

ONESOURCE INDIRECT TAX DATA FILE INTEGRATOR

INSTALLATION GUIDE

PRODUCT VERSION 1.2.1.0

Document Version 1

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TABLE OF CONTENTS

Introduction	1
Who Should Read This Guide?	1
System Overview	2
Resources	3
Style Conventions	5
Prerequisites	7
Review System Requirements	7
Gather Administrative Information	8
Download the Software	9
Set Java Home	9
Configure Determination User	9
Configure Your Database	11
Oracle RDBMS	11
Microsoft SQL Server	12
IBM DB2	13
Deploy Data File Integrator	15
Configure Apache Tomcat	15
Create Data Sources for Tomcat	15
Set Java Options for Tomcat	19
Deploy the Application in Tomcat	20
Configure JBoss	21
Set Environment Variables for JBoss	21
Create Data Sources for JBoss	22
Set Memory Options for JBoss	32
Enable Logging for JBoss	33
Deploy the Application in JBoss	36
Configure Oracle WebLogic	37
Create Data Sources for Oracle WebLogic	37
Deploy on Oracle WebLogic	49
Configure IBM WebSphere	55
Prepare WebSphere for use with IBM DB2	56
Create Data Sources for IBM WebSphere	58

Deploy on IBM WebSphere	68
Configure Data File Integrator	81
Set System Configuration Parameters	81
Create File Watcher Directory Structure	85
Set Java Memory Values	87
Adjust Timeout Setting	87
Configure Logging	87
JConsole	89

INTRODUCTION

ONESOURCE Indirect Tax Data File Integrator enables customers using Determination to quickly integrate to their source systems by creating CSV file templates based on existing configuration and tax calculation web services. Using Data File Integrator, you can:

- Calculate and audit transaction data from raw data files
- Import and export Determination configurations
- Create, test, and manage templates in a simple user interface
- Automate data processing using your file system

This guide explains how to install Data File Integrator version 1.2.1.0.

Who Should Read This Guide?	1
System Overview	2
Resources	3
Style Conventions	5

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

SYSTEM OVERVIEW

Data File Integrator is installed along with Determination, either in its own web application server and database or in an environment shared with Determination. Data File Integrator has three main components:

- **User Interface:** Provides user access to a rich set of functions to configure, test, and save .csv file templates.
- **File Processor:** A process that constantly scans a set of defined directories for input files submitted for processing. When the appropriate files are found, Data File Integrator sends the data file through the applicable Determination web service. The results are returned to file structure in a .csv file for later pickup and optional processing by your source system.
- **Notification Network:** Allows for e-mail notifications based on the result of the processed job.

RESOURCES

Several resources help you become familiar with ONESOURCE Indirect Tax Data File Integrator and master its features. Help is installed with the application. All documents are posted on the [Knowledge Base](#). To locate documents specific to your application, enter the search term "Data File Integrator documentation."

Data File Integrator Resources	
Resource	Description
Help	This Help system gives assistance within Data File Integrator. Use Help after Data File Integrator is installed and configured.
Installation Guide	This guide is intended for technical users and contains complete details about how to install and configure Data File Integrator.
Platform Support Guide	This guide describes the combinations of operating systems, databases, and application servers on which Data File Integrator operates.
Product Support Lifecycle Guide	This guide lists the end-of-life dates for products in the ONESOURCE Indirect Tax Suite.

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

ONESOURCE Resources	
Resource	Description
Software Support Network https://www.onesourceidtsupport.com/	Search for answers in the Knowledge Base, enter product support tickets, and track support ticket history for you and your organization.
Customer Center https://customercenter.sabrix.com/	Download ONESOURCE Indirect Tax software.
Other ONESOURCE Indirect Tax Products and Services https://tax.thomsonreuters.com/products/brands/onesource/indirect-tax/	Browse descriptions of other ONESOURCE Indirect Tax products and services.
Documentation Feedback onesource.indirect.tax.fb@thomsonreuters.com	Send feedback about ONESOURCE Indirect Tax documentation.

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

CAPITALIZED 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 Data File Integrator 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.
d. */
2  /* Be cautious if you copy lines from the code snippets—
   the line numbers are included! */
```

PREREQUISITES

Data File Integrator requires one or both of the following ONESOURCE applications:

- Determination
- Certificate Manager

Determination is required for user authentication. You must have an instance of Determination installed and running to configure and use Data File Integrator.

If you want to use Data File Integrator to manage Certificate Manager data, you must have an instance of Certificate Manager installed and running.

Review System Requirements	7
Gather Administrative Information	8
Download the Software	9
Set Java Home	9
Configure Determination User	9

REVIEW SYSTEM REQUIREMENTS

ONESOURCE Data File Integrator has detailed requirements for the following:

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

To confirm you are using supported components, review the *Platform Support Guide* and the *Product Support Lifecycle Guide* listed in [Resources \(page 1\)](#).

GATHER ADMINISTRATIVE INFORMATION

Before installing Data File Integrator, record your administrative information below:

Type	Where to Find	Your Values
Customer Center credentials	Thomson Reuters Customer Support	
Server name for your Data File Integrator database	Your DBA	
Port number for your Data File Integrator database	Your DBA	
Service or instance name for your Data File Integrator database	Your DBA	
Administrative credentials for your Data File Integrator database	Your DBA	
Server name for your Determination database	Your DBA	
Port number for your Determination database	Your DBA	
Service or instance name for your Determination database	Your DBA	
Tax user credentials for your Determination database	Your DBA	
Server name and port for your Data File Integrator application server or web container	Your application server administrator	
Determination URL	Your Determination administrator	
Certificate Manager URL	Your Certificate Manager administrator	

DOWNLOAD THE SOFTWARE

To download and install the software, get the *ONESOURCEIDTDataFileIntegrator_1210.zip* file from the Customer Center:

1. Open the Customer Center at <https://customercenter.sabrix.com/>.
2. Log on using the username and password provided by Customer Support.
3. Find Data File Integrator in the **Available Products** list and verify that **Installed Version** is set to **None**.
4. Click **Download** for Data File Integrator.
5. Save the file.
6. Unzip the *ONESOURCEIDTDataFileIntegrator_1210.zip* file.

SET JAVA HOME

Ensure that you have a *JAVA_HOME* variable pointing to your Java installation directory.

CONFIGURE DETERMINATION USER

You need a Determination user with the **Source System** role to log on to and configure Data File Integrator. Create or update this user now, and you will use it after Data File Integrator is installed in [Set System Configuration Parameters \(page 81\)](#).

Assign the Source System Role

1. In Determination, go to **Menu > System > Users**, and then click on the user you want to update.
2. Click the **Roles** tab.
3. Click **Actions > Attach Role**.

4. Complete the fields listed in the table below:

User Roles	
Field	Description
Role	Select the role Source System .
Company	Select the company to which the role applies. NOTE: Any company selection enables your user to log on to and configure Data File Integrator.
Start Date	Enter the date the role becomes active. Use the format MM/DD/YYYY, for example, 10/21/2015.
End Date	Enter the date the role becomes inactive (optional). Use the format MM/DD/YYYY, for example, 10/21/2015.
Is Cascading	Select if you want this user's role to apply to all child companies.

5. Click **Submit**.

CONFIGURE YOUR DATABASE

Complete the steps for your database vendor below.

- [Oracle RDBMS \(page 11\)](#)
- [Microsoft SQL Server \(page 12\)](#)
- [IBM DB2 \(page 13\)](#)

ORACLE RDBMS

Set the Database Initialization Parameters

Ensure that your database has appropriate initialization parameters before you start the Data File Integrator installation. Contact Oracle if you need assistance setting these parameters in your environment.

Set the Database Character Set

Configure the database to use a UTF8-compatible database character set. Optimize the handling of multi-byte characters by using the national character set AL16UTF16 (default). You must either install or upgrade the database to meet these requirements.

Get the JDBC Driver

Locate an Oracle JDBC driver based on the Java version required by your application server or web container. Make a note of the directory path and file name because you will need it later in the installation.



JDBC drivers are usually packaged with the database or database client software. See [Oracle](#) for information about compatibility.

Create the Database Objects

1. In the folder where you unzipped the Data File Integrator, browse to *Docs/database-creation-scripts/oracle*.
2. Run the script *OracleSetup.sql*, answering the prompts according to your environment.



Some prompts have default values, indicated in brackets. For example, in the string **Enter the name of the Data File Integrator database to be created. [SBXDFI]**, the default value is **SBXDFI**. Press ENTER to accept the defaults or enter a different value.

MICROSOFT SQL SERVER

Get the JDBC Driver

1. Open a browser and go to the [Microsoft](#) web site.
2. In the search field, enter **Microsoft SQL Server JDBC Driver 4.0**.
3. Select the article containing the JDBC download.
4. Click **Download**.
5. Save the file to a temporary location on your hard drive.
6. Run the installation executable you downloaded to extract a copy of *sqljdbc4.jar*.
7. Make a note of the location of *sqljdbc4.jar* because you will use this later during the installation.

Create the Database Objects

1. In the folder where you unzipped the Data File Integrator, browse to *Docs/database-creation-scripts/sql-server*.
2. Run the batch file *CreateSqlServerUserAndDatabase.bat*, answering the prompts according to your environment.



Some prompts have default values, indicated in brackets. For example, in the string **Enter the name of the Data File Integrator database to be created. [SBXDFI]**, the default value is **SBXDFI**. Press ENTER to accept the defaults or enter a different value.

IBM DB2

Create the Database Objects

1. In the folder where you unzipped the Data File Integrator, browse to *Docs/database-creation-scripts/db2*.
2. As your DB2 admin user, run the following scripts in the order listed, answering the prompts according to your environment:
 1. *createDb2Database.sh*
 2. *createDb2Tablespace.sh*
 3. *assignDb2Users.sh*



Some prompts have default values, indicated in brackets. For example, in the string **Enter the name of the Data File Integrator database to be created. [SBXDFI]**, the default value is **SBXDFI**. Press ENTER to accept the defaults or enter a different value.

3. Restart DB2.

DEPLOY DATA FILE INTEGRATOR

Complete the steps for your application server vendor below.

- [Configure Apache Tomcat \(page 15\)](#)
- [Configure JBoss \(page 21\)](#)
- [Configure Oracle WebLogic \(page 37\)](#)
- [Configure IBM WebSphere \(page 55\)](#)

CONFIGURE APACHE TOMCAT

When Tomcat is installed and ready for Data File Integrator configuration, complete the following:

Create Data Sources for Tomcat	15
Set Java Options for Tomcat	19
Deploy the Application in Tomcat	20

CREATE DATA SOURCES FOR TOMCAT

Copy from the Data Source Template

1. Go to the following directory where you unzipped the Data File Integrator software:

Docs/application-server-files/tomcat/datasource-files

2. Open the template file *data-file-integrator.xml* in a text editor.

3. Copy the snippets for the Data File Integrator data source and Determination tax data source, which is everything between and not including the `<Context></Context>` elements.

```
1 <Resource name="jdbc/DataFileIntegratorDataSource"
2   auth="Container"
3   type="javax.sql.DataSource"
4   username="datafileintegrator"
5   password="datafileintegrator"
6   driverClassName="oracle.jdbc.driver.OracleDriver"
7   url="jdbc:oracle:thin:@localhost:1521:orcl"
8   validationQuery="select user from dual"
9   maxActive="10"
10  maxIdle="4"/>
11
12 <Resource name="jdbc/TaxDataSource"
13   auth="Container"
14   type="javax.sql.DataSource"
15   username="determination"
16   password="determination"
17   driverClassName="oracle.jdbc.driver.OracleDriver"
18   url="jdbc:oracle:thin:@localhost:1521:orcl"
19   validationQuery="select user from dual"
20   maxActive="10"
21   maxIdle="4"/>
```

4. Go to `<TomcatHome>/conf` and open `server.xml` for editing.
5. Paste the text from the snippet you copied above inside the `<GlobalNamingResources><GlobalNamingResources>` elements.
6. Remain in `server.xml`, and follow the steps in the next section.

Edit the Data File Integrator Data Source

1. Find the section in *server.xml* that starts with **<Resource name="jdbc/DataFileIntegratorDataSource">**.
2. Change the values inside the **<Resource>** element that correspond to the elements in the table below.

Data File Integrator Data Source (jdbc/DataFileIntegratorDataSource)	
Element	Description
<code>username="datafileintegrator"</code>	Replace datafileintegrator with the Data File Integrator database user name (for example, SBXDFI).
<code>password="datafileintegrator"</code>	Replace datafileintegrator with the Data File Integrator database user password (for example, SBXDFI).
<code>driverClassName="oracle.jdbc.driver.OracleDriver"</code>	If you are using Oracle RDBMS, use the value included in the file. If you are using Microsoft SQL Server, replace oracle.jdbc.driver.OracleDriver with com.microsoft.sqlserver.jdbc.SQLServerDriver .
<code>url="jdbc:oracle:thin:@host:port:service"</code>	If you are using Oracle RDBMS, use the value included in the file. If you are using Microsoft SQL Server, replace jdbc:oracle:thin with jdbc:sqlserver .
<code>url="jdbc:oracle:thin:@host:port:service"</code>	Replace the following with values for your installation: <ul style="list-style-type: none">host: The name of the system hosting the Data File Integrator database.port: The Data File Integrator database port.service: The name of your Oracle service or SQL Server database name.
<code>validationQuery="select user from dual"</code>	If you are using Oracle RDBMS, use the value included in the file. If you are using Microsoft SQL Server, replace select user from dual with select 1 .

3. Save the file.
4. Remain in *server.xml*, and follow the steps in the next section.

Edit the Determination Tax Data Source

1. Find the section in *server.xml* that starts with **<Resource name="jdbc/TaxDataSource">**.
2. Change the values inside the **<Resource>** element that correspond to the elements in the table below.

Determination Tax Data Source (jdbc/TaxDataSource)	
Element	Description
username=" sbxtax "	Replace sbxtax with the Determination tax database user name (for example, sbxtax).
password=" sbxtax "	Replace sbxtax with the Determination tax database user password (for example, sbxtax).
driverClassName=" oracle.jdbc.driver.OracleDriver "	If you are using Oracle RDBMS, use the value included in the file. If you are using Microsoft SQL Server, replace oracle.jdbc.driver.OracleDriver with com.microsoft.sqlserver.jdbc.SQLServerDriver .
url=" jdbc:oracle:thin:@host:port:service "	If you are using Oracle RDBMS, use the value included in the file. If you are using Microsoft SQL Server, replace jdbc:oracle:thin with jdbc:sqlserver .
url=" jdbc:oracle:thin:@host:port:service "	Replace the following with values for your installation: <ul style="list-style-type: none"> host: The name of the system hosting the Determination database. port: The Determination database port. service: The name of your Oracle service or SQL Server database name.
validationQuery=" select user from dual "	If you are using Oracle RDBMS, use the value included in the file. If you are using Microsoft SQL Server, replace select user from dual with select 1 .

3. Save and close the file.

SET JAVA OPTIONS FOR TOMCAT

Set Java options for Data File Integrator by creating or editing a setenv file for your operating system:

- Microsoft Windows: <TomcatHome>/bin/setenv.bat
- Unix/Linux: <TomcatHome>/bin/setenv.sh

Use the values in the table as a guide, and see the example below.



If you already have a setenv file in your Tomcat directory, replace values for pre-existing Java options and add new options and their values for those that are not already in the file.

Java Option	Value
-Xms	256m
-Xmx	512m
-XX:MaxPermSize	256m
-Dcom.sun.management.jmxremote	True
-Dcom.sun.management.jmxremote.ssl	False
-Dcom.sun.management.jmxremote.authenticate	True
-DIs.tomcat	True
-Djava.rmi.server.hostname	<Your Server Host Name or IP Address>
-Dcom.sun.management.jmxremote.password.file	../conf/jmxremote.password
-Dcom.sun.management.jmxremote.access.file	../conf/jmxremote.access
-Dlogback.configurationFile	../conf/logback.xml

```
1  set JAVA_OPTS=-Xms256m -Xmx512m -XX:MaxPermSize=256m ^
2  -Dcom.sun.management.jmxremote=true ^
3  -Dcom.sun.management.jmxremote.ssl=false ^
4  -Dcom.sun.management.jmxremote.authenticate=true ^
5  -Djava.rmi.server.hostname=pdxsasdv102.corp.ositax.com ^
6  -Dcom.sun.management.jmxremote.password.file=..\conf\jmxre
7  mote.password ^
8  -Dcom.sun.management.jmxremote.access.file=..\conf\jmxremo
9  te.access ^
-Dlogback.configurationFile=..\conf\logback.xml ^
-Dis.tomcat=true
```

DEPLOY THE APPLICATION IN TOMCAT

To deploy Data File Integrator:

1. Go to the *Docs/application-server-files/tomcat/* directory where you unzipped the Data File Integrator software.
2. Copy *jmxremote.access* and *jmxremote.password*, and then paste them into *<TomcatHome>/conf*.
3. Go to the *Docs/application-server-files/* directory where you unzipped the Data File Integrator software.
4. Copy *logback.xml*, and then paste it into *<TomcatHome>/conf*.
5. Copy the JDBC driver that you located in [Configure Your Database \(page 11\)](#) into the *<TomcatHome>/lib* directory.
6. Start Tomcat by executing *startup.sh* or *startup.bat*.
7. Go to the *WarFiles* directory where you unzipped the Data File Integrator software.
8. Copy *dfi-installer.war*, and then paste it into *<TomcatHome>/webapps*.
9. Open a browser, and check the status at the installation URL:
<http://<host>:<port>/dfi-installer>. The initial installation may take a few minutes and is finished when you see the notification **installer ok** in the browser window.

10. Return to the *WarFiles* directory where you unzipped the Data File Integrator software, and copy the following files:
 - *data-file-integrator.war*
 - *file-watcher-app.war*
 - *job-consumer-app.war*
11. Insert these additional .war files into <TomcatHome>/webapps.
12. Test your deployment by opening the **Login** page in a browser (<http://<host>:<port>/data-file-integrator>).
13. To continue the installation, go to [Configure Data File Integrator \(page 81\)](#).

CONFIGURE JBOSS

When JBoss is installed and ready for Data File Integrator configuration, complete the following:

Set Environment Variables for JBoss	21
Create Data Sources for JBoss	22
Set Memory Options for JBoss	32
Enable Logging for JBoss	33
Deploy the Application in JBoss	36

SET ENVIRONMENT VARIABLES FOR JBOSS

Create these JBoss environment variables and point them to the top level of your JBoss Enterprise directory structure (for example, */jboss-eap-6.3*):

- *JBOSS_HOME*
- *EAP_HOME*



Do not include a trailing slash.

CREATE DATA SOURCES FOR JBOSS

To create a JBoss data source, follow the instructions for your vendor:

- [Create Oracle Data Sources for JBoss](#)
- [Create SQL Data Sources for JBoss](#)

Create Oracle Data Sources for JBoss

Copy from the Data Source Templates

Use the data source snippets from the Data File Integrator .zip file:

1. Go to the following directory where you unzipped the Data File Integrator software:

Docs/application-server-files/jboss

2. Open the template file *data-file-integrator-ds-Oracle-JBoss.xml* in a text editor, and then locate the two template snippets for the Oracle database:

- Data File Integrator data source for Oracle 11g and 12c databases
- Tax data source for Oracle 11g and 12c databases

3. Copy the snippet for the Data File Integrator data source without the preceding and following comments (<!--...-->):

```
1  <xa-datasource jndi-name="java:/jdbc/DataFileIntegrator
rDataSource" pool-name="DataFileIntegratorDataSource"
enabled="true" use-java-context="true">
2    <xa-datasource-property name="URL">jdbc:oracle:thin
:@host:port:service</xa-datasource-property>
3    <xa-datasource-class>oracle.jdbc.xa.client.OracleXA
DataSource</xa-datasource-class>
4    <driver>ojdbc7.jar</driver>
5    <xa-pool>
```

```

6      <min-pool-size>1</min-pool-size>
7      <max-pool-size>100</max-pool-size>
8      <is-same-rm-override>false</is-same-rm-override>
9      <no-tx-separate-pools>false</no-tx-separate-pool
10     s>
11     </xa-pool>
12     <timeout>
13         <idle-timeout-minutes>1</idle-timeout-minutes>
14     </timeout>
15     <security>
16         <user-name>user name</user-name>
17         <password>password</password>
18     </security>
19   </xa-datasource>

```

4. Insert the Data File Integrator data source snippet into *standalone.xml* between the existing `<datasource>` `</datasource>` elements.
5. Return to *data-file-integrator-ds.xml*, and copy the snippet for the Determination tax data source without the preceding and following comments (`<!---->`):

```

1   <xa-datasource jndi-name="java:/jdbc/TaxDataSource" po
2   ol-name="TaxDataSourceDS" enabled="true" use-java-cont
3   ext="true">
4       <xa-datasource-property name="URL">jdbc:oracle:thin
5           :@host:port:service</xa-datasource-property>
6       <xa-datasource-class>oracle.jdbc.xa.client.OracleXA
7           DataSource</xa-datasource-class>
8       <driver>ojdbc7.jar</driver>
9       <xa-pool>
10          <min-pool-size>1</min-pool-size>
11          <max-pool-size>100</max-pool-size>
12          <is-same-rm-override>false</is-same-rm-override>
13          <no-tx-separate-pools>false</no-tx-separate-pool
14          s>
15      </xa-pool>
16      <timeout>
17          <idle-timeout-minutes>1</idle-timeout-minutes>

```

```
13    </timeout>
14    <security>
15        <user-name>user name</user-name>
16        <password>password</password>
17    </security>
18    <validation>
19        <valid-connection-checker class-name="org.jboss.jca
. adapters.jdbc.extensions.oracle.OracleValidConnect
ionChecker"/>
20        <stale-connection-checker class-name="org.jboss.jca
. adapters.jdbc.extensions.oracle.OracleStaleConnect
ionChecker"/>
21        <exception-sorter class-name="org.jboss.jca.adapter
s.jdbc.extensions.oracle.OracleExceptionSorter"/>
22    </validation>
23    <statement>
24        <track-statements>true</track-statements>
25    </statement>
26 </xa-datasource>
```

6. Insert the Determination tax data source snippet into *standalone.xml* below the Data File Integrator data source inside the `<datasource> </datasource>` elements.
7. Go to the next section for instructions about editing the data source values so they are appropriate for your environment.

Edit the Data File Integrator Data Source

Continue in *standalone.xml* by editing the new data source snippet containing **jdbc/DataFileIntegratorDataSource**:

1. Change the values in the snippet that correspond to the elements in the table below.

jdbc/DataFileIntegratorDataSource	
Element	Description
<connection-url>jdbc:oracle:thin:@ host:port:service </connection-url>	Replace the following with values for your implementation: <ul style="list-style-type: none">• host: The name of the system hosting the Data File Integrator database.• port: The Data File Integrator database port; the default is 1521.• service: The name of your Oracle service.
<driver> jdbc </driver>	Replace jdbc with the name of the JDBC driver (for example, <i>ojdbc7.jar</i>).
<user-name> user name </user-name>	Replace user name with the user name of the Data File Integrator schema (for example, SBXDFI).
<password> password </password>	Replace password with the password of the Data File Integrator schema (for example, SBXDFI).

2. Save *standalone.xml*, and remain in the file to complete additional edits in the next section.

Edit the Determination Tax Data Source

In *standalone.xml*, edit the new data source snippet containing **jdbc/TaxDataSource**:

1. Change the values in the snippet that correspond to the elements in the table below.

jdbc/TaxDataSource	
Element	Description
<connection-url>jdbc:oracle:thin:@ host:port:service </connection-url>	Replace the following with values for your implementation: <ul style="list-style-type: none"> • host: The name of the system hosting the database for Determination. • port: The Determination database port; the default is 1521. • service: The name of your Oracle service.
<driver> jdbc </driver>	Replace jdbc with the name of the JDBC driver (for example, <i>ojdbc7.jar</i>).
<user-name> user name </user-name>	Replace user name with the user name of the Determination Tax schema (for example, SBXTAX).
<password> password </password>	Replace password with the password of the Determination Tax schema (for example, SBXTAX).

2. Save *standalone.xml*, and remain in the file to complete additional edits in the next section.

Create SQL Server Data Sources for JBoss

Copy from the Data Source Templates

The following steps guide you through the copying of data source snippets:

1. Locate the JBoss file *standalone.xml* under *JBOSS_HOME/standalone/configuration*, and then open it in a text editor.

2. Go to the following directory where you unzipped the Data File Integrator software:

Docs/application-server-files/jboss

3. Open the template file *data-file-integrator-ds-Mssql-JBoss.xml* in a text editor, and then locate the two template snippets for the Microsoft SQL Server database:

- Data File Integrator data source for MSSQL databases
- Tax data source for MSSQL databases

4. Copy the snippet for the Data File Integrator data source without the preceding and following comments (<!--...-->):

```
1 <datasource jndi-name="java:/jdbc/DataFileIntegratorDa
  taSource" pool-name="DataFileIntegratorDataSource" ena
  bled="true" use-java-context="true">
2   <connection-url>jdbc:sqlserver://host:port;database
  name=databasename;</connection-url>
3   <driver-class>com.microsoft.sqlserver.jdbc.SQLServer
  rDriver</driver-class>
4   <connection-property name="schema">schema</connecti
  on-property>
5   <driver>sqljdbc4.jar</driver>
6   <security>
7     <user-name>user name</user-name>
8     <password>password</password>
9   </security>
10  <validation>
```

```

11      <valid-connection-checker class-name="org.jboss.r
  esource.adapter.jdbc.vendor.OracleValidConnection
  Checker"/>
12      <exception-sorter class-name="org.jboss.resource.
  adapter.jdbc.vendor.OracleExceptionSorter"/>
13  </validation>
14 </datasource>

```

5. Insert the Data File Integrator data source snippet into *standalone.xml* between the existing `<datasource>` `</datasource>` elements.
6. Copy the snippet for the Determination tax data source without the preceding and following comments (`<!--...-->`):

```

1 <xa-datasource jndi-name="java:/jdbc/TaxDataSource" po
  ol-name="TaxDataSourceDS" enabled="true" use-java-cont
  ext="true">
2   <xa-datasource-property name="ServerName">server</x
  a-datasource-property>
3   <xa-datasource-property name="PortNumber">port</xa-
  datasource-property>
4   <xa-datasource-property name="User">user name</xa-d
  atasource-property>
5   <xa-datasource-property name="Password">password</x
  a-datasource-property>
6   <xa-datasource-class>com.microsoft.sqlserver.jdbc.S
  QLServerXADataSource</xa-datasource-class>
7   <driver>sqljdbc4.jar</driver>
8   <xa-pool>
9     <min-pool-size>16</min-pool-size>
10    <max-pool-size>64</max-pool-size>
11    <is-same-rm-override>false</is-same-rm-override>
12    <no-tx-separate-pools>true</no-tx-separate-pools>
13  </xa-pool>
14  <validation>
15

```

```
15      ca.adapters.jdbc.extensions.mssql.MSSQLValidConne
16      ctionChecker"/>
17  </validation>
18  </xa-datasource>
```

7. Insert the Determination tax data source snippet into *standalone.xml* below the Data File Integrator data source inside the `<datasource> </datasource>` elements.
8. Go to the next section for instructions about editing the data source values so they are appropriate for your environment.

Edit the Data File Integrator Data Source

Continue in *standalone.xml* by editing the new data source snippet containing **jdbc/DataFileIntegratorDataSource**:

1. Change the values in the snippet that correspond to the elements in the table below.

jdbc/DataFileIntegratorDataSource	
Element	Description
<code><connection-url>jdbc:sqlserver:// host:port;databaseName=database name;</connection-url></code>	Replace the following with values for your implementation: <ul style="list-style-type: none">• host: The name of the system hosting the database for Data File Integrator.• port: The Data File Integrator database port (default 1433).• database name: The name of the Data File Integrator database.
<code><user-name>user name</user-name></code>	Replace user name with the Data File Integrator database user name (for example, SBXDFI).
<code><password>password</password></code>	Replace password with the Data File Integrator database user password (for example, SBXDFI).

2. Save *standalone.xml*, and remain in the file to complete additional edits in the next section.

Edit the Determination Tax Data Source

In *standalone.xml*, edit the new data source snippet containing **jdbc/TaxDataSource**:



This data source points to the Determination--not the Data File Integrator--database.

1. Change the values in the snippet that correspond to the elements in the table below.

jdbc/TaxDataSource	
Element	Description
<connection-url>jdbc:sqlserver:// host:port ;databasename= database name </connection-url>	Replace the following with values for your implementation: <ul style="list-style-type: none">• host: The name of the system hosting the database for Determination.• port: The Determination database port (default 1433).• database name: The name of the Determination database.
<user-name> user name </user-name>	Replace user name with the user name of the Determination Tax schema (for example, SBXTAX).
<password> password </password>	Replace password with the password of the Determination Tax schema (for example, SBXTAX).

2. Save *standalone.xml*, and remain in the file to complete additional edits in the next section.

SET MEMORY OPTIONS FOR JBOSS

Set memory and log parameters for Data File Integrator by editing the JBoss file for your operating system:

- Microsoft Windows: *JBOSS_HOME/bin/standalone.conf.bat*
- Unix/Linux: *JBOSS_HOME/bin/standalone.conf*

Use the values in the table as a guide, and see the examples for Unix/Linux and Microsoft Windows below.

Java Option	Value	Description
-Xms	256	This is the recommended starting memory allocation in megabytes. Increase this value if your loads require more memory.
-Xmx	512	This is the recommended maximum memory allocation in megabytes. Increase this value if your loads require more memory.

Unix/Linux



The examples below span multiple lines to fit on the page. Ensure your updated entries remain on a single line.

In *standalone.conf*, find the original line containing **JAVA_OPTS=**, and then update the line with the values from the table above:

- Original

```
1  JAVA_OPTS="-Xms1303m -Xmx1303m -XX:MaxPermSize=256m -Djava.net.preferIPv4Stack=true"
```

- Updated

```
1  JAVA_OPTS="-Xms256m -Xmx512m -XX:MaxPermSize=256m -Djava.net.preferIPv4Stack=true"
```

Windows



The examples below span multiple lines to fit on the page. Ensure your updated entries remain on a single line.

In *standalone.conf.bat*, find the original line containing **JAVA_OPTS=**, and then update the line with the values from the table above:

- Original

```
1 set "JAVA_OPTS=-Xms1G -Xmx1G -XX:MaxPermSize=256m"
```

- Updated

```
1 set "JAVA_OPTS=-Xms256m -Xmx512m -XX:MaxPermSize=256m  
-Djava.net.preferIPv4Stack=true"
```

ENABLE LOGGING FOR JBOSS

Insert Supporting Files

1. Create the following directory path in JBoss:

JBOSS_HOME/modules/system/layers/base/ch/qos/logback/main/

2. Go to the following directory where you unzipped the Data File Integrator software:

Docs/application-server-files/jboss/logback/main/

3. Copy *module.xml*, *logback-classic-1.1.2.jar*, and *logback-core-1.1.2.jar*.

4. Paste all three files into your new JBoss directory (*JBOSS_HOME/modules/system/layers/base/ch/qos/logback/main/*).

5. Go to the following directory where you unzipped the Data File Integrator software:

Docs/application-server-files/

6. Copy *logback.xml*.

7. Paste *logback.xml* into the following directories:

- Your new JBoss directory (*JBOSS_HOME/modules/system/layers/base/ch/qos/logback/main/*)
- *JBOSS_HOME/standalone/configuration/*

Add Dependencies

1. Go to the following directory in JBoss:

JBOSS_HOME/modules/system/layers/base/org/jboss/logging/main/

2. Open *modules.xml* for editing.

3. Replace the <dependencies> block with the following:

```
1 <dependencies>
2   <module name="org.slf4j"/>
3   <module name="ch.qos.logback"/>
4 </dependencies>
```

4. Save and close the file.

5. Change to the following directory:

JBOSS_HOME/modules/system/layers/base/org/slf4j/main/

6. Open *modules.xml* for editing.

7. Replace the <dependencies> block with the following:

```
1 <dependencies>
2   <module name="ch.qos.logback"/>
3 </dependencies>
```

8. Save and close the file.

Edit the Standalone XML File

1. In *JBOSS_HOME/standalone/configuration/*, open *standalone.xml* for editing.
2. Find the extensions closing tag: **</extensions>**.
3. Insert the following snippet below the extensions closing tag:

```
1  <system-properties>
2  <property name="org.jboss.logging.provider" value="slf
4j" />
3  </system-properties>
```

4. Save and close the file.

Edit the Standalone Startup File

1. In *JBOSS_HOME/bin/*, open *standalone.bat* or *standalone.sh* for editing.
2. Find the **SERVER_OPTS** section, and then insert the following argument, **-Dlogback.configurationFile="..../standalone/configuration/logback.xml** (see the example below for your operating system).

Microsoft Windows

- Original

```
1 set SERVER_OPTS=%*
```

- Updated (include double quotes as shown below)

```
1 set "SERVER_OPTS=-Dlogback.configurationFile=..../standalone/configuration/logback.xml"
```

Unix/Linux

- Original

```
1 SERVER_OPTS=""
```

- Updated

```
1 SERVER_OPTS="-Dlogback.configurationFile=..../standalone/configuration/logback.xml"
```

3. Save and close the file.

DEPLOY THE APPLICATION IN JBOSS

To deploy Data File Integrator, complete the following:

1. Copy the jdbc driver you located in [Configure Your Database \(page 11\)](#), and then paste it into *JBOSS_HOME/standalone/deployments*.
2. Start JBoss by executing *standalone.sh* or *standalone.bat*.

3. Go to the *WarFiles* directory where you unzipped the Data File Integrator software.
4. Copy *installer.war*, and then paste it into *JBOSS_HOME/standalone/deployments*.
5. Open a browser, and check the status at the installation URL:
`http://<host>:<port>/dfi-installer`. The initial installation may take a few minutes and is finished when you see the notification **installer ok** in the browser window.
6. Return to the *WarFiles* directory where you unzipped the Data File Integrator software, and then copy the following files:
 - *data-file-integrator.war*
 - *file-watcher-app.war*
 - *job-consumer-app.war*
7. Insert these additional .war files into *JBOSS_HOME/standalone/deployments/*, and then wait until you see *.deployed files for each .war file in the directory.
8. Test your deployment by opening the **Login** page in a browser
(`http://<host>:<port>/data-file-integrator`).
9. To continue the installation, go to [Configure Data File Integrator \(page 81\)](#).

CONFIGURE ORACLE WEBLOGIC

When WebLogic is installed and ready for Data File Integrator configuration, complete the following:

Create Data Sources for Oracle WebLogic	37
Deploy on Oracle WebLogic	49

CREATE DATA SOURCES FOR ORACLE WEBLOGIC

Configure a Data File Integrator data source

1. In the left pane, click **Services > JDBC > Data Sources**.

2. In the body of the window, click **New**, and then select a **Generic Data Source**.
3. Using the table as a guide, in the **JDBC Data Source Properties** window, enter the Data File Integrator data source properties, and then click **Next**.

Prompt	Value
Name	DataFileIntegrator
JNDI Name	jdbc.DataFileIntegrator
Database Type	Oracle

Create a New JDBC Data Source

JDBC Data Source Properties

The following properties will be used to identify your new JDBC data source.
* Indicates required fields

What would you like to name your new JDBC data source?

 * **Name:**

What JNDI name would you like to assign to your new JDBC Data Source?

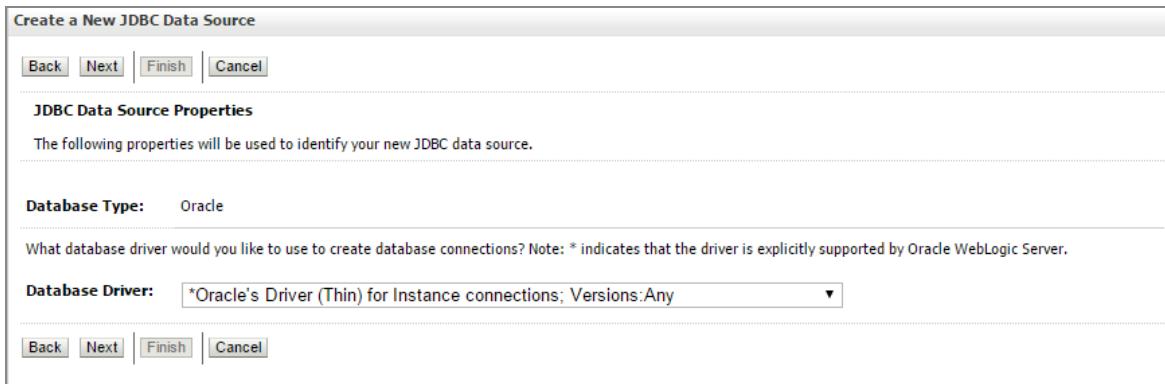
 **JNDI Name:**

What database type would you like to select?

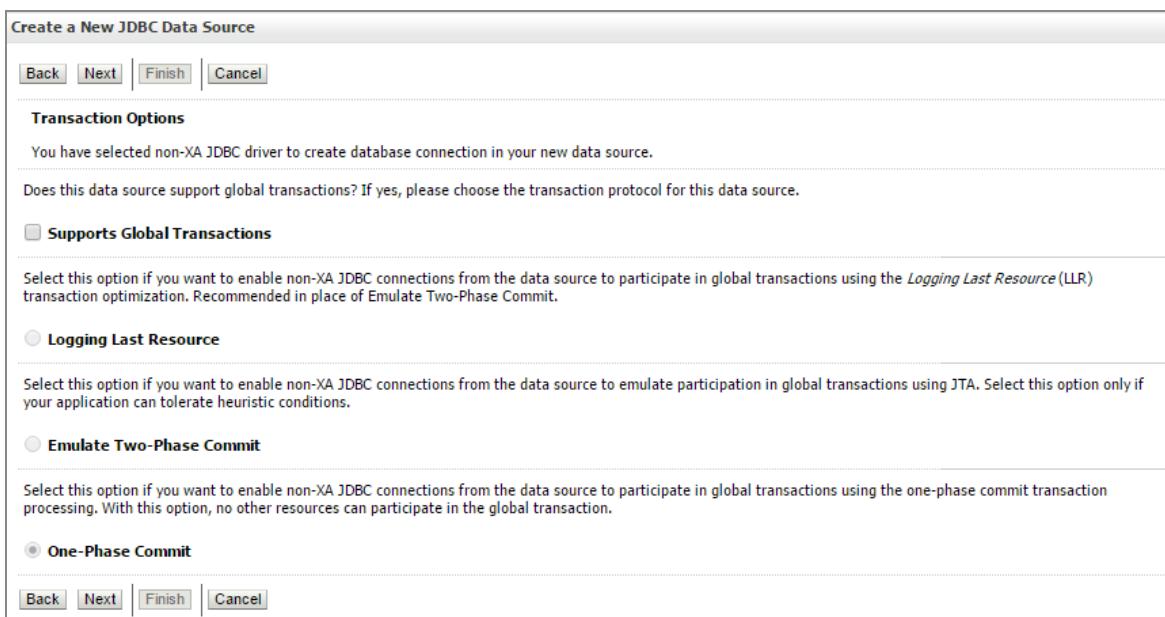
Database Type: ▾

Back **Next** **Finish** **Cancel**

4. In the second **JDBC Data Source Properties** window, click **Database Driver**, select **Oracle's Driver (Thin) for Instance connections; Versions:Any**, and then click **Next**.



5. In the **Transaction Options** window, click **Next**.



6. Using the table as a guide, in the **Connection Properties** window, enter the connection properties for your environment, and then click **Next**.

Prompt	Value
Database Name	User name for the Data File Integrator database user. NOTE: If you accepted the defaults in the database creation script, this is SBXDFI .
Host Name	Name of the new database host.
Port	Port number.
Database User Name	If you accepted the defaults in the database script, name of Data File Integrator database user associated with Determination.
Password & Confirm Password	Password for the Data File Integrator database user. NOTE: If you accepted the defaults in the database creation script, this is SBXDFI .

Create a New JDBC Data Source

Back **Next** **Finish** **Cancel**

Connection Properties

Define Connection Properties.

What is the name of the database you would like to connect to?

Database Name:

What is the name or IP address of the database server?

Host Name:

What is the port on the database server used to connect to the database?

Port:

What database account user name do you want to use to create database connections?

7. In the **Test Database Connection** window, enter the connection properties for your environment, and then click **Next**.

Create a New JDBC Data Source

Test Configuration | **Back** | **Next** | **Finish** | **Cancel**

Test Database Connection

Test the database availability and the connection properties you provided.

What is the full package name of JDBC driver class used to create database connections in the connection pool?

(Note that this driver class must be in the classpath of any server to which it is deployed.)

Driver Class Name:

What is the URL of the database to connect to? The format of the URL varies by JDBC driver.

URL:

What database account user name do you want to use to create database connections?

Database User Name:

What is the database account password to use to create database connections?

(Note: for secure password management, enter the password in the Password field instead of the Properties field below)

Password:

Confirm Password:

What are the properties to pass to the JDBC driver when creating database connections?

Properties:

8. A confirmation page appears. At the top of the page, click **Test the configuration**, and then do one of the following:
 - If the message **Connection test succeeded** appears, click **Next**.

- If the message **Connection test failed** appears, click **Back** to confirm that values in previous windows are correct.

Messages

✓ Connection test succeeded.

Create a New JDBC Data Source

Test Configuration | Back | Next | **Finish** | Cancel

Test Database Connection

Test the database availability and the connection properties you provided.

What is the full package name of JDBC driver class used to create database connections in the connection pool?

(Note that this driver class must be in the classpath of any server to which it is deployed.)

Driver Class Name: `oracle.jdbc.OracleDriver`

9. In the **Select Targets** window, select the check box for the server where you are deploying Data File Integrator, and then click **Finish**. You return to the **Summary of JDBC Data Sources** window. Remain in this window to complete the configurations in the next section.

Create a New JDBC Data Source

Back | Next | **Finish** | Cancel

Select Targets

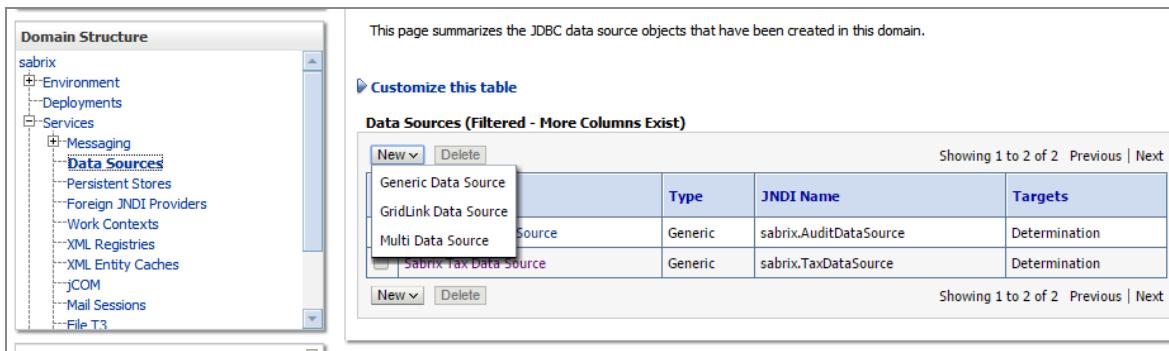
You can select one or more targets to deploy your new JDBC data source. If you don't select a target, the data source will be created but not deployed. You will need to deploy the data source at a later time.

Servers
<input type="checkbox"/> AdminServer
<input type="checkbox"/> Server

Back | Next | **Finish** | Cancel

Configure a Determination Tax Data Source

1. In the left pane, click **Services > JDBC > Data Sources**.
2. In the body of the page, click **New**, and then select a data source.



	Type	JNDI Name	Targets
Generic Data Source	Source	sabrix.AuditDataSource	Determination
Multi Data Source	Source	sabrix.TaxDataSource	Determination
sabrix Tax Data Source	Source		

3. Using the table as a guide, in the **JDBC Data Source Properties** window, enter the Determination tax data source properties, and then click **Next**.

Prompt	Value
Name	TaxDataSource
JNDI Name	jdbc.TaxDataSource
Database Type	Oracle

Create a New JDBC Data Source

JDBC Data Source Properties

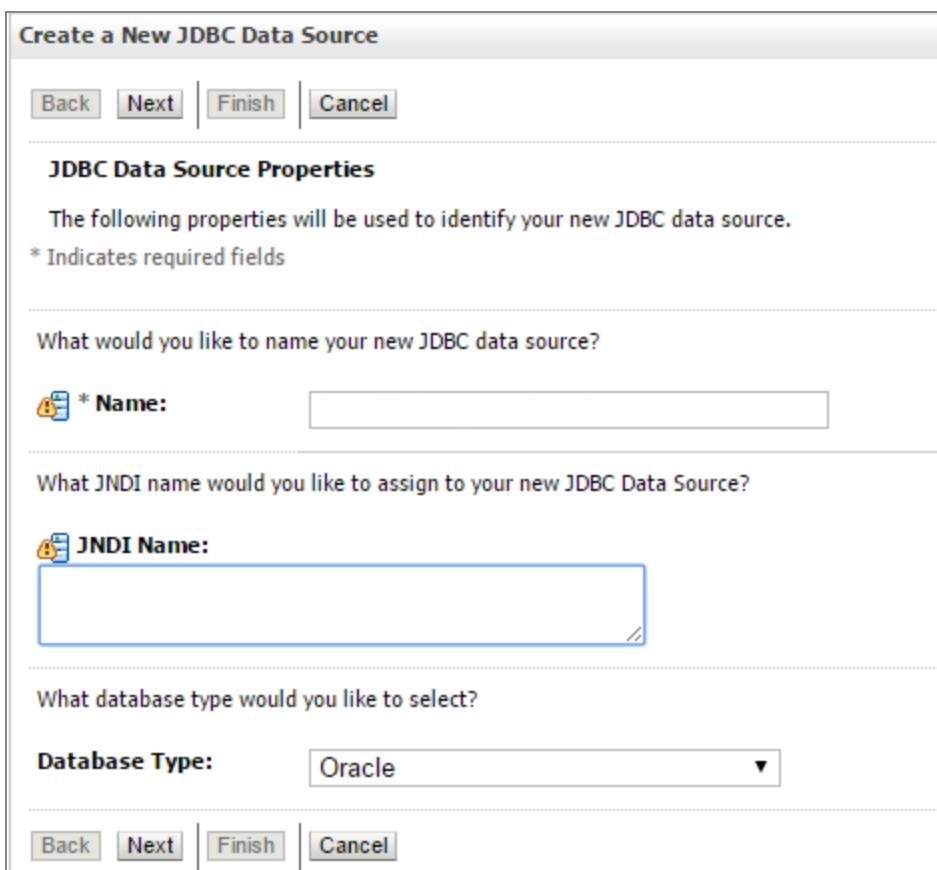
The following properties will be used to identify your new JDBC data source.
* Indicates required fields

What would you like to name your new JDBC data source?
Name:

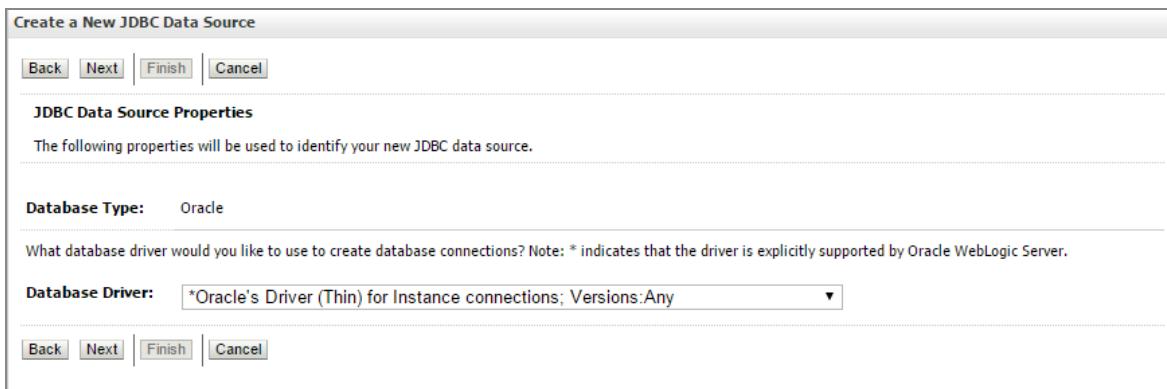
What JNDI name would you like to assign to your new JDBC Data Source?
JNDI Name:

What database type would you like to select?
Database Type:

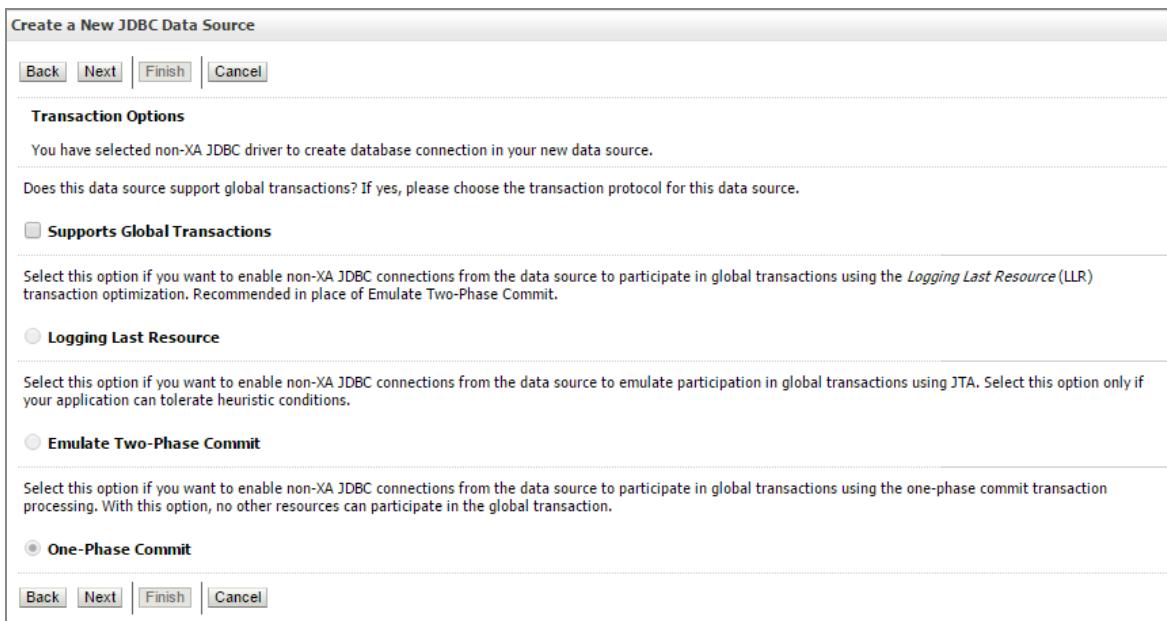
Back **Next** **Finish** **Cancel**



4. In the second **JDBC Data Source Properties** window, click **Database Driver**, select **Oracle's Driver (Thin XA) for Instance connections; Versions:Any**, and then click **Next**.



5. In the **Transaction Options** window, click **Next**.



6. Using the table as a guide, in the **Connection Properties** window, enter the connection properties for your environment, and then click **Next**.

Prompt	Value
Database Name	Oracle service name.
Host Name	Name of the new database host.
Port	Port number.
Database User Name	User name of the Determination tax schema (for example, SBXTAX).
Password and Confirm Password	Password of the Determination tax schema (for example, SBXTAX).

Create a New JDBC Data Source

Connection Properties

Define Connection Properties.

What is the name of the database you would like to connect to?

Database Name:

What is the name or IP address of the database server?

Host Name:

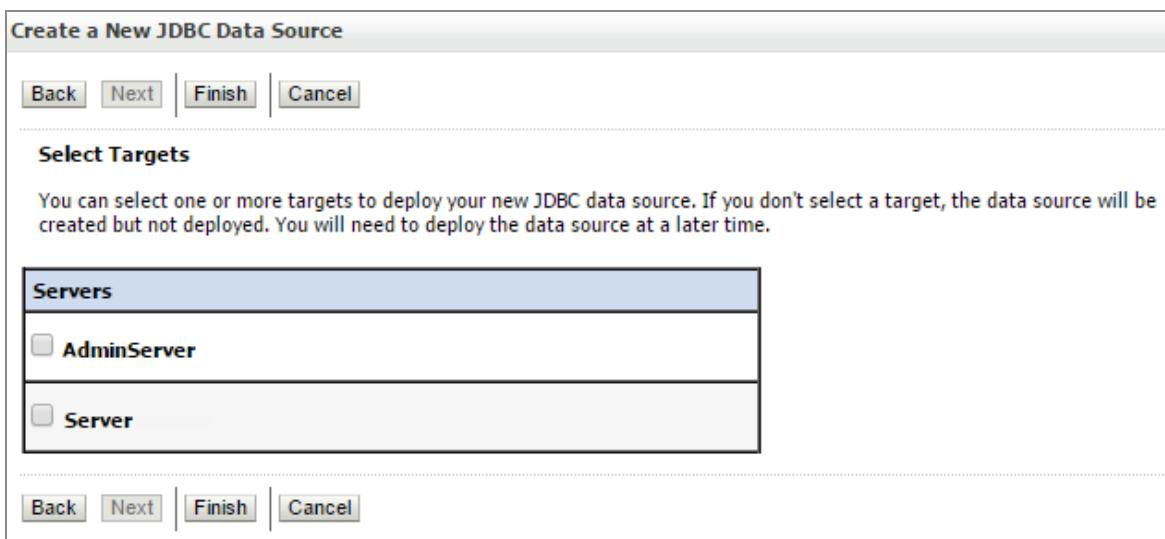
What is the port on the database server used to connect to the database?

Port:

What database account user name do you want to use to create database connections?

Back **Next** **Finish** **Cancel**

7. In the **Test Database Connection** window, enter the connection properties for your environment, and then click **Next**.
8. A confirmation page appears. At the top of the page, click **Test the configuration**, and then do one of the following:
 - If the message **Connection test succeeded** appears, click **Next**.
 - If the message **Connection test failed** appears, click **Back** to confirm that values in previous windows are correct.
9. In the **Select Targets** window, select the check box for the server where you are deploying Data File Integrator, and then click **Finish**.



DEPLOY ON ORACLE WEBLOGIC

1. Navigate to `<WebLogic Root Directory>/user_projects/domains/<Data File Integrator Installation Domain>/config`.
2. Using a text editor, open `config.xml`, and then change or add the text that is in bold.

```
1  <default-realm>myrealm</default-realm>
2  <node-manager-username>weblogic</node-manager-
username>
3  <b><enforce-valid-basic-auth-credentials>false</enforce-valid-basic-auth-
credentials>
4  </security-configuration>
```

3. Using a text editor, update or add the following system property to the Java libraries in the WebLogic start-up scripts.

-DUseSunHttpHandler=True

4. In the left pane, click **Deployments**.



5. In the body of the window, click **Install**. The **Locate deployment to install and prepare for deployment** window appears.



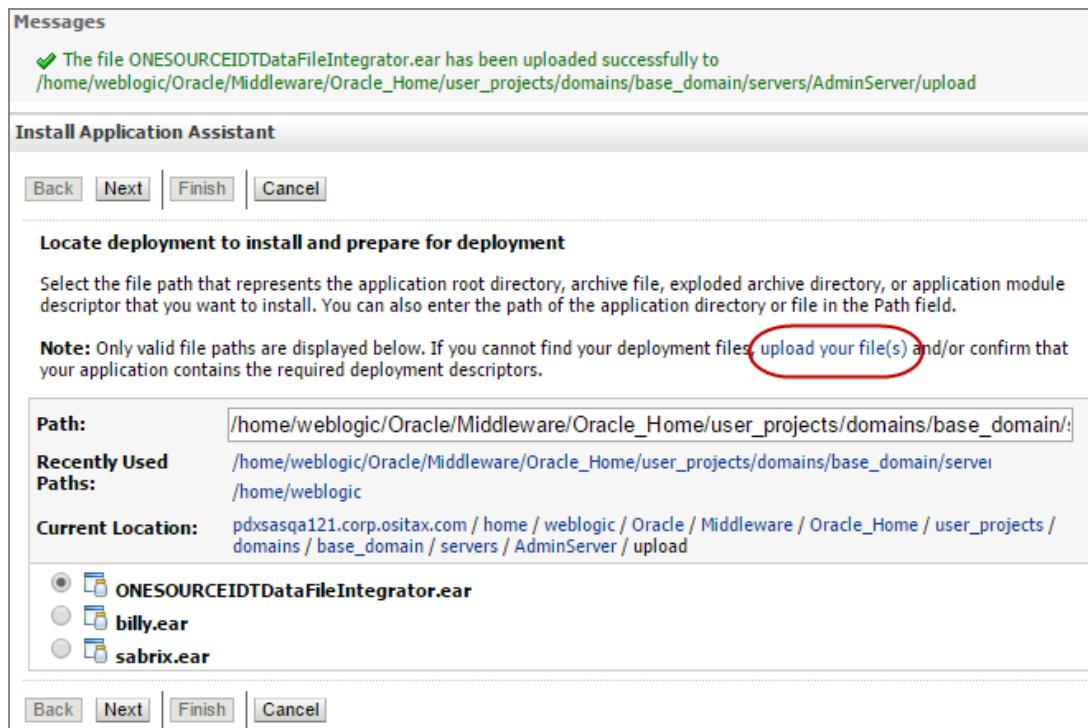
The screenshot shows the 'Summary of Deployments' page in Oracle WebLogic. The 'Control' tab is selected. The page displays a table of deployed applications and modules. One entry is visible:

	Name	State	Health	Type	Targets	Deployment Order
<input type="checkbox"/>	 sabrix	Active	 OK	Enterprise Application	Determination	100

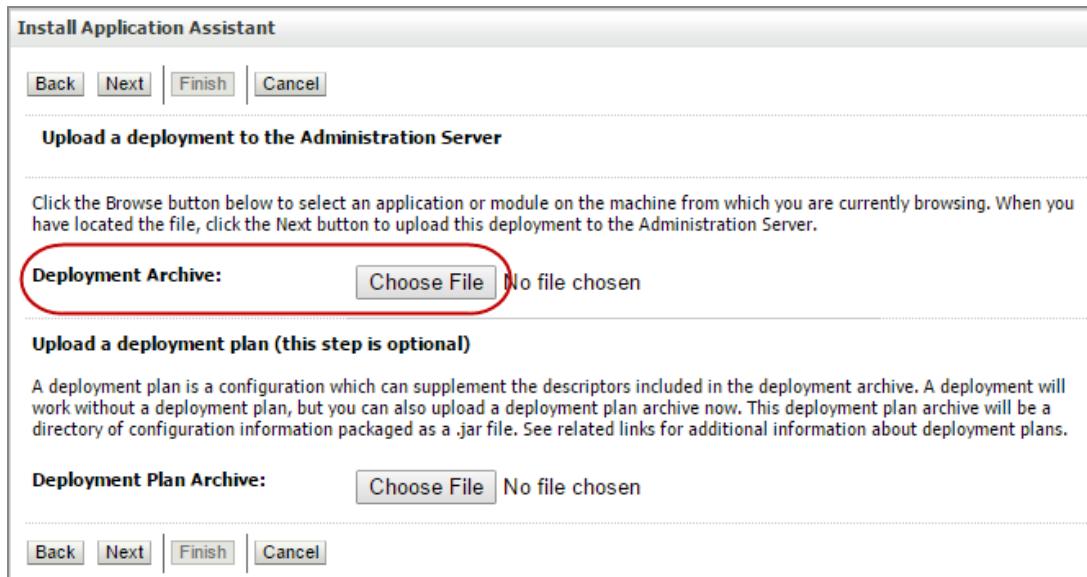
Below the table, there are 'Install', 'Update', and 'Delete' buttons, as well as 'Start' and 'Stop' dropdown menus. The status bar at the bottom indicates 'Showing 1 to 1 of 1'.

6. Do the following:

- a. In the center of the window, click **upload your file(s)**. The **Upload a deployment to the Administration Server** window appears.

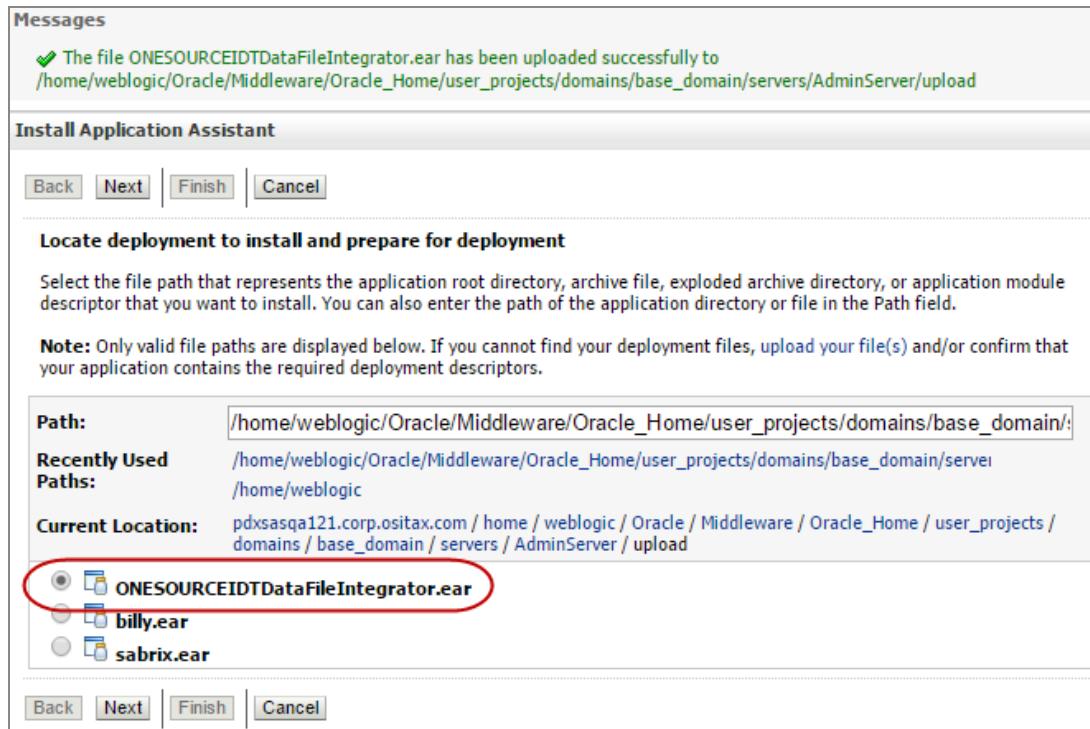


- b. Next to **Deployment Archive**, click **Choose File**.



- c. Navigate to the zip file you downloaded, select the **ear** directory, select the **ONESOURCEIDTDataFileIntegrator.ear** file, and then click **Open**.

- d. At the bottom, select **ONESOURCEDataFileIntegrator.ear**.

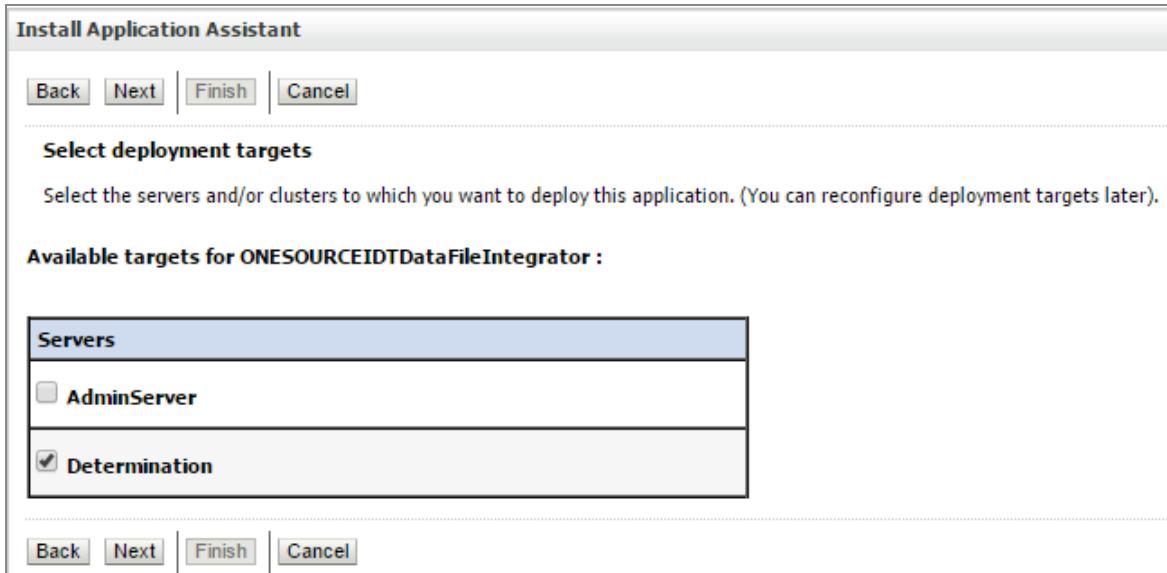


7. In the remaining pages, click **Next** until you reach the **Select deployment targets** window.

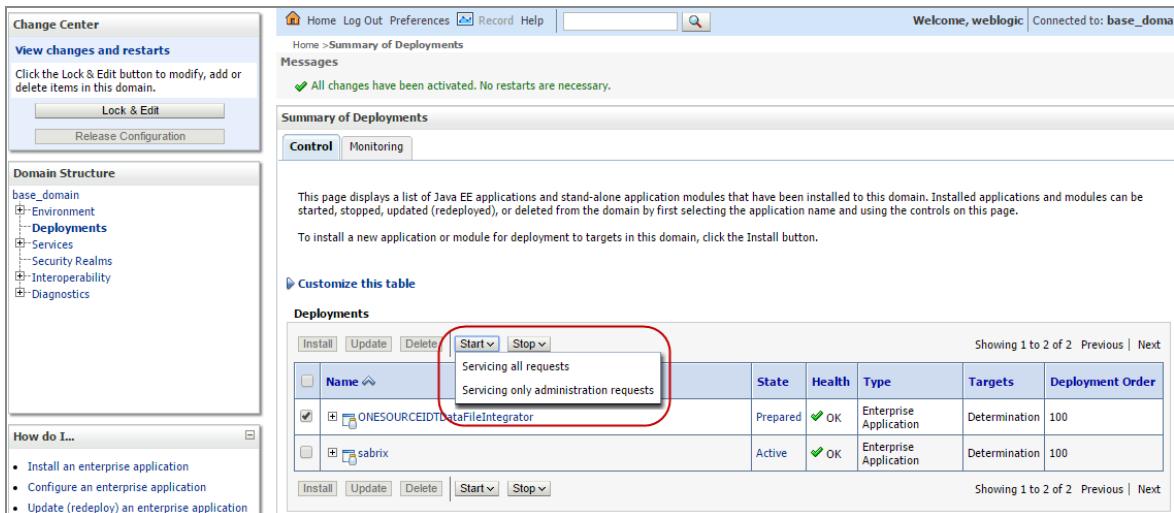
Deploy Data File Integrator

Configure Oracle WebLogic

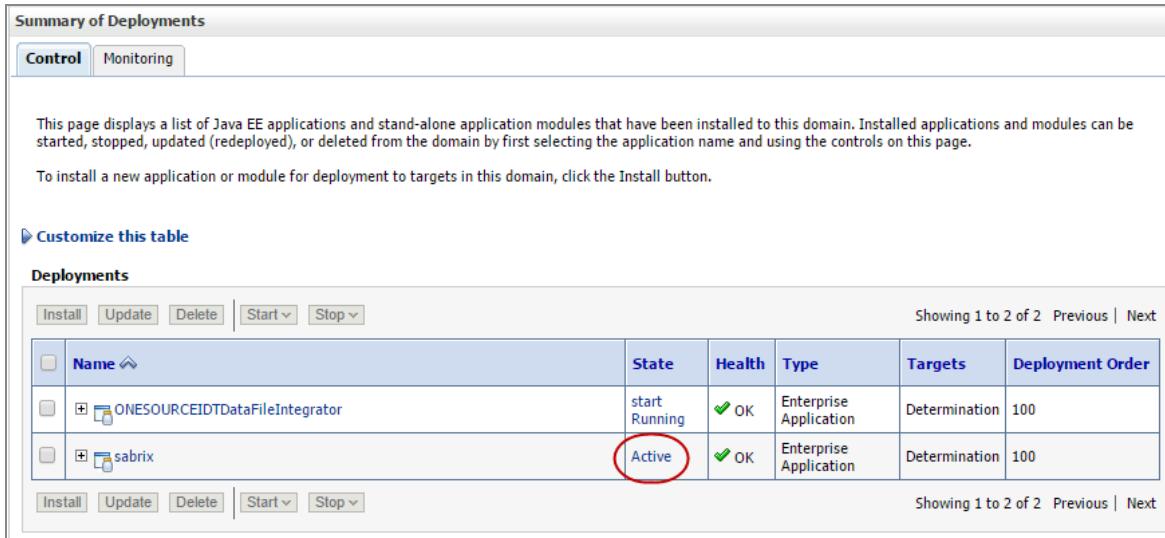
8. Select your server, and then click **Finish**. The **Summary of Deployments** window appears.



9. On the left pane, click **Activate Changes**.
10. In the body, click **Start > Servicing all requests**. The **Start Application** window appears.



11. Click **Yes**. The final **Summary of Deployments** window appears.
12. Validate the Summary of Deployments. A deployed server shows an **Active** state.



Name	State	Health	Type	Targets	Deployment Order
ONESOURCEIDTDataFileIntegrator	start Running	OK	Enterprise Application	Determination	100
sabrix	Active	OK	Enterprise Application	Determination	100

13. Test your deployment by opening the **Login** page in a browser (<http://<host>:<port>/data-file-integrator>).
14. To continue the installation, go to [Configure Data File Integrator \(page 81\)](#).

CONFIGURE IBM WEBSPHERE

When WebSphere is installed and ready for Data File Integrator configuration, complete the following:

Prepare WebSphere for use with IBM DB2	56
Create Data Sources for IBM WebSphere	58
Deploy on IBM WebSphere	68

PREPARE WEBSPHERE FOR USE WITH IBM DB2

If you use IBM DB2 as your database for Data File Integrator, follow the steps below.

1. Create a file named *dataFileIntegrator.properties*.
2. Using a text editor, add the following entry to the file:

```
1 hibernate.hbm2ddl.auto.off=true
```
3. Save the file to a location on the file system you can add to your classpath.
4. In the WebSphere administration console, go to **Environment > Shared Libraries**.
5. Select a scope, and then select **New**.

6. Use the table below as a guide to complete the shared library configuration:

Field	Value
Name	Data File Integrator
Description	Properties file for Data File Integrator
Classpath	Enter the path to your properties file, not including the file name

Shared Libraries > Data File Integrator

Use this page to define a container-wide shared library that can be used by deployed applications.

Configuration

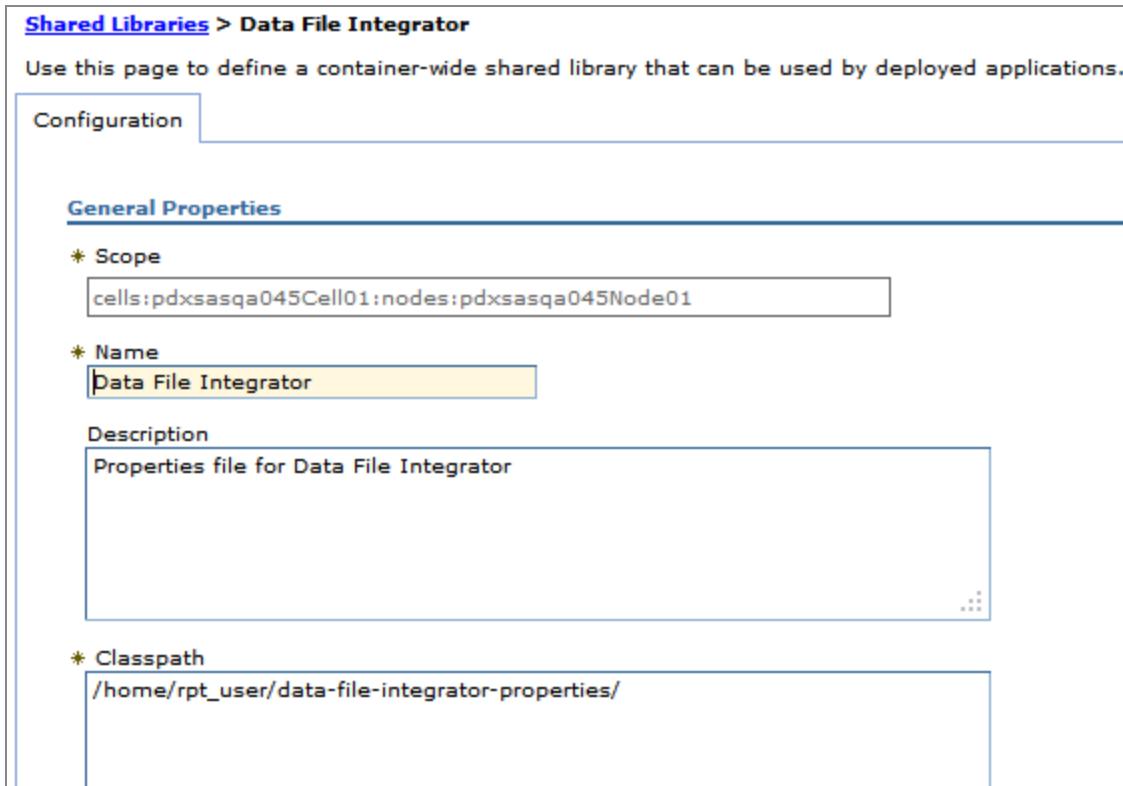
General Properties

* Scope
cells:pdxsasqa045Cell01:nodes:pdxsasqa045Node01

* Name
Data File Integrator

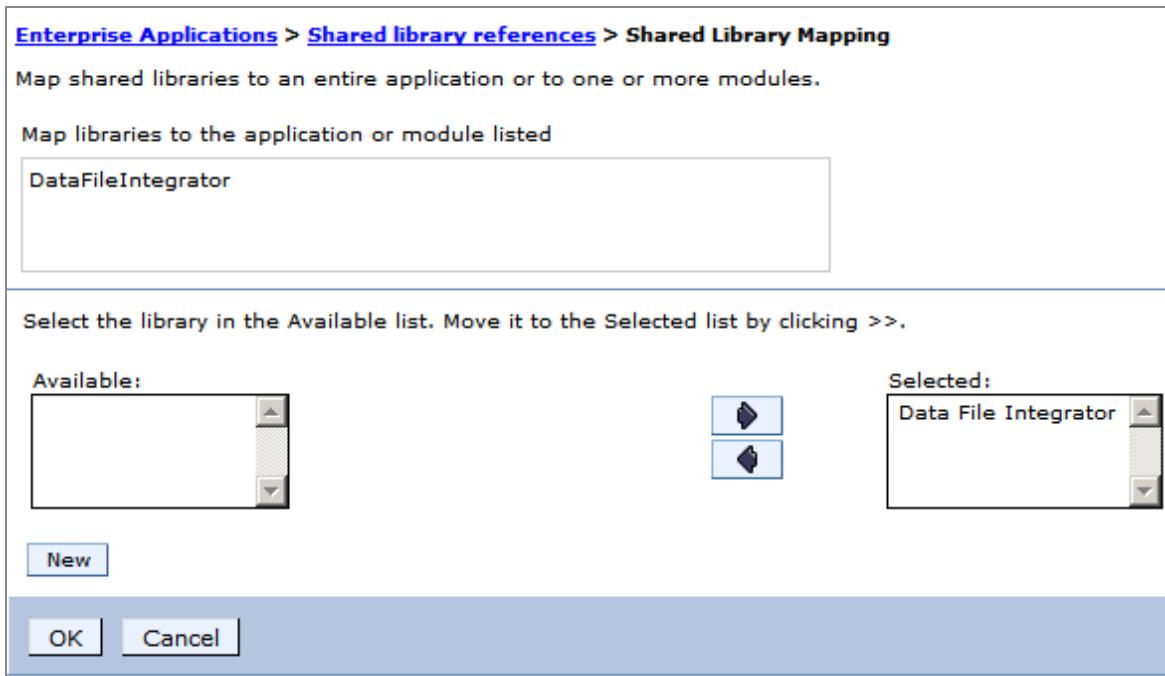
Description
Properties file for Data File Integrator

* Classpath
/home/rpt_user/data-file-integrator-properties/



7. Save your configuration.
8. Select **Applications > Application Types > Websphere enterprise applications**.
9. Select **Shared Library References**, and then select **DataFileIntegrator**.
10. Select **Reference Shared Libraries**.

11. Highlight the shared library you created in the **Available** field, and click the right arrow to move it to the **Selected** field.



12. Select **OK**.

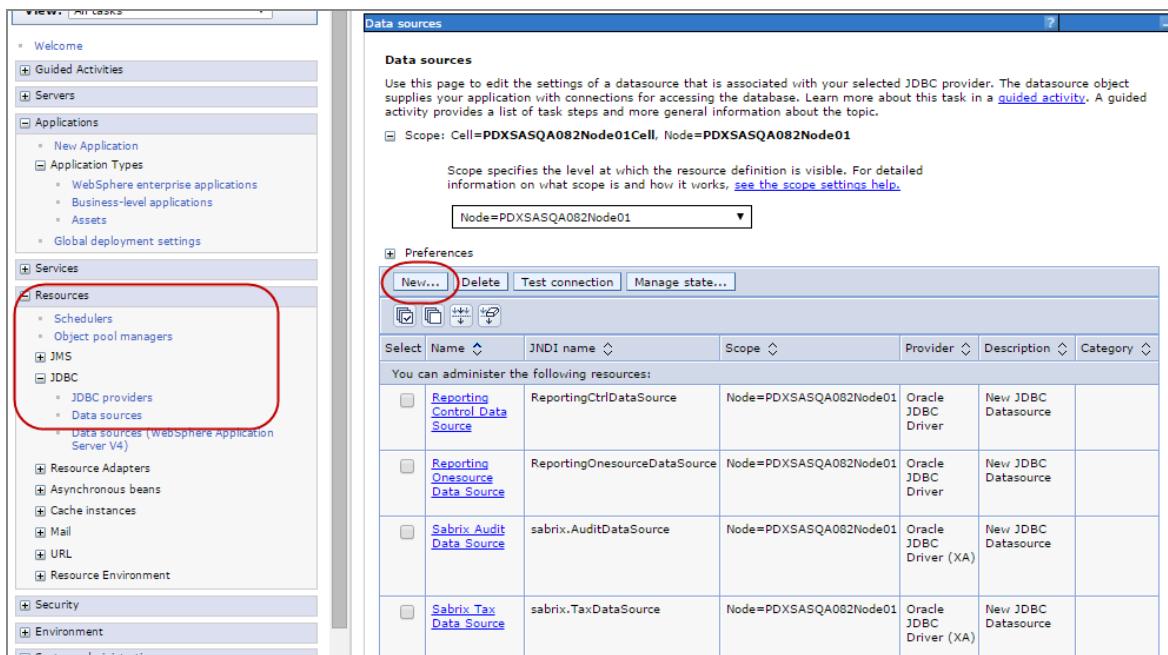
CREATE DATA SOURCES FOR IBM WEBSPHERE



This procedure is for an Oracle database. If you are using DB2 for Websphere, adjust the environment values.

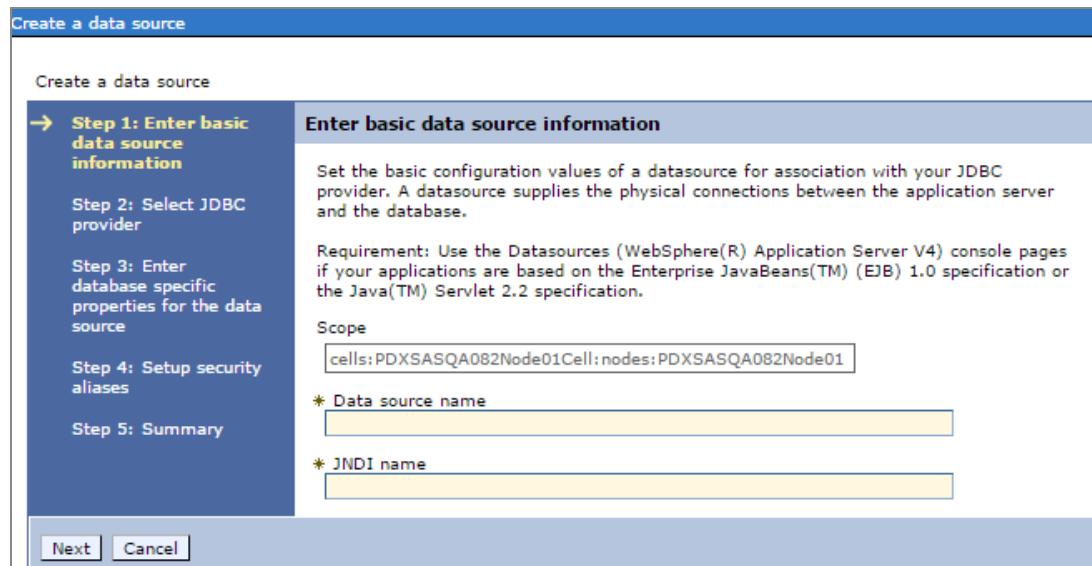
Configure a Data File Integrator data source

1. In the WebSphere administrative console's left pane, click **Resources > JDBC > Data sources**.
2. In the **Data sources** page, click **New**. The **Step 1: Enter basic data source information** window appears.



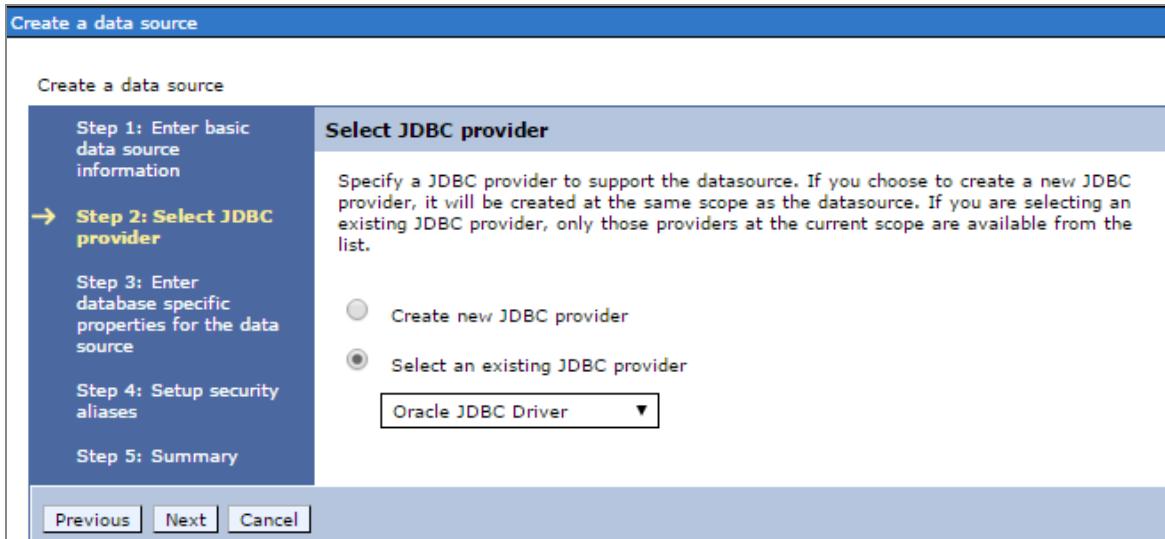
3. To enter Data File Integrator data source information, do the following:

- a. In **Data source name**, enter *DataFileIntegratorDataSource*.
- b. In **JNDI name**, enter *jdbc/DataFileIntegratorDataSource*.
- c. Click **Next**. The **Step 2: Select JDBC provider** window appears.

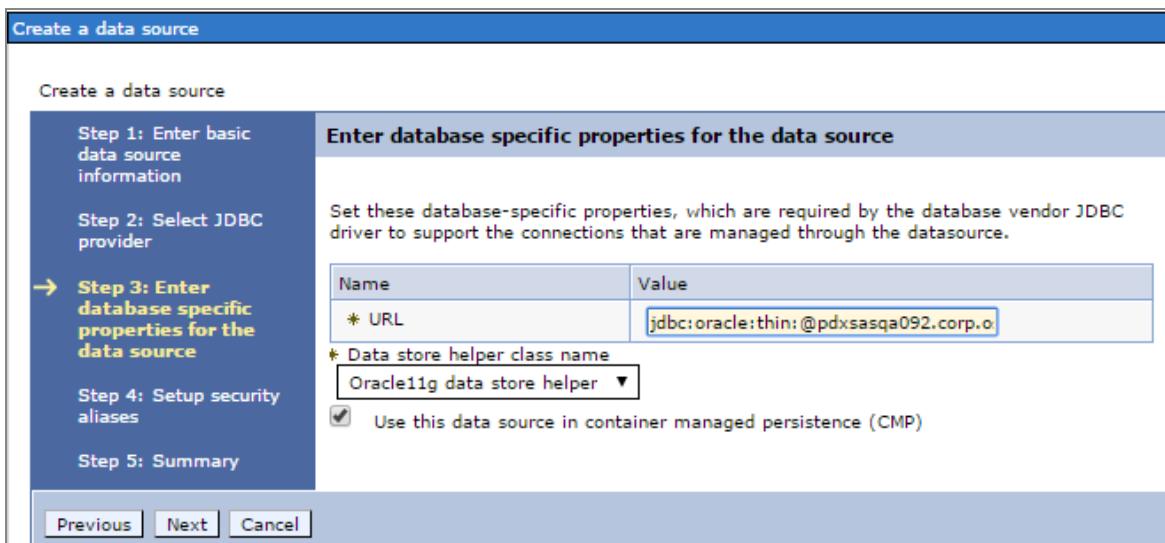


The screenshot shows the 'Create a data source' wizard. The left sidebar lists steps: Step 1: Enter basic data source information (highlighted in blue), Step 2: Select JDBC provider, Step 3: Enter database specific properties for the data source, Step 4: Setup security aliases, and Step 5: Summary. The main panel is titled 'Enter basic data source information'. It contains a description: 'Set the basic configuration values of a datasource for association with your JDBC provider. A datasource supplies the physical connections between the application server and the database.' A note says: 'Requirement: Use the Datasources (WebSphere(R) Application Server V4) console pages if your applications are based on the Enterprise JavaBeans(TM) (EJB) 1.0 specification or the Java(TM) Servlet 2.2 specification.' It shows a 'Scope' field with the value 'cells:PDXSASQA082Node01Cell;nodes:PDXSASQA082Node01'. Below are fields for 'Data source name' and 'JNDI name', both of which are highlighted in yellow. At the bottom are 'Next' and 'Cancel' buttons.

4. Select the JDBC provider for your database vendor, and then click **Next**. The **Step 3: Enter database specific properties for the data source** window appears.

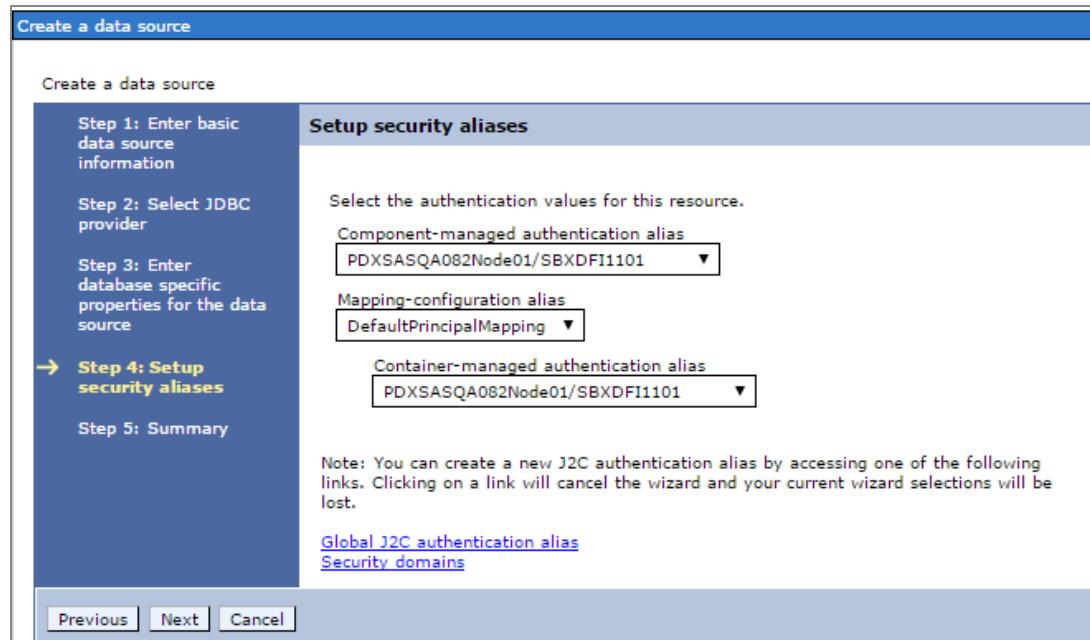


5. Enter the database-specific properties for the data source, and then click **Next**. The **Step 4: Setup security aliases** window appears.



6. To set up security aliases, do the following:

- a. In **Component-managed authentication alias**, select the option for your configuration.
- b. In **Mapping-configuration alias**, select **DefaultPrincipalMapping**.
- c. In **Container-managed authentication alias**, select the option for your configuration.
- d. Click **Next**. The **Step 5: Summary** window appears.



7. Review the configuration, and then do one of the following:

- To approve the configuration, click **Finish**.
- To change the information, click **Previous**.

Create a data source

Create a data source

Step 1: Enter basic data source information

Step 2: Select JDBC provider

Step 3: Enter database specific properties for the data source

Step 4: Setup security aliases

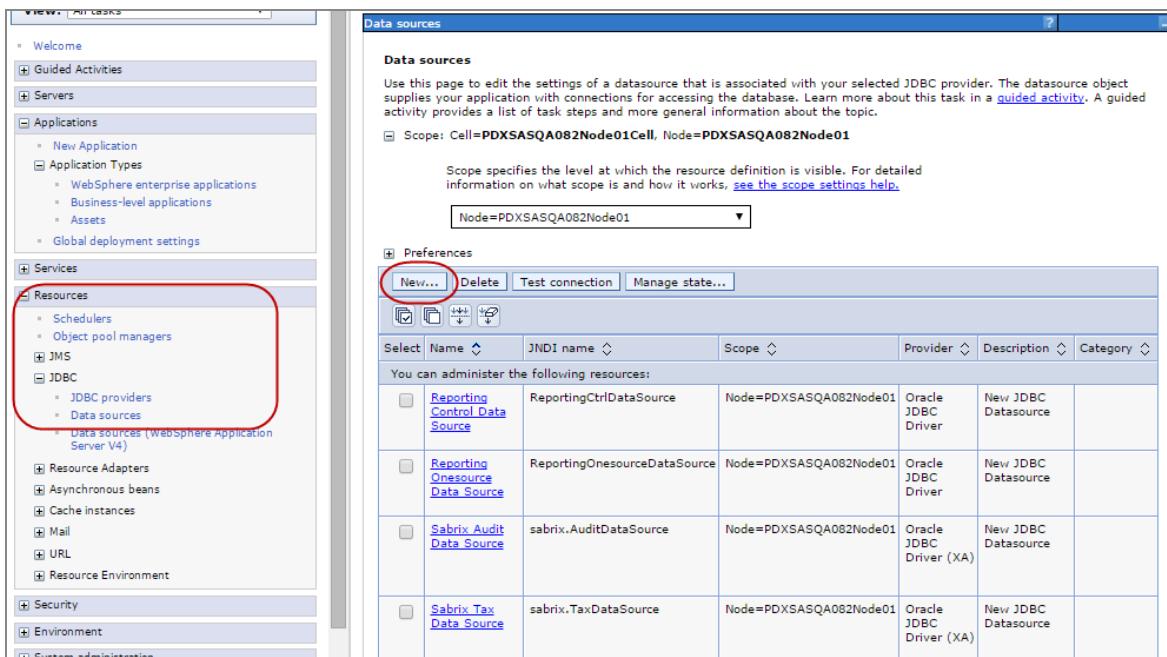
→ Step 5: Summary

Summary	
Summary of actions:	
Options	Values
Scope	cells:PDXSASQA082Node01Cell:nodes:PDXSASQA082Node01
Data source name	DataFileIntegratorDataSource
JNDI name	jdbc/DataFileIntegratorDataSource
Select an existing JDBC provider	Oracle JDBC Driver
Implementation class name	oracle.jdbc.pool.OracleConnectionPoolDataSource
URL	jdbc:oracle:thin:@pdxsasqa092.corp.ositax.com:1521:orcl
Data store helper class name	com.ibm.websphere.rssadapter.Oracle11gDataStoreHelper
Use this data source in container managed persistence (CMP)	true
Component-managed authentication alias	PDXSASQA082Node01/SBXDFI1101
Mapping-configuration alias	DefaultPrincipalMapping
Container-managed authentication alias	PDXSASQA082Node01/SBXDFI1101

Previous | Finish | Cancel

Configure a Determination Tax Data Source

1. In the WebSphere administrative console's left pane, click **Resources > JDBC > Data sources**.
2. In the **Data sources** page, click **New**. The **Step 1: Enter basic data source information** window appears.

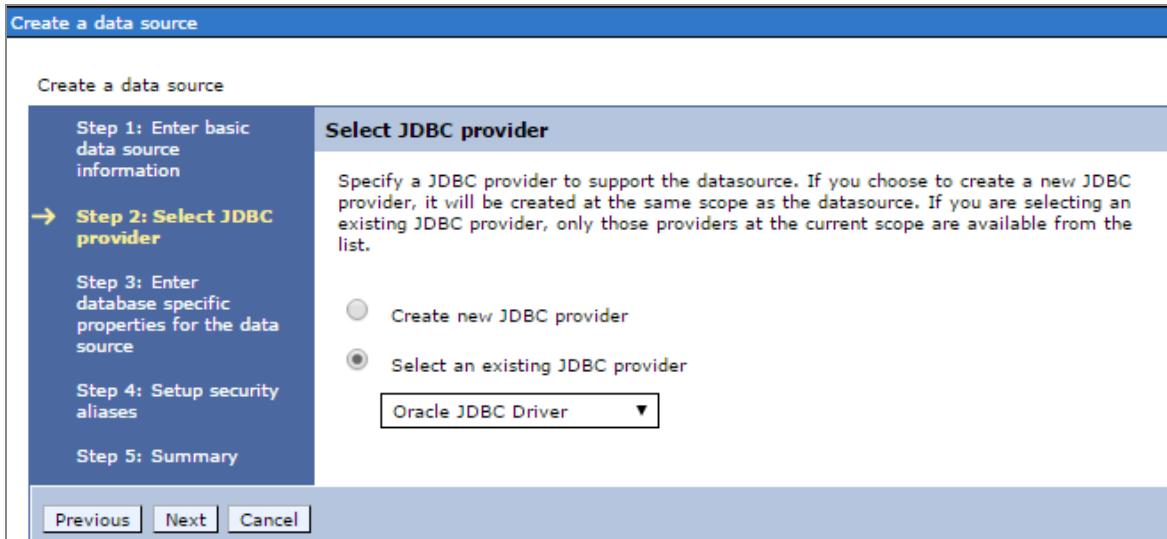


3. To enter Determination tax data source information, do the following:

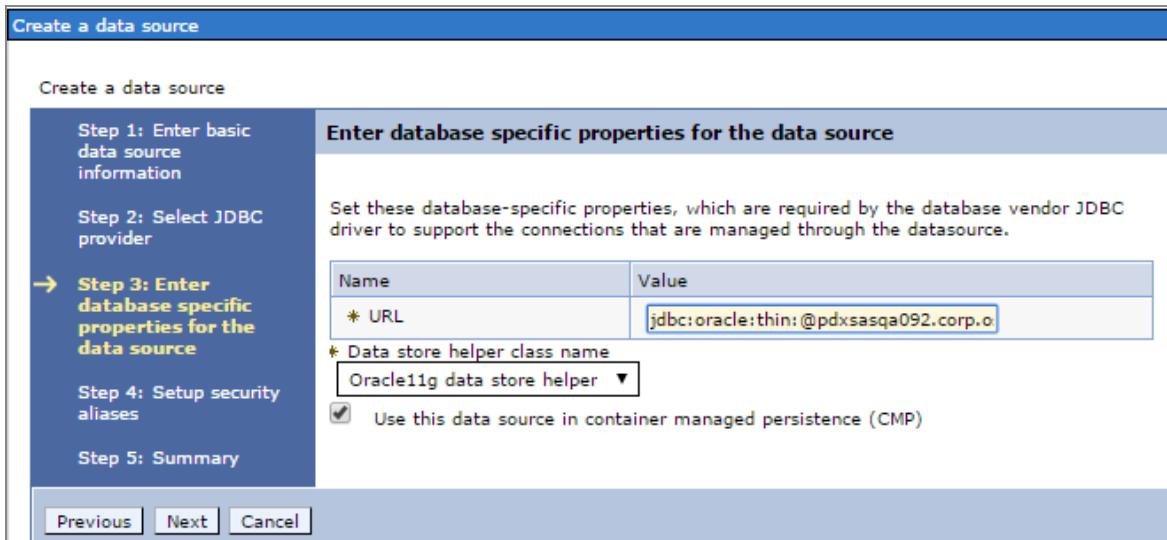
- a. In **Data source name**, enter *TaxDataSource*.
- b. In **JNDI name**, enter *jdbc/TaxDataSource*.
- c. Click **Next**. The **Step 2: Select JDBC provider** window appears.

The screenshot shows the 'Create a data source' wizard in progress, specifically Step 2: Select JDBC provider. The left sidebar lists steps 1 through 5. The main panel, titled 'Enter basic data source information', contains a note about setting basic configuration values for a datasource. It includes a 'Scope' field with the value 'cells:PDXSASQA082Node01Cell;nodes:PDXSASQA082Node01', a 'Data source name' field (marked with an asterisk), and a 'JNDI name' field (also marked with an asterisk). At the bottom are 'Next' and 'Cancel' buttons.

4. Select the JDBC provider for your instance, and then click **Next**. The **Step 3: Enter database specific properties for the data source** window appears.

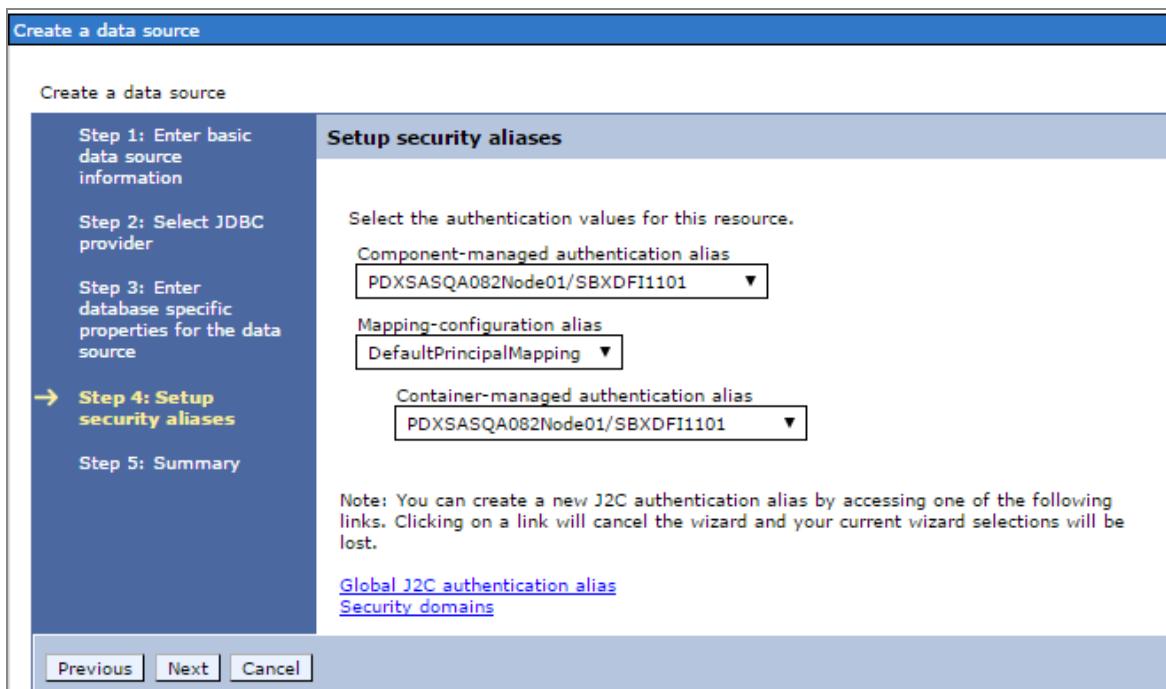


5. Enter the database-specific properties for the data source, and then click **Next**. The **Step 4: Setup security aliases** window appears.



6. To set up security aliases, do the following:

- a. In **Component-managed authentication alias**, select the option for your configuration.
- b. In **Mapping-configuration alias**, select **DefaultPrincipalMapping**.
- c. In **Container-managed authentication alias**, select the option for your configuration.
- d. Click **Next**. The **Step 5: Summary** window appears.



7. Review the configuration, and then do one of the following:

- To approve the configuration, click **Finish**.
- To change the information, click **Previous**.

Create a data source

Create a data source

Summary	
Summary of actions:	
Options	Values
Scope	cells:PDXSASQA082Node01Cell:nodes:PDXSASQA082Node01
Data source name	DataFileIntegratorDataSource
JNDI name	jdbc/DataFileIntegratorDataSource
Select an existing JDBC provider	Oracle JDBC Driver
Implementation class name	oracle.jdbc.pool.OracleConnectionPoolDataSource
URL	jdbc:oracle:thin:@pdxsasqa092.corp.ositax.com:1521:orcl
Data store helper class name	com.ibm.websphere.rssadapter.Oracle11gDataStoreHelper
Use this data source in container managed persistence (CMP)	true
Component-managed authentication alias	PDXSASQA082Node01/SBXDFI1101
Mapping-configuration alias	DefaultPrincipalMapping
Container-managed authentication alias	PDXSASQA082Node01/SBXDFI1101

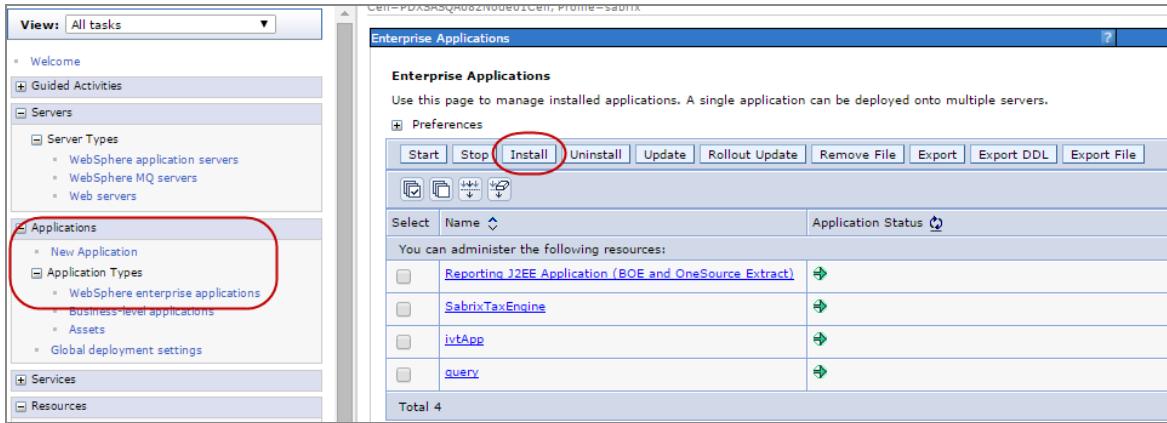
→ Step 5: Summary

Previous | Finish | Cancel

DEPLOY ON IBM WEBSPHERE

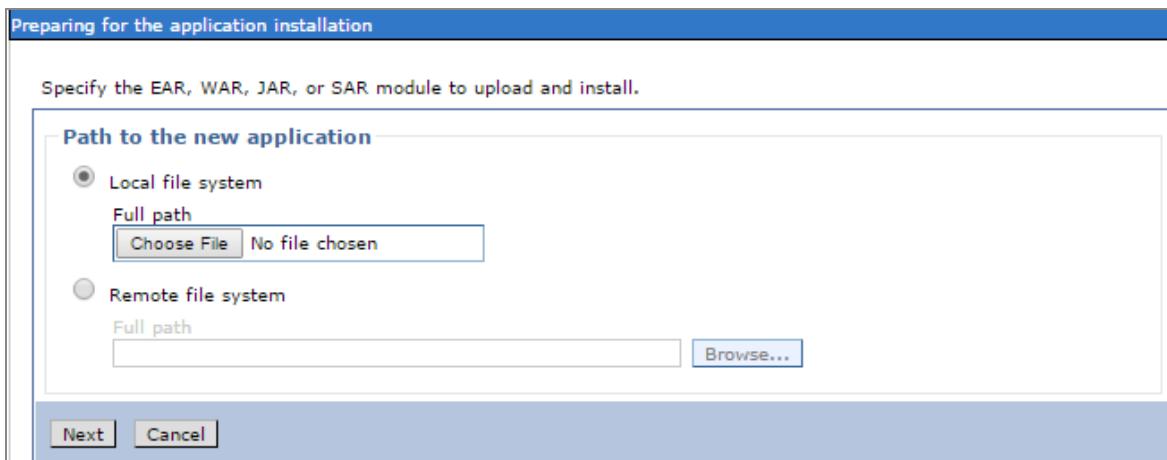
1. Log into the WebSphere administrative console
2. In the left pane, click **Applications > Application Types > WebSphere enterprise applications**.

3. In the **Enterprise Applications** page, click **Install**. The **Path to the new application** window appears.



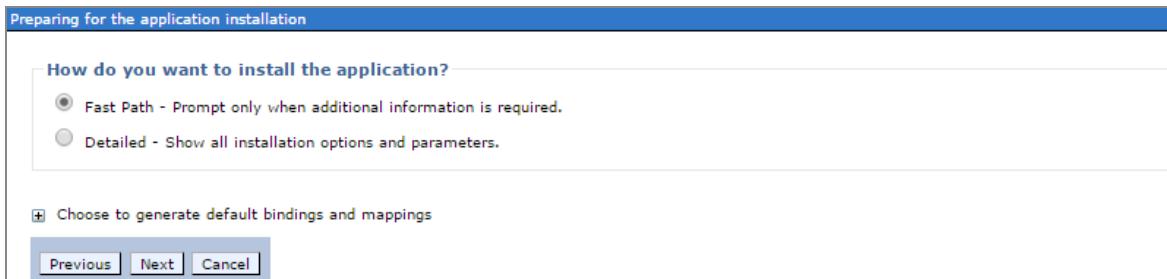
The screenshot shows the 'Enterprise Applications' page in the IBM WebSphere Application Server Administration Console. The 'Install' button in the toolbar is circled in red. The 'Applications' section on the left sidebar is also circled in red, highlighting the 'New Application' option. The main table lists four applications: 'Reporting J2EE Application (BOE and OneSource Extract)', 'SabrixTaxEngine', 'ivtApp', and 'query'. Each application has a status icon and a green plus sign icon.

4. Select **Local file system**, click **Choose File**, navigate to **ONESOURCEIDTDataFileIntegrator.ear**, and then click **Next**. The **How do you want to install the application?** window appears.

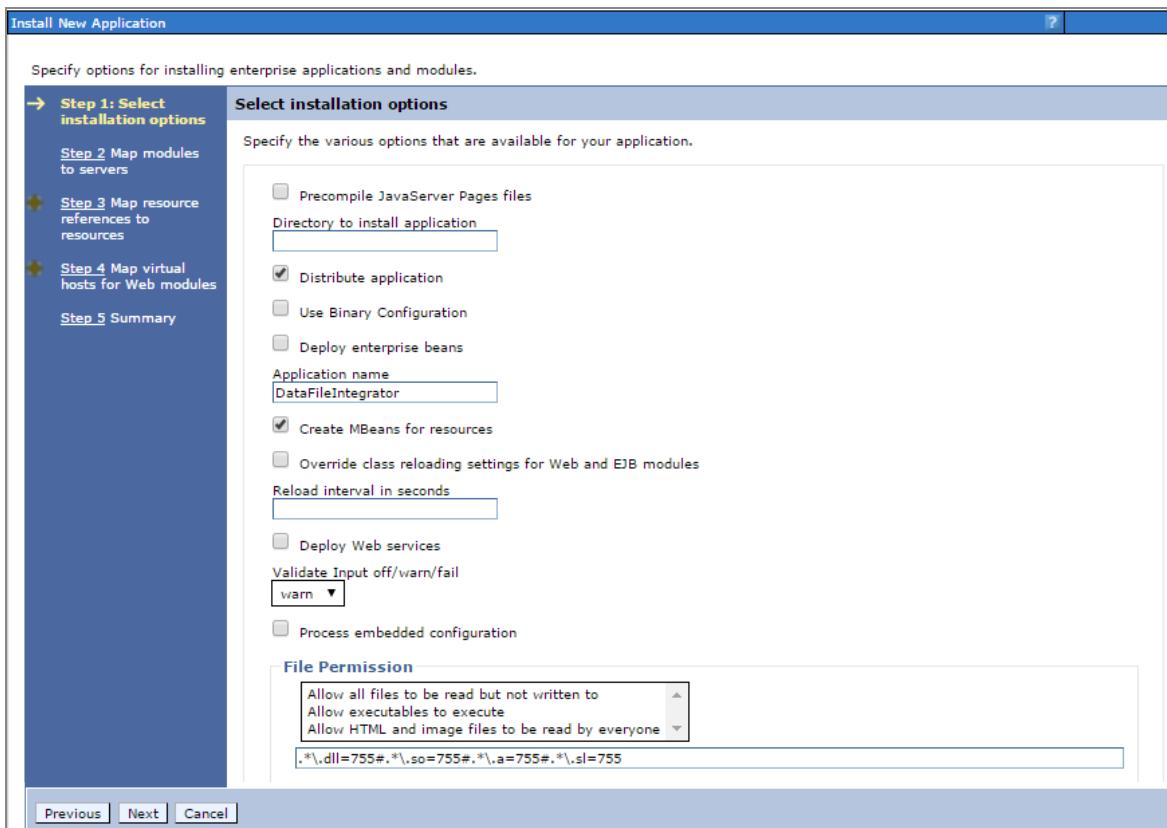


The screenshot shows the 'Preparing for the application installation' dialog box. The 'Path to the new application' section is displayed, showing two options: 'Local file system' (selected) and 'Remote file system'. Under 'Local file system', there is a 'Full path' field with a 'Choose File' button, which is highlighted with a red box. The 'Next' button is at the bottom of the dialog.

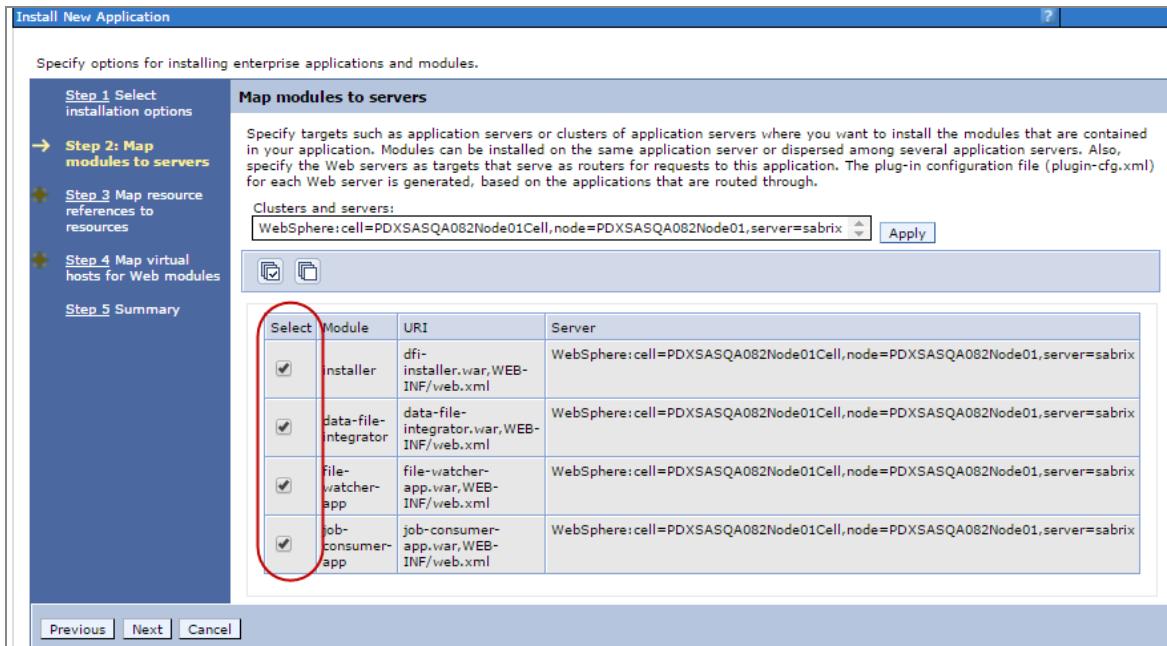
5. Select **Fast Path**, and then click **Next**. The **Step 1: Select installation options** window appears.



6. To accept the defaults (shown in the below image), click **Next**. The **Step 2: Map modules to servers** window appears.



7. Select all server modules, and then click **Next**. The **Step 3: Map resource references to resources** window appears.



8. To match each module to a target resource, refer to the Data File Integrator source, and then click **Browse**. The **Enterprise Applications** window appears.

Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options
Step 2 Map modules to servers
→ Step 3: Map resource references to resources
★ Step 4 Map virtual hosts for Web modules
Step 5 Summary

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...

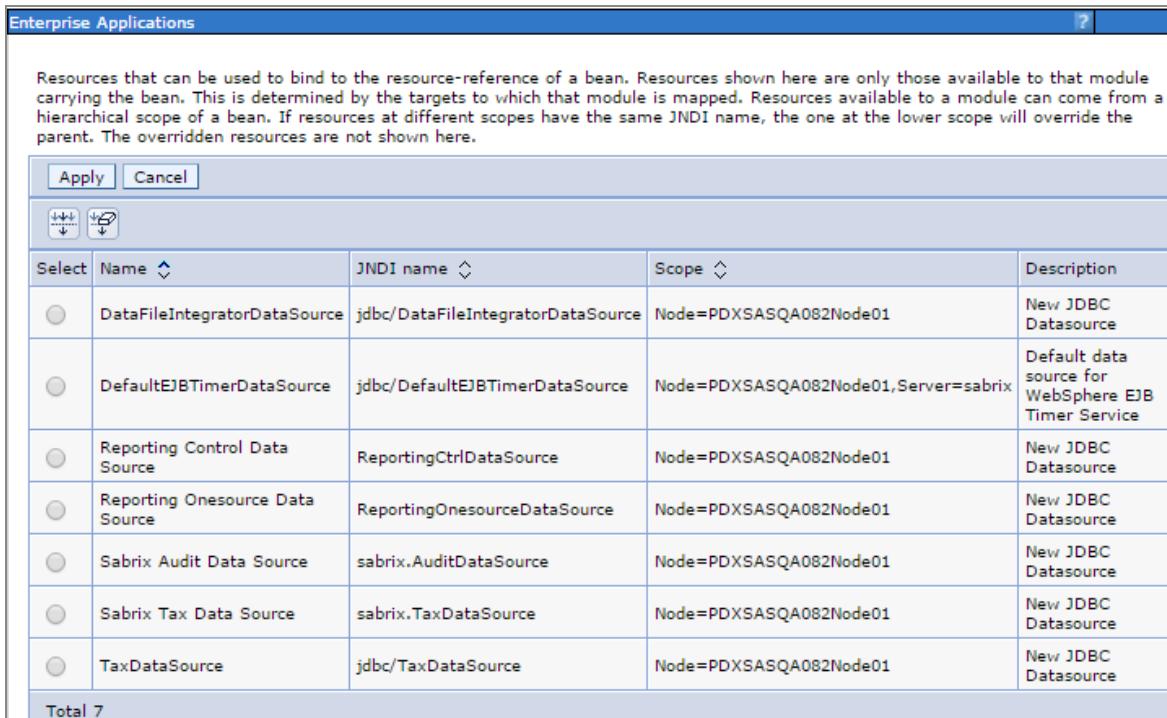
Select	Module	Bean	URI	Resource Reference	Target Resource JNDI Name	Login configuration
<input type="checkbox"/>	installer		dfi-installer.war,WEB-INF/web.xml	jdbc/DataFileIntegratorDataSource	<input type="button" value="Browse..."/>	Resource authorization: Container Authentication method: None
<input type="checkbox"/>	data-file-integrator		data-file-integrator.war,WEB-INF/web.xml	jdbc/TaxDataSource	<input type="button" value="Browse..."/>	Resource authorization: Container Authentication method: None
<input type="checkbox"/>	data-file-integrator		data-file-integrator.war,WEB-INF/web.xml	jdbc/DataFileIntegratorDataSource	<input type="button" value="Browse..."/>	Resource authorization: Container Authentication method: None
<input type="checkbox"/>	file-watcher-app		file-watcher-app.war,WEB-INF/web.xml	jdbc/TaxDataSource	<input type="button" value="Browse..."/>	Resource authorization: Container Authentication method: None
<input type="checkbox"/>	file-watcher-app		file-watcher-app.war,WEB-INF/web.xml	jdbc/DataFileIntegratorDataSource	<input type="button" value="Browse..."/>	Resource authorization: Container Authentication method: None
<input type="checkbox"/>	job-consumer-app		job-consumer-app.war,WEB-INF/web.xml	jdbc/TaxDataSource	<input type="button" value="Browse..."/>	Resource authorization: Container Authentication method: None

Previous Next Cancel

9. Select one of the following:

- For the Installer module, select **DataFileIntegratorSource**.
- For a .war module, select the appropriate Data File Integrator data source or Determination tax data source.

10. Click **Apply**. You return to the **Step 3: Map resource references to resources** window.

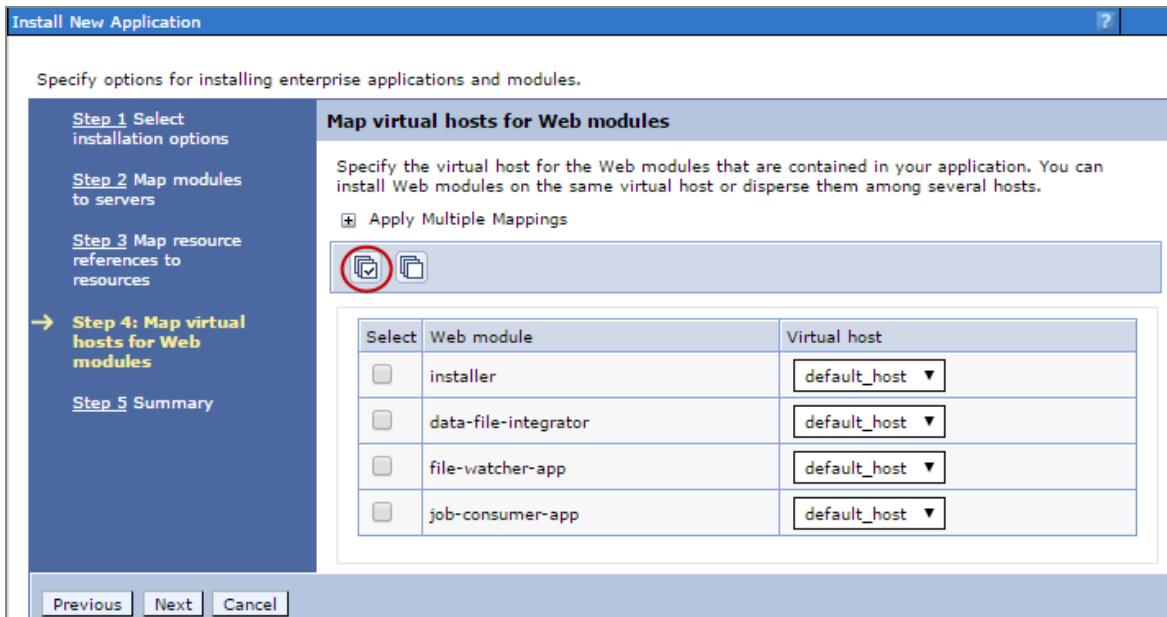


Select	Name	JNDI name	Scope	Description
<input type="radio"/>	DataFileIntegratorDataSource	jdbc/DataFileIntegratorDataSource	Node=PDXSASQA082Node01	New JDBC Datasource
<input type="radio"/>	DefaultEJBTimerDataSource	jdbc/DefaultEJBTimerDataSource	Node=PDXSASQA082Node01,Server=sabrix	Default data source for WebSphere EJB Timer Service
<input type="radio"/>	Reporting Control Data Source	ReportingCtrlDataSource	Node=PDXSASQA082Node01	New JDBC Datasource
<input type="radio"/>	Reporting Onresource Data Source	ReportingOnresourceDataSource	Node=PDXSASQA082Node01	New JDBC Datasource
<input type="radio"/>	Sabrix Audit Data Source	sabrix.AuditDataSource	Node=PDXSASQA082Node01	New JDBC Datasource
<input type="radio"/>	Sabrix Tax Data Source	sabrix.TaxDataSource	Node=PDXSASQA082Node01	New JDBC Datasource
<input type="radio"/>	TaxDataSource	jdbc/TaxDataSource	Node=PDXSASQA082Node01	New JDBC Datasource

11. Repeat Steps 8-10 for each module.

12. When finished, at the top of the module list, click **Select All** , and then click **Next**. The **Step 4: Map virtual hosts for Web modules** window appears.

13. Accept the mapping defaults by clicking **Select All** , and then clicking **Next**. The **Step 5: Summary** window appears.



14. Review the summary, and then do one of the following:

- To approve the configuration, click **Finish**.
- To change the information, click **Previous**.

Install New Application

Specify options for installing enterprise applications and modules.

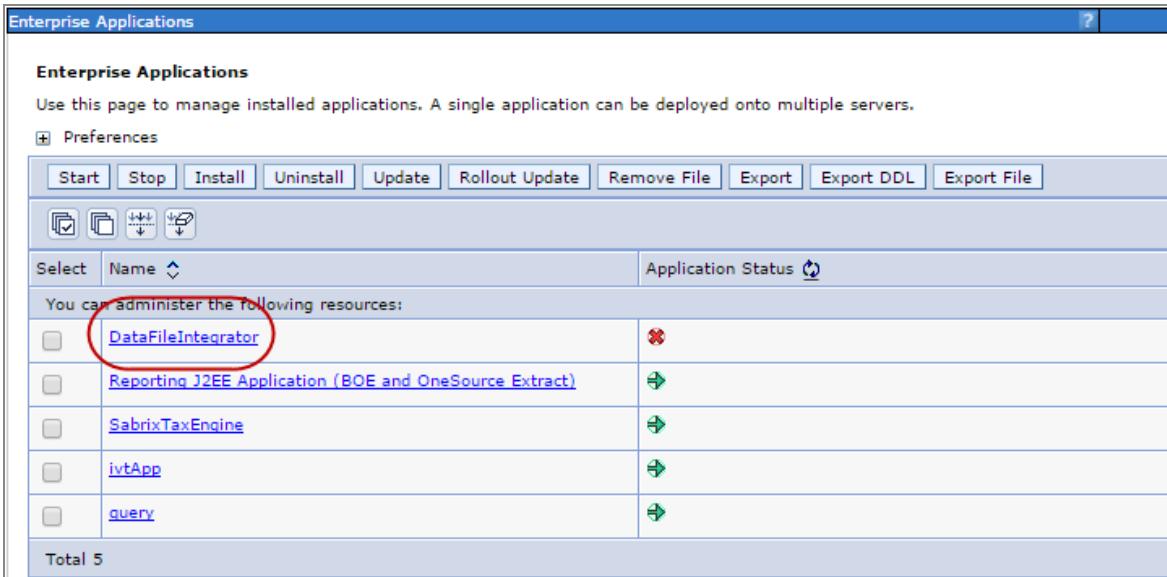
Summary	
Options	Values
Precompile JavaServer Pages files	No
Directory to install application	
Distribute application	Yes
Use Binary Configuration	No
Deploy enterprise beans	No
Application name	DataFileIntegrator
Create MBeans for resources	Yes
Override class reloading settings for Web and EJB modules	No
Reload interval in seconds	
Deploy Web services	No
Validate Input off/warn/fail	warn
Process embedded configuration	No
File Permission	, *\,dll=755#, *\,so=755#, *\,a=755#, *\,sl=755
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	Click here

→ Step 5: Summary

Previous | Finish | Cancel

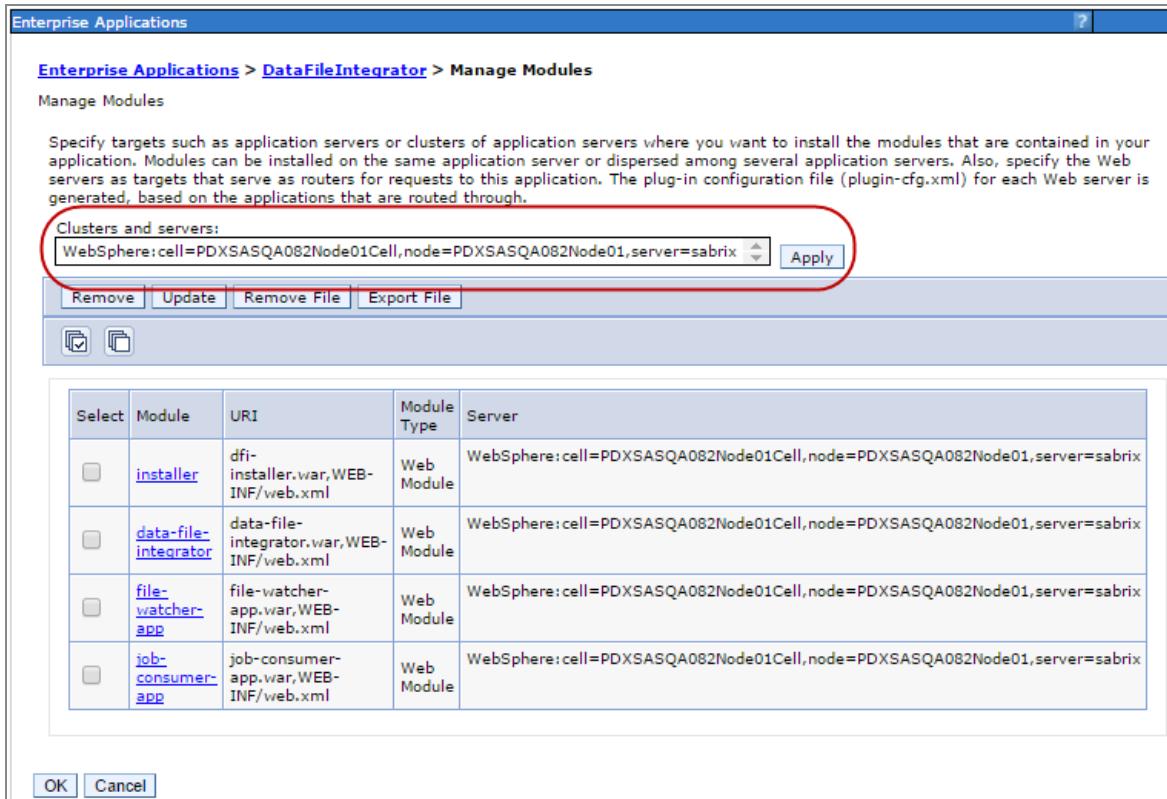
15. In the WebSphere Enterprise application console, click **Enterprise Applications** > **DataFileIntegrator**. The **Enterprise Applications** window appears.

16. Click **Data File Integrator**. The **Manage Modules** window appears.



17. Select the check boxes next to the appropriate modules.

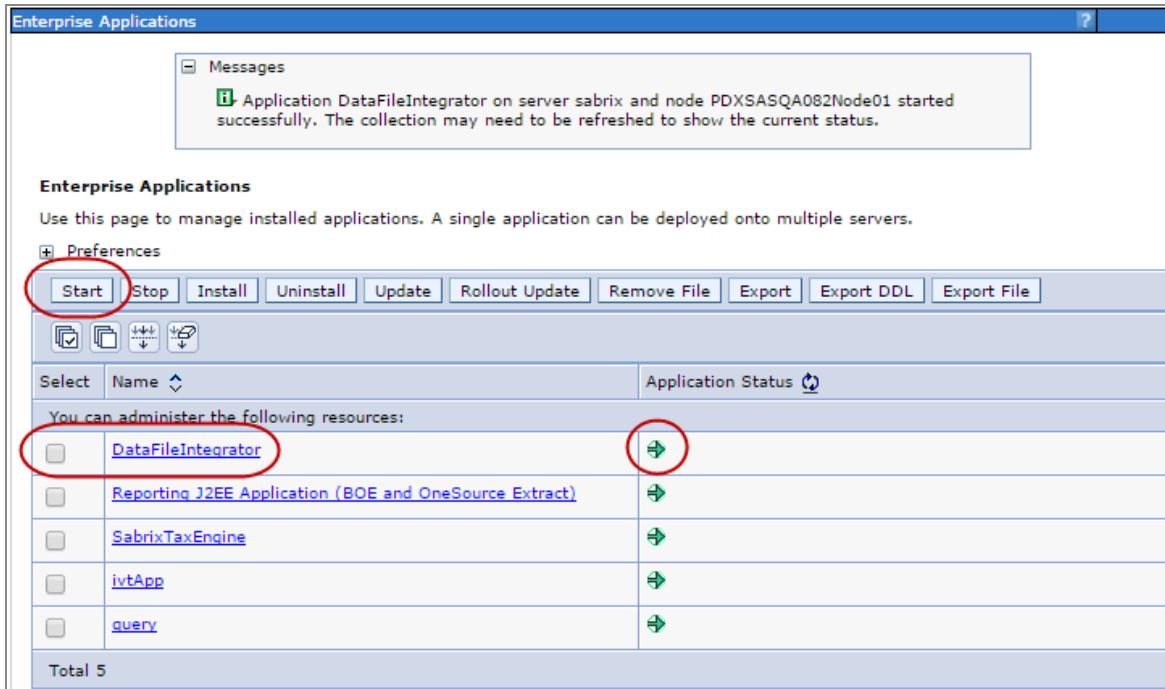
18. In **Clusters and servers**, select a class order loader, and then click **Apply**. The **Configuration** window appears.



19. Accept the configuration defaults by clicking **OK**. The **Enterprise Applications** window appears.

The screenshot shows the 'Enterprise Applications' configuration window for the 'data-file-integrator.war' module. The window has a blue header bar with the title 'Enterprise Applications' and a help icon. Below the header, a breadcrumb navigation bar shows 'Enterprise Applications > DataFileIntegrator > Manage Modules > data-file-integrator.war'. A descriptive text box states: 'Use this page to configure an instance of a deployed web module in the application. This page contains deployment-specific information for a web module and session management settings.' A 'Configuration' tab is selected. The configuration interface is divided into two main sections: 'General Properties' and 'Additional Properties'. The 'General Properties' section contains the following fields: 'URI' (set to 'data-file-integrator.war'), 'Alternate deployment descriptor' (an empty text box), 'Starting weight' (set to '10000'), and 'Class loader order' (set to 'Classes loaded with local class loader first (parent last)'). The 'Additional Properties' section contains links to other configuration pages: 'View Module Class Loader', 'Custom properties', 'Target specific application status', 'View Deployment Descriptor', and 'Session Management'. At the bottom of the configuration interface are four buttons: 'Apply', 'OK', 'Reset', and 'Cancel'.

20. Select the check box next to **DataFileIntegrator**, and then click **Start**. The red X changes to a green arrow.



21. Test your deployment by opening the **Login** page in a browser (<http://<host>:<port>/data-file-integrator>).
22. To continue the installation, go to [Configure Data File Integrator \(page 81\)](#).

CONFIGURE DATA FILE INTEGRATOR

After Data File Integrator is deployed to your application server and you can log on, review and complete the following:

Set System Configuration Parameters	81
Create File Watcher Directory Structure	85
Set Java Memory Values	87
Adjust Timeout Setting	87
Configure Logging	87

SET SYSTEM CONFIGURATION PARAMETERS

1. Open Data File Integrator in a web browser (<http://<host>:<port>/data-file-integrator>).
2. Log on with the user you configured in [Configure Determination User \(page 9\)](#).

3. In the upper-right corner, select **Configure**. The **System Configurations** dialog box appears.

System Configurations

All fields other than password are required:

Determination User *	Determination Base Url *	Input Directory Name *
DFI	http://pdxsasdv102.corp.ositax.cc	input
Determination Password	Certificate Manager Base Url *	Output Directory Name *
Enter new password	http://localhost:8080/cm-soap-ser	output
Email Host *	File Source Directory *	Log Directory Name *
localhost	C:\DataFileIntegrator	log
Email Port *	File Polling Interval*	Max Lines Per File *
25	5000	0
Email From User	Job Polling Interval *	SOAP Logging Enabled *
datafileintegrator-system@localhost	5000	true
Email To User *	File Processing Threads *	Compress Output Files *
datafileintegrator-user@localhost	1	true
Enable Email *	JMX Port *	Check File Permissions Before Running Jobs *
false	10999	false
	Job Retry Interval *	Field Names In Response *
	600000	true
	File Read Batch Size *	Enable Google Analytics *
	-1	true
	SOAP Call Batch Size *	
	-1	

Cancel **Save**

4. Use the table below as a guide to complete the fields.



You can also set system configuration parameters using JConsole. For more information, see [JConsole \(page 89\)](#).

Parameter	Use
Determination User	User name used by Data File Integrator to send jobs to Determination.
Determination Password	Password used by Data File Integrator to send jobs to Determination. NOTE: Although this field is optional, if you don't include the Determination Password in your .properties files, you must set it here.
Email Host	The host name or IP address of the email server used to send notifications.
Email Port	The port number on the email server to use to send notifications.
Email From User	The from address used to send notifications.
Email To User	The email address that receives notifications.
Enable Email	Whether or not to enable email notifications.
Determination Base Url	The URL of the Determination web services page. For example: <code>http://host:port/sabrix/services/</code> . NOTE: Be sure to include the last "/" in the path.
Certificate Manager Base Url	The URL of the Certificate Manager web services page. For example: <code>http://host:port/cm-soap-service-app/services/</code> . NOTE: Be sure to include the last "/" in the path.
File Source Directory	The root directory monitored by the file watcher.
File Polling Interval	Time in milliseconds the file watcher waits between checking for new files.

Parameter	Use
Job Polling Interval	Time in milliseconds the job consumer waits between checks of the pending jobs table.
File Processing Threads	Number of threads that will simultaneously process jobs.
Jmx Port	The port at which the JConsole/JMX server runs.
Job Retry Interval	The interval in milliseconds that the job consumer will wait before retrying jobs that have failed due to incorrect file permissions.
File Read Batch Size	The number of lines (or invoices for a tax calculation call) that will be read from a file into the job processors memory at one time.
SOAP Call Batch Size	The number of lines (or invoices for a tax calculation call) that will be sent to a Determination instance at one time after they have been read into memory.
Input Directory Name	The name of the directory in the file watcher directory structure where input files will be polled for.
Output Directory Name	The name of the directory in the file watcher directory structure where output files are stored.
Log Directory Name	The name of the directory in the filewatcher directory structure where log files are stored.
Max Lines Per File	The limit for how many lines the filewatcher will accept in a file. A 0 means no limit.
Soap Logging Enabled	Whether to write SOAP requests and responses to the application server log file.
Compress Output Files	Whether to ZIP the response and SOAP log output files.

Parameter	Use
Check File Permissions Before Running Jobs	Whether to verify that the job processor has the correct file permissions on the output and log directories before processing a file.
Field Names In Response	Whether to write a header line with field names in the response files.
Enable Google Analytics	This setting is reserved for Thomson Reuters Hosted customers only.

CREATE FILE WATCHER DIRECTORY STRUCTURE

In this section you will set up the directory structure used for the files to be processed. This directory structure can be any file system directory, either accessible from the internal network, via FTP/SFTP, or similar process depending on your needs.

The file watcher looks for files to process in a structure that consists of the following directories:

Folder	Description
File Watcher root	The top level of the directory structure.
Optional subfolder	A user-defined folder that can separate instances of the file watcher by, for example, company name or process. If this optional subfolder has the same name as a mapping in the Data File Integrator database, that mapping is used if the user does not provide a properties file.
Input	Folder containing the input files to be processed.
Log	Folder to which log files will be written.
Output	Folder to which output files will be written.

The following sample directory structure is included in the release .zip file under *Docs/file-watcher-directory-structure/DataFileIntegrator*.

DataFileIntegrator

Company A

input

log

output

Company B

input

log

output



The directory where the input files are placed needs to be readable and writable by both the file watcher component and the web applications. All directory names are case sensitive.



If two file watcher processes are started (by deploying the .war to a cluster or in more than one application server instance), only one process at a time watches the directory. The first instance creates a lock file that prevents other instances from watching the directory. If the first process dies, another process can then take over watching the directory.

SET JAVA MEMORY VALUES

The default memory values for Data File Integrator are:

- Xms256m: The JVM reserves a minimum of 256 MB of RAM upon startup
- Xmx512m: The JVM doesn't use more than 512 MB of RAM

You may find that your usage of Data File Integrator requires more RAM on startup or more available maximum RAM. Adjust these values as needed according to the instructions for your application server vendor.

ADJUST TIMEOUT SETTING

You can configure the length of time a request to Determination can process before a timeout occurs. The default timeout is four hours. To change the default, add the **determination.services.client.timeout** property in milliseconds (60000 = one minute) to your application server. For example:

```
1 -Ddetermination.services.client.timeout=14400000
```

CONFIGURE LOGGING

Customize log levels by editing the logback.xml file you copied during [Deploy Data File Integrator \(page 15\)](#). For example, you can change the log file location or the type of messages it contains.

By default, this file only logs errors. For more information, see the comments in logback.xml.

For more information on customizing see <http://logback.qos.ch/>.

JConsole

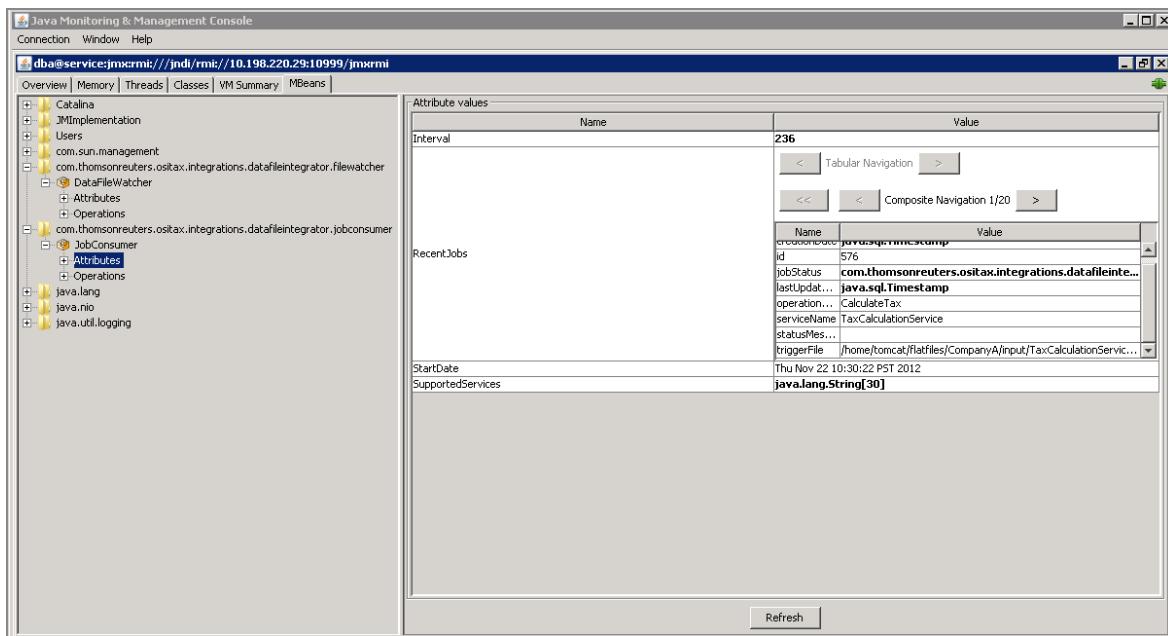


This topic is for system administrators already familiar with JConsole, a tool included with Oracle's Java Development Kit. You can use JConsole to monitor jobs and update configurations for Data File Integrator. For general information about using JConsole, refer to vendor documentation at <http://www.oracle.com/>.

Monitor the File Watcher

Use JConsole to monitor status for submitted jobs.

1. Launch JConsole, and connect to your Data File Integrator process.
2. Select the **MBeans** tab.
3. Expand **com.thomsonreuters.ositax.integrations.datafileintegrator**, and then expand **JobConsumerMXBean**.
4. Select **Attributes**.



From here, you can drill into a specific job to view its status. Possible status codes are:

- **A:** The job is added to the database but no processing has been done.
- **B:** The job began processing.
- **C:** The job finished the call to Determination.
- **D:** The output files were written and the input files were removed.
- **F:** The job failed.

Connect Remotely

Connect to Data File Integrator with JConsole remotely.

1. From your Java home directory, launch JConsole.
2. Select **Remote Process**.
3. Enter the JMX URL in the following format:
`service:jmx:rmi:///jndi/rmi://<host>:10999/jmxrmi`
4. Enter the same user name and password you use to log on to Data File Integrator.
5. Select **Connect**.

Set system configuration parameters



The configurations you can update with JConsole are the same configurations you can update in the Data File Integrator application. See [Set System Configuration Parameters \(page 81\)](#) for explanations of each parameter.

1. Launch JConsole, and then connect to your Data File Integrator process.
2. Select the **MBeans** tab.
3. Expand **com.thomsonreuters.ositax.integrations.datafileintegrator**, and then expand **DataFileWatcherMXBean**.
4. Select **Operations**. The **Operation invocation** window appears.

5. In the field for the parameter you want to change, enter a value, and then select the button to modify your parameter (for example, **modifyDeterminationUser**).