# RHD439 JBoss Clustering

## Course Summary

### Description

This advanced course focuses on the high availability services of the JBoss Enterprise Middleware System (JEMS), including JGroups, JBoss Cache, load balancing, and more. This course fills a specialty training credit for the Middleware Track, and may be applied to the required number of training days for Certified JBoss Enterprise Middleware Expert and Certified JBoss Enterprise Middleware Master Architect levels. Students will learn how JBoss Application Server leverages JGroups and JBoss Cache for replication and fail-over, how to configure, tune and implement JGroups protocol stacks, how to leverage JBoss Cache in their own middleware application implementation and how to use and configure mod_jk for HTTP load balancing. The course also covers in some detail JBoss Application Server high availability services such as HA-JNDI, HA-JMS and HA-singleton.

### Topics

- JBoss State of the Union
- Overview to JBoss Enterprise Middleware High Availability Services
- Reliable Multicasting with JGroups
- JGroups Protocols
- Protocol Stacks and Implementation
- JGroups Building Blocks and Troubleshooting
- JBoss Cache Overview and API
- Cache Loaders and Eviction Policies

- Cache Replication, Transactions and Isolation Levels
- JBoss Cache AOP Overview and API
- JBoss Cache AOP Implementation
- Web Tier Load Balancing and Failover
- EJB Load Balancing and Failover
- JBoss Enterprise Middleware Clustered Services
- JMS Failover and Load Balanced MDB

### Prerequisites

Students should have completed the JBoss for Advanced J2EE Developers course. It is also strongly recommended that the student have at least 18 months of practical development experience using J2EE and other Java middleware technologies, and it is suggested that the student have some practical experience with JBoss Application Server. Solid Java programming experience (minimum 3 years) is required and understanding of basic TCP/IP topics is necessary.

The student must have the following skills:

- JTA, Transactions, Java concurrency
- EJB 2.1, JMS, reliable messaging technologies
- Previous experience with Apache httpd and some exposure to mod_jk and/or mod_proxy
- Familiar with JBoss AS microkernel and JMX
- Familiarity with TCP/IP, UDP, Multicasting

### Duration

Four days