

## CURSO EJB 3.0

**Descripción:** Nuestro curso de la versión 3.0 de EJB representa un paso importante hacia la facilidad de uso de EJB comparado con versiones anteriores. El curso no sólo cubre los conceptos tradicionales de EJB tales como beans de sesión y manejados por mensajes sino nuevos tópicos de la API de persistencia de Java, Interceptores e Inyección de Dependencias vía anotaciones. Se hacen laboratorios para que entiendas los EJB de manera práctica y los uses en tus aplicaciones del mundo real.

**Audiencia:** Programadores de Java con experiencia en Desarrollo Web.

**Prerrequisitos:** Conocimiento de programación en Java. Conocimientos de SQL, bases de datos relacionales y de JDBC (Java Database Connectivity).



# Contenido

## 1.- OVERVIEW

- What is EJB?
- EJB Goals
- Types of Enterprise JavaBeans
- Java Persistence API
- EJB and Java EE (Enterprise Editions)
- EJB in Java EE Architecture
- SOA and EJB
- SOA with Web Services and EJB

## 2.- EJB 3.0

- EJB 3.0 Overview
- EJB 2.X Problems
- EJB 3.0 Goals
- Session Bean Usage
- Persistent Entity Usage
- MDB Usage

## 3.- SESSION BEAN OVERVIEW

- What are Session Beans?
- Stateless Session Beans (SLSB)
- Stateful Session Beans (SFSB)
- Session Beans are Distributed
- Defining a Session Bean
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- Remote and Local Business Interfaces
- Calculator Bean Local Business Interface
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- How Annotations Work
- Annotation Definition
- Using Annotations
- What Else is Needed?

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- EJB-JAR File
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- Deployment Descriptors in EJB 3
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- Enterprise Archive (EAR File)
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- The EJB Container
- Server Deployment

## 15.- TRANSACTIONS IN EJB

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## 16.- SECURITY IN EJB

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- Declarative Security
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- Exception, Error, RuntimeException
- Application Exceptions in EJB
- Defining Application Exceptions
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- When to Use EJB
- Keep Business Interfaces Coarse Grained
- Session Façade Structure
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- Session Bean Tuning
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- Clustering Session Beans

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- How do Remote Clients get EJB Access?
- JNDI – Java Naming and Directory Interface
- EJB Container Binds a Reference into JNDI
- Client Looks up Reference in JNDI
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- JNDI API
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- The InitialContext Class
- Specifying the InitialContext Properties
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- Client Invocation of a Session EJB
- PortableRemoteObject and Casting
- Running a Client

## 7.-DEPENDENCY INJECTION

- Dependency Injection
- The JavaTunes Online Music Store
- An EJB Referencing Another EJB
- CatalogMaintenance
- Injection of CatalogMaintenance
- What is Happening

## 8.-DEPLOYMENT DESCRIPTOR & EJB ENVIRONMENT

- Issues with Obtaining Resources
- Referencing Resources External to EAR
- Reference & Deployment Descriptor Usage
- Resolving a JNDI Name
- Simple Environment Entries
- Declaring Simple Environment Entries
- More about the Standard DD
- Setter Injection
- Resource Manager Connection Factories
- More on the Enterprise Bean Environment
- The Environment is a Level of Indirection
- Looking up Resources in the Environment
- Looking up via EJBContext
- Looking up via JNDI API
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- More on the @EJB Annotation
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## 19.-JPA OVERVIEW

- The Issues with Persistence Layers
- Object-Relational Mapping (ORM) Issues
- Issues with JDBC Alone
- Java Persistence API Overview
- JPA Benefits
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- Entity Class Requirements
- The Entity Declaration
- The Event Class
- The Id Property
- Field Access or Property Access
- The EVENTS Table
- Generated Id Property
- Mapping Properties
- Basic Mapping Types
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- The EntityManager Interface
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- Transient, Persistent, Detached Instances
- Removed Instances
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- Detached Entities

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- Java Persistence Query Language
- JPQL Basics
- Executing a Query
- Where Clause
- Query Parameters
- Using Query Parameters
- Named Queries

## 10.-STATELESS SESSION BEAN LIFECYCLE & INTERCEPTORS

- Stateless Session Bean State Diagram
- Lifecycle of SSB
- Client Call of a Stateless SB Method
- Interceptors
- Business Method Interceptors
- InvocationContext Interface Details
- Interceptor Method Details
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- Using Interceptor Classes
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## 11.- STATEFUL SESSION BEANS

- Stateful Session Bean (SFSB) Overview
- Coding a Stateful Session Bean
- Stateful Session Bean Clients
- Stateful Session Bean Removal
- Stateful Session Passivation/Activation
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- @PrePassivate and @PostActivate Callbacks
- Stateful Session Bean State Diagram

## 12.- THE TIMER SERVICE

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- The javax.ejb.Timer Interface
- The javax.ejb.TimerService Interface
- How the Timer Works
- Issues with Using the Timer Service

## 13.- OVERVIEW OF MESSAGING SYSTEMS

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- Message Delivery – Push versus Pull

## 14.- OVERVIEW OF JMS API

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- API Structure
- JMS Interfaces
- Administered Objects
- Administered Objects and JNDI – Illustrated
- Client Workflow
- Synchronous Queue Consumer Client
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- Message Header Fields

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- Optimistic Locking
- Using a Detached Instance
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## 25.-RELATIONSHIPS OVERVIEW

- Object Relationships
- Characteristics of Relationships
- Directionality
- Characteristics of Relationships

## 26.-MAPPING RELATIONSHIPS

- Unidirectional Many-To-One Relationship
- The Table Structure – Many-To-One
- Using Join Columns
- Bidirectional One-To-One Relationship
- Using the Relationship
- More on the Inverse Side
- Bidirectional One-To-Many Relationship
- Mapping the One-To-Many Relationship
- Other Collection Types
- Lazy and Eager Loading
- Cascading Operations
- The Cascade Element
- Queries Across Relationships
- OUTER and FETCH JOIN

## 27.-MAPPING INHERITANCE

- Entity Inheritance
- Details of Entity Inheritance
- Single-Table Strategy
- Entity Definitions for Single-Table
- Single Table: Pros and Cons
- Joined (Table per Subclass)
- Entity Definitions for Joined
- Joined: Pros and Cons
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## 28.-MORE ON QUERYING

- Projection Queries
- Aggregate Queries
- Bulk Update and Delete
- Native SQL Queries

## 29.-EMBEDDED OBJECTS

- Using Embedded Objects
- Embeddable Class

## 15.- MESSAGE-DRIVEN BEANS

- J2EE Message Producers and Consumers
- Message-Driven Bean (MDB) Overview
- Goals of Message-Driven Beans
- MDB Consumption of a Message
- @MessageDriven Details
- Activation Configuration Properties
- Specifying a Destination for an MDB
- Specifying a Destination Using a DD

## 30.-JAVA PERSISTENCE WITH JAVA SE

- Using JPA with Java SE
- Java SE APIs

## 16.- MESSAGE-DRIVEN BEAN LIFECYCLE

- Lifecycle Overview
- MDB State Diagram
- Interceptor Methods

## 17.- TRANSACTION DEFINITION

- Transaction Lifecycle
- Transactions Modularize Systems
- Transactions Clarify Systems

## 18.- TRANSACTIONAL SYSTEM OVERVIEW

- Transactional System Components
- Transactional Object
- EJB Transaction Support

### Incluye:

- ❖ Un manual de EJB, descanso de 15 a 20 minutos con galletas, refrescos, café, te o agua. Servicio de estacionamiento.

### Formas y condiciones de pago:

Para la inscripción, aplicación de los descuentos y aseguramiento de que el curso se impartirá en las fechas pactadas se requiere el pago anticipado antes con depósito o transferencia bancaria a la siguiente cuenta:

- ❖ Depósito en Banamex cuenta 4923239 Suc. 575 a nombre de Desarrollo y Capacitación en Internet, S. A. de C. V. (CLABE en caso de transferencia electrónica vía Internet 002180057549232394)
- ❖ O cheque a nombre de Desarrollo y Capacitación en Internet, S.A. de C.V.