Practice 6-3: Configuring the DBAdapter and Resources

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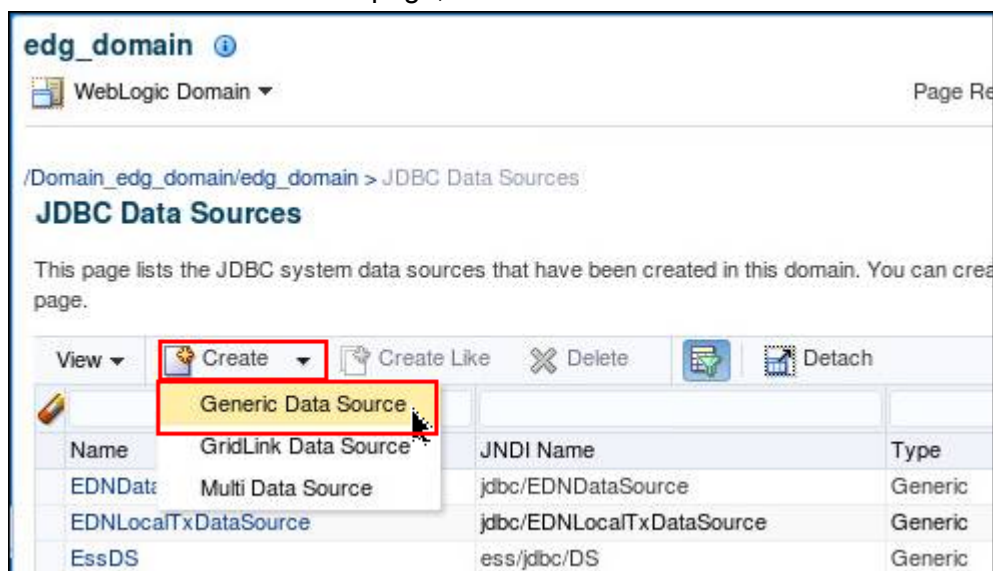
Note: Because the course architecture is not using a Real Application Clusters (RAC) database configuration, you create a Generic Data Source. Otherwise, for a RAC database, you create a GridLink Data Source.

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	jdbc/soademo

Note: Accept default values for all other settings.

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

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.

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

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

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.

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

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

4. 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.

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.
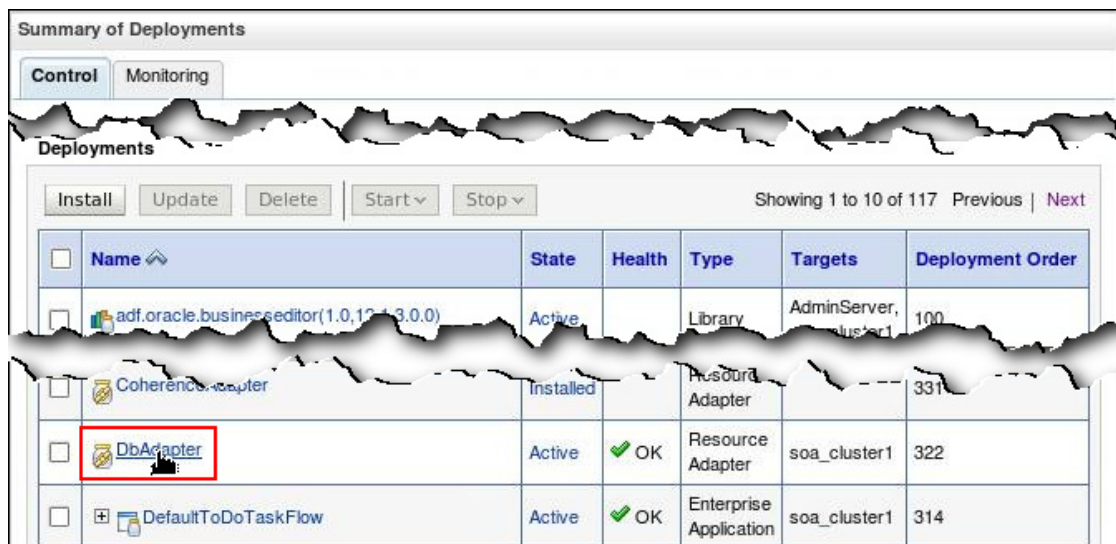
c. On the "Settings for DbAdapter" page, click the Configuration tab, and then click the Outbound Connection Pools subtab.
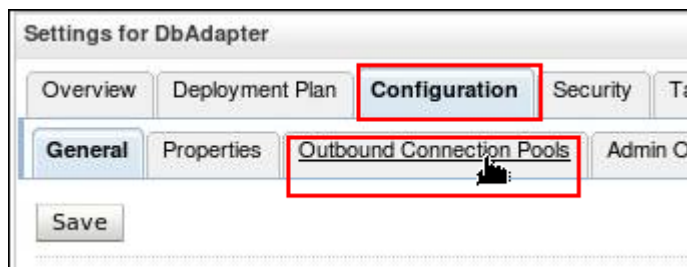
d. On the "Settings for DbAdapter" Configuration > Outbound Connection Pools subtab page, click New.

e. On the "Create a New Outbound Connection" Outbound Connection Group page, select the javax.resources.cci.ConnectionFactory option, and click Next.

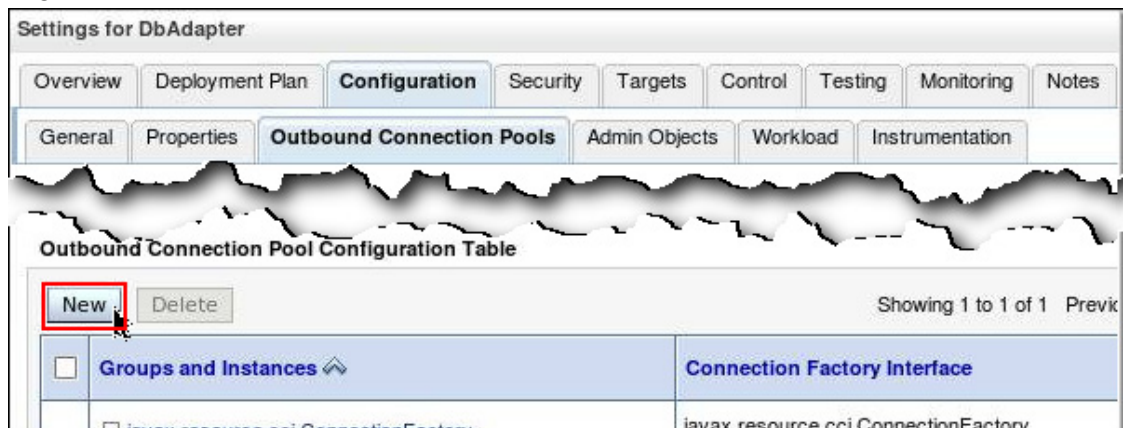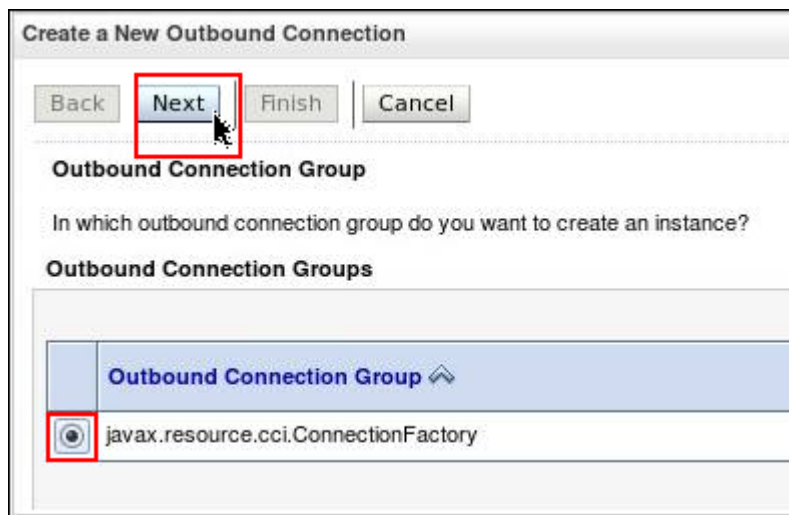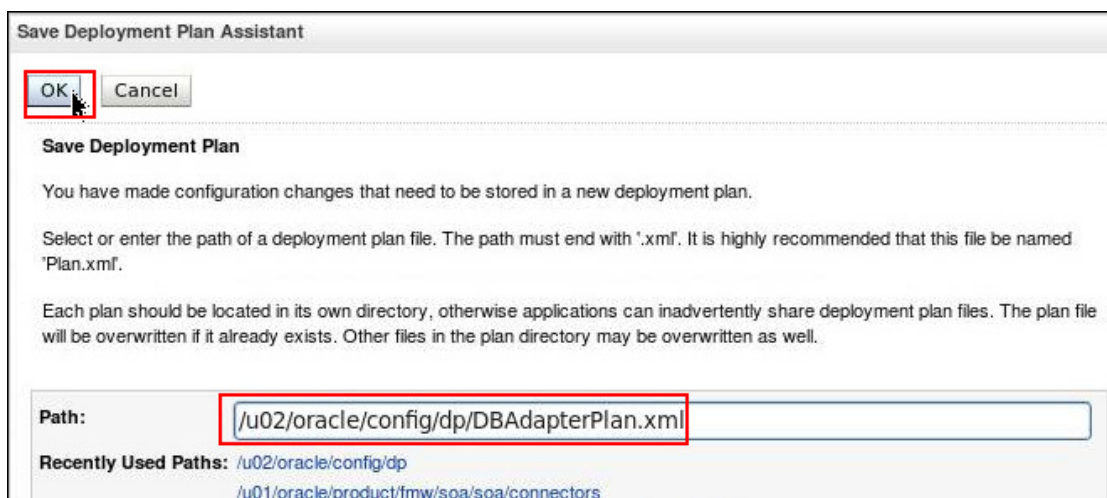f. On the "Create a New Outbound Connection" "JNDI name for Outbound Connection Instance" page, enter the JNDI Name: `eis/DB/soademo`, press Enter, and then click Finish.
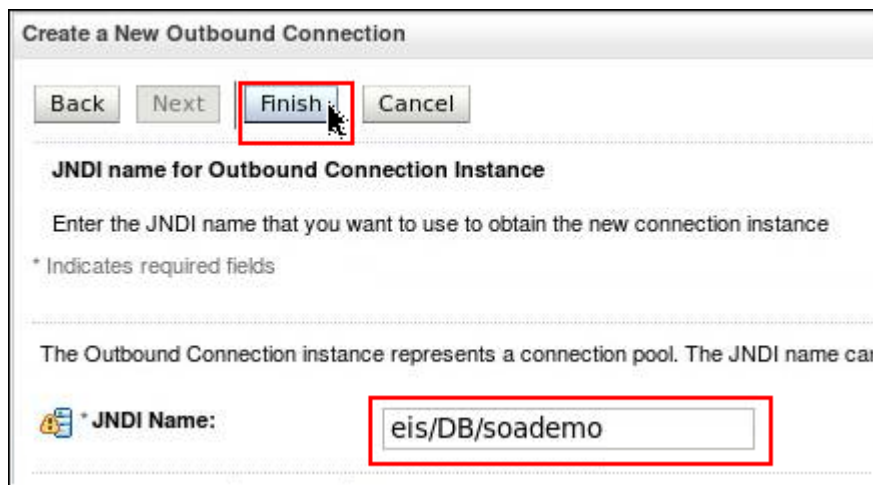
g. On the "Save Deployment Plan Assistant" Save Deployment Plan page, replace the Path value with `/u02/oracle/config/dp/DBAdapterPlan.xml` (do not press Enter here), and click OK.

    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:	/u02/oracle/config/dp/DBAdapterPlan.xml

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.

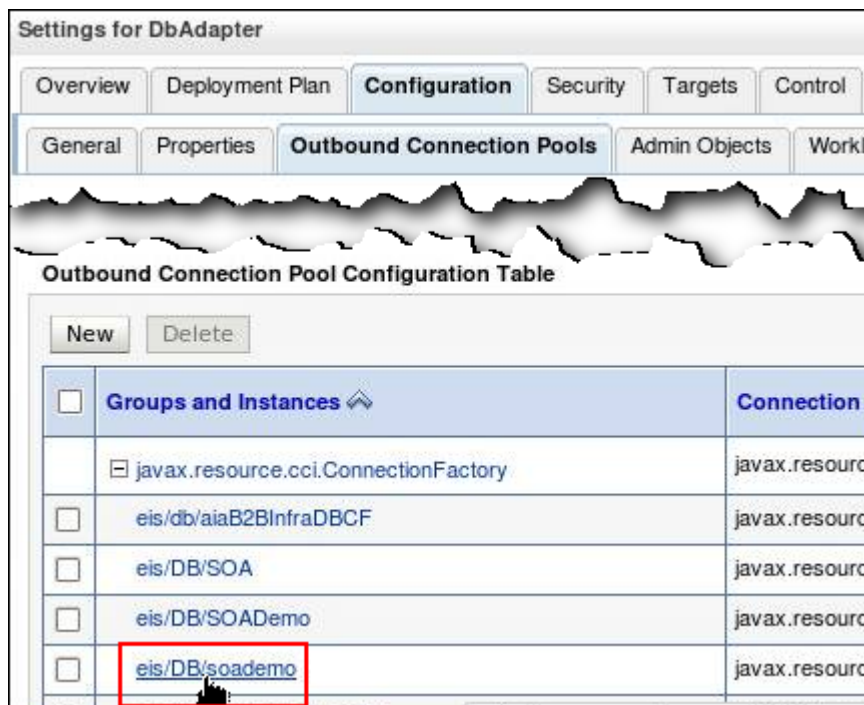b. On the "Settings for javax.resource.cci.ConnectionFactory" > Properties tab page, in the Outbound Connection Properties table, enter the Property Value `jdbc/soademo` for the Property Name called XADataSourceName. Press Enter, and click Save after verifying that the XADataSourceName name is correctly set.
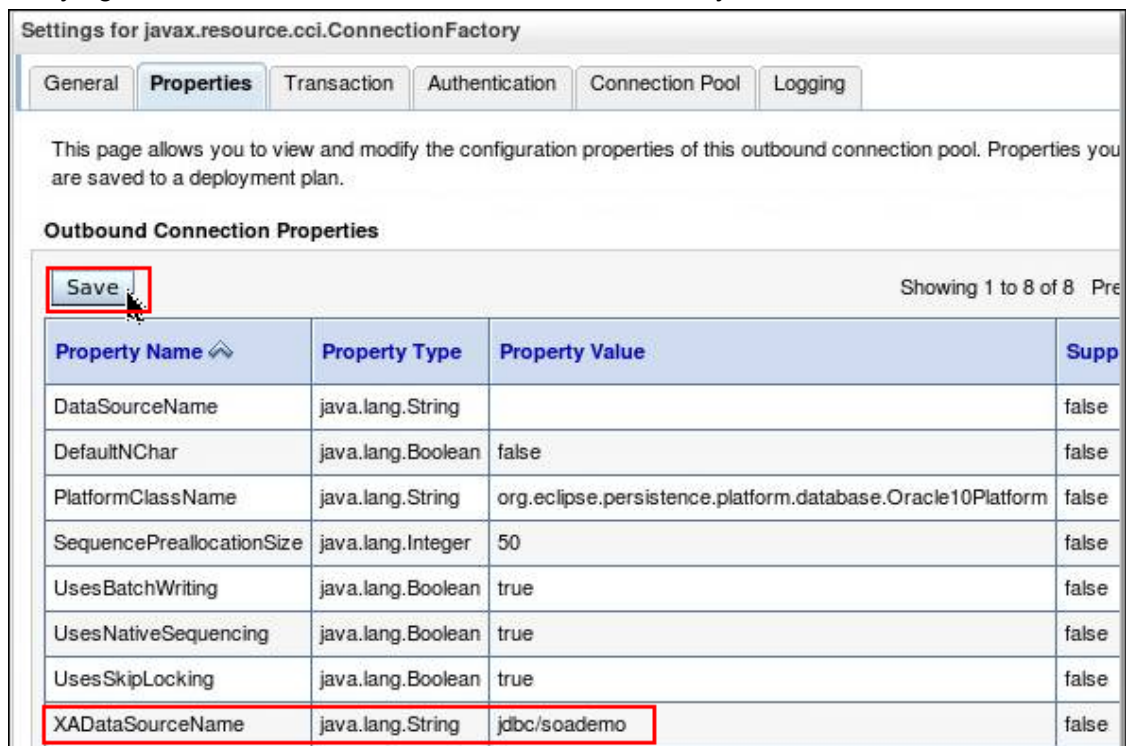
c. On the "Settings for javax.resource.cci.ConnectionFactory" > Properties tab page, confirm that the Messages at the top of the page indicate that the changes have been activated and are successfully updated.

Messages

✅ All changes have been activated. No restarts are necessary.

✅ Deployment plan has been successfully updated.

🔵 Remember to update your deployment to reflect the new plan when you are finished with your changes.

Settings for javax.resource.cci.ConnectionFactory

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.

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.