



Developing Applications for the Java EE 7 Platform

Duración: 5 días (40 hrs)

Descripción general

Este curso va a enseñar al asistente a construir e implementar aplicaciones empresariales que cumplan con la plataforma Java Enterprise Edition 7. Las tecnologías presentadas en este curso incluyen anotaciones Java, Enterprise JavaBeans (EJB), Java Persistence API (JPA), Java Transaction API (JTA), Servlets, JavaServer Pages (JSPs), JavaServer Faces (JSF), Contexts and Dependency Injection (CDI), JAX-RS RESTful y SOAP Web Services, la API de Java para WebSocket, Java Message Service API (JMS), Bean Validation, Batch API, servicios de temporización y concurrencia de Java EE

Objetivos

Una vez finalizado el curso, el alumno habrá adquirido los conocimientos y habilidades para:

- Desplegar aplicaciones Java EE.
- Manejar la lógica de negocios usando POJOs, EJBs, SOAP WebServices y JMS
- Gestionar la persistencia utilizando entidades JPA.
- Crear aplicaciones web Java utilizando servlets, Java Server Pages, Java Server Faces, servicios REST y WebSockets
- Asegurar aplicaciones de Java EE

Esquema del curso

Introduction to Java EE

- Standards, containers, APIs, and services
 - Application component functionalities mapped to tiers and containers
 - Interconnect Application Components with CDI Annotations and JNDI
 - Web container technologies, Business logic implementation technologies, and web service technologies
 - Packaging and deployment
 - Enterprise JavaBeans, managed beans, and CDI beans
 - Understanding lifecycle and memory scopes
 - Linking components together with annotations, injections, and JNDI
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Managing Persistence by Using JPA Entities

- Create JPA entities with Object-Relational Mappings (ORM)
- Use Entity Manager to perform database operations with JPA entities
- Handle entity data with conversions, validations, and key generation
- Describe persistence management and locking mechanisms
- Create and execute JPQL statements

Implementing Business Logic by Using EJBs

- Create Session EJB components
- Create EJB business methods
- Manage EJB life cycle with container callbacks
- Use asynchronous EJB operations
- Control transactions
- Create EJB timers
- Create and apply interceptors

Using Java Message Service API

- Describe Java Message Service (JMS) API messaging models
- Implement Java SE and Java EE message producers and consumers
- Use durable and shared topic consumer subscriptions
- Create message-driven beans
- Use transactions with JMS

Implementing SOAP Services by Using JAX-WS

- Describe a SOAP Web Service structure
- Create SOAP Web Services using JAX-WS API
- Create SOAP Web Service clients

Creating Java Web Applications by Using Servlets

- Describe HTTP basics
 - Create Java servlet classes and map them to URLs
 - Handle HTTP headers, parameters, cookies
 - Use servlets to handle different content types
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- Manage servlet life cycle with container callback methods
 - Use CDI Managed Beans
 - Use Interceptors and Filters
 - Implement asynchronous servlets and use NIO API

Creating Java Web Applications by Using JSPs

- Describe JSP life cycle
- Describe JSP syntax
- Use Expression Language (EL)
- Use CDI Beans
- Use Tag Libraries
- Handle errors

Implementing REST Services using JAX-RS API

- Understand REST service conventions
- Create REST services using JAX-RS API
- Consume REST service within the client tier

Creating Java Applications with WebSockets

- Understand WebSockets communication style
- Create WebSocket Endpoint Handlers using JSR 356 API
- Manage WebSocket Endpoint lifecycle
- Produce and consume WebSocket messages
- Handle Errors
- Encode and Decode JSON messages
- Provide WebSocket Client Endpoint handler using JavaScript

Develop Web Applications Using JavaServer Faces

- Describe JSF lifecycle and architecture, and understand JSF syntax
 - Use JSF Tag Libraries
 - Apply Validators and Converters to UIComponents
 - Use UI templates
 - Define navigation, and handle localisation
 - Produce messages
 - Use Expression Language (EL), and CDI Beans
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- Add AJAX support

Securing Java EE Applications

- Understand Java EE security architecture
- Configure Authentication using Login Modules
- Define Application Roles and Security Constraints
- Use programmatic security
- WebServices security standards

Appendixes/Additional Content

- Java Logging
 - CDI Beans
 - BeanValidation and JPA API
 - Batch and Concurrency APIs
 - JAXB API
 - "Pre-CDI" Servlet Examples
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