

Oracle WebLogic Server 11g: Administration Essentials

Duration: 5 Days

What you will learn

This course trains Web administrators on techniques for installing and configuring Oracle WebLogic Server 11g. It also trains Web administrators to deploy Java EE applications to Oracle WebLogic Server 11g using the Administration Console and command-line and scripting tools such as WLST. Participants also learn to configure Oracle HTTP Server as the Web interface for Oracle WebLogic Server. Participants also learn to configure Oracle WebLogic Server cluster to support failover and load balancing for applications.

This course is aimed to provide an overview of the administrative tasks performed by a WebLogic Server administrator. At the end of the course, the participants will have gained knowledge at an associate level of competency. 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.

Learn 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

This course is an upgrade of Oracle WebLogic Server 10g R3: System Administration.

Audience

J2EE Developer

Java EE Developer

Sales Consultants

Web Administrator

Prerequisites

Required Prerequisites

Basic Java EE concepts and constructs including Servlet, JSP

Basic Linux commands and desktop navigation

Basic TCP/IP networking knowledge of client/server concepts

Course Objectives

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
- 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
- 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