

## J2EE Curriculum

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### **Benefit/Capability for L2 JEE**

This certification equips a developer with the ability to:

- Do advanced level programming using Java programming language and develop web applications using JEE 5
- Develop distributed multi-tier JEE applications using optimized solutions viz. Code optimization and Design Patterns
- Develop component based applications using EJB and SOA applications using Web Services

## 1. Level 2 (Intermediate)

### **Pre-requisite Courses**

JEE L1 (Level 1)

Please note:

??L2 Oracle will have RDBMS concepts and SQL based questions only. Procedures, Functions, Triggers and vendor specific functions, configuration questions will not be asked.

??The above mentioned pre-requisites are covered in the certification test. The complexity of the questions in these topics would be higher though as compared to the complexity of questions in L1 certification

### **JEE Level 2 (Intermediate) Topics**

#### **JEE Standards**

- Introduction to JEE
- Various layers in n-tier architecture
- Introductions to J2EE Technologies
  - Servlets, JSP and EJB
  - JNDI
  - JMS, Java Mail
  - JTA/JTS
  - JAAS, JNI, LDAP
  - J2EE Servers, J2EE Containers and J2EE Deployment

#### **RMI**

- Introduction to Distributed Computing
- Need for RMI
- Understanding RMI Architecture
- Writing and Executing RMI Application.

#### **EJB 3.0**

- Introduction to Component Driven Architecture
- Introduction to EJB 3.0
- What is EJB
- Why EJB
- Understanding EJB 3 Architecture
- Introduction to Application Server, EJB Container and Its Services
- Features of EJB 3.0 – A Brief Overview

## J2EE – L2 Certification Curriculum

- Dependency Injection
- Annotations
- JPA
- Developing a First EJB – Stateless Session Bean
- Life Cycle of Stateless Session Bean
- Understanding Stateful Session Bean and Its Life Cycle
- Working with Life Cycle Callbacks and Interceptors
- Introduction to JPA
- Managing Persistence using JPA
- Querying using JPQL
- Working with Entity Listeners and Entity Callbacks
- Introduction to Message Driven Beans
- Developing MDB and Understanding Life Cycle
- Managing Transactions using Transactional Attributes

## **Advanced XML**

- Revisit XML
- XML Infoset
- DOM Core
- IDL Definitions
- DOM Events
- XML Schema with namespaces, Inheritance, Multiple Schema
- XML Transformation
- XML Path Language 2.0 - XPath and XQuery

## **SOA, Web Services**

- Introduction to SOA and Web Services
- SOA fundamentals
- Architecture, Advantages and pitfalls of SOA
- Building SOA using Web Services – Analysis and Design.

## **Overview of UML, OOAD and Design Pattern**

- Introducing to Visual Modeling and UML
- Building Blocks of UML
- Common Mechanisms, Views, Diagrams in UML.
- Introduction to Design Patterns
- Classification of GoF patterns
- Fundamental Patterns

## J2EE – L2 Certification Curriculum

- Types of Patterns: Creational, Structural and Behavioral Patterns
- Core JEE Patterns: Front Controller, Intercepting Filters, Session Façade, Business Delegate, Value Object, Data Transfer Object

## Code Optimization

- Introduction
- Types of Code Optimization
- When to optimize
- Class Methods, Object Creation, Exception, Assertions, Looping
- I/O, Logging, Threading, Data Structures and Algorithm
- Distributed Computing, Underlying O.S. and Network Improvements
- J2EE Performance Tuning,
- Tuning JDBC, Servlets, JSP, EJB
- Maintainability, Costs of Common Operations

## Application Server [JBoss 4.x/ Websphere 6.1/ Weblogic 10.x]

- Familiarization with IDE
- Environment Setup
- Basic Administration
- Installation and Deployment of Web application including Struts, EJB and Web Services

### NOTE:

Only one of the applications servers would be applicable depending on the application server used in your project. If your project uses websphere application server, your certification would include websphere related questions and if your project uses jboss, your certification would include jboss related questions. The default application server for people not familiar with any application server would be JBOSS.

## 2. Level 2 (Intermediate) Exam Break-up

### Split Test

Part A	Part B
RDBMS/SQL (Functions, Procedure, Triggers excluded)	EJB 3.0
Core Java	SOA & Web Services
JSP	OOAD, UML & Design Patterns
Struts 2.0	Code Optimization (EJB, SOA & Web Services)
JUnit 4	App Server (Configuration Related)
ANT	
Log4J	
RMI	
Advanced XML	
Code Optimization (Core Java, Servlet, JSP)	
JEE Standards	