

## Homework 4

### 1-) What is JPA ?

JPA stands for Java Persistence API. It is used to access and manage data between java object and relational database.

### 2-) What is the naming convention for finder methods in the Spring data repository interface ?

Spring data JPA has its own naming conventions. Also called naming strategies.

- Default Naming Convention:

Default is lower snake case, that is lower case letters and underscore for spaces.

- RDMS Case – Sensitivity

Case sensitive, identifiers will match with the same ones

- Custom Naming Convention

A personalized way to identify.

### 3-) What is PagingAndSortingRepository ?

It is an extension of CrudRepository to be used when a large amount of data wanted to be represented in smaller parts.

### 4-) Differentiate between findById() and findOne() ?

findById() is more costly, requires additional trip to the database.

findOne() throws an exception when an object does not exist at the time, findById returns null instead.

findOne() is more useful when access to properties of an object is not required.

### 5-) What is @Query used for ?

It is used to annotate queries directly on repository methods. Repository interface is defined by extending Spring Data JPA Repo interfaces. Spring Data JPA will create repository implementations at runtime.

### 6-) What is lazy loading in hibernate ?

It is defined as a fetching technique to improve performance in Hibernate. It chooses which child classes of a parent class to be loaded

### 7-) What is SQL injection attack ? Is Hibernate open to SQL injection attack ?

This type of attack happens when an attacker “injects” values into a database query to gain access to database and personal information that is stored.

Hibernate does not grant immunity to this type of attack.

One of the simplest methods to prevent it is called prepared statement instead of statement to execute the query. Instead of concatenating the user info, Using question mark is between the sensitive information would be the simplest prevention method.

### 8-) What is criteria API in hibernate ?

Criteria is an API for retrieving entities. This is done with composing the criterion objects. Commonly used in search screens where there are several conditions to be placed upon the result set.

### 9-) What Is Erlang? Why Is It Required For Rabbitmq ?

Erlang is a general purpose programming language that is used for massive real time systems that require high availability.

If there is a need for crash resilience rabbitmq would be a great choice. Even though rabbitmq is written with erlang, it is available for java, python and php.

### 10-) What is the JPQL ?

It stands for Java Persistence Query Language. It is used to store created queries against entities in a relational database.

### 11-) What are the steps to persist an entity object ?

- Create an entity manager factory object.
- Obtain an entity from the manager that is from the factory
- Initialize an entity manager.
- Persist a data into database
- Close the transaction
- Release the factory resources

### 12-) What are the different types of entity mapping ?

4 types exist.

- One-to-One Relationship
- One-to-many Relationship
- Many-to-One Relationship
- Many-to-Many Relationship

### 13-) What are the properties of an entity ?

Each entity type in a model has a set of properties. These properties will be mapped to table columns. Lets say a user is created for a website. This “user”, will have properties such as , username, password, email and etc. For keeping a proper table of data, dates, update times and last updates may be properties aswell.

### 14-) Difference between CrudRepository and JpaRepository in Spring Data JPA?

Several differences exist between 2 terms.

Hierarchy;

JPA extends crudRepository, CrudRepository is the base interface and acts as a marker interface.

Batch support;

JPA provides additional methods, Crud only provides crud functions

Pagination;

Jpa extends PagingAndSorting which provides useful methods fo pagination. Crud does not provide such methods.

