PATİKA.DEV & PAYCORE JAVA SPRING BOOTCAMP HOMEWORK 3

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1 – What is JPA ?

It is specification for managing relational data in Java applications. It allows us to Access and persist data between Java object/class and relational database. JPA follows ORM. Provides an EntityManager API for database related processes. It uses JPQL.

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

As default Spring framework uses camel casing as name convention methods. In finder methods it continues as the same. For example findByAgeLessThan(). "find" followed with the variable and keywords.

3 - What is PagingAndSortingRepository ?

It is an extension of CrudRepository to provide additional methods to retrieve entities using the pagination and sorting abstraction. It provides two methods:

Page findAll – returns a page of entities meeting the paging restriction provided in the pageable object.

Iterable findAll – returns all entities sorted by given options.

4 - Differentiate between findById() and getOne() ?

getOne()

It returns a reference to the entity with given identifier. Internally invokes EntityManager.getReference() method. It will always return a Proxy without hitting the database. This method will throw EntityNotFoundException at the time of actual Access if the requested entity does not exist in the database.

findById()

This method actually hits the database. There are scenarios for retrieving an entity from database and assign it as a reference to another object, just to maintain the relationship.These relationships may take place as OneToOne or ManyToOne.

5 - What is @Query used for ?

In order to define SQL to execute for a spring data repository method, we can annotate the method with the @query annotation. The @query annotation takes precedence over named queries which uses @NamedQuery. Value that it is using should contain JPQL or SQL to execute.

6 - What is lazy loading in hibernate ?

It means that when in program, not all childs gets loaded in the time parent class is loaded. Instead of it, it loads them when it is requested to do so.

7 – What is SQL injection attack ? Is Hibernate open to SQL injection attack ?

SQL injection, also known as SQLI is a vector attack that uses malicious SQL code for backend database manipulation. According to OWASP security, Hibernate does not grant immunity to SQLI attacks.

8 - What is criteria API in hibernate ?

The Criteria API allows you to build up a criteria query object programmatically; the org. hibernate.Criteria interface defines the available methods for one of these objects. The Hibernate Session interface contains several overloaded createCriteria() methods.

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

Erlang is a programming language developed by ericsson company at 1986. It is used in support nodes, GPRS, 3G and LTE systems as well as common messaging app Whatsapp. RabbitMQ is also developed with Erlang. RabbitMQ server is built on the OTP framework for clustering and failover. Therefor Erlang support should be existing in the computer that is running RabbitMQ.

10 – What is the JPQL ?

Java Persistance Query Language also known as JPQL, is a query language defined in JPA specification. It is used to create queries against entities to store in a relational database. Syntax-wise it is quite similar to SQL. However SQL works directly with database tables etc, while JPQL works with Java classes and instances. A JPQL query can retrieve an entity object rather than field result.

11 – What are the steps to persist an entity object ?

1. Creating an entity manager factory object. The EntityManagerFactory interface present in java.persistance package is used to provide an entity manager.
2. Obtaining an entity manager from factory.
3. Initializing an entity manager.
4. Persisting a data into relational database.
5. Closing the transaction.
6. Releasing the factory resources.

12 – What are the different types of entity mapping ?

There are three types of entity mapping. One-To-One,One-To-Many,Many-To-Many.

One-To-One : A one to one relationship is the simplest relationship between beans. One entity bean relates only to one other entity bean.

One-To-Many : One object can reference multiple objects in this relationship.

Many-To-Many : In a many to many relationship, many objects can reference many other objects.

13 - What are the properties of an entity ?

Persistability : An object is called persistent if it is stored in the database and can be accessed anytime.

Persistent Identity : Each entity is unique and represents as an object identity. Similarly , when the object identity stored is stored in a database then it is represented as persistence identity. Equivalent to primary key.

Transactionality : Entity can create various operations such as create, delete , update. Each operation makes some changes in the database. It ensures that changes either succeeds or fails atomically.

Granuality : Entities should not be primitives, primitive wrapper or built-in objects with single dimensional state.

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

- JPA extend CrudRepository and PagingAndSortingRepository on the other hand Crud repository is the base interface and it acts as a marker interface.
- JPA also provides extra methods related to JPA such as delete records in batch and flushing data directly to database. Crud Repository provides only CRUD functions.
- Jpa Repository ties your repositories to the JPA persistance technology so it should be avoided. CrudRepository more favorable .