

## Practice 6-3: Configuring the DBAdapter and Resources

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### Overview

In this practice, you configure the runtime server resources that are required for the composite applications that use a Database Adapter to store purchase order information in the `ORDER` and `ITEMS` tables of the `SOADEMO` database schema. In this practice, your tasks are to:

- Verify that the `SOADEMO` database schema in the Oracle Database instance exists, and to display some of the data
- Configure a JDBC data source resource that is required by the composite applications
- Configure the DbAdapter component with a connection factory that uses the new JDBC data source as a resource, and create a new deployment plan
- Update the DbAdapter with the new deployment plan

### Assumptions

- The SQL scripts needed to create the `SOADEMO` schema and the database tables, and populate the tables are in the `/practices/sql` folder.

### Tasks

In this section, you perform the three tasks described in the overview of this practice.

#### Verifying That the SOADEMO Database Schema Exists

Because the `SOADEMO` database schema is created as part of the course environment, you check that the database schema is accessible before creating a JDBC Data Source for the applications.

1. To verify that the `SOADEMO` database schema exists and is accessible, perform the following steps:

- a. In a Terminal window on `host02`, enter the following command:

```
$ sqlplus soademo
```

- b. The `sqlplus` command requires a password for the `SOADEMO` user. At the “Enter password:” prompt, enter the password for the database schema user.

```
SQL*Plus: Release 11.2.0.3.0 Production on Sun May 10 23:23:26
2015
```

```
Copyright (c) 1982, 2011, Oracle. All rights reserved.
```

```
Enter Password: password
```

**Note:** The password for the `SOADEMO` schema is listed in the password reference sheet or you can ask the instructor. After entering a correct password, information similar to the following is displayed:

```
Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 -
64bit Production
With the Partitioning, OLAP, Data Mining and Real Application
Testing options
SQL>
```

**Note:** Do not exit from the SQL\*Plus command-line application.

- c. If you have successfully logged on as the `SOADEMO` user, you have verified that the account exists. At the SQL\*Plus command-line prompt, enter the following SQL statement to verify that data exists in the `CUSTOMERS` table:

```
SQL> SELECT count(*) FROM customers;
```

**Note:** The result of 4 is displayed.

COUNT (*)
-----
4

- d. To exit SQL\*Plus, enter the `exit` command:

```
SQL> exit
```

**Note:** Ask your instructor to help resolve any SQL errors.

## Creating a New JDBC Data Source

In this section, you create a JDBC data source by using Oracle Enterprise Manager Fusion Middleware Control.

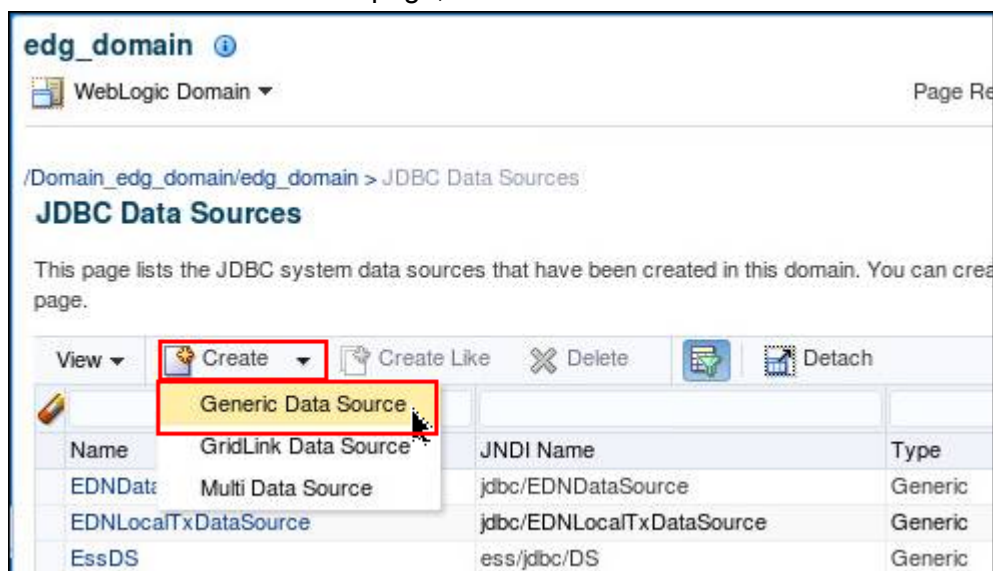
2. If required, in a web browser window (or on a tab page), access Oracle Enterprise Manager Fusion Middleware Control with the URL <http://admin.example.com:8080/em>. Sign in with the `weblogic` administrator user account.
3. To create the JDBC data source, perform the following steps:
  - a. On the Oracle Enterprise Manager Fusion Middleware Control home page, (if required) in the Target Navigation pane, expand the WebLogic Domain entry, and click `edg_domain`.



- b. On the `edg_domain` page, click WebLogic Domain > JDBC Data Sources.



- c. On the JDBC Data Sources page, click Create > Generic Data Source.



**Note:** Because the course architecture is not using a Real Application Clusters (RAC) database configuration, you create a Generic Data Source. Otherwise, for a RAC database, you create a GridLink Data Source.

- d. On the “Creating New JDBC Data Source : Data Source Properties” page, enter the following field values, and click Next:

Field Name	Value
Data Source Name	soademoDS
JNDI Name	j dbc /soademo

**Creating New JDBC Data Source : Data Source Properties**

Applications get a database connection from a data source by looking up the data source on the Java Naming and Directory Interface (JNDI) tree and then requesting a connection. The data source provides the connection to the application from its pool of database connections.

Use this page to define the general configuration options for this JDBC data source.

\* Data Source Name: soademoDS

Type: Generic

Database Type: Oracle

\* Driver Class Name: oracle.jdbc.xa.client.OracleXADataSource

JNDI Name: jdbc/soademo

Row Prefetch Enabled: ☐

Row Prefetch Size: 48

Stream Chunk Size: 256

**Note:** Accept default values for all other settings.

- e. On the “Creating New JDBC Data Source : Connection Properties” page, click Generate URL and Properties.

**Creating New JDBC Data Source : Connection Properties**

Use this page to define the connection properties for this JDBC data source.

Data Source Name: soademoDS

Type: Generic

Driver Class Name: oracle.jdbc.xa.client.OracleXADataSource

**Database Connection Information**

\* Database URL:

\* Password:

\* Confirm Password:

Test Table Name or SQL Statement: SQL ISVALID

**Generate URL and Properties**

**Test Database Connection**

**Properties**

Enter the properties passed to the JDBC driver that are used to create physical database connections. For example: server=dbserver1.

+ Add

- f. In the Generate URL dialog box, enter the following field values and click OK:

Field Name	Value
Database Host Name	host02.example.com
Database Listener Port	1521
Database Name	orcl
Database User Name	soademo

Password	Password for soaedemo
Confirm Password	Password for soaedemo

**Note:** The password for the SOADEMO schema is listed in the password reference sheet or you can ask the instructor.

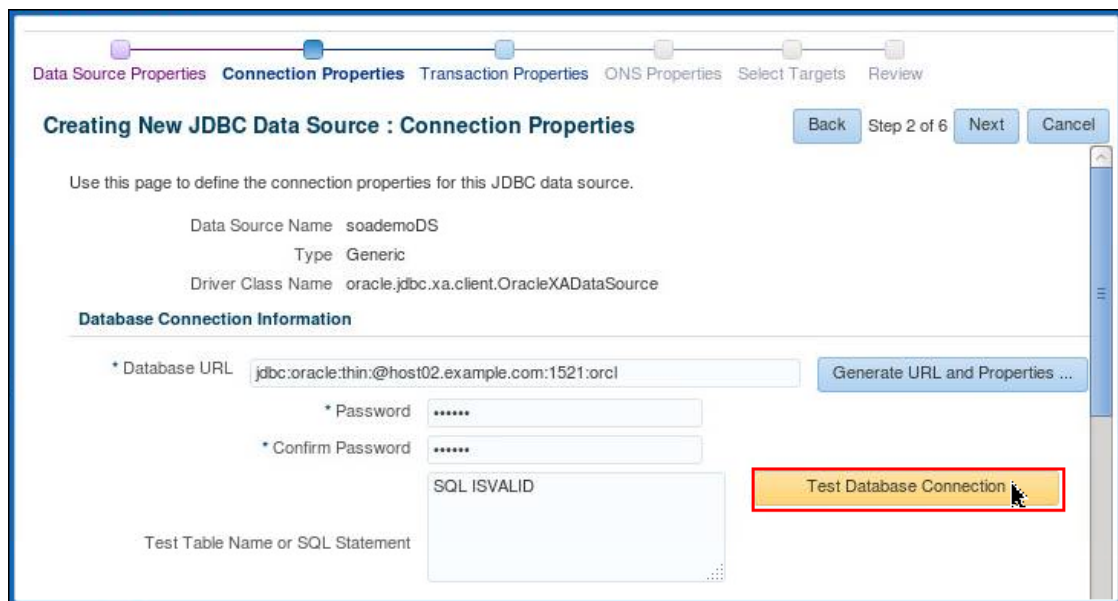


The "Generate URL" dialog box contains the following fields:

- \* Database Host Name: host02.example.com
- \* Database Listener Port: 1521
- \* Database Name: orcl
- \* Database User Name: soaedemo
- \* Password: \*\*\*\*\*
- \* Confirm Password: \*\*\*\*\*
- DRCPConnectionClass: (empty)

Buttons: OK, Cancel

- g. On the "Creating New JDBC Data Source : Connection Properties" page, click Test Database Connection.



The "Creating New JDBC Data Source : Connection Properties" page shows the following information:

- Data Source Name: soaedemoDS
- Type: Generic
- Driver Class Name: oracle.jdbc.xa.client.OracleXADataSource

**Database Connection Information**

- \* Database URL: jdbc:oracle:thin:@host02.example.com:1521:orcl
- \* Password: \*\*\*\*\*
- \* Confirm Password: \*\*\*\*\*
- Test Table Name or SQL Statement: (empty)

Buttons: Back, Step 2 of 6, Next, Cancel, Generate URL and Properties ...

A red box highlights the "Test Database Connection" button.

- h. Verify that the message "Connection test succeeded." appears in the Confirmation dialog box, and click OK.



The "Confirmation" dialog box displays the message: "Connection test succeeded."

Button: OK

- i. On the “Creating New JDBC Data Source : Connection Properties” page, click Next.
- j. On the “Creating New JDBC Data Source : Transaction Properties” page, click Next.

**Creating New JDBC Data Source : Transaction Properties**

The transaction protocol for a JDBC data source determines how connections from the data source are handled during transaction processing. Transactions within a JDBC data source are either global (XA) and non-global (local).

Use this page to define the transaction options for this JDBC data source.

Data Source Name: soademoDS  
 Type: Generic  
 Driver Class Name: oracle.jdbc.xa.client.OracleXADataSource

**Transaction Options**

You have selected an XA JDBC driver to use to create database connection in your new data source. The data source will support global transactions and use the 'Two-Phase Commit' global transaction protocol. No other transaction configuration options are available.

- k. On the “Creating New JDBC Data Source : Select Targets” page, in the Name column, select the soa\_cluster1 check box for the target, and click Next.

**Creating New JDBC Data Source : Select Targets**

Use this page to select the servers or clusters on which you would like to deploy this 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.

Name	Type
<input type="checkbox"/> AdminServer	Oracle WebLogic Server
<input type="checkbox"/> lbr_server	Oracle WebLogic Server
<input checked="" type="checkbox"/> soa_cluster1	Oracle WebLogic Cluster
<input checked="" type="radio"/> All configured Servers in this cluster <input type="radio"/> Partial configured servers in this cluster	

- l. On the “Creating New JDBC Data Source : Review” page, verify that the settings are correct, and click Create.

[Data Source Properties](#)
[Connection Properties](#)
[Transaction Properties](#)
[ONS Properties](#)
[Select Targets](#)
**Review**

### Creating New JDBC Data Source : Review

[Back](#)
Step 6 of 6
[Next](#)
[Create](#)
[Cancel](#)

Review the data source settings that you are going to create.

Data Source Name: soademoDS  
 Type: Generic  
 Driver Class Name: oracle.jdbc.xa.client.OracleXADataSource  
 JNDI Name: jdbc/soademo

Database URL: jdbc:oracle:thin:@host02.example.com:1521:orcl

**Properties**

Name	Value
user	soademo

**System Properties**

Name	Value
(No system properties found)	


Transaction Options: Supports global transactions and use the 'Two-Phase Commit' global transaction protocol.



**Targets**



Name	Type
------	------

- On the `edg_domain > JDBC Data Sources` page, verify that you receive a confirmation message at the top of the page that indicates that the `soademoDS` JDBC Data Source is created successfully. Scroll down the table to verify that you can see the `soademoDS` entry.



edg\_domain  Logged in as weblogic

 WebLogic Domain Page Refreshed Mar 25, 2015 3:48:05 AM GMT 







 **Confirmation** 

JDBC Data Source "soademoDS" has been created successfully. All changes have been activated.

/Domain\_edg\_domain/edg\_domain > JDBC Data Sources

### JDBC Data Sources

This page lists the JDBC system data sources that have been created in this domain. You can create or delete the system data sources from this page.

View   Create  Create Like  Delete   Detach

Name	JNDI Name	Type	Targets
SOALocalTxDataSource	jdbc/SOALocalTxDataSource	Generic	soa_clust
mds-ESS_MDS_DS	jdbc/mds-ESS_MDS_DS	Generic	soa_clust
mds-owsm	jdbc/mds/owsm	Generic	soa_clust
mds-soa	jdbc/mds/MDS_LocalTxDataSource	Generic	soa_clust
opss-audit-DBDS	jdbc/AuditAppendDataSource	Generic	soa_clust
opss-audit-viewDS	jdbc/AuditViewDataSource	Generic	soa_clust
opss-data-source	jdbc/OpssDataSource	Generic	soa_clust
soademoDS	soademoDS	Generic	soa_clust

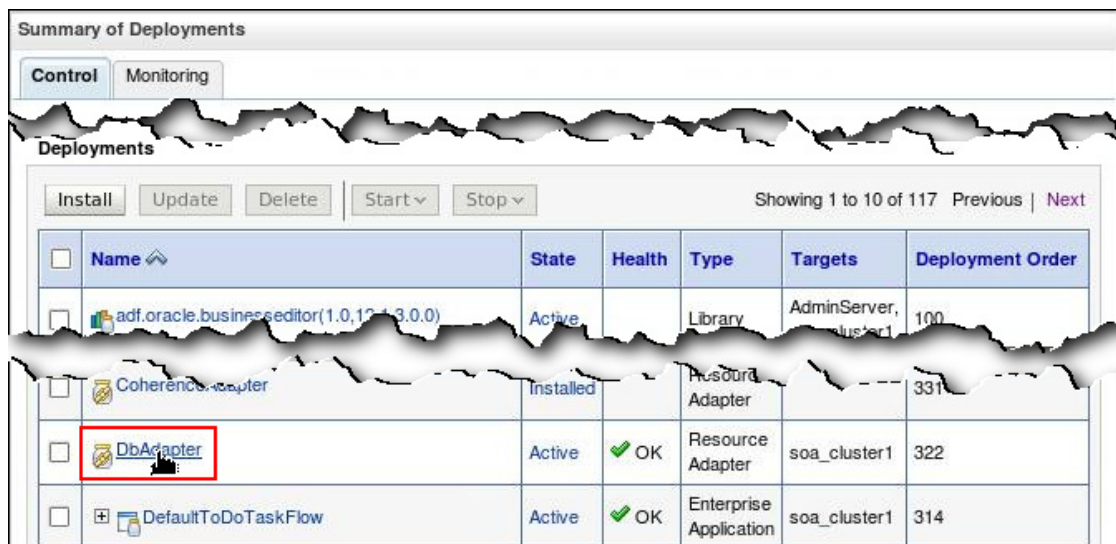
Columns Hidden 4 Showing 16 of 16 rows

## Configuring the DbAdapter Connection Factory and Deployment Properties

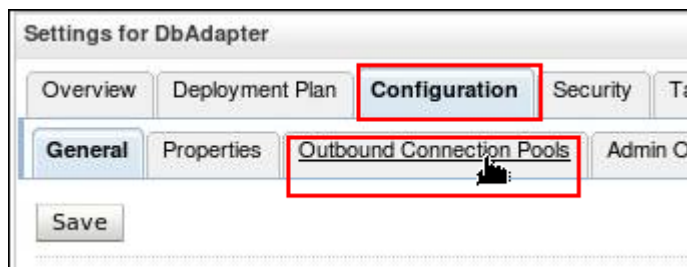
In this section, you use the Oracle WebLogic Server Administration Console to create a connection factory that references the JDBC Data Source JNDI name that you created in the previous section titled "Creating a new JDBC Data Source." After modifying the connection factory, you create a new DBAdapter deployment plan.

5. If required, on a web browser page, access the Oracle WebLogic Server Administration Console with the URL <http://admin.example.com:8080/console>, and sign in as the weblogic administrator user.
6. To configure the DBAdapter connection factory, perform the following steps:
  - a. On the Oracle WebLogic Server Administration Console home page, in the Domain Structure pane, click Deployments.
  - b. On the "Summary of Deployments" > Control tab page, click Next in the Deployments table until you locate the DbAdapter entry. Click the DbAdapter link.

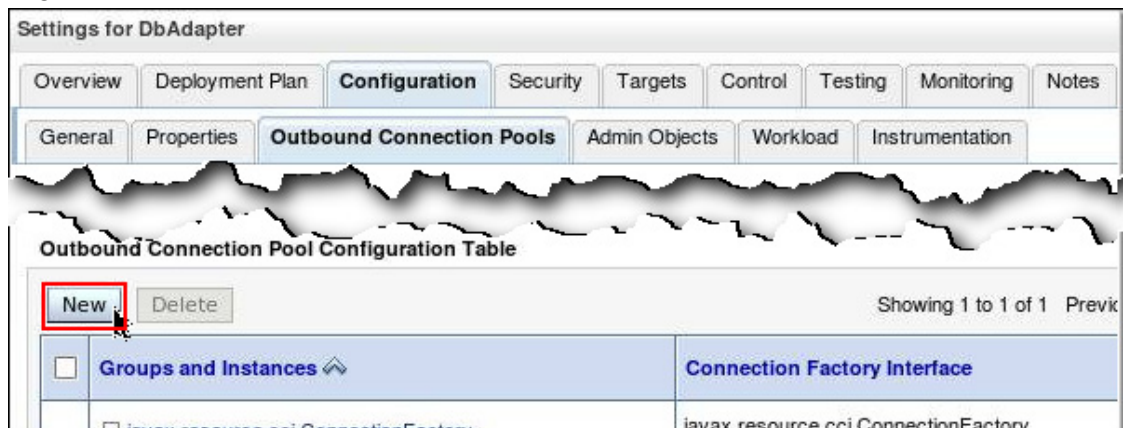




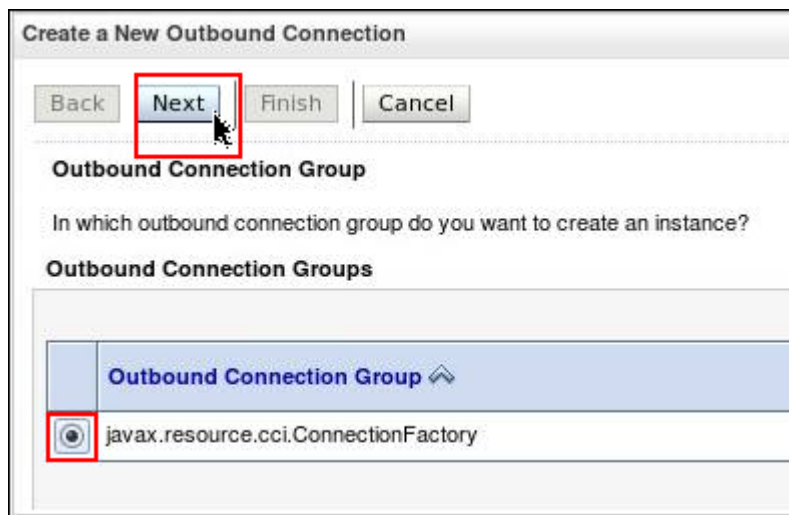
- c. On the “Settings for DbAdapter” page, click the Configuration tab, and then click the Outbound Connection Pools subtab.



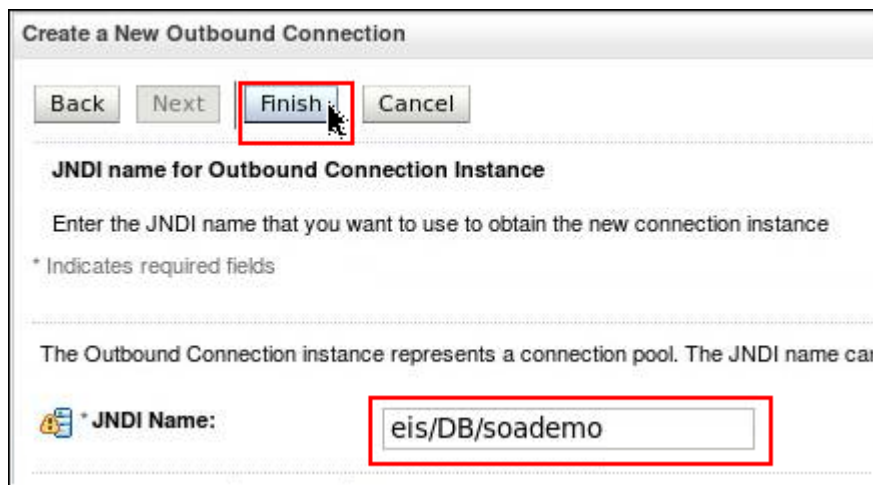
- d. On the “Settings for DbAdapter” Configuration > Outbound Connection Pools subtab page, click New.



- e. On the “Create a New Outbound Connection” Outbound Connection Group page, select the javax.resource.cci.ConnectionFactory option, and click Next.

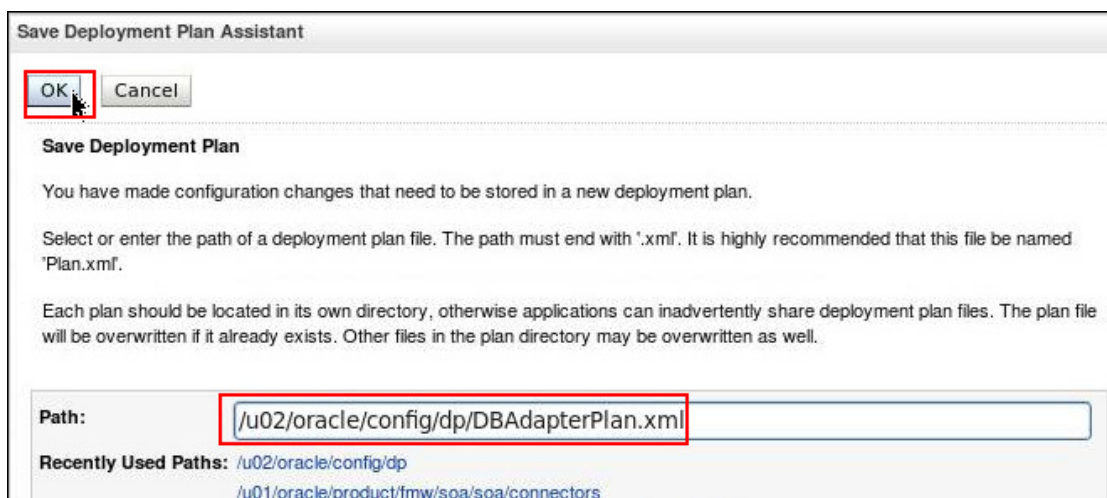


- f. On the “Create a New Outbound Connection” “JNDI name for Outbound Connection Instance” page, enter the JNDI Name: `eis/DB/soademo`, press Enter, and then click Finish.



- g. On the “Save Deployment Plan Assistant” Save Deployment Plan page, replace the Path value with `/u02/oracle/config/dp/DBAdapterPlan.xml` (do not press Enter here), and click OK.

**Tip:** To quickly replace the directory in the path, you can click an appropriate Recently Used Paths entry below the Path field, navigate if necessary to the appropriate directory, and then enter the XML file name at the end of the selected directory in the Path field.



**Save Deployment Plan Assistant**

OK Cancel

**Save Deployment Plan**

You have made configuration changes that need to be stored in a new deployment plan.

Select or enter the path of a deployment plan file. The path must end with '.xml'. It is highly recommended that this file be named 'Plan.xml'.


Each plan should be located in its own directory, otherwise applications can inadvertently share deployment plan files. The plan file will be overwritten if it already exists. Other files in the plan directory may be overwritten as well.

Path:

Recently Used Paths: /u02/oracle/config/dp  
/u01/oracle/product/fmw/soa/soa/connectors

**Note:** The deployment plan must be placed on a shared folder for an Enterprise Deployment topology.

- h. Verify that you receive a message, at the top of the Settings for DbAdapter page, indicating that the deployment configuration is successfully updated and that the deployment plan path is `/u02/oracle/config/dp/DBAdapterPlan.xml`.



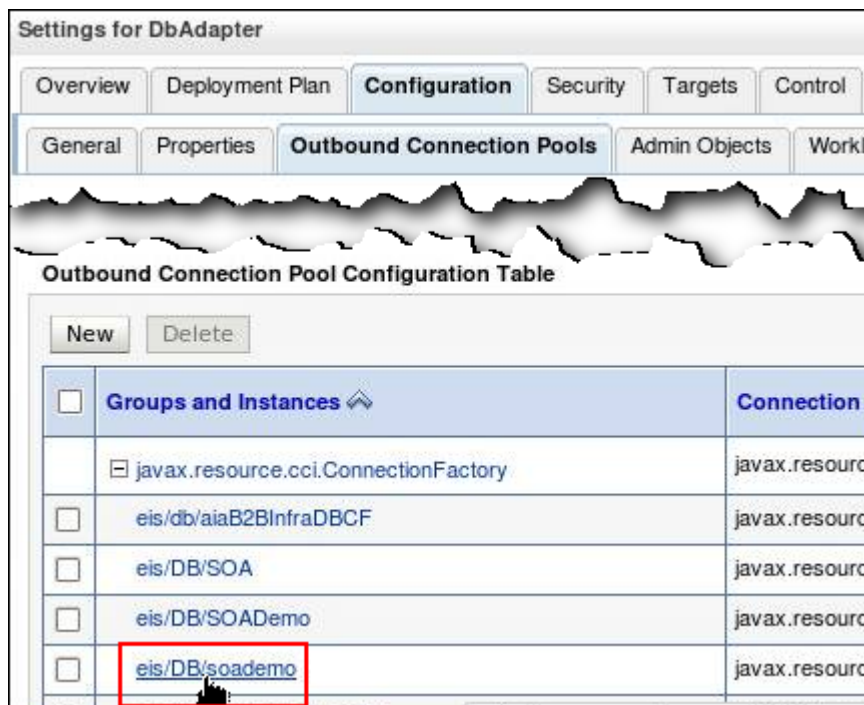
Home > Summary of Deployments > DbAdapter

**Messages**

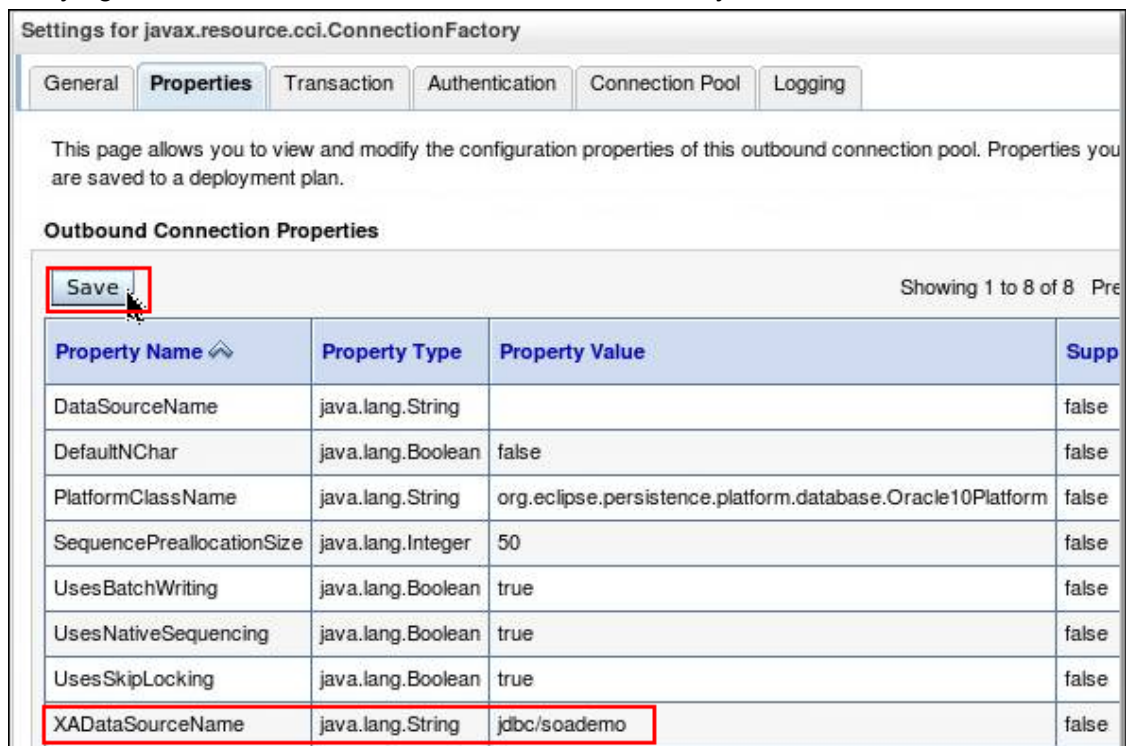
- ✓ All changes have been activated. No restarts are necessary.
- ✓ A new deployment plan has been successfully created in `/u02/oracle/config/dp/DBAdapterPlan.xml`.
- ✓ Your deployment configuration has been updated to include the new plan.

**Settings for DbAdapter**

7. To update the eis/DB/soademo connection factory to use the jdbc/soademo connection pool, perform the following steps:
  - a. On the "Settings for DbAdapter" page, navigate to the Configuration > Outbound Connection Pools page, expand the `javax.resource.cci.ConnectionFactory` entry, and click the `eis/DB/soademo` link.



- b. On the “Settings for javax.resource.cci.ConnectionFactory” > Properties tab page, in the Outbound Connection Properties table, enter the Property Value jdbc/soademo for the Property Name called XADataSourceName. Press Enter, and click Save after verifying that the XADataSourceName name is correctly set.



- c. On the “Settings for javax.resource.cci.ConnectionFactory” > Properties tab page, confirm that the Messages at the top of the page indicate that the changes have been activated and are successfully updated.



**Note:** The DbAdapter deployment changes must be updated to become active.

8. To update the DbAdapter with the deployment plan changes, performing the following steps:
  - a. In the Domain Structure panel, click the Deployments link.
  - b. On the “Summary of Deployments” page, click Next in the Deployments table to locate and select the check box for the DbAdapter row, and click Update.



- c. On the Update Application Assistant “Locate new deployment files” page, verify that the “Redeploy this application using the following deployment files:” option is selected and that the “Deployment plan path” is /u02/oracle/config/dp/DBAdapterPlan.xml. Click Finish.



**Update Application Assistant**

Back Next **Finish** Cancel

---

**Locate new deployment files**

You have elected to update the DbAdapter application.

☐ Update this application in place with new deployment plan changes. (A deployment plan must be specified for this option)

**Deployment plan path:** /u02/oracle/config/dp/DBAdapterPlan.xml **Change Path**

☒ **Redeploy this application using the following deployment files:**

**Source path:** /u01/oracle/product/fmw/soa/soa/connectors/DbAdapter.rar **Change Path**

**Deployment plan path:** /u02/oracle/config/dp/DBAdapterPlan.xml **Change Path**

- d. On the top of the “Summary of Deployments” page, in the Messages section, confirm that the changes are activated and that the deployments are updated.