

JBOSS-00.01

JBossAS 5 Admin, Configuration and tuning

Duration: 4 Days

This teaches students to setup, configure, manage and tune a JBoss Logic Application Server 5.

Who can benefit?

System Administrators and Developers

Networking (TCP-IP, client/server, network structure) and general knowledge of software development principles.

Detailed description

This course covers application server installation/application, configuration, management and deployment. It explains how to address the different Systematic Qualities such as availability, scalability, security and other QoS requirements. Among other topics this course covers:

- Installation
- Configuration of application server, resources and applications
- Java EE Application/Component deployment
- Security
- Clustering
- JBoss Cache
- JGroups
- Performance Tuning

Workshop overview

This is an overview of the course. For a detailed description with objectives per topic, we refer to the detailed workshop overview, listed further below in this document.

Technical overview of Java EE

Overview of the Complete architecture

Introduction

Introduction to JBoss 5
JBoss 5 Architecture
Installation

Core configuration

Core configuration
Logging
Deployment
Resource configuration
JMS

Security

JBoss Security

Clusters

- JGroups
- JBoss Cache
- JBoss clusters
- HTTP Server

Monitoring and Performance tuning

- Monitoring
- Tuning

Detailed overview

Technical overview of Java EE_(rev:1683)

Overview of the Complete architecture

- Get a complete technical overview of the Java EE Platform
- Understand how each tier is addressed in Java EE
- Web technologies: Servlets, JavaServer Pages, JavaServer Faces
- Application Technologies: EJB Session Beans, JPA (Hibernate openJPA), JMS (and MessageDriven Beans)
- Understand the architectural role of each of the technologies
- Understand the concept of the EAR and the deployment descriptors
- Understand the relationship between Java EE and Web Services
- Understand what Dependency Injection is
- List the supporting technologies (JMX, JACC, JTA, etc.)
- List the different versions of J2EE and Java EE and the related versions and APIs
- Application frameworks (Spring Framework and Seam)
- Web application frameworks (Struts, Tapestry etc)

Introduction_(rev:4793)

Introduction to JBoss 5

- Product overview
- Community versus Platform
- JBoss 5 and its competitors
- Main features of JBoss 5
- Other components (Portal, ESB etc)

JBoss 5 Architecture

- Overview of the JBoss 5 architecture
- The JBoss Microcontainer (MC)
- MC modules, overview and architecture
- Core JBoss modules (Messaging, Web, EJB 3 etc)
- Supporting JBoss modules (AOP, Transaction, Security)
- Other Boss modules (Cache, JGroups)
- JBoss Virtual File System (VFS)



Installation

- JBoss 5 installation options (standard, Ant,
- Understand the JBoss 5 directory structure and files
- Standard Server configurations ("default", "all" etc))
- Understand the server directory
- The environment
- Running JBoss on Java 5 and 6
- Starting and stopping the server
- Overview of different tools
- The JMX Console
- The Web Console
- JBoss classpath

Core configuration

Core configuration

- Configure the microcontainer (*bootstrap.xml*)
- Configure the server
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Logging

- Logging overview
- Log4J overview
- Logging configuration in JBoss

Deployment

- Virtual Deployment Framework (VDF) Overview
- List the different deployable units (war, ear, jar, sar, datasources, MBeans)
- Packaging
- Benefits of exploded deployments
- Deployment descriptors
- JBoss specific deployment descriptors

Resource configuration

- JDBC Drivers
- Connection pools
- Datasource configuration and deployment
- Configuring XA Datasources
- Configuration of the connection pool

JMS

- Messaging Overview
- JBoss Messaging architecture
- Configuration a SecurityStore and the ServerPeer
- Using PostOffice
- Using a Dead Letter Queue (DLT)
- Configuring Message lifecycle and lifetime

Security

JBoss Security

- Architectural overview
- Securing JBoss itself (e.g, the JMX Console)
- JBoss standard file based security policy
- Configure authentication using JAAS login modules
- Configuring applications to use a specific security domain

Clusters

JGroups

- JGroups overview
- Architecture of JGroups
- Understand multicast networking
- Understand the flexible protocol stack
- Understand channels
- Dealing with problems

JBoss Cache

- JBoss Cache overview
- Pojo Cache
- Cache modes
- Locking and transactions
- Configuration
- Capture and view statistics

JBoss clusters

- Cluster overview
- Topology (nodes, partitions etc)
- Introduce the HAPartition
- Discovery, Failure detection and Reliable delivery protocols
- Client-side interceptors (smart proxies)
- Load balancing Policies
- Clustered JNDI
- Configuration of EJB caches

HTTP Server

- Integrate JBoss with an HTTP Server
- Apache integration using mod_jk
- Load balancing
- Configuring cluster SSO
- Configuring HASingleton services

Monitoring and Performance tuning

Monitoring

- Monitoring overview
- Monitoring runtime behaviour



Tuning

- Overview of tuning areas
- JVM Tuning
- Understand the JVM Heap size
- Understand the garbage collector
- Tune threads
- Tune resources

