

## Oracle WebLogic Server 11g: Administration Essentials Ed 2

**Duration:** 5 Days

### What you will learn

This Oracle WebLogic Server 11g: Administration Essentials training teaches Web administrators techniques for installing and configuring Oracle WebLogic Server 11g. Expert Oracle University instructors will teach you how to deploy Java EE applications to Oracle WebLogic Server 11g using Administration Console and command-line and scripting tools like WLST.

Learn How To:

Describe the architecture of WebLogic Server including domains, servers and machines.

Install, configure and use WebLogic Server.

Perform routine Oracle WebLogic Server administration functions.

Set up a cluster of servers and distribute applications and resources to the cluster.

Configure Oracle HTTP Server as the Web-tier front end for Oracle WebLogic Server instances and clusters.

Deploy different types of Java EE applications to Oracle WebLogic Server.

### Benefits to You

Increase the performance and scalability of your organization's applications and services with the #1 application server. Simplify deployment and significantly improve time-to-market.

### Configure Oracle HTTP Server

You'll also learn to configure Oracle HTTP Server as the Web interface for Oracle WebLogic Server, along with supporting failover and load balancing for applications.

### Overview of Administrative Tasks

This course provides an overview of the administrative tasks performed by a WebLogic Server administrator. At the end of the course, you will have gained knowledge at an associate level of competency.

### Appendix

An appendix is included covering the differences between the 11g (10.3.3) and 12c (12.1.1) product versions with regard to Oracle WebLogic Server administration topics.

The follow up Oracle WebLogic Server 11g: Advanced Administration course provides a more in depth coverage of administration tasks. This course is an upgrade of Oracle WebLogic Server 10g R3: System Administration.

## Related Training

### *Required Prerequisites*

Basic TCP/IP networking knowledge of client/server concepts

Basic Linux commands and desktop navigation

### *Suggested Prerequisites*

Basic Java EE concepts and constructs including Servlet, JSP

## Course Objectives

Set up a cluster of servers and distribute applications and resources to the cluster

Backup and recover from various failures

Monitor application server using GUI and command-line tools such as automation scripts

Describe the architecture of WebLogic Server including domains

servers and machines

Install

configure and use WebLogic Server

Perform routine Oracle WebLogic Server administration functions

Configure Oracle HTTP Server as the Web-tier front end for Oracle WebLogic Server instances and clusters

Deploy different types of Java EE applications to Oracle WebLogic Server

Deploy and manage large-scale Java EE applications to servers or clusters through the entire development and production lifecycle

Configure basic resource and application security

## Course Topics

### **Introducing Oracle Fusion Middleware Platform**

- Describing the Oracle Fusion Middleware Environment
- Describing How WebLogic Server Supports Various Fusion Middleware Suites
- Describing How Various Fusion Middleware Suites Augment the Functions of WebLogic Server

### **Defining Java Enterprise Edition Terminology and Architecture**

- Explaining the Motivation Behind Distributed Systems
- The Major Components of the Java Platform Enterprise Edition 5 (Java EE) Specification

### **Installing Oracle WebLogic Server**

- Explaining Oracle WebLogic Server Installation Steps
- Installing WebLogic Server Using Both the Graphical User Interface (GUI) and Command Line
- Describing the Organization and Contents of the WebLogic Server Directory Structure
- Navigating the WebLogic Server Online and Offline Documentation

### **Configuring a Simple Domain**

- Describing the Common Elements in a WebLogic Server Domain
- Describing how Domains are Used in the Enterprise
- Comparing Administration and Managed Servers
- Configuring a Domain
- Describing the Organization and Contents of the WLS Directory Structure
- Describing the use of WLST Offline to Manage Domains
- Creating a Simple Domain with One Managed Server
- Checking the Port Numbers that are Used for Components

### **Configuring a Domain Using Templates**

- Describing the Internal Process Used to Create or Update a Domain Using a Template
- Describing the Process of Extending a Domain Template
- Explaining the Domain Templates Provided for Setting up JDeveloper, SOA, and WebCenter

### **Using Administration Console and WLST**

- Identifying Dynamic and Nondynamic Attribute Changes in the Administration Console
- Customizing Monitoring Tables Within the Administration Console
- Using the WebLogic Scripting Tool (WLST) Command-line Utility
- Invoking WLST and Navigate Through the Domain Structure
- Describing How Change Management is Performed Internally Using Java Management Extension (JMX) and Mbeans

### **Configuring Managed Servers**

- Configuring Managed Servers Using the Administrative Console
- Configuring Managed Servers Using WebLogic Scripting Tool (WLST)
- Starting Managed Servers
- Shutting Down a Server or an Entire Domain Using WLST or the Administrative Console
- Configuring Managed Servers on a Computer Separate from the Administration Server
- Explaining Administration and Managed Server Independence (MSI)

## **Configuring Node Managers**

- Defining the Oracle WebLogic Server Machine
- Configuring a Machine and Assign Servers to it by Using the Console and WebLogic Scripting Tool (WLST)
- Explaining the Node Manager Architecture
- Describing the Organization and Contents of a Node Manager Directory Structure
- Configuring, Starting, and Stopping Node Managers
- Describing How to Start and Stop Procedures

## **Viewing and Managing Logs in Oracle WLS Environment**

- Defining and Configuring Server and Domain Logs
- Viewing and Interpreting the Format of Domain and Server Log Files Using the Administration Console
- Configuring Server Standard Output Settings Using the Console
- Describing How Applications Can Integrate With WLS Logging Infrastructure (Apache commons, log4j)
- Accessing Online Log Message Catalogs
- Creating and Applying a Log Filter Using the Console
- Configuring Log Filter Expressions

## **Deployment Concepts**

- Contrasting Autodeploy With Manual Deployment
- Configuring and Deploying Web Applications Via the Administration Console, Command Line, and WLST
- Configuring Deployment Descriptors
- Testing Deployed Applications
- Describing the Role of Web Servers
- Tracing a Typical Web Interaction Flow
- Contrasting Static and Dynamic Content and Deployment
- Front-end Deployed Applications With a Web Server

## **Deploying Java EE Applications**

- Describing Java EE Web Applications
- Describing Enterprise Deployment Architectures
- Packaging Web Applications in Several Forms
- Defining Web Application Structure and Web Application Archive
- Explaining Why WebLogic Augments Standard Java EE Deployment Descriptors With weblogic\*.xml Files
- Looking at Deployment Descriptors web.xml and weblogic.xml
- Describing URLs and Web Applications

## **Advanced Deployment**

- Configuring an Application for Multiple Development Environments
- Creating a Deployment Plan
- Staging a Deployment Plan
- Using Production Redeployment

## **Understanding JDBC and Configuring Data Sources**

- Configuring JDBC and JDBC Data Sources
- Configuring Data Source Scope
- Contrasting Two-tier and Multi-tier JDBC Architecture
- Configuring a Connection Pool
- Describing How Data Sources are Used
- Deploying JDBC Resources to a Target
- Explaining the Components of JDBC URLs
- Monitoring and Testing a Data Source

## **Setting Up Java Message Service (JMS) Resources**

- Describing JMS
- Describing How Oracle WebLogic Server JMS is Implemented
- Configuring JMS Server
- Configuring Connection Factories
- Configuring Queues and Topics
- Configuring Persistent Messages
- Deploying an Application that Uses JMS
- Monitoring JMS Resources and Messages

## **Introduction to Clustering**

- The Benefits of Oracle WebLogic Cluster
- Basic Cluster Architecture
- Multitier Cluster Architecture
- Communication Among Clustered Server Instances
- The Key Criteria for Selecting Suitable Cluster Architecture

## **Configuring a Cluster**

- Preparing Your Environment for a Cluster
- Creating and Configuring a Cluster
- Adding Servers to a Cluster
- Starting Up and Shutting Down Clustered Servers

## **Managing Clusters**

- Deploying Applications to a Cluster
- Describing the Replication of a Session State in a Cluster
- Configuring Replication Groups
- Configuring In-memory Replication
- Configuring Java Database Connectivity (JDBC) Replication
- Configuring File Replication
- Configuring a Multitier Cluster for Enterprise JavaBeans (EJB) Applications

## **Security Concepts and Configuration**

- Using the WebLogic Server (WLS) Security Architecture
- Configuring Security Realms
- Configuring Users and Groups
- Configuring Roles
- Configuring Policies
- Configuring Protection for Web Application Resources and EJBs

## **Protecting Against Attacks**

- Describing the Process of Configuring Secure Sockets Layer (SSL)
- Using the Keytool Utility to Configure Keys and Obtain Digital Certificates
- Configuring SSL for the WLS Server
- Configuring Countermeasures for Some Web-based Attacks

## **Backup and Recovery Operations**

- Recommending a Backup and Recovery Strategy
- Performing a Full Offline Backup and Recovery
- Performing an Online and Offline Domain Backup
- Performing an Offline Domain Recovery
- Performing an Instance Home Backup and Recovery