

Workshop	
Name	Synergetics-Standard-EJB 3.1 Level 1
Duration	4 days
Objective	<p>Making participants understand EJB 3.1 basics and build an applications using it.</p> <ul style="list-style-type: none"> • JEE Architecture • EJB Architecture • Different EJB Beans • Local & Remote Communication • New Feature 3.1 • JPA & Entity Classes • Transaction Management • JMS & MDB
Participants' Entry Profile	<p>Participants attending this course must have worked on:</p> <p>Object Oriented Programming (Java)</p> <p>Core Java</p> <p>Servlets, JSP</p> <p>JDBC</p> <p>RDBMS and SQL-Joins</p>
Training Methodology	<p>The workshop will follow Synergetics methodology of</p> <p>Concept Visualization</p> <p>Active Experimentation</p> <p>Application Development.</p> <p>The workshop will be 100% Hands-On with each participant having access to system during the session</p>

Setup Requirements	
Hardware and Software Requirements	<p>Participant's as well as Trainer's Machine are required to have :</p> <p>Hardware</p> <ul style="list-style-type: none"> Intel Core i3 2.2 GHz CD Rom Drive 80 GB HDD LCD Color Monitor 2 GB RAM LAN Connectivity <p>Software</p> <ul style="list-style-type: none"> Windows XP or 7 Internet Explorer 8 or above/Chrome/Firefox Java SDK 1.7.x GlassFish 3.2.x/JBoss 7+ JDBC Driver for Oracle (ojdbc6.jar) SQL Server (sqljdbc.jar) Derby (derbyclient.jar) Oracle 10g/Derby/MS SQL 2005 onwards Eclipse 4.0 onwards J2EE Documentation MS Office 2007 onwards
Training Lab Requirements	<ul style="list-style-type: none"> Whiteboard 6 feet by 4 feet (minimum) Whiteboard markers – Red, Blue, Green, Black Video Projector (1024 X 768 resolution)

Course Contents**Day 1**

- **JEE Introduction**
 - Client-server technology
 - Need for JEE
 - JEE Architecture and Components
 - Remote Method Invocation
 - Application Vs. Web server
 - Server Vs. Container
 - JNDI Overview- Context and InitialContext
 - New URL standards in EJB 3.1

- **EJB 3 Introduction**
 - Goals of EJB specifications
 - EJB 3 vs. EJB 2
 - Different Bean types: Session, Entity and MDBs
 - Deployment descriptor Vs. Annotations
 - New Features of EJB 3.1

- **Session Beans**
 - Session Beans as service providers
 - Stateless and stateful
 - Bean Implementation and Annotations
 - Life cycle of Session Beans and container callback hooks
 - Scalability of Stateless and Stateful beans
 - Local vs. Remote Interface
 - Bean's local communication and @EJB annotation
 - No-interface view in EJB 3.1

- **Client's view of Session Bean**
 - Client side environment for EJB 3.1
 - JNDI Lookup and PortableRemoteObject
 - Client's view of Session beans

Day 2

- **Packaging, Deployment and client side**
 - Packaging Significance and Structure
 - JAR, EAR and WAR files
 - Deployment at Application Server

- **More on Beans**
 - The Singleton beans
 - The Asynchronous session beans

- Need of Session context and using it.
 - Dependency Lookup and @Resource
 - Injecting DataSource resources in a bean
 - **Timer Service**
 - The TimedObject interface
 - The @TimeOut annotation
- **JPA Overview**
- Persistence Layers, Object-Relational Mapping (ORM), JDBC
 - JPA Overview
 - The Entity Manager and configuring persistent unit
 - Basic Mapping types- @Entity, @Id, @Column etc
 - Retrieving persistent entities.

Day 3

- **Object states and CRUD operations**
- Life Cycle Stages - Transient, Persistent, Detached
 - Finder methods and CRUD methods of EntityManager
 - Persisting new Entities
 - Updating a Persistent Instance
- **EJB QL and types of queries**
- Object based queries
 - Different clauses- where, group by, having etc
 - Aggregation
 - Named queries
- **More on entity beans**
- Auto-key generation
 - Handling composite keys
 - Handling secondary table
 - Entity inheritance
 - Single table
 - Table per subclass
 - Table per concrete class

Day 4

- **Transaction Management**
- Simple and Distributable transaction
 - The CMT Vs BMT in EJB
 - Different transactional attributes
 - Transactions and Exceptions

➤ **JMS and MDB**

- Need of Messaging and role of MOM
- Synchronous Vs. Asynchronous communication
- Types of message delivery
- Messaging domains
- Java Messaging Services- Standards
- Writing Message Driven Beans
- Writing and understanding client side
- JMS API for Topics and Queues
- MDB's life cycle, scalability