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Module Title : Course JB325 : Advanced JBoss Enterprise Development
Duration : 4 days

Course Description

Advanced JBoss Enterprise Development (JB325) dives into the JBoss Enterprise Application Platform (EAP) with an emphasis on advanced Java EE application programming interfaces (APIs). This course challenges experienced Java EE developers by providing a deep dive into JBoss EAP details, features, internals, and Java EE best practices. Leveraging JBoss EAP allows students to build, deploy, and maintain highly performing, scalable applications.

Diving into areas of JBoss technologies that differ from the non-JBoss enterprise middleware stacks, developers will be exposed to aspect-oriented programming, interceptors, JMX, and JBoss Services. In addition, students will be introduced to the new JBoss Messaging (for EAP 4.3).

Using JBoss Developer Studio extensively as a lab integrated development environment (IDE), hands-on labs allow developers to experience and explore JBoss Cache, JGroups, clustering, dynamic proxies, transactions, and performance tuning.

Audience

- Experienced Java developers seeking to enhance their utilization of JBoss
- Java developers who need a deeper understanding of JBoss to implement customized services based on remoting, JMX, or other protocols outside the normal JEE .ear or .war deployments
- ISV development teams who need to know JBoss more intimately to customize the server environment to better fit their applications' deployment needs
- Application architects seeking to produce leaner, meaner deployment artifacts, resulting in better performance and integrity results

Prerequisites

- Two years of experience with Java Platform, Enterprise Edition (Java EE) or Java 2 Platform, Enterprise Edition (J2EE)
- Proficient in HTML
- Experience with an integrated development environment (IDE), such as Eclipse or NetBeans, and build tools, such as Ant or Maven
- Basic knowledge of open source relational database management system (RDBMS)

Course Outline

1. **Introduction to JBoss**
   - The JBoss technology stack
   - Installing and starting JBoss
   - Lab: Install JBoss

2. **JBoss architecture**
   - Technologies: JBoss EAP 4.3
   - Lab: Classloading in JBoss

3. **JMX**
   - Technologies: JMX
   - Lab: Create and deploy a custom MBean
   - Bonus lab: Manage the MBean from a client

4. **Using aspects in JBoss**
   - Technologies: JBoss, AOP
   - Lab: Create and deploy a custom interceptor

5. **Connecting to JBoss**
   - Technologies: Java Connector architecture
   - Lab: Set up data sources and tune them

6. **Transactions in JBoss**
   - Technologies: JEE Transactions, JBoss Transactions

7. **JBoss Cache**
   - Technologies: JBoss TreeCache, PojoCache
   - Lab: Create and deploy a cached application

8. **Clustering applications in JBoss**
   - Technologies: JBoss Clustering, PojoCache
   - Lab: Deploy and cluster a stateless EJB
   - Bonus lab: Deploy and cluster a stateful EJB

9. JGroups

- Technologies: JBoss Clustering, JGroups
- Lab: Configure JGroups to deploy and cluster a web application

10. Fine-tuning applications in JBoss

- Technologies: JBoss, JConsole
- Lab: Use JConsole to monitor garbage collection in JBoss

11. Container-managed security

- Technologies: JAAS, JBossSX
- Lab: Secure a web application in JBoss
- Bonus Lab: Secure and deploy a stateless EJB in JBoss

12. JBoss Messaging

- Technologies: JMS, JBoss Messaging
- Lab: Deploy four JMS queues and monitor performance under load
- Bonus lab: Test JBoss Cache state replication in JMS queues