

# WEBLOGIC 10 ADVANCED SERVER SYSTEM ADMINISTRATION

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## DESCRIPTION:

Students enter this class with a basic knowledge of creating and administering domains. Through this class they will take advantage of some of the more specialized features that WebLogic provides. We will emulate load on a server and tune the server to enhance the performance. This is a hands-on learning experience, with each student having their own WebLogic Server to learn with.

## DURATION:

Five (5) Days.

## COURSE OBJECTIVES:

- Configure WebLogic advanced features
- Setup custom JMX Applications
- Create custom JMX Applications
- Explore WLDF
- Create WLST scripts
- Tune WebLogic JDBC applications
- Implement SSL for web applications
- Configure custom WebLogic Security components
- Build JMS Store and Forward applications

## PREREQUISITES:

This course is intended for existing WebLogic administrators who need to administer a WebLogic Server platform. Java programming is necessary to build custom management classes.

## TOPICS OUTLINE:

### I. Course Introduction

- Course Objectives
- Course Overview
- Using the Workbook
- Suggested References

### II. WebLogic Management Services

- WebLogic Console Management
- Management Tools
- JMX
- WLST
- SNMP
- WebLogic Diagnostics Framework
- WebLogic 10 Self Tuning Kernel
- Extending the Administration Console

### III. WebLogic JMX

- JMX
- MBeans
- Hands-On Cont.
- WebLogic Server MBean Data Model
- MBean Lifecycle
- MBean Servers
- Walk-Through Cont.
- Walk-Through Cont.
- Using Local MBean Servers
- Using Remote MBean Servers
- Exploring MBeans
- MBean Methods/Properties
- Hands On
- Custom JMX Utilities

### IV. WebLogic Scripting Tool

- Introduction
- Using WLST
- Jython Syntax
- Jython Conditionals
- Jython Loops
- Sample WLST
- Recording User Interactions in WLST
- WebLogic Management Objects
- Monitoring the invocations of a JSP
- Deploying in WLST
- Undeploying in WLST
- Server Monitoring in WLST
- JVM Monitoring in WLST

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## V. WebLogic Work Managers

- Work Manager Overview
- Using WebLogic 8.1 Thread Pools
- Using Work Managers
- Work Manager Components
- Request Classes
- Fair share request class
- Response-time goal request class
- Context-based request class
- Work Manager Constraints
- Stuck Thread Work Manager
- Using Work Managers
- Work Manager Scope
- Monitoring Work Managers

## VI. WebLogic Diagnostics Framework

- What is WLDF?
- Diagnostics framework Components
- Configuring WLDF
- WLDF types of monitoring
- Collecting Data
- Gathering Data
- Data accessor
- Configuring Image Capture and Archive
- Diagnostic System Modules
- Diagnostic Modules Hands-On
- Configuring the Harvester
- Harvester Walk Through
- Configuring Watches and Notifications

## VII. WebLogic Performance Tuning

- Introduction
- Performance Objectives
- Benchmarking
- Emulating Load on WebLogic
- JMeter HANDS-ON Load Emulating WebLogic
- Bottleneck Location
- Java Stack Traces
- CPU Utilization
- Memory Utilization
- Monitoring the JVM
- Sun JVM Performance Tools
- Starting JConsole
- Tuning Sun JVM
- Tuning Sun JVM Cont.
- Switching the JVM
- JRockit JVM Performance Tools
- JRockit Console
- JRockit Runtime Analyzer (JRA)
- JRockit Notifier
- JRockit Method Profiler
- JRockit Memory Leak Detector
- Using Verbose GC

## VII. WebLogic Performance Tuning Continued

- Database bottlenecks
- Tuning JDBC Applications
- Tuning JDBC Applications Cont.
- Tuning EJB Applications
- Tuning Session Beans
- Network bottleneck
- WebLogic Monitoring Tools
- Performance Tuning Summary

## VIII. WebLogic SNMP

- What is SNMP?
- Agent-Manager Model
- MIB for WebLogic Server J
- MX vs SNMP
- OID Numbers
- SNMP Utilities
- SNMP Communities
- SNMP Events
- SNMP Traps Hands-On Cont.
- Automatic WebLogic SNMP Traps
- Log Message Traps

## IX. Configuring WebLogic Security Providers

- WebLogic SSL
- Security Architecture
- Security Realms
- Default LDAP Server
- Exporting/Importing/Backing up LDAP
- WebLogic Resources
- HANDS ON ( Embedded LDAP)
- HANDS ON Cont. ( Embedded LDAP)
- LDAP log Files
- Security Debugging in WebLogic 10
- Default Security Configuration
- Creating new Realms
- Configuring RDBMS Authentication Providers

## X. WebLogic SSL

- SSL in Brief..
- One-Way and Two-Way SSL
- Host Name Verification
- Keystores
- Generating Keys
- Storing Keys and Certificates
- Keys and Certificates
- SSL Debugging
- SSL Hands On Walk-Through
- Https Session Behavior

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### ***XI. Advanced WebLogic JMS***

- Overview
- JMS for Administrators
- JMS Hands-On Cont.
- Building WebLogic JMS Components
- Managing JMS destinations
- Message Looping
- JMS Logging
- JMS Messaging Bridge
- JMS Messaging Bridge Building

### ***XII. WebLogic JMS Store and Forward***

- Overview
- SAF Resources In a JMS Module
- JMS Quality of Service
- WebLogic persistent store
- SAF Service Agents
- When to Use the SAF Service
- Configuring a Basic SAF Service Walk-Through