

# Assignment Questions 8

## **Q1.What is ORM in Hibernate?**

Hibernate ORM (Object Relational Mapping) is a popular Java-based framework used for mapping an object-oriented domain model to a relational database. It provides an efficient way of storing and retrieving data from a database by mapping database tables to Java classes and vice versa. Hibernate ORM enables developers to more easily write applications whose data outlives the application process. Hibernate ORM is concerned with data persistence as it applies to relational databases (via JDBC).

## **Q2.What are the advantages of Hibernate over JDBC?**

### **Advantages of Hibernate over JDBC:**

- Hibernate code will work well for all databases, for example: Oracle, MySQL, etc. whereas JDBC is database-specific.
- No knowledge of SQL is needed because Hibernate is a set of objects and a table is treated as an object, whereas to work with JDBC, one needs to know SQL.
- Hibernate creates more shorter and optimized code. For example, by creating the connection while using Hibernate the developer should not need to write the complex queries because HCL is there to ease the written query whereas in JDBC it is the complete responsibility of the developer to program the queries.

- **Caching:** Hibernate supports caching of objects and their relationships which can improve performance.

### **Q3.What are some of the important interfaces of Hibernate framework?**

Important interfaces of Hibernate framework:

- **Session Interface:** The basic interface for all hibernate applications. It provides methods for CRUD operations, transactions, queries, and caching.
- **SessionFactory Interface:** The factory of session objects. It is a thread-safe and immutable object that holds the configuration and mapping information.
- **Configuration Class:** The class that loads the hibernate configuration file and creates the SessionFactory object.
- **ServiceRegistry Interface:** The registry of services that Hibernate uses internally or provides to the application.
- **Transaction Interface:** The interface that abstracts the transaction management from the underlying JDBC or JTA transaction.

### **Q4.What is a Session in Hibernate?**

A Session is a runtime interface between an application and Hibernate which is created on-demand. It provides the connectivity between your application and database. The Session interface is the main tool used to communicate with Hibernate. It provides an API enabling us to create, read, update, and delete persistent objects. The session has a simple lifecycle. We open it, perform some operations, and then close it.

### **Q5.What is a SessionFactory?**

A SessionFactory is the factory of session objects. It is a thread-safe and immutable object that holds the configuration and mapping information. It is instantiated once per application and provides a factory for creating Session objects. The SessionFactory interface provides several factory methods for creating Session objects.

### **Q6.What is HQL?**

HQL stands for Hibernate Query Language. HQL syntax is quite similar to SQL syntax but it performs operations on objects and properties of persistent classes instead of tables and columns. Hibernate framework translates HQL queries into database-specific queries to perform actions.

### **Q7.What are Many to Many associations?**

Many-to-many associations are one of the most commonly used associations with JPA and Hibernate. It is a relationship between two

entities where both can have many associations with other instances of another entity.

### **Q8.What is hibernate caching?**

Hibernate caching is a mechanism that Hibernate uses to increase the performance of an application by reducing the number of SQL queries that are executed against the database. First-level cache is associated with a Session and is used to cache data within a single transaction or request.

### **Q9.What is the difference between first level cache and second level cache?**

The first-level cache is localized to a single session and helps to reduce database queries by caching retrieved data. The second-level cache is shared across sessions and enables data to be cached across multiple requests.

### **Q10.What can you tell about Hibernate Configuration File?**

Hibernate Configuration File(cfg file) is the file loaded into an hibernate application when working with hibernate.Hibernate uses this file to establish connection to the database server.It is an XML file which is used to define below information.Standard name for this file is hibernate.cfg.xml.

