

Quiz Questions

(1) Spring Data JPA

← Classroom

Spring Data and JPA
Spring Data JPA

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Problem Submissions Doubts

✓ Spring Data JPA
Moderate • Score 40/40

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Problem statement

Which of the following is/are advantages of using Spring Data JPA?

Options: One or more answers may be correct

☒ It provides a high-level abstraction layer ✓

☒ It has flexible JPA APIs and annotations ✓

☒ Simplified programming model ✓

☐ It uses proprietary database technologies like Oracle and Microsoft SQL Server

Solution description

- Spring JPA provides a high-level abstraction layer over JPA, simplifying database access and reducing the amount of boilerplate code developers have to write.
- It has flexible JPA APIs and annotations, making integrating Spring modules, frameworks, and other technologies easy.
- It provides a simplified programming model, which reduces development time and increases productivity.
- It does not use proprietary database technologies like Oracle or Microsoft SQL Server. Instead, it supports various databases, including open-source and commercial databases.

(2) Match

← Classroom

Spring Data and JPA
Match The Following

?

V

Problem Submissions Doubts

✓ Match
Easy • Score 20/20

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Problem statement

Match the Spring Data JPA interface with its functionalities:

| Interface Type | Functionalities |
|-------------------------------|---|
| A. Repository | 1. Provides basic CRUD (Create, Read, Update, Delete) operations for entities. |
| B. CrudRepository | 2. Extends CrudRepository and adds support for pagination and sorting of query results. |
| C. JpaRepository | 3. Offers additional JPA-specific methods on top of CrudRepository. |
| D. PagingAndSortingRepository | 4. Provides a generic interface for creating custom repository interfaces |

Options: Pick one correct answer from below

☐ A-3, B-4, C-1, D-2

☒ A-4, B-1, C-3, D-2 ✓

☐ A-4, B-1, C-2, D-3

☐ A-2, B-1, C-4, D-3

Solution description

CrudRepository: Provides a simple set of CRUD methods (Create, Read, Update, Delete) operations on the database.
JpaRepository: An extension of the CrudRepository interface that supports basic querying, sorting, and pagination.
PagingAndSortingRepository: Provides additional methods for sorting and pagination in addition to the basic CRUD operations.
Repository: Provides a generic interface for creating custom repository interfaces and adds JPA-specific methods for working with entities.

(3) Match 2

← Classroom

Spring Data and JPA
Match The Following

?

V

Problem Submissions Doubts

✓ Match
Easy • Score 20/20

Send feedback

Problem statement

Match the following terms with their descriptions:

| Terms | Descriptions |
|-------------|--|
| JDBC | a) A low-level API for interacting with relational databases in Java. |
| Hibernate | b) An ORM framework that maps Java classes to database tables and automatically generates SQL queries based on the mappings. |
| Spring Data | c) A specification for implementing ORM frameworks that provides a high-level API for database operations. |
| JPA | d) A higher-level abstraction built on top of JPA that simplifies database access for Spring applications. |

Options: Pick one correct answer from below

☒ 1-a, 2-b, 3-d, 4-c ✓

☐ 1-b, 2-c, 3-a, 4-d

☐ 1-d, 2-a, 3-c, 4-b

☐ 1-a, 2-b, 3-c, 4-d

Solution description

JDBC is a low-level API for interacting with relational databases in Java (option a).
Hibernate is an ORM framework that maps Java classes to database tables and automatically generates SQL queries based on the mappings (option b).
Spring Data is a higher-level abstraction built on JPA that simplifies Spring applications' database access (option d).
JPA is a specification for ORM frameworks to implement that provides a high-level API for database operations (option c).

(4) Features off Spring Data

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Spring Data and JPA
Features of Spring Data JPA

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V

Problem

Submissions

Doubts

✓ Features off Spring Data

Easy • Score 20/20

Problem statement

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Which of the following is **NOT** a feature provided by Spring Data JPA?

Options: Pick one correct answer from below

☐ Automatic query generation

☒ Object-relational mapping (ORM) functionality

☐ Paging and sorting support

☐ Custom SQL query execution

Solution description

Spring Data JPA simplifies database access by providing a high-level programming model that includes features like automatic query generation, paging and sorting support, and custom SQL query execution. However, the ORM functionality (mapping Java objects to database tables) is not a direct feature provided by Spring Data JPA.

(5) Application

Problem

Submissions

Doubts

✓ Application

Easy • Score 20/20

Problem statement

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While developing an application using the Spring Data JPA, complete the following flow in the flow chart of the application layers.

```
graph LR; Controller --> A; A --> Interface; Interface --> B; B --> Database;
```

Options: Pick one correct answer from below

☒ A-Service B- CRUD Repo

☐ A-CRUD Repo B- Service

☐ A-Service B- DAO

☐ None of the above

Solution description

Service layer: This layer contains the application's business logic and interacts with the B-CRUD Repo layer to perform various operations on the data. CRUD Repo layer contains the interfaces and implementations for data access using Spring Data JPA. It interacts with the database to perform CRUD (Create, Read, Update, Delete) operations on the data. This flow is recommended because the Service layer is an intermediary between the presentation and data access layers. It helps to maintain the separation of concerns and provides an apparent abstraction of the business logic, making the code more modular and maintainable. On the other hand, the CRUD Repo layer provides a simple and efficient way to access the database using Spring Data JPA.

```
graph LR; Controller --> Service; Service --> Interface; Interface --> CRUD_Repo[CRUD Repo]; CRUD_Repo --> Database;
```