Day 30 Mini Project Using Spring Data JPA

JPA – Java Persistence API.

Persistence – Storing the data permanently.

Serialization – Is the process of storing the state of objects in permanent storage. (Flat file, DB or any other place)

Serializable interface is a marker interface. (It don’t have any members)

Various JPA Implementations

1. Hibernate
2. EclipseLink
3. OpenJPA
4. SpringData JPA (Spring Boot way of JPA implementation) – It uses hibernate internally.

JDBC & JPA are specifications (It provide Interfaces & Abstract Classes)

JDBC – java.sql [Driver, Connection, Statement, PreparedStatement, CallableStatement, ResultSet, RowSet, DatabaseMetaData, ResultSetMetaData ] – Need to manage everything manually.

JPA – javax.persistence, Jakarta.persistence – Built on top of jdbc, provides simplified way of interacting to any RDBMS.

JPQL – Java Persistence Query Lang – DB independent Query Lang. (Create queries using bean class & properties names not using table & column names)

CRUD – persist(), find()/get(), merge(), remove() – JPA.

JPA dependency can be added to Core Java/Adv Java (web/enterprise) projects.

Creating JPA project using EclipseLink. (We used Eclipse EE IDE – To create JPA project)

1. Adding User Library for EclipseLink. (Download from official site)

Hibernate Project using STS.

HBM – Hibernate Mapping File (One Entity 🡪 One Mapping File)

Mapping file is in XML format. (Case & Space sensitive)

XSD – XML Schema Definition

DTD – Document Type Definition/Description.

Annotation Mapping – Recommended Approach (IT eliminates separate XML config file creation)

@Entity

@Table

@Column

@Id

@GeneratedValue

@OneToOne

@OneToMany

@ManyToMany

Spring Data JPA. It’s a Spring Boot way of Using Hibernate ORM.

SpringBoot – is also known as Framework of Frameworks. (It easily other frameworks like struts, Hibernate, etc.,)

ARS (Monolith Application)

ER diagram (Entity Relationship Diagram) [Relationship across the Table]

Airlines

Reservation

Payment

Notification

Passengers

Lombok – Reduce Boiler plate coding.

Spring Data JPA – Takes care of Basic CRUD operations.

Add Audit fields in each table. [created\_by, created\_at – insert query execution time-stamp – it’s not modifiable, updated\_by,updated\_at – update query execution timestamp- modifiable.]

// Audit Logs/ Fields/properties

@CreationTimestamp

@Column(updatable = **false**, name = "created\_at")

**private** LocalDateTime createdAt;

**private** Integer createdBy;

@UpdateTimestamp

@Column(name = "updated\_at")

**private** LocalDateTime updatedAt;

**private** Integer updatedBy;

isActive/isCancelled/isRefunded

Id – reservation\_id, user\_id, payment\_id, fligh\_id, airline\_id – suggested primary keys. – reservationId,userId,flightId,airlineId…

Soft Delete is an update operation only.

In JAVA we use camel casing & pascal casing, In RDBMS we use underscore symbols.