

€ TRAINING

Mastering Java EE 7 for Enterprise
Application Development





Mastering Java EE 7 for Enterprise Application Development

Introduction:

This training program provides an in-depth exploration of Java Platform, Enterprise Edition Java EE 7, designed to equip participants with the skills necessary to develop robust, scalable enterprise applications using Java EE technologies. It covers the core components and APIs of Java EE 7, focusing on practical application and integration techniques.

Program Objectives:

By the end of this program, participants will be able to:

- Understand the architecture and key components of Java EE 7.
- Develop applications using Java EE 7 frameworks and APIs.
- Implement enterprise solutions using EJB, JPA, JSF, and JMS.
- Apply best practices for scalability and performance in Java EE applications.
- Prepare for professional development and potential certification in Java EE technologies.

Targeted Audience:

- Software Developers.
- Application Architects.
- System Integrators.
- Technical Project Managers.
- Professionals seeking to specialize in Java EE technologies.

Program Outline:

Unit 1:

Overview of Java EE 7:

- Introduction to Java EE and its evolution.
- Key features and enhancements in Java EE 7.

- Understanding the Java EE architecture and platform services.
- Exploring the component model in Java EE.
- Setup and configuration of a Java EE development environment.

Unit 2:

Web Technologies in Java EE 7:

- Development of web applications using Servlets 3.1 and JSPs.
- Enhancements in JavaServer Faces JSF 2.2.
- Implementing RESTful web services with JAX-RS 2.0.
- Using WebSocket for real-time communication.
- Integrating JSON processing using JSON-P.

Unit 3:

Enterprise JavaBeans EJB and Persistence:

- Building and deploying EJBs in Java EE 7.
- Stateful, stateless, and singleton session beans.
- Transaction management and security in EJB.
- Introduction to Java Persistence API JPA for database integration.
- Advanced querying and entity relationships with JPA.

Unit 4:

Messaging and Integration:

- Configuring and using Java Message Service JMS for reliable messaging.
- Integration of systems and applications with JCA and Batch API.
- Asynchronous communication using message-driven beans.
- Employing CDI Contexts and Dependency Injection for loose coupling.
- Best practices for resource and dependency management.

Unit 5:

Java EE 7 Application Deployment and Performance Tuning:

- Packaging and deploying Java EE applications.
- Performance tuning and optimization strategies.
- Scalability considerations in Java EE applications.
- Tools and techniques for monitoring and managing Java EE environments.
- Preparing for future advancements in Java EE.