ADM300 : JBoss Administration

Code : ADM300   **Duration :** 3 days   **Category :** Administration

Audience :

System Administrators and Web Developers who need to administer and control the JBoss Server and who need to deploy applications onto JBoss.
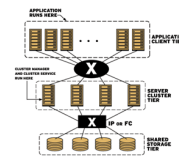
Prerequisites :

Participants should be familiar basic computing skills like browsing the Web and accessing the directory structure. Knowledge of Web Applications and other Web Servers is beneficial.
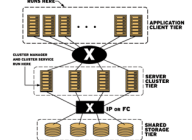
Realization :

The theory is covered using presentation slides. The concepts are further explained using demo's. The theory is alternated with exercises. The course material is in English.

Contents :

In this course you will learn the details of setting up, configuring, and fine-tuning JBoss application server. Participants in JBoss Training will learn the details of JBoss architecture, steps involved in setting up the application server, basic deployments, production installation and deployment issues, tuning and monitoring, securing the services and clustering. This course is based on the latest JBoss Application Server though it also covers differences from the previous versions of the server. JBoss Application Server version 7.0 features many improvements over previous releases, such as centralized configuration management, easier administration, modular core and class loading, parallel deployment, improved startup times, and many new features. JBoss Administration is targeted toward application support individuals, such as system administrators, configuration management and quality assurance personnel who wish to become proficient in configuring and administrating JBoss Application Servers (4.x series) and understanding the needs of the applications deployed on them as well as different deployment scenarios (such as clustered vs. farmed).

Module 1 : Java EE Intro	**Module 2 : JBoss Overview**	**Module 3 : Installation of JBoss AS**
What is Java EE?	JBoss Organization	Getting and Installing Java
Open and Standard-based	JBoss AS Background	Configuring Java
Multi-tier	Highlights of JBoss AS	Getting JBoss AS
Web-Enabled	What is new in JBoss AS 5?	Installing JBoss AS 5
Server Centric	JBoss AS Architecture	Controlling JBoss AS
Component-Based Distributed Architecture	JBoss Microcontainer Layer	Starting JBoss AS
Enterprise Applications	Services Layer	Verifying JBoss AS Startup
Java EE Contents	Aspect Layer	Stopping JBoss AS
Java EE Services	Application Layer	Starting From a Remote Server
	JBoss AS Services	
	JBoss AS Requirements	

Module 4 : JBoss AS Directory Structure	**Module 5 : Deployments on JBoss**	**Module 6 : Web Application Administration**
The bin Directory	Java EE Deployment Lifecycle	Web Technologies
The client Directory	Deployment Descriptors	CGI vs. Servlets/JSPs
The common directory	Deployment on JBoss AS	Tomcat Web Container
The docs Directory	Deployers on JBoss AS	Tomcat's server.xml
The lib Directory	Deployment Dependencies	Tomcat's web.xml
The server Directory	Hot vs. Cold Deployment	Defining and Mapping Servlets
The server Configuration Sets	Bootstrapping JBoss	Defining and Mapping Filters
The default/conf Directory		Session Configuration
The default/data Directory		Welcome File List
The default/deploy Directory		Error Documents
The default/deployers Directory		Serving Static Content
The default/lib Directory		Virtual Hosting with Tomcat
The default/log Directory		Web Access Logging
The default/tmp Directory		
The default/work Directory		

Module 7 : JNDI and JavaMail	**Module 8 : JMS Administration**	**Module 9 : EJB Administration**
Java Naming and Directory Interface	JMS Overview	Introduction to EJB 3.0
JNDI in Java EE	JMS in Java EE	EJB 3.0 Components
JNDI on JBoss	When is JMS Used	EJB Container
Javamail Administration	JMS Architecture	Benefits of EJB Technology
What is JavaMail?	JMS Messaging Domains	Drawbacks of EJBs
Configuring JavaMail Service	JMS Message Consumption	Session Beans
	JMS on JBoss Configuration	Interceptors
	Configure JMS connection factories	Entity Beans
	Configure JMS destinations	Message-Driven Bean
	Advanded JBoss Messaging	Session Beans Client Interfaces
	JBoss Messaging bridge	Stateless Session Beans Life Cycle
	Persistence service configuration	Stateful Session Beans Life Cycle
		Message-Driven Beans Life Cycle
		Configuring the EJB container
		Stateful Session Bean Configuration

Module 10 : Web Services and JBoss

Web Services Overview
Service Oriented Architecture
Web Services With JAX-WS
Web Services on JBoss
JBoss Web Services Tools

Module 11 : JMX Administration

What is JMX?
Why JMX?
JMX Architecture
JMX on JBoss AS
JMX Console
Web Console
Twiddle Tool
JBoss AS Administration Console
JBoss Monitoring
Snapshot and Web Console
Monitoring with JConsole
Scheduling on JBoss

Module 12 : Class Loading on JBoss

Class Namespace Isolation
Java Class Runtime Identity
Class Loading in Java EE
Class Loading On JBoss
The Class Loader
Default Class Search Order
Scoping Classes
Scoped Class Search Order
App-specific Log4J Config
Problems With Class Loading

Module 13 : JBoss Database Access

Steps Involved
Resource Requirement
Install JDBC Drivers
Define a RDBMS DBCP Resource
Map our Resource
Using our DataSource (RDBMS DBCP)
Hypersonic Database
Detecting Connection Leaks

Module 14 : JBoss Security

Securing Applications
Filtering Clients by Source
Authentication & Authorization
Requiring A&A
Plain-Text Login Module
Database Login Module
FORM-based Login
Configuring JBoss AS for SSL
Creating SSL Certificates
Configure SSL Connector
Testing SSL Configuration
Requiring SSL in Apps
Securing JMS destinations
Securing JBoss AS
JBoss AS System User
File System Security
Securing JMX Invoker
Securing JBoss Applications
Securing Hypersonic DB
Java Security Manager
Running Behind a Firewall

Module 15 : JBoss Performance

JVM Tuning
Tomcat Tuning
RMI Tuning
Log4J Tuning
Tuning Other Services
JMS Tuning
Slimming JBoss

Module 16 : Clustering and Load Balancing

What is Clustering?
Clustering and JBoss
Simple Web Architecture
External Load Balancer Architecture
Smart Proxy Architecture
General configuration for the following
examples
Fronting with a Web Server
Fronting with Apache HTTPD
Installing mod_jk
Configuring mod_jk
Simple Load Balancing
Enabling Sticky Sessions
Clustered Session Replication
Clustering Single Sign-On
Clustering with HA-JNDI
HA-JNDI Client Configuration
Clustering with HA-JMS
Clustering with Stateless Session Beans
Clustering with Stateful Session Beans