Oracle WebLogic 11g Server System Administration

Course Summary

Description

The J2EE platform is Java's answer to enterprise scalable applications. BEA Weblogic is one of the premier Application Servers that implements the J2EE specification. Students will come away from class with the ability to build and configure complete Weblogic domains. The course will cover the details of administrating a J2EE server. This is a hands-on learning experience, with each student having their own Weblogic Server to learn with.

Objectives

At the end of this course, students will be able to:

- Install and configure a WebLogic 10 Server.
- Describe the J2EE architecture.
- Deploy applications on WebLogic.
- Use the WebLogic Console effectively.
- Install and manage JMS destinations.
- Control access and privileges on WebLogic.
- Configure WebLogic for JDBC access.
- Manage remote servers with the NodeManager.
- Design and implement WebLogic clusters.

Topics

- Course Introduction
- Introduction to WebLogic 11g
- Weblogic Installation and Testing
- WebLogic Console Administration
- JNDI with WebLogic
- WebLogic Deployments
- Configuring JDBC
- Configuring JMS
- WebLogic HTTP Container
- WebLogic Security
- Configuring WebLogic Clusters
- Node Manager
- WebLogic Performance Tuning
- WebLogic Scripting Tool

Audience

This course is intended for Windows/UNIX administrators who need to administer a WebLogic Server platform.

Prerequisites

Java programming is not necessary, although it may be helpful.

Duration

Five days

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... to Your Success!"

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Course Outline

I. Course Introduction
- A. Course Objectives
- B. Course Overview
- C. Using the Workbook
- D. Suggested References

II. Introduction to WebLogic 11g
- A. What is Java?
- B. What is J2EE?
- C. The J2EE Architecture
- D. Servlets and JSPs
- E. Enterprise JavaBeans
- F. Application Server
- G. Web Container
- H. Web Architecture
- I. EJB Container
- J. BEA WebLogic Platform (And Related) Products

III. Weblogic Installation and Testing
- A. System Configuration Installation Files
- B. Installation Building a Domain
- C. Silent Installation
- D. WebLogic Directory Structure
- E. Domain File Structure
- F. WebLogic Server types
- G. Domain Configuration Files
- H. Domain Builder
- I. Domain Upgrade Wizard
- J. config.xml.booted
- K. startweblogic.cmd
- L. WebLogic Scripting Tool (WLST)
- M. WebLogic Scripting Tool (WLST) Continued..
- N. Testing your Installation
- O. Configuring Startup
- P. Running the WebLogic Console
- Q. Shutting down WebLogic
- R. Labs

IV. WebLogic Console Administration
- A. Console Overview
- B. Console
- C. Change Center
- D. Centralized Administration
- E. Monitoring Weblogic Servers
- F. Monitoring Weblogic Servers (cont'd)
- G. Configuring a New Machine
- H. Configuring a new Server
- I. Configuring Domain Properties
- J. Building a Managed Server
- K. Weblogic Node Manager
- L. Monitoring Domain Logging
- M. Labs

V. JNDI with WebLogic
- A. What is JNDI?
- B. JNDI Service Providers
- C. JNDI and Weblogic
- D. Using JNDI
- E. JNDI Client
- F. JNDI Registration
- G. Monitoring JNDI
- H. Monitoring JNDI Using WLST
- I. Labs

VI. WebLogic Deployments
- A. Deployments Overview
- B. EJB Jar Files
- C. Deployment Descriptors
- D. Ant
- E. War and Ear files
- F. War file structure
- G. Web Application Context
- H. Deployment Process Overview
- I. Deployment techniques
- J. Expanded Directory Deployment
- K. Console Deployment
- L. Weblogic.Deployer
- M. WLST Deployment
- N. Startup and Shutdown Classes
- O. Application Installation Directory
- P. Deployment Plans
- Q. Creating a Deployment Plan
- R. Weblogic.PlanGenerator
- S. Reading a Deployment Plan
- T. Application Versioning
- U. Updating applications in a Production Env
- V. Labs

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Course Outline (cont'd)

VII. Configuring JDBC
- A. JDBC Architecture
- B. JDBC Drivers
- C. JDBC Driver Install
- D. Datasources
- E. DataSource Connection Properties
- F. Configuring Connection Pools
- G. Monitoring Pool Performance
- H. Tuning Pool Performance
- I. JDBC Multi DataSources
- J. Labs

VIII. Configuring JMS
- A. Asynchronous Messaging
- B. Messages
- C. Queue
- D. Topic
- E. Weblogic JMS
- F. JMS Servers
- G. JMS Modules
- H. Building JMS System Modules
- I. Building JMS Module Resources
- J. Building JMS Application Modules
- K. Durable Subscribers
- L. JMS File Stores
- M. JMS JDBC Stores
- N. Monitoring JMS Servers
- O. Connecting External JMS Providers
- P. Labs

IX. WebLogic HTTP Container
- A. Overview
- B. Configuring HTTP
- C. Web-server Proxy
- D. WebLogic Plug-in
- E. IIS and WebLogic
- F. Apache and WebLogic
- G. Virtual Hosts
- H. HTTP Log Files
- I. Labs

X. WebLogic Security
- A. WebLogic Security Design
- B. Weblogic Security Providers
- C. Authorization Authentication-Users
- D. Authentication-Groups
- E. Authentication Roles
- F. Integration with legacy providers
- G. Security Administration Tasks
- H. Handling User Lockouts
- I. Securing a Web Application Hands-on
- J. Securing a Web Application Hands-On (cont'd)
- K. Defining your own realm
- L. Configuring Providers
- M. SSL
- N. Custom Certificates
- O. Labs

XI. Configuring WebLogic Clusters
- A. Clustering Servers
- B. Cluster Layout
- C. Web Application Tiers
- D. Recommended Basic Architecture
- E. Recommended Multi-Tier Cluster
- F. Cluster Design
- G. Implementing a Cluster
- H. Cluster Communication
- I. Configuring the Cluster
- J. Load Balancing
- K. Clustered Servers
- L. MultiCast Communication
- M. Administration Server Failure
- N. Configuring Replication Groups
- O. Tuning Weblogic Clusters
- P. Web Application Fail-over
- Q. Labs

XII. Node Manager
- A. What is Node Manager?
- B. Node Manager Details
- C. Accessing Node Manager
- D. Configuring Node Manager
- E. Node Manager Startup
- F. Node Manager Domain Management
- G. Node Manager Services
- H. Node Manager Health Monitoring
- I. Node Manager Logging
- J. Labs

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Course Outline (cont'd)

XIII. WebLogic Performance Tuning

A. Introduction
B. Performance Objectives
C. Bottleneck Location
D. CPU Utilization
E. Memory Utilization
F. Monitoring the JVM
G. Switching the JVM
H. Using Verbose GC
I. JRockit
J. Database bottlenecks
K. Network bottleneck
L. Weblogic Monitoring Tools
M. Weblogic Thread Pools
N. Configuring Reader Threads
O. Performance Tuning Summary

XIV. WebLogic Scripting Tool

A. Introduction
B. Using WLST
C. Jython Syntax
D. Jython Conditionals
E. Jython Loops
F. Sample WLST
G. Recording User Interactions in WLST
H. Weblogic Management Objects
I. Redirecting WLST Output to a File
J. MBeans
K. WebLogic Server MBean Data Model
L. MBean Lifecycle
M. Monitoring the invocations of a JSP
N. Deploying in WLST
O. Undeploying in WLST

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