

5 Days

Java EE 7: Front-end Web Application Development NEW

The Java EE 7: Front-end Web Application Development training equips individuals in designing and deploying enterprise applications that adhere to the Java Platform, Enterprise Edition 7 Web Profile. The course being led by Oracle Certified Instructors will help you explore annotations, Session Enterprise JavaBeans (EJB-Lite), servlets, JAX-RS RESTful web services, JavaServer Pages(JSPs), Java Persistence API (JPA), Contexts and Dependency Injection (CDI), the Java API for WebSocket and the Java API for JSON processing.

Completion of this training course will enable candidates in:

- Developing web-based interfaces for both desktop and mobile devices.
- Assembling an application.
- Building Java applications.
- Deploying an application into an application server (Java EE platform runtime environment).

Course Benefits:

Attaining certification of this course will help individuals acquire hands-on experience building Java EE web applications. Trainees to this course get the chance to create web-based user interfaces using HTML5 and JavaScript along with JSPs and servlets.

Course Details

Course Outline

1. Java Platform, Enterprise Edition

- Overview of Java EE Platform
- Explore the needs of enterprise application developers
- Explore Java EE Web Profile
- Java EE application tiers and layers
- Comparison of services and libraries

2. Enterprise Development Tools and Applications

- Define purpose of an application server
- Starting and stopping WebLogic Server

- Properties of Java EE components
- Explore development process of a Java EE application
- Explore how to configure and package Java EE applications

3. JavaBeans, Annotations, and Logging

- Java SE features used in Java EE applications
- Create POJO JavaBeans components
- Use of Logging
- Use Common Java Annotations
- Develop custom annotations
- Explore the role of annotations in Java EE applications

4. Java EE Web Architecture

- Define the HTTP request-response model
- Differences between Java Servlets, JSP, and JSF components
- Application layering and the MVC pattern
- Avoid thread safety issues in web components
- Use the Expression Language

5. Developing Servlets

- The Servlet API
- Request and response APIs
- Set response headers
- Two approaches to creating a response body
- Upload files using a servlet
- Forward control and passing data
- Use the session management API

6. Developing with JavaServer Pages

- The role of JSP as a presentation mechanism
- Authoring JSP view pages
- Process data from servlets in a JSP page
- Use tag libraries

7. JAX-RS Web Services

- Explore the need for web services
- Design a RESTful web service
- Create methods that follow the prescribed rules of HTTP method behavior

- Create JAX-RS resource and application classes
- Consume query and other parameter types
- Produce and consume complex data in the form of XML
- HTTP status codes

8. Java RESTful Clients

- Pre-JAX-RS 2 Clients: HttpURLConnection and the Jersey Client API
- The JAX-RS 2 Client API

9. HTML5 Applications with JavaScript and AJAX

- HTML DOM manipulation with JavaScript
- RESTful clients with JavaScript (AJAX)
- Limitations of JavaScript clients
- The Same-Origin policy and CORS

10. WebSocket and the Java API for JSON Processing

- Web Service Limitations
- WebSocket Explained
- Creating WebSockets with Java
- Client-side WebSocket with JavaScript
- Client-side WebSocket with Java
- Consuming JSON with Java
- Producing JSON with Java

11. Implementing a Security Policy

- Container-managed security
- User roles and responsibilities
- Create a role-based security policy
- The security API

12. POJO and EJB-Lite Component Models

- Define the role of EJB components in Java EE applications
- Discuss the benefits of EJB components
- Operational characteristics of stateless and stateful session beans
- Create session beans
- Create session bean clients

13. The Java Persistence API

- The role of the Java Persistence API in Java EE applications
- Basics of Object-relational mapping
- The elements and environment of an entity component
- The life cycle and operational characteristics of entity components

14. Implementing a transaction policy

- Transaction semantics
- Programmatic vs. declarative transaction scoping
- Using JTA to scope transactions programmatically
- Implement a container-managed transaction policy
- Optimistic locking with the versioning of entity components
- Pessimistic locking using EntityManager APIs
- The effect of exceptions on transaction state

Who Should Attend

- Java Developers
- J2EE Developer
- Java EE Developers
- Web Administrator

Pre Requisite

Required:

- Experience with Java SE, or Java Programmer Certification
- Understand object-oriented principles
- Basic understanding of database concepts and SQL syntax
- Able to author HTML, CSS and JavaScript enabled web pages
- Java SE 8 Programming

Suggested Prerequisites:

- Experience with an Integrated Development Environment
- JavaScript and HTML5: Develop Web Applications

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