

JBoss for Web Developers

JBoss for Web Developers focuses on web tier technologies in the JBoss Enterprise Middleware System (JEMS) product stack. We cover details on JBoss Portal, how to create and deploy portlets, integrating portlets with other web tier frameworks, such as JavaServer Faces (JSF), and configuring and tuning the Tomcat web container embedded in JBoss Application Server.

Course Duration: This is a 3 day course.

Course Format: The format is 50% theory, 50% hands-on lab exercises.

Course Prerequisites

JBoss for Web Developers training is targeted for experienced web developers who wish to extend their web applications to inter/intra communicating web applications and web services under a unified desktop or portal presence.

The prerequisite skills for this class are basic J2EE Web Container (Servlet/JSP) programming skills and some experience with J2EE Web-based and multi-tier application deployments on the JBoss Application Server in conjunction with the Tomcat container (whether embedded with Apache or integrated with the JBoss Application server). The student should have development experience with the following technologies:

- JNDI
- The Servlet 2.3/2.4 API
- The JSP 2.0 API
- J2EE application development and deployment on the JBoss Application Server
- Deployment of a Web Application on embedded (stand alone) Tomcat or on integrated Tomcat (JBossWeb)

A working knowledge of JDBC and EJB2.1 or EJB3.0 while not a prerequisite, is helpful.

Course Modules

- 1. JBoss State of the Union.** Introduction to Professional Open Source methodology and to JBoss Inc.'s role in leading the innovation of Open Source middleware development. Short introduction to JBoss Inc. service offerings, current product roadmaps, JBoss Enterprise Middleware System (JEMS) and the road ahead.
- 2. JEMS Web Tier Architecture Overview.** This module introduces you to JBoss for Java Developers training. We cover the different technologies available in the JBoss Enterprise Middleware Stack (JEMS) for web tier, and how they relate to each other. Architecture overview into JBoss Portal, JavaServer Faces, Portlet specification, integration with Servlet and JSP specifications and Tomcat configuration and tuning.
- 3. Installing and Configuring JBoss Portal.** This section gets you started on JBoss portal. You will learn how to quickly get up and running with JBoss Portal and JBoss AS and how to do basic configuration of the Portlet container, setting up different databases, etc.
- 4. Portlet Overview.** In this module we introduce the Portlet specification, and how portlet components differ from servlet components. We discover portlet window states, portlet modes, personalization, portlet web integration and caching. Also we learn how to create portlets that target specific devices, for example WAP enabled phones.
- 5. Portlet Programming Model.** This module introduces the basics of Portlet API. We learn how to write our own portlet implementations and how to package them, what deployment descriptors are required and how to deploy your portlet to JBoss Portal implementation.
- 6. Portlet Interaction with Servlets and JSP.** In this module we learn how to integrate portlet components with existing servlet and JSP applications. We look at JBoss Portal integration options to existing Struts, Spring MVC and JSF applications.
- 7. User and Group Management.** This module teaches you how to manage users and groups with JBoss Portal. We'll see how user registration is handled and how to create/edit user profiles and user groups.

8. **Personalization.** This section covers Portlet personalization features – how to use portlet API to manage portlet preferences and user attributes.
9. **Localization and Security.** This module introduces you to two important features of portlet development – how to localize the content on your web portal and how to configure and enable authentication and authorization of users accessing portlets through JBoss Portal. We will see how JBoss Portal integrates with JBoss JAAS based security framework to enable pluggable authentication modules (for example, authentication from LDAP), how to enable single sign-on and group permissions with JBoss Portal.
10. **Java Server Faces for Application Developers.** This module introduces you to the new Java Server Faces specification. We will look at JSF mainly from the point of view of an Application Developer. We will learn how to write a simple JSF application, explore the JSF component and navigation model and how to bind presentation, JavaBean and validation into user interface applications. We will also see in practice how to use JSF to build your portlets.
11. **Advanced Servlet and JSP.** In this module we cover the new, advanced features of both Servlet 2.4 specification and Java Server Pages 2.0 specification. The goal is to get experienced web tier developers updated on the changes in these relevant specifications. We cover changes in servlet filters, the new JSP expression language and migration from JSP 1.2 to 2.0 among other things.
12. **Tomcat Architecture.** In this module we cover an architectural overview into Tomcat Servlet container. We introduce architectural elements such as valves, connectors and realms, cover different specification support associated with each major Tomcat release and look into the internal Tomcat Servlets for introduction.
13. **Tomcat Connectors, Containers and Valves.** In this module we look at the options available to extend the web container via custom connectors and valves. We will go through the standard Tomcat connectors including HTTP/HTTPS and AJP13 and look at standard valve implementations, including access logging and single sign-on.
14. **JEMS Web Tier Clustering.** In this final section we will have a quick introduction into more advanced features of JBoss Portal and Tomcat containers. We will see how to enable clustered single sign-on, how to enable clustering for portlets, configuring the underlying cache for portlet container, etc.