

Course code: **JBOSS/ADM**

Course title: **JBoss application server administration**

Days: 3

Description:

Course intended for:

The training is intended for IT system administrators and Java EE programmers, interested in adding JBoss application server configuration to their skills.

Course objective:

The training objective is to get familiar with JBoss server configuration and to learn to launch applications compatible with Java EE.

In particular, the participants are to:

- Get familiar with the specific characteristics of the JBoss server components, services and the microcontainer and their configuration,
- Find out about the role of naming services in application servers,
- Learn to configure connections with external servers, in particular, with databases, and integrate these with server services,
- Get familiar with the structure of applications compatible with Java EE and the specific characteristics of launching of these applications using the in-built EJB3 components and servlet components,
- Learn about the purpose of asynchronous communication and find out how to configure queues and topics for transmission of messages between the IT system components,
- Learn to configure many servers within a cluster and add a software load balancer,
- Learn to monitor the server using the in-built and external tools,
- Get more information about configuration of the production environment.

Course strengths:

The training includes not only issues associated with JBoss server configuration, but also information allowing for a broad view of the specific characteristics of launching of applications compatible with Java EE.

Requirements:

The training participants are required to have the basic knowledge of the principles of operation of Web applications, distributed IT systems and network protocols (tcp/ip, http, https). Familiarity with Java platform is not required; however, some basic knowledge of it will allow the participants for better understanding of the training material.

Course parameters:

3*8 hours (net 3*7 hours) of lectures and workshops (with visible emphasis on workshops).

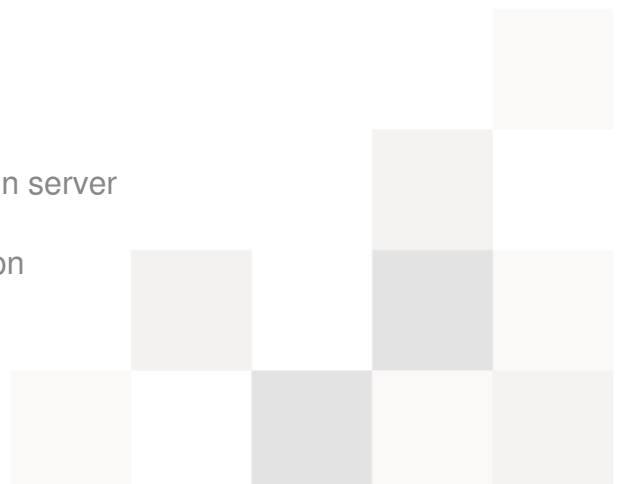
During the workshops, apart from simple exercises, a simple complex application is designed and implemented.

Group size: no more than 8-10 participants.

Course curriculum:

1. Product installation

- Getting ready for the installation
 - Minimum system requirements
 - Selection of the operating system
 - Selection and acquisition of the installation version of the product
 - Selection and acquisition of the appropriate JVM machine
- Product installation
- Environment configuration for JBoss
- Launching/ stopping of the application server
- Standalone/domain mode of operation



2. Basic administration of JBoss services

- JBoss server organization
- Server architecture
- JBoss deployer architecture
- JBoss service subsystem

3. JNDI service configuration

- Designation of naming services in the application server environment
- Architecture of naming services implemented in JBoss
- Naming service management – administrator tasks, tools

4. Web container configuration – application installation

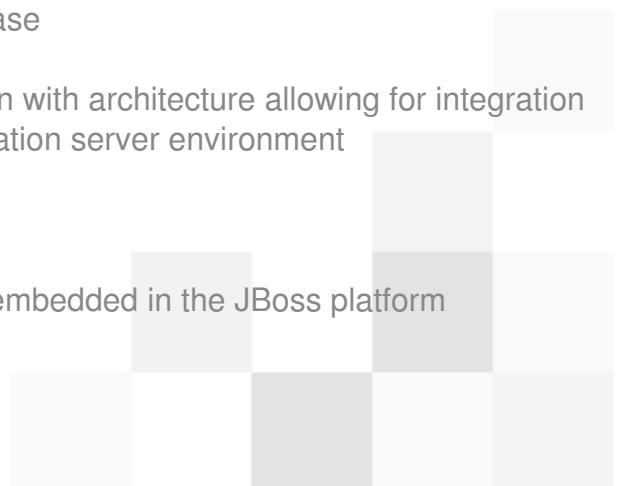
- In-built http server configuration
- Web application module structure
- Web application deploy process

5. Installation of enterprise components

- Client connections to enterprise components (RMI)
- Enterprise component organization on the server side
- EJB container properties configuration
- EJB component module structure
- EJB component deploy process

6. Configuration of connections with the database

- JCA subsystem – general information with architecture allowing for integration of external resources with the application server environment
- JDBC data source configuration
- Use of data sources in applications embedded in the JBoss platform



7. JMS subsystem configuration

- JMS message exchange subsystem architecture – description of the communication model and the mode of use of the subsystem by the applications
- Communication subsystem components – specification and description of designation
- Communication subsystem configuration – for each component, specification of significant configuration parameters

8. Security

- Users, roles
- Security domain
- Web application security
- SSL configuration

9. Cluster environment

- Configuration
- Domain work mode
- Tomcat + Apache combination
- Load balancing of the Web application
- Load balancing of the Stateless Session Bean
- HTTP session replication
- Statefull Session Bean status replication
- JNDI tree replication

10. Management and monitoring

- Console tool
- JMX



- Monitoring using JConsole and VirtualVM

