WebLogic Troubleshooting

Course Summary

Description

This course is designed to provide administrators with the methodology and background required to effectively troubleshoot problems with WebLogic based application server installations. The course begins by covering troubleshooting methodology and best practices, it then moves to a cover a catalogue of typical failure scenarios including: symptoms, root causes, trouble shooting process, and resolution. Students will practice the troubleshooting skills through sample scenarios that demonstrate the problems.

Objectives

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

- Use an effective methodology for troubleshooting WebLogic Problems
- Identify the symptoms of common failure scenarios
- Use troubleshooting tools to indentify the root cause of common failures
- Resolve problems caused by common failure scenarios.

Topics

- Troubleshooting Methodology
- Troubleshooting Tools
- Troubleshooting Server Hangs
- Troubleshooting Out of Memory Exceptions
- Troubleshooting Excessive CPU Usage
- Troubleshooting Database Connectivity
- Troubleshooting Class Loading Problems
- Troubleshooting Serialization Related Problems

Audience

This course is designed for WebLogic administrators and developers who want to learn how to troubleshoot common problems with WebLogic.

Prerequisites

Students should have basic Linux and WebLogic Administration experience.

Duration

Two and a half days

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Course Outline

I. Troubleshooting Methodology

A. In this section we introduce a systematic process than can be followed to troubleshoot application servers in general.

B. The process is generic and will work with WebLogic, WebSphere, JBOSS, and Tomcat.

II. Troubleshooting Tools

A. In this section we introduce the tools that can be used to track down the root cause of problems with the WebLogic Server.

B. We will cover a variety of Java specific tools and OS tools that help us track down problems.

III. Troubleshooting Server Hangs

A. In this section we cover the typical causes of server hands the tools to determine the root causes of hangs and process for resolving them.

B. Students will learn how to take thread dumps of servers, and how to interpret the output of thread dumps, and a through introduction to what causes thread hangs in JEE application servers will be covered.

IV. Troubleshooting out of memory Exceptions

A. In this section we will cover the details of how the Java virtual machine manages memory.

B. We will start by reviewing the various garbage collection algorithms such as reference counting, tracing collectors, copying collectors, and generational collectors.

C. We will then build on this knowledge of Garbage collection to analyze how out of memory errors occur on a JVM, and how to resolve these errors.

V. Troubleshooting excessive CPU usage

A. This section will cover details of how to determine which threads in WebLogic are consuming excessive CPU and the process for isolating the code that is responsible for the Excessive CPU usage.

VI. Troubleshooting Database Connectivity

A. In this section we cover the typical failure scenarios involving database connection pools.

B. Will learn how to indentify database related problems, track down the root cause and resolve them.

VII. Troubleshooting Class Loading Problems

A. In this section we cover how class lading problems such as class cast exceptions, and class not found errors arise and to effectively resolve such problems.

B. Students will learn the details of how the JVM finds and loads classes.

VIII. Troubleshooting Serialization

A. This section introduces the many uses of the Java Serialization framework within the Enterprise Java Specifications and shows students how problems with java serialization can cause serious failures within clusters.

B. Students will learn how to identify and resolve serialization problems.

IX. Troubleshooting Clusters

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