

Deploy Applications for Oracle SOA Suite on Marketplace

Objectives

After completing this lesson, you should be able to:

- Understand the deployment tasks for an Oracle SOA Suite on Marketplace Instance
- Use Oracle JDeveloper to deploy an application
- Use Oracle Enterprise Manager Fusion Middleware Control to deploy an application
- Deploy and undeploy an application using WebLogic Server Administration Console





Deployment Tasks for an Oracle SOA Suite Instance



Deployment Tasks for an Oracle SOA Suite on Marketplace Instance



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Deployment Tasks for an Oracle SOA Suite on Marketplace Instance:

1. **Use Oracle JDeveloper:** You can use Oracle JDeveloper to deploy SOA composite applications and Oracle Service Bus applications to an Oracle SOA Suite on Marketplace instance.
2. **Use Fusion Middleware Control:** You can use Oracle Enterprise Manager Fusion Middleware Control to deploy and undeploy an application to an Oracle SOA Suite on Marketplace instance.
3. **Use the WebLogic Server Administration Console:** You can use the Oracle WebLogic Server Administration Console to deploy and undeploy an application to an Oracle SOA Suite on Marketplace instance.
4. **Access a deployed application:** Copy the public IP address of the load balancer into the URL for the application.
5. **Use WLST commands:** You can use WLST commands to deploy and undeploy an application to and from an Oracle SOA Suite on Marketplace instance.



Deploy an Application Using Oracle JDeveloper



Deploy an Application Using Oracle JDeveloper

•Set up the JDeveloper Environment

•Add an Ingress Rule to allow the JDeveloper Connection

•Create an Application Server Connection in JDeveloper

•Deploy an application

•Test the deployed application

Set Up the JDeveloper Environment

Select Managed Server from Weblogic console

Copy the Listen Address of Managed Server

Map "Public IP Listen Address" in /etc/hosts file

The first step is to set up the JDeveloper Environment.

Access your SOA instance and make a note of the public IP address.

Log in to Web Logic Administration console, copy the listen address of Managed Server.

Next, you need to map the listen address of Managed Server to the associated SOA server public IP address.

- To do that, open the terminal on the host (where Jdeveloper IDE is running). Access the hosts file that is present under etc directory. Then map the <public Ip address> with the < listen address of the Managed Server> and save the file.

Add an Ingress Rule to Allow the JDeveloper Connection

The screenshot illustrates the process of adding an ingress rule to a Virtual Cloud Network (VCN) security list in the Oracle Cloud Infrastructure console. It is divided into three numbered steps:

- Step 1:** The 'Networking' page is shown with 'Virtual Cloud Networks in OCI2 Compartment' selected. A specific VCN is highlighted in the list.
- Step 2:** The 'Security Lists' page for the selected VCN is shown. A security list is selected from the list.
- Step 3:** The 'Add Ingress Rules' dialog is open. A callout box points to the 'Add Ingress Rules' button with the text 'Click "Add Ingress Rules"'. The dialog shows a table of existing rules.

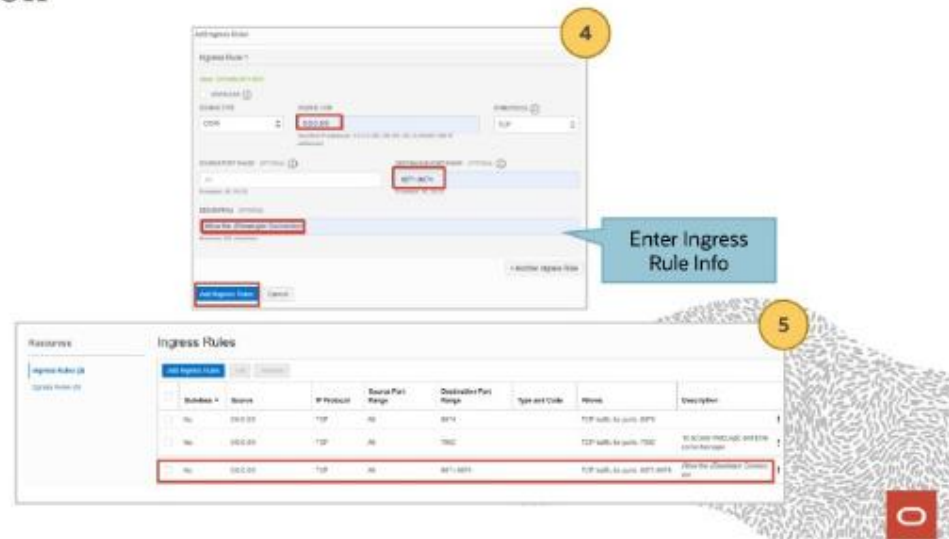
Name	Size	IPV4 Sub	IPV6 Sub	Subnet Mask	Subnet Type	Subnet
VCN-1	10.0.0.0/16	10.0.0.0/24		255.255.255.0	Private	VCN-1

Name	Status	Compartment	Created
VCN-1-SECURITY-LIST	Available	OCI2	Sat, Jun 5, 2021, 15:01:55 UTC
VCN-2-SECURITY-LIST	Available	OCI2	Sat, Jun 5, 2021, 15:01:55 UTC
VCN-3-SECURITY-LIST	Available	OCI2	Sat, Jun 5, 2021, 15:01:55 UTC

Statistics	Source	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Action	Description
No	0.0.0.0/0	TCP	All	8080	TCP traffic to port: 8080	Allow	
No	0.0.0.0/0	TCP	All	7002	TCP traffic to port: 7002	Allow	To access WebLogic and Web Services Manager

1. Sign in to the Oracle Cloud Infrastructure Console.
2. Open the navigation menu, click **Networking**, and then click **Virtual Cloud Networks**.
3. Select the compartment where you created the new instance.
4. In the list of VCNs, select your VCN.
5. On the Virtual Cloud Network Details page, click **Security Lists** in the left pane.
6. Select a security list and click **Add Ingress Rules** to open the Add Ingress Rules dialog.

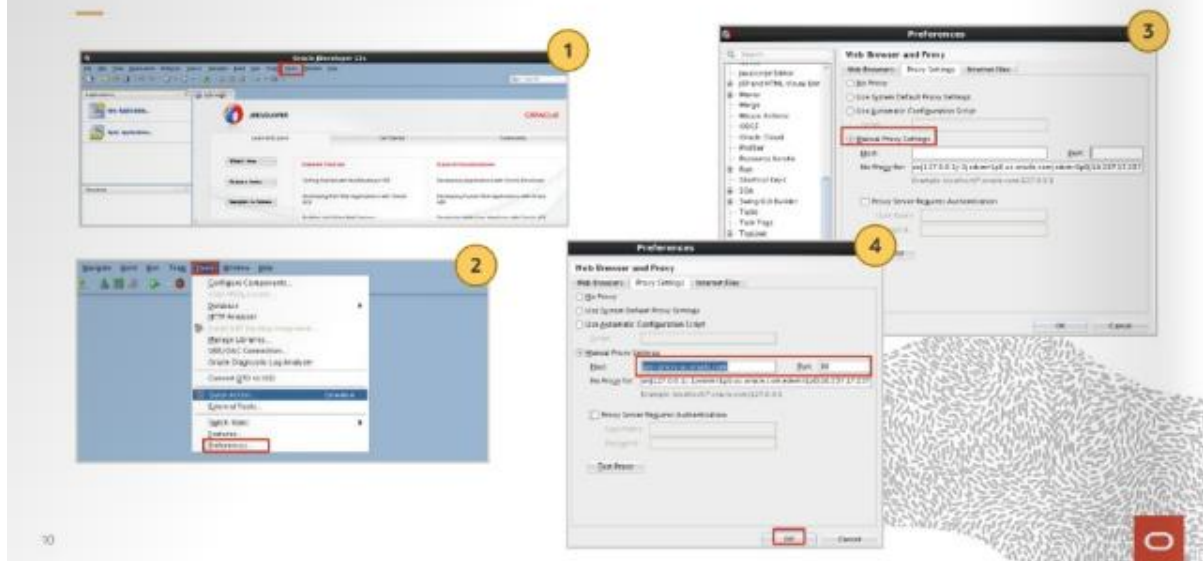
Add an Ingress Rule to Allow the JDeveloper Connection



7. In the Add Ingress Rules dialog box, create an ingress rule for ports 9071-9074 to access JDeveloper.

Note: By adding this ingress rule, be aware that you are allowing traffic from the internet (known CIDRs) into WebLogic Server. You must be extra cautious and open traffic to known CIDRs only.

Set the Manual Proxy in Oracle JDeveloper



Setting up the Manual Proxy in Oracle JDeveloper:

1. To set up the manual proxy, go to Tools -> Preferences >> Web Browser and Proxy >> Proxy Settings >> Manual Proxy Settings .
2. Enter the host name as "<http://ges-proxy.us.oracle.com>". Click **OK**.

Create an Application Server Connection



To create a new application server connection in JDeveloper:

1. From JDeveloper homepage, click **New Applications** → **Connections** → **Application Server Connection**.
2. On the Name and Type page, in the **Connection Name** field, enter a name for the connection and select a **Connection Type** of **WebLogic 12.x**.
3. On the Authentication page, enter your WebLogic Server credentials.

Create an Application Server Connection

[illegible]

Create Application Server Connection - Step 4 of 5

Test

Test Connection

Click Test Connection to determine if the information specified successfully establishes a connection with the application server.

Details

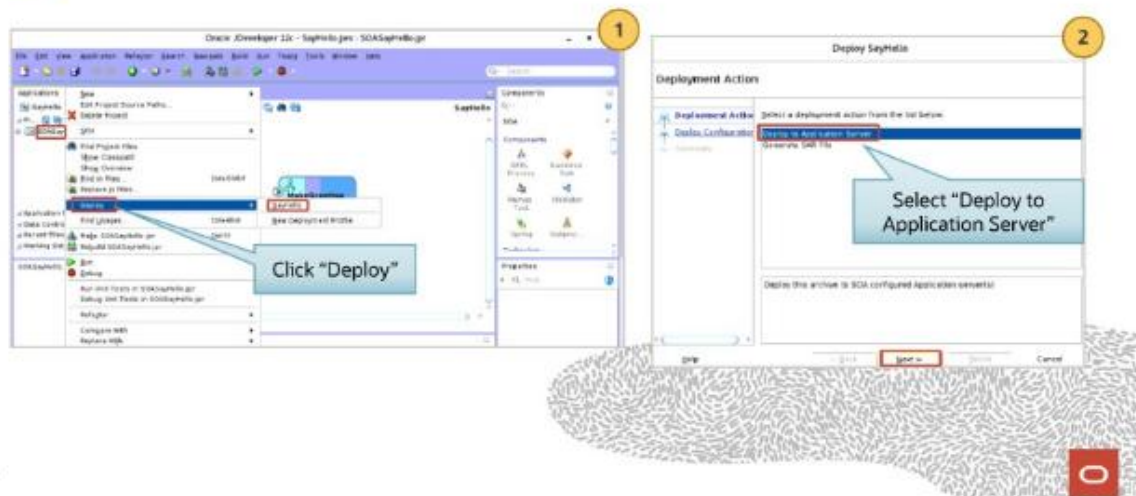
Testing HTTP authentication	Success
Testing HTTP 1.00 Function	Success
Testing HTTP	Success
Testing HTTP 1.00 Content-Type	Success
Testing HTTP 1.00 MIME	Success
Testing HTTP	Success
Testing HTTP 1.00	Success
Testing HTTP 1.00 LOCAL	Success
Testing Server Message	Success
Testing new function	Success
Testing HTTP 1.00 HTTP 1.00	Success
Testing HTTP 1.00 HTTP 1.00	Success

11 of 12 tests successful.

OK Cancel

- On the Configuration page:
 - In the **WebLogic Hostname (Administration Server)** field, enter the Listen address of the Administration Server that you noted down for the provisioned Oracle SOA Suite on Marketplace instance.
 - Enter a **Port** value of 9071 and an **SSL port** value of 9072.
 - Select **Always use SSL** when the instance is using a public IP address. For instances with a private IP address only, leave this unchecked.
 - Enter the name of your **WebLogic Domain**.
- On the Test page, click **Test Connection**. If the instance is using a public IP address, then click **Accept This Session** to accept the certificates in the dialog box that is displayed.

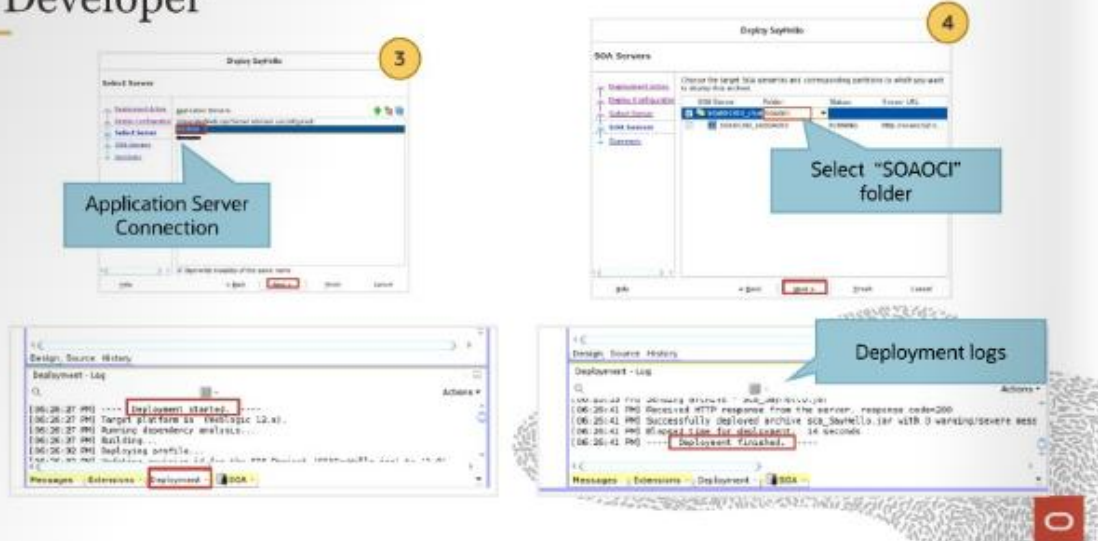
Deploy a SOA Composite Application from JDeveloper



To deploy a SOA composite application to Oracle SOA Suite on Marketplace from JDeveloper:

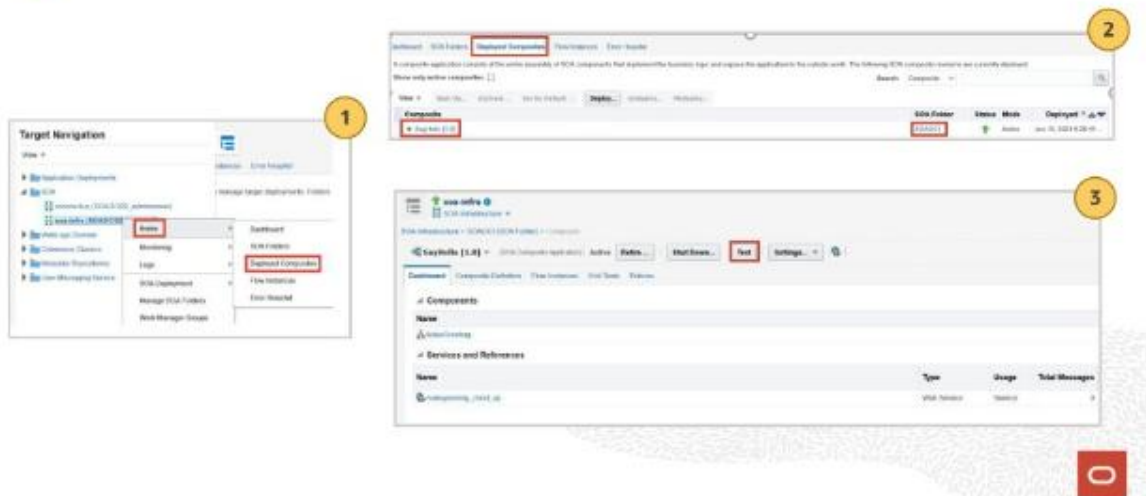
1. In JDeveloper, right-click the SOA project you want to deploy and select **Deploy** and then the name of the project.
2. The deployment wizard is displayed.

Deploy a SOA Composite Application from JDeveloper



3. On the Select Server page, select the application server connection that you created.
 - If the server is configured correctly, the deployment wizard looks up the SOA servers and shows the SOA servers to which to deploy the SOA composite application.
4. Click **Finish** and verify that the deployment completes successfully as shown in the screenshot in the slide.
5. The JDeveloper Console logs indicate that the composite application was deployed successfully.

Test the Deployed Application from Enterprise Manager



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To test the deployed application, you can log in to Oracle Enterprise Manager Fusion Middleware Control. Then in the Target Navigation pane, expand SOA and right-click **soa-infra**.

Next, you can choose **Home**→**Deployed Composites**. You can see that the **SayHello** SOA application is deployed successfully in **SOAOCI** folder. So, click **SayHello [1.0]** application and click **Test**.

Test the Deployed Application from Enterprise Manager

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Enter the Input text

Response text

On the Test Web Service page, you can click the **Request** tab and expand payload. After that, enter "SOAOCI Cloud World" message in the text field and then click **Test Web Service**.

To verify the response text, you can select **Response** tab and observe the test status as "**Request Successfully completed**". Here in this case, you can see the response text is **Hello SOAOCI Cloud World**.



Deploy an Application Using Oracle Enterprise Manager Fusion Middleware Control



Deploying an Application Using Oracle Enterprise Manager

1 SIGN IN TO ORACLE ENTERPRISE MANAGER FUSION MIDDLEWARE CONTROL 12c

Username: Password:

Enter the username ,password and click "Sign In"

2 Target Navigation

View: Enter Hostname

Application Deployments

- SOA
 - soa-infra (SOAInfra_WebLogicServer)
 - soa-infra (SOAInfra_WebLogicServer)
- WebLogic Domain
- Clustered Clusters
- Middleware Repositories
- User Messaging Service

SOA Deployment

- Deploy...
- Undeploy...
- Redeploy...

Click SOA Deployment → "Deploy"

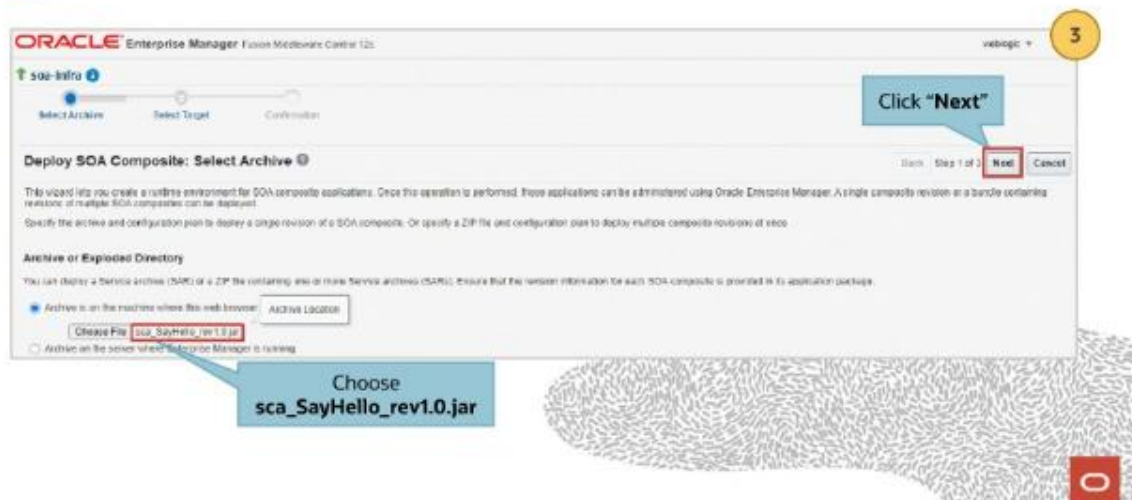
Fusion Middleware Control is a Web browser-based interface that you can use to monitor and administer a farm. A **farm** is a collection of components managed by Fusion Middleware Control. It contains Oracle WebLogic Server domains, one Administration Server, one or more Managed Servers, clusters, and the Oracle Fusion Middleware components that are installed, configured, and running in the domain.

Let's see the different steps to deploy an application.

First, log in to **Oracle Enterprise Manager** console and then click **Target Navigation** pane. Next, you can expand **SOA** and right-click **soa-infra**.

You can now choose **SOA Deployment > Deploy** option to access the Deploy SOA Composite page.

Deploying an Application Using Oracle Enterprise Manager



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From the Deploy SOA Composite page, click **Choose File** to select the application jar file that needs to be deployed. In this case, sca_SayHello_rev1.0.jar file (this file is part of the course labs) and then click **Next**.

Deploying an Application Using Oracle Enterprise Manager

seo-infra

Search/Select Select Target Confirmation

Deploy SOA Composite: Select Target

Back Step 2 of 3 Next Cancel

WebLogic Server or Cluster

Based on the context how you launched this wizard, the selected composite will be deployed to the WebLogic server or cluster shown below. If you want to deploy to a different target, click Cancel to exit this wizard, navigate to a different WebLogic server or cluster or to the WebLogic Console, and select Deploy again.

Destination Target: Domain: SOAACC02_domain/SOAACC02_domain/SOAACC02_cluster

Type: Oracle WebLogic Cluster

Token Configurations

As a good practice, configure the global token variables referenced by this composite before deploying it. Else the composite may not run properly, once it is deployed. Global token variables are used to resolve environment specific URLs when a composite is moved to another environment. Before starting the deployment operation, ensure that all the tokens referenced by the selected composite are configured. The Token Configurations page can be found in the SOA Administration section of the SOA Infrastructure target menu. (More info...)

SOA Folder

SOA Folders are logical groupings of composites that help you manage large deployments. The selected composite will be deployed to the folder shown below. If you want to deploy to a different folder, select it from the list below.

default

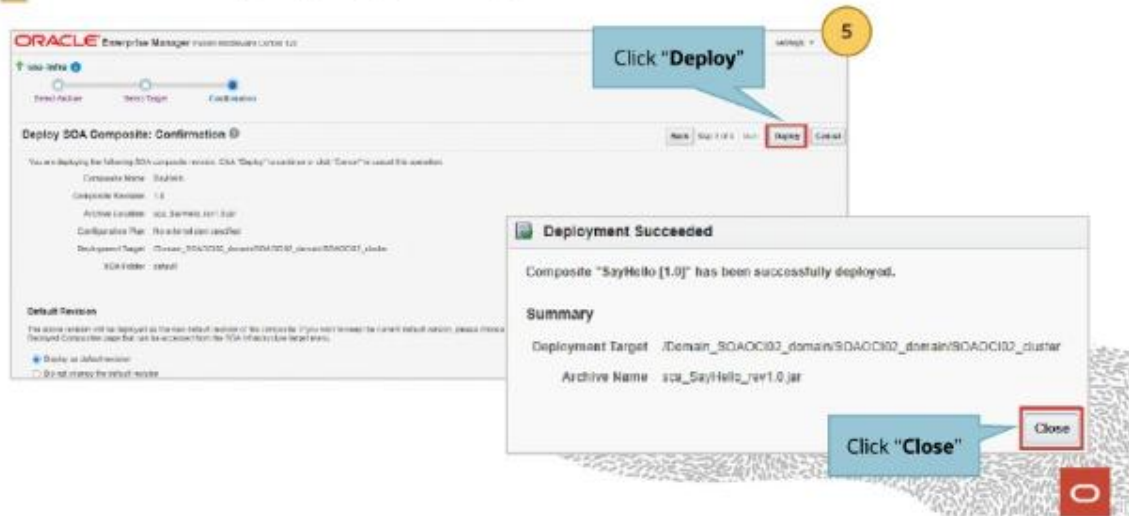
Select "default" SOA folder

Click "Next"

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Oracle

Oracle Enterprise Manager Fusion Middleware Control - Deploying an Application



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On the Confirmation page, you can click **Deploy**. You can observe that the application has been deployed successfully. Finally, click **Close**.

Access the Deployed Application - Oracle Enterprise Manager

The screenshot illustrates the steps to access a deployed application in Oracle Enterprise Manager. It is divided into two main sections, labeled 1 and 2.

Section 1: The 'Target Navigation' pane on the left shows the 'SOA' target. A right-click context menu is open, with 'Home' and 'Deployed Composites' highlighted. A blue callout box points to these options with the text: "Click Home-> Deployed Composites".

Section 2: The main console area shows the 'SOA Infrastructure' view. The 'Deployed Composites' tab is selected. Under the 'Composite' section, 'SayHello[1.0]' is listed and highlighted. A blue callout box points to it with the text: "Click 'SayHello[1.0]'".

Yellow circles with numbers 1 and 2 are placed above the respective sections. A red circle with the number 0 is located in the bottom right corner of the screenshot area.

To test the deployed application, you can log in to Oracle Enterprise Manager console. Then in the Target Navigation pane, expand SOA and right-click **soa-infra**.

Next, you can choose **Home→Deployed Composites**. You can see the **SayHello** SOA application deployed successfully in default folder. So, click **SayHello [1.0]**.

Access the Deployed Application - Oracle Enterprise Manager



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Click **Test** to access the **Test Web Service** page.

Access the Deployed Application - Oracle Enterprise Manager

The screenshot shows the Oracle Enterprise Manager interface for testing a web service. The main window is titled "Test Web Service" and contains a "Request" tab and a "Response" tab. The "Request" tab is selected, and the "Payload" section is expanded. A text field labeled "Enter 'Cloud World'" is visible. The "Response" tab is also shown, displaying the test status as "Request successfully received" and the response text as "Hello Cloud World".

Annotations on the screenshot include:

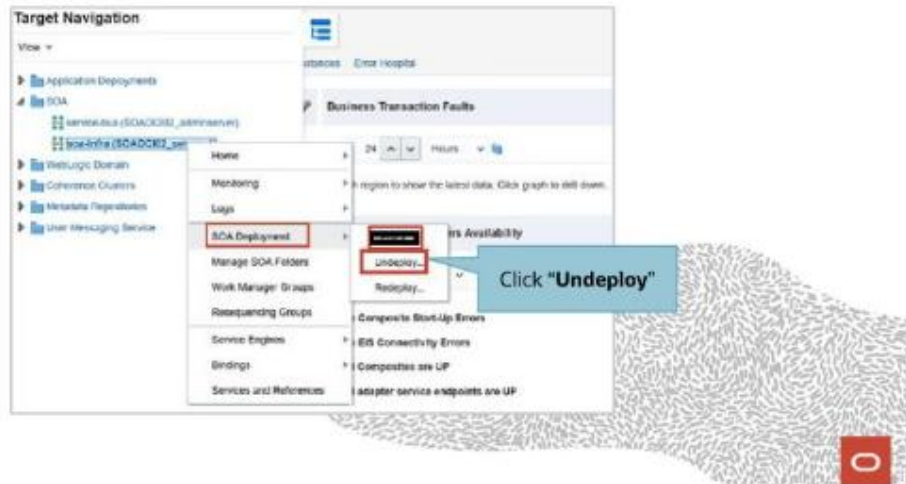
- Select "Request" tab**: Points to the "Request" tab in the main window.
- Expand "Payload"**: Points to the expanded "Payload" section in the "Request" tab.
- Enter "Cloud World"**: Points to the text field in the "Payload" section.
- Select "Response"**: Points to the "Response" tab in the main window.
- Verify "Hello Cloud World"**: Points to the response text in the "Response" tab.

Numbered callouts 4 and 5 are present in the top right corner of the screenshot.

On the **Test Web Service** page, you can click the **Request** tab and expand payload. After that, enter a desire message (say "Cloud World") in the text field and then click **Test Web Service**.


To verify the response text, you can select **Response** tab and observe the test status as "**Request Successfully completed**". Here in this case, you can see the response text is **Hello Cloud World**.

Undeploying an Application Using Oracle Enterprise Manager Fusion Middleware Control



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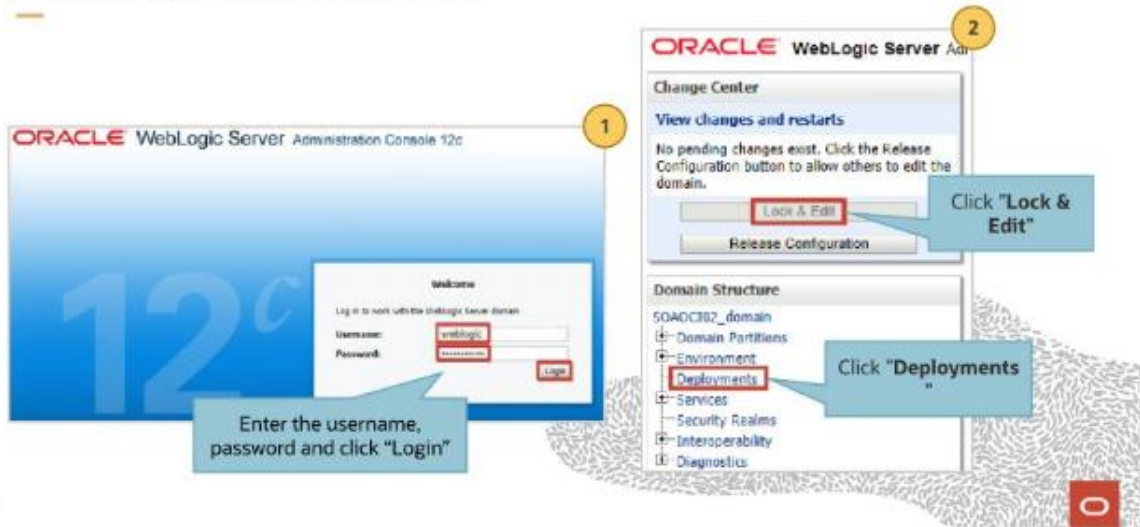
If you want to undeploy an application from **Oracle Enterprise Manager Fusion Middleware Control**, from the FMW home page, click in **Target Navigation** pane. Next you can expand **SOA** and right-click **soa-infra**. After that, you can click **SOA Deployment > Undeploy** and select the other configuration properties to undeploy an application.



Deploying an Application Using the WebLogic Server Administration Console



Deploying an Application Using the WebLogic Server Administration Console



- You must start the application to make it ready to accept requests.

To start an application:

1. Log in to the WebLogic Server Administration Console.
2. In Change Center, click **Lock & Edit**.

Deploying an Application - WebLogic Server Administration Console

3 Click "Install"

4 Choose "benefits.war" file

5 Select the current location

Deployments

Name	State	Health	Type	Targets	Scope	Domain	Partitions	Deployment Order
benefits	Installed	OK	WAR	Server	Application	benefits	1	1

Deploy Application Assistant

Back Next Finish Cancel

Select a deployment to the Administration Server

Click the deployment below to select an application or module on the machine from which you are deploying. The deployment plan will be used to deploy the application.

Deployment Name: **benefits.war**

Upload a deployment plan (this step is optional)

A deployment plan is a configuration which can be used to deploy an application. It is used to specify the deployment plan for the application. You can also upload a deployment plan if you have one.

Deployment Plan: **benefits.war**

Locate deployment to install and prepare for deployment

Select the file path that represents the application root directory. The application root directory is the directory that contains the application. You can also enter the path of the application if it is not in the list.

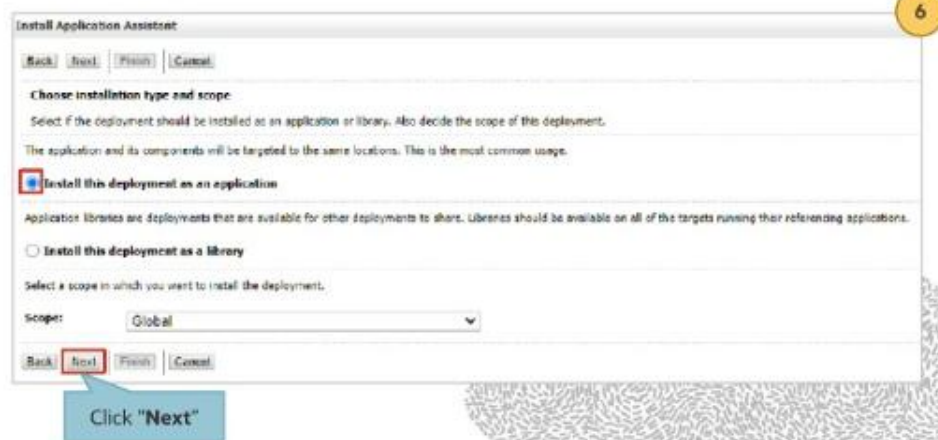
Application Path: **.../benefits.war**

Back Next Finish Cancel

To start an application:

3. In Deployments table on the WebLogic Server Administration Console, select the application.

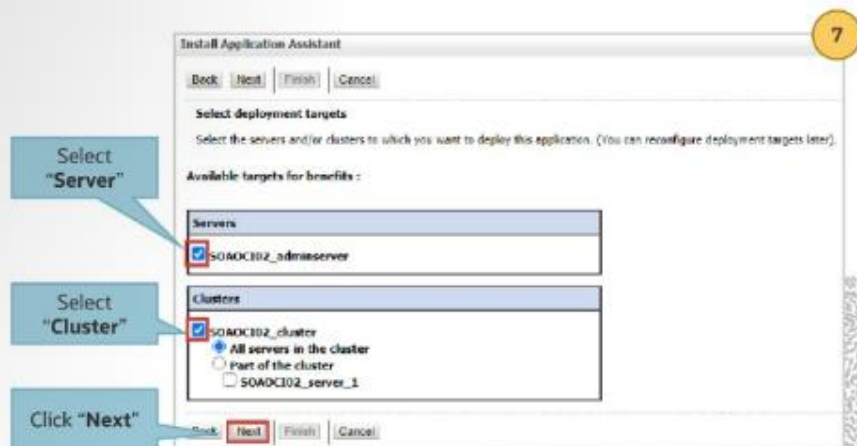
Deploying an Application - WebLogic Server Administration Console



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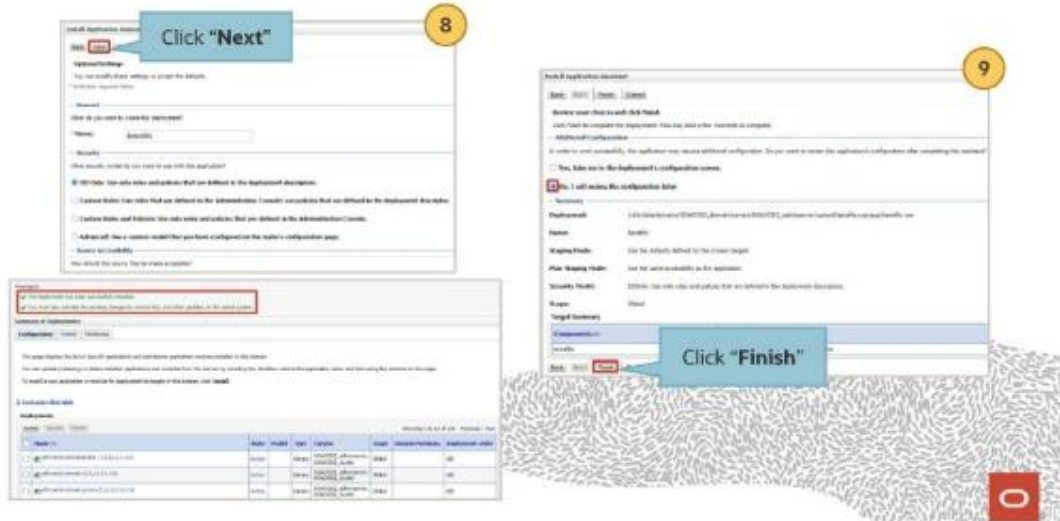
Select **Install this deployment as an application** and click **Next**.

Deploying an Application - WebLogic Server Administration Console



Select the servers to which you want to deploy you application. So, select both Admin Server and Cluster.

Deploying an Application - WebLogic Server Administration Console



You can observe that there is a default application name, i.e., "Benefits," displayed. If you want, you can change the name of the application; then click **"Next"**.

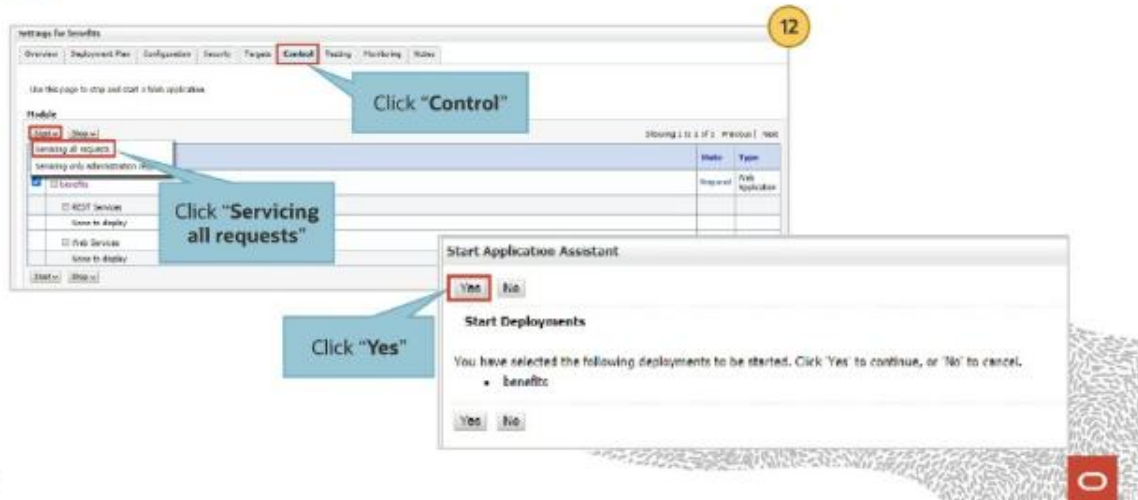
Finally, you can choose to review the configuration later and click **Finish**. Notice the messages that indicates that the deployment is successful.

Deploying an Application - WebLogic Server Administration Console

[illegible]

After the deployment, the changes must be activated. So, in Change Center, click **Activate Changes**. Notice the message that the changes have been activated and **benefits** application is listed in the deployments table and the application is in "Prepared" state.

Deploying an Application - WebLogic Server Administration Console



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To start an application:

1. Click **Start** and then **Servicing all requests**.
2. In the Start Deployments dialog box, click **Yes** to confirm the deployment.

The application is now in the **Active** state and is ready to accept requests.

Access the Deployed Application from WebLogic Server Administration Console



To access a deployed application:

1. Copy the Host IP Address of the load balancer or Managed Server, depending on whether your Oracle SOA Suite on Marketplace instance has a load balancer.
2. Find the context root of the application.

The context root is defined in the service project as a project property or in the weblogic.xml file. The context-root might or might not be the same as the internal application name.

- a. Log in to the WebLogic Server Administration Console, and under **Domain Structure**, expand **Environment**, select **Clusters**, and select your SOA cluster.
 - b. Select **domain**, then **Deployments**, where **domain** is the domain where the application is deployed.
 - c. In the Deployments table, click the name of your service. The Settings dialog box is displayed.
 - d. In the Overview tab, locate the context root.
3. Open a browser.
 4. In the address bar, specify the URL of the application:

`https://public_IP_of_load_balancer_or_managed_server:port/application_context_root`

or

`http://public_IP_of_load_balancer_or_managed_server:port/application_context_root`

- a. Paste the Host IP Address of the load balancer or Managed Server into the URL.
- b. Specify the port number.
- c. Specify the context root for the application.

If you do not want to specify the IP address and port when you access the application, you can create a custom URL. To do this, you must acquire and configure a third-party DNS provider to map the custom URL.

5. If you receive a warning, accept the signed certificate.

The application opens in your browser.

Access the Deployed Application from WebLogic Server Administration Console

The screenshot shows the 'Welcome To Dizzyworld' page with a yellow background. It contains a form titled 'Select What Benefits You Would Like To See' with four checkboxes: 'View Vacation Schedule' (checked), 'View Health Care Options' (checked), 'View Vision Options' (unchecked), and 'View Dental Options' (unchecked). Below the checkboxes is a 'Get Information' button. A blue callout box points to the checked checkboxes and the button, stating: 'Select the check box and click **Get Information**'. To the right, a white box displays the 'Dizzyworld Vacation Schedule' with a list of holidays: New Year's Day Holiday, January 2, 2012; Memorial Day, May 28, 2012; Independence Day, July 4, 2012; Labor Day, September 3, 2012; Thanksgiving Day, November 22, 2012; Day after Thanksgiving, November 23, 2012; Christmas Eve, December 24, 2012; and Christmas Day, December 25, 2012. Below this is the 'Dizzyworld Health Benefits' section, which lists 'Blue Cross and Blue Shield' and 'Matthew Thornton Health Plan'. A blue callout box points to this section, stating: 'Displays the Vacation schedule and Health Benefits'. At the bottom of the white box is a link: '[Back To Home Page](#)'. The page number '36' is visible in the bottom left corner, and a red square with a white 'O' is in the bottom right corner.

Welcome To Dizzyworld

Select What Benefits You Would Like To See

- ☒ View Vacation Schedule
- ☒ View Health Care Options
- ☐ View Vision Options
- ☐ View Dental Options

Get Information

Select the check box and click **Get Information**

Dizzyworld Vacation Schedule

New Year's Day Holiday, January 2, 2012
Memorial Day, May 28, 2012
Independence Day, July 4, 2012
Labor Day, September 3, 2012
Thanksgiving Day, November 22, 2012
Day after Thanksgiving, November 23, 2012
Christmas Eve, December 24, 2012
Christmas Day, December 25, 2012

Dizzyworld Health Benefits

Blue Cross and Blue Shield
Matthew Thornton Health Plan

[Back To Home Page](#)

Displays the Vacation schedule and Health Benefits

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If you would like to see any information, select the check boxes and click **Get Information** button.

Here you have selected View Vacation Schedule and View Health Care Options, and it displays the Vacation schedule and Health Benefits information.

Undeploying an Application - WebLogic Server Administration Console

Oracle WebLogic Server Administration Console

Change Center
View changes and restarts
Click the **Lock & Edit** button to modify, add or delete items in this domain.

Domain Structure
SOAGC002_domain
Domain Partitions
Environment
Deployments
Services
Security Realms

Click "Lock & Edit"

Click "Deployments"

Click "Delete"

Select "benefits" application

Name	State	Availability	Type	Targets	Range	Domain Partitions	Deployment Order
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-1	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-2	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-3	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-4	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-5	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-6	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-7	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-8	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-9	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-10	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-11	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-12	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-13	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-14	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-15	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-16	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-17	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-18	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-19	Default	100	
SOAGC002_domain-weblogic-server-10.3.1.1.1.1.1	Active	✓	Urbans	SOAGC002_domain-partition-20	Default	100	

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You can use the WebLogic Server Administration Console to undeploy an application from an Oracle SOA Suite on Marketplace instance.

To undeploy the application:

1. Log in to the WebLogic Server Administration Console.
2. In Change Center, click **Lock & Edit**.
3. In the left pane of the WebLogic Server Administration Console, select **Deployments**.
4. In the right pane, select the check boxes next to the application you want to remove and click **Delete**.
5. Click **Yes** to confirm your decision and remove the application.
6. To activate your changes, click **Activate Changes** in Change Center of the WebLogic Server Administration Console.

Summary

In this lesson, you should have learned about:

- The different deployment tasks for an Oracle SOA Suite on Marketplace instance
- Usage of the following tools to deploy and undeploy an application
 - JDeveloper
 - Oracle Enterprise Manager Fusion Middleware Control
 - WebLogic Server Administration Console



Practice 4: Deploy Applications for Oracle SOA Suite on Marketplace

- Practice 4-1: Deploy an Application Using Oracle Enterprise Manager Fusion Middleware Control
- Practice 4-2: Deploy an Application Using Oracle JDeveloper
- Practice 4-3: Deploy an Application Using WebLogic Server Administration Console

