INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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JEE

Core Java EE Concepts

1. **Introduction to Java EE**
   - Overview of Java EE architecture
   - Java EE components and containers
   - Java EE services
2. **Servlets and JavaServer Pages (JSP)**
   - HTTP protocol basics
   - Servlet lifecycle and API
   - Handling requests and responses
   - Session management
   - JSP syntax and directives
   - JSP lifecycle and implicit objects
   - Expression Language (EL)
   - JSP Standard Tag Library (JSTL)
3. **JavaServer Faces (JSF)**
   - JSF architecture
   - Managed beans and backing beans
   - Facelets and JSF tags
   - Navigation and validation
   - Converters and event handling
4. **Enterprise JavaBeans (EJB)**
   - EJB types: Session Beans (Stateless, Stateful, Singleton)
   - Message-Driven Beans (MDB)
   - EJB lifecycle and transactions
   - Interceptors and security
   - Dependency injection

5. **Java Persistence API (JPA)**
    - Object-Relational Mapping (ORM) concepts
    - JPA entities and annotations
    - EntityManager and JPQL (Java Persistence Query Language)
    - Relationships (One-to-One, One-to-Many, Many-to-One, Many-to-Many)
    - Transactions and locking
6. **Context and Dependency Injection (CDI)**
    - CDI beans and scopes
    - Qualifiers and stereotypes
    - Interceptors and decorators
    - Events and observers

Web Services

1. **Java API for RESTful Web Services (JAX-RS)**
    - REST principles and architecture
    - JAX-RS annotations and resources
    - URI templates and parameters
    - Content negotiation and response building
    - Exception handling
    - Client API
2. **Java API for XML Web Services (JAX-WS)**
    - SOAP Web Services basics
    - WSDL and service endpoints
    - JAX-WS annotations
    - Binding and handlers
    - MTOM and security

Additional Java EE Technologies

1. **Java Message Service (JMS)**
   - Messaging concepts and models (P2P, Pub/Sub)
   - JMS API and components (Queue, Topic, Message)
   - Message producers and consumers
   - JMS transactions and acknowledgment modes
2. **Java Transaction API (JTA)**
   - Transaction management concepts
   - JTA and XA transactions
   - UserTransaction and TransactionManager
3. **Java Naming and Directory Interface (JNDI)**
   - Naming and directory services
   - JNDI API and context
   - Resource lookup and binding
4. **JavaMail API**
   - Email protocols (SMTP, IMAP, POP3)
   - JavaMail API overview
   - Sending and receiving emails
   - Email attachments and MIME types

1. **Java EE Security**
   - Authentication and authorization
   - Declarative security
   - Programmatic security
   - Role-based access control (RBAC)
   - Secure communication (SSL/TLS)

Development Tools and Best Practices

1. **Integrated Development Environments (IDEs)**
   - Overview of popular IDEs (Eclipse, IntelliJ IDEA, NetBeans)
   - Project setup and configuration
   - Build tools (Maven, Gradle)

2. **Testing and Debugging**
   - Unit testing with JUnit
   - Integration testing
   - Debugging techniques
3. **Deployment and Packaging**
   - WAR and EAR packaging
   - Application server setup (WildFly, GlassFish, TomEE)
   - Deployment descriptors and annotations
   - Continuous Integration/Continuous Deployment (CI/CD) practices
4. **Performance and Scalability**
   - Performance tuning
   - Caching strategies
   - Load balancing and clustering

Cloud and Microservices (Advanced Topics)

1. **Microservices Architecture**
   - Microservices principles and patterns
   - Developing microservices with Java EE
   - Inter-service communication (REST, gRPC)
   - Service discovery and registry
2. **Cloud Deployment**
   - Cloud platforms overview (AWS, Azure, Google Cloud)
   - Containerization with Docker
   - Orchestration with Kubernetes
   - Cloud-native Java EE applications