# Oracle WebLogic Server 11g: Administration Essentials

**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 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.

## Audience

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J2EE Developer
Java EE Developer
Sales Consultants
Web Administrator

## 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

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

Backup and recover from various failures

## 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

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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 Sdministration 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

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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

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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

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