the following:

```
1  grant alter any linked server to Sabrix.ReportsControl.Schema.Use
   rname
2  grant alter any login to Sabrix.ReportsControl.Schema.Username
```

Switch your session to the Reporting Control User (typically SBXRPTCTRL) and execute the following commands in the order below (Be sure to insert values from your environment):

```
1  EXEC sp_dropserver SBXAUDSTG,droplogins
2  EXEC sp_addlinkedserver @server=N'SBXAUDSTG'
3  , @srvproduct=N''
4  , @provider=N'SQLNCLI'
5  , @datasrc=N'Sabrix.ReportsAudit.Db.Hostname'
6  , @catalog=N'Sabrix.ReportsAudit.Db.SID'
7  EXEC sp_addlinkedsrvlogin 'SBXAUDSTG'
8  , 'false'
9  , null
10 , 'Sabrix.ReportsAudit.Schema.Username'
11 , 'Sabrix.ReportsAudit.Schema.Password'
12 EXEC sp_dropserver SBXTAX,droplogins
13 EXEC sp_addlinkedserver @server=N'SBXTAX'
14 , @srvproduct=N''
15 , @provider=N'SQLNCLI'
16 , @datasrc=N'Sabrix.ReportsAudit.Db.Hostname'
17 , @catalog=N'Sabrix.TaxEngineTax.Db.SID'
18 EXEC sp_addlinkedsrvlogin 'SBXTAX'
19 , 'false'
20 , null
21 , 'Sabrix.TaxEngineTax.Schema.Username'
22 , 'Sabrix.TaxEngineTax.Schema.Password'
```

Switch your session to the **sa** user and execute the following:

1. revoke alter any linked server to Sabrix.ReportsControl.Schema.Username
2. revoke alter any login to Sabrix.ReportsControl.Schema.Username

## Modifying the Configuration File

After you create the database links, you must perform an additional step later in the installation. When you complete the steps in [Creating the Configuration File \(page 85\)](#) open the configuration file *installation-config.xml* in a text editor.



Edit the file in `<InstallationBaseDirectory>\install\`—not the default versions of this file in either `<InstallationBaseDirectory>\install\distribution-config\` or `<InstallationBaseDirectory>\install\template-config\`.

1. Find the line that looks like this:

```
1 <installer:property id="Sabrix.ReportsControl.Schema.Recreate.Data  
base.Links" value="true"/>
```

2. Change "true" to "false" and then save and close the file.
3. Continue with the remainder of the installation in [Modifying the Installation Script \(page 97\)](#).

# APPENDIX: CREATING DATABASES WITHOUT SCRIPTS

You may use our scripts for default installations; however, if you need to customize your environment, you can create the database objects yourself using the guidelines below.

## ORACLE

We suggest that you follow the convention of creating four database users; however, if your architecture and performance needs require you to distribute the workload across additional schemas, you may do so. See the [ONESOURCE Customer Center](#) to find the *Platform Support Guide* for your product version.

USER NAME	PURPOSE
RPT_REPO	The Reports Repository containing report definitions and other meta data.
ETL_REPO	The ETL Repository containing meta data for the extract, transform, and load (ETL) process.
SBXRPTAUD	Contains the reporting data that is extracted from the ONESOURCE Indirect Tax Determination software (through the ETL process).
SBXRPTCTRL	Contains system control data.

The list below shows the required database roles and privileges for the schemas listed above. Use this as a guide if you are creating the users manually. If you run the user-creation scripts, these are automatically granted:

- CONNECT
- ALTER SESSION
- CREATE DATABASE LINK (only for SBXRPTCTRL)
- CREATE SEQUENCE
- CREATE SESSION
- CREATE PROCEDURE
- CREATE SYNONYM (only for SBXRPTCTRL)

- CREATE TABLE
- CREATE VIEW



If your database policy does not allow you to grant the CREATE DATABASE LINK system privilege, see [Appendix: Linking to Other Databases \(page 193\)](#).

## MICROSOFT SQL SERVER

Consider the following if you are making the database objects instead of using the scripts:

### Database Character Set

The SQL Server database must use the default case insensitive collation of *Latin1\_General\_CI\_AS*. For more information, see the SQL Server documentation.

### Snapshots

Our database creation scripts automatically set `READ_COMMITTED_SNAPSHOT`. If you prefer to create your databases manually, be sure to set this to **ON**.

### Database Objects

We suggest that you follow the convention of creating four databases, each with its associated user. However, if your architecture and performance needs require you to distribute the workload across additional databases and schemas, you may do so. See the [ONESOURCE Customer Center](#) to find the *Platform Support Guide* for your product version.

USER NAME	PURPOSE
RPT_REPO	The Reports Repository containing report definitions and other meta data.
ETL_REPO	The ETL Repository containing meta data for the extract, transform, and load (ETL) process.

USER NAME	PURPOSE
SBXRPTAUD	Contains the reporting data that is extracted from the ONESOURCE Indirect Tax Determination software (through the ETL process).
SBXRPTCTRL	Contains system control data.

## Privileges

Grant the following to the Reporting Control user (SBXRPTCTRL):

- ALTER ANY LINKED SERVER
- ALTER ANY LOGIN



If your database policy does not allow you to grant the permissions "alter any linked server" and "alter any login," see [Appendix: Linking to Other Databases \(page 193\)](#).



# APPENDIX: RE-INSTALLATION

If there is ever a need to re-install the components of Reporting, we recommend that you first remove the components and then re-install.

- Application Servers
  - If you are using the embedded Tomcat, stop the service **Apache Tomcat for BI 4**.
  - If you are not using Tomcat, undeploy SAP BusinessObjects BI Platform, SAP BusinessObjects Data Services, and Reporting in your application server.
- Stop the service **Server Intelligence Agent**.
- Stop the service **SAP BusinessObjects Data Services**.
- Run the Microsoft Windows uninstaller from the Control Panel to remove both SAP BusinessObjects BI Platform and SAP BusinessObjects Data Services.
- Delete the folder containing Business Objects (for example, *C:\Program Files (x86)\SAP Business Objects*).
- Delete the folder *C:\businessobjects*.
- Delete the folder *C:\ProgramData\SAP Business Objects*.



# APPENDIX: UTILITY SCHEMAS

The following tables describe the fields for the optional utility schemas in the Configuration Utility (see [Creating the Configuration File \(page 85\)](#)). If you created optional utility schemas when you created your database objects in [Database Preparation \(page 15\)](#), complete the **Optional Schemas** section of the **Reporting Schemas** tab.

Go to the **Reporting Schemas** tab of the Configuration Utility, and then click **Optional Schemas**. Clear the **Use Reporting Control** checkbox for each of the optional utility schemas you created and complete all the fields.

Two sets of tables follow below, one set for Oracle and one set for SQLServer. The tables may appear on adjacent pages.

OPTIONAL REPORTING SCHEMAS (ORACLE)	
<b>Reporting Control Utility</b>	
Username	The Reporting Control Utility schema name
Password	The Reporting Control Utility schema password
Database SID	The database SID
TNS Name	The Reporting Control Utility schema TNS name
Create DB URL	Click this button to create the database URL (the utility concatenates your previous entries)
Test DB Connection	Click this button to test the database connection   If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature

OPTIONAL REPORTING SCHEMAS (ORACLE)	
<b>Reporting Audit Utility</b>	
Username	The Reporting Audit Utility schema name
Password	The Reporting Audit Utility schema password
Database SID	The database SID

OPTIONAL REPORTING SCHEMAS (ORACLE)	
<b>Reporting Audit Utility</b>	
TNS Name	The Reporting Audit Utility schema TNS name
Create DB URL	Click this button to create the database URL (the utility concatenates your previous entries)
Test DB Connection	<p>Click this button to test the database connection</p>  If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature

OPTIONAL REPORTING SCHEMAS (SQL SERVER)	
<b>Reporting Control Utility</b>	
Username	The Reporting Control Utility database user name (for example, SBXRPTCTRLUTLY)
Password	The Reporting Control Utility database user password
Database Name	The Reporting Control Utility database name
Data Source Name	Repeat the Reporting Control Utility database name
Create DB URL	Click this button to create the database URL (the utility concatenates your previous entries)
Test DB Connection	<p>Click this button to test the database connection</p>  If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature

OPTIONAL REPORTING SCHEMAS (SQL SERVER)	
<b>Reporting Audit Utility</b>	
Username	The Reporting Audit Utility database user name (for example SBXRPTAUDUTLY)
Password	The Reporting Audit Utility database user password
Database Name	The Reporting Audit Utility database name
Data Source Name	Repeat the Reporting Audit Utility database name
Create DB URL	Click this button to create the database URL (the utility concatenates your previous entries)
Test DB Connection	<p>Click this button to test the database connection</p> <p> If you are running the utility on a machine that does not have network access to the Reporting database, you cannot use this test feature</p>