PLAN DE COURS

JAVA ENTREPRISE EDITION JEE

Objectif

Implement enterprise application using JEE technologies

Public Concerné

Developers

Pré-requis

Good knowledge of Java programming.

Code

JEE600

Durée

5 days

Programme

- SURVEY OF JAVA EE TECHNOLOGIES
  - Describe the different Java platforms and versions
  - Describe the needs of enterprise applications
  - Introduce the Java EE APIs and services
  - Certifications Paths
  - Introducing Applications Servers
  - Enterprise Modules
- ENTERPRISE APPLICATION ARCHITECTURE
  - Design Patterns
  - Model View Controller
  - Synchronous and Asynchronous communication
  - Network Topologies and Clustering
  - Layering (client,presentation,service,integration,persistence)
- WEB TECHNOLOGY OVERVIEW
  - Describe the role of web components in a Java EE application
  - Define the HTTP request-response model
  - Compare Java servlets, JSP, and JSF
  - Brief introduction to technologies not covered in detail
- DEVELOPING SERVLETS
  - Describe the servlet API
  - Servlet configuration through annotations and deployment descriptors
  - Use the request and response APIs
  - Servlets as controllers
- DEVELOPING WITH JAVASERVER PAGES TECHNOLOGY (JSP)
  - Evaluate the role of JSP technology as a presentation mechanism
  - Author JSP pages
  - Process data received from servlets in a JSP page
  - Brief introduction to the JSTL and EL
- JAVASERVER FACES (JSF)
  - The JSF model explained
  - Adding JSF support to web applications
  - Using the JSF tag libraries
  - Configuring JSF page navigation
  - JSF Managed beans
  - JSF Conversion, Validation, and Error Handling
- EJB OVERVIEW
  - EJB types: Session Beans
  - EJB types:Message Driven beans
  - Java Persistence API as a replacement for Entity EJBs
  - Describe the role of EJBs in a Java EE application
  - EJB lite
- IMPLEMENTING EJB 3.0 SESSION BEANS
  - Compare stateless and stateful behavior
  - Describe the operational characteristics of a stateless session bean
  - Describe the operational characteristics of a stateful session bean
  - Describe the operational characteristics of a singleton session bean
  - Create session beans
  - Package and deploy session beans
  - Create session bean clients
- THE JAVA PERSISTENCE API
  - The role of the Java Persistence API in a Java EE application
  - Object Relational Mapping
  - Entity class creation
  - Using the EntityManager API
  - The life cycle and operational characteristics of Entity components
  - Persistent Units and Packaging
- IMPLEMENTING A TRANSACTION POLICY
  - Describe transaction semantics
  - Compare programmatic and declarative transaction scoping
  - Use the Java Transaction API (JTA) to scope transactions programmatically
  - Implement a container-managed transaction policy
  - Support optimistic locking with the versioning of entity components
  - Support pessimistic locking of entity components
  - Using transactions with the web profile

- DEVELOPING ASYNCHRONOUS JAVA EE APPLICATIONS AND MESSAGING
  - The need for asynchronous execution
  - JMS technology introduction
  - List the capabilities and limitations of Java EE components as messaging producers and consumers
  - JMS and transactions
  - JMS administration
- DEVELOPING MESSAGE-DRIVEN BEANS
  - Describe the properties and life cycle of message-driven beans
  - Create a JMS message-driven bean
- WEB SERVICE MODEL
  - Describe the role of web services
  - Web service models
  - List the specifications used to make web services platform independent
  - Describe the Java APIs used for XML processing and web services
- IMPLEMENTING JAVA EE WEB SERVICES WITH JAX-WS AND JAX-RS
  - Describe endpoints supported by the Java EE 6 platform
  - Developing Web Services with Java
  - Creating Web Service Clients with Java
- IMPLEMENTING A SECURITY POLICY
  - Exploit container-managed security
  - Define user roles and responsibilities
  - Create a role-based security policy
  - Use the security API
  - Configure authentication in the web tier