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Course : Jakarta EE, a practical introduction

Practical course - 3d - 21h00 - Ref. JIP

You'll discover the Java EE platform and how to structure the applications that will be deployed on it. You'll develop Web GUIs (servlets/JSPs, frameworks, etc.), implement distributed components in the form of EJBs, implement SOAP/REST Web Services and discover Java EE transversal services.

Teaching objectives

At the end of the training, the participant will be able to:

- Mastering the various components of the Java EE platform
- Developing graphical Web interfaces
- Developing EJBs
- Developing REST and SOAP Web Services
- Deploying Java EE Web applications

Intended audience

Developers, architects, design engineers and project managers.

Prerequisites

Basic knowledge of Java development. Experience required.

Course schedule

1 Introduction to Java EE

- The benefits of N-tier architecture (clustering, service reuse, etc.).
- The main Java EE concepts.
- Java EE services (JNDI, Web, EJB, JTA, JAAS, JMX, etc.).
- Market offerings (JBoss, GlassFish, WebSphere, Jonas, etc.).
- Overview of the Java/Java EE ecosystem: components, design patterns and the main frameworks available.

Hands-on work

Setting up the environment: installation of a JDK, an Open Source application server (JBoss, GlassFish...) and an IDE (Eclipse, NetBeans...). Application demonstrations.

PARTICIPANTS

Developers, architects, design engineers and project managers.

PREREQUISITES

Basic knowledge of Java development. Experience required.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

2 Java EE Web technologies

- Web architecture, HTTP server and thin client.
- HTTP protocol, client request and server response.
- Role and operation of Servlets and JSPs.
- Tag libraries or taglibs.
- Standard structure of a Java EE Web application.
- The web.xml standardized configuration file.
- Deployment of Java EE Web applications, JAR, WAR and EAR archives.
- MVC frameworks (JSF, Struts 2, etc.).

Hands-on work

Demonstrate and explain how a Java EE Web application works and how to set it up.

3 Enterprise Java Beans

- Reuse and remote access to services.
- EJB principles and technologies (Stub, Skeleton, Remote, Local, RMI, IIOP, etc.).
- Annotations.
- The different specifications (EJB1.x, 2.x and 3.x).
- Need to simplify EJB2 architecture.
- Description of EJB 3.x architecture.
- The different types of EJB (session, entity and message).
- EJB 2.x interoperability with EJB 3.0.

Hands-on work

Implementing EJBs. Developing an EJB example. Explanation of use cases and demonstrations.

4 Web Services

- What is a Web Service? Purpose. How it works.
- Main technologies (REST, SOAP/WSDL/UDDI).
- Service contracts.
- The role of XML and the Java platform.
- Service-oriented architecture (SOA).
- Description of the SOAP protocol. WSDL language for describing Web Services. Publishing Web Services with UDDI.
- Description of REST services. Resources. URIs.
- Programming tools for creating and using Web Services (Axis, JAX-WS, JAX-RS...).

Hands-on work

Implementation of REST and SOAP Web Services.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.