**JPA(Java Persistence API)**

JPA is a collection of classes and methods to store the data into Database. It is Java standard for mapping java objects to Relational Database.

JPA is a specification and several implementations are available. Popular implementations are Hibernate, EclipseLink and Apache OpenJPA.

The mapping between Java objects and database tables is defined via persistence metadata. The JPA provider will use the persistence metadata information to perform the correct database operations.

JPA metadata is typically defined via annotations in the Java class. Alternatively, the metadata can be defined via XML or a combination of both. A XML configuration overwrites the annotations.

**Why JPA?**

All the Enterprise Applications involve Database Operations. Developer has to write lot of codes for Database operations.JPA reduces burden of interacting with Database. JPA permits the developer to work directly with objects rather than with SQL statements.

**JPA Annotations**

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| **ANNOTATIONS** | **DESCRIPTION** |
| @Entity | Specifies that the class is an entity |
| @Id | Specifies the primary key property or field of an entity. |
| @Column | Used to specify a mapped column for a persistent property or field |
| @Table | This annotation specifies the primary table for the annotated entity |
| @TableGenerator | This annotation defines a primary key generator that may be referenced by name when a generator element is specified for the GeneratedValue annotation. |
| @Transient | This annotation specifies that the property or field is not persistent. |
| @UniqueConstarint | This annotation is used to specify that a unique constraint is to be included in the generated DDL for a primary or secondary table |
| @Basic | This annotation is the simplest type of mapping to a database column. |
| @ColumnResult | References name of a column in the SELECT clause of a SQL query. |
| @EntityResult | References an entity in the SELECT clause of a SQL query |
| @Enumerated | Specifies that a persistent property or field should be persisted as a enumerated type |
| @FindResult | Used to map the columns specified in the SELECT list of the query to the properties or fields of the entity class. |
| @GeneratedValue | Provides for the specification of generation strategies for the values of primary keys. |
| @IdClass | Specifies a composite primary key class that is mapped to multiple fields or properties of the entity. |
| @Inheritence | Defines the inheritance strategy to be used for an entity class hierarchy. |
| @JoinCloumn | Used to specify a mapped column for joining an entity association. Also indicated Entity as the owner of the relation. |
| @JoinColumns | Defines mapping for the composite foreign keys. |

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| @ManyToOne | This annotation defines a single-valued association to another entity class that has many-to-one multiplicity. |
| @ManyToMany | Defines a many-valued association with many-to-many multiplicity |
| @OneToOne | This annotation defines a single-valued association to another entity that has one-to-one multiplicity |
| @OneToMany | Defines a many-valued association with one-to-many multiplicity |
| @JoinTable | This annotation is used in the mapping of associations |
| @PrimaryKeyJoinCloumn | This annotation specifies a primary key column that is used as a foreign key to join to another table |
| @NamedQuery | Is used to specify a named query in the Java Persistence query language, which is a static query expressed in metadata. |
| @NamedQueries | Specifies an array of named Java Persistence query language queries. |
| @Temporal | This annotation must be specified for persistent fields or properties of type Date and Calendar |
| @SequenceGenerator | This annotation defines a primary key generator that may be referenced by name when a generator element is specified for GeneratedValue annotation. |
| @OrderBy | This annotation specifies the ordering of the elements of a collection valued association at the point when the association is retrieved. |
| @MapKey | Used to specify the map key for associations of type Map |