

## Technical Terms with Definitions

### 1. Single Responsibility Principle (SRP)

Definition: A design principle stating that a class should have only one reason to change, ensuring modularity and maintainability.

### 2. User Controller

Definition: A class responsible for handling incoming requests in an MVC application or REST web service. It should delegate business logic to other components.

### 3. MVC (Model-View-Controller) application

Definition: A software design pattern that separates application logic (Model), user interface (View), and request handling (Controller).

### 4. REST Web Service

Definition: An architectural style for creating web services using standard HTTP methods and stateless communication.

### 5. Spring Framework

Definition: A Java framework that provides comprehensive infrastructure support for developing Java applications, including web and REST services.

### 6. JSON (JavaScript Object Notation)

Definition: A lightweight data-interchange format that is easy for humans to read and write, and easy for machines to parse and generate.

### 7. HashMap

Definition: A data structure in Java that implements the Map interface, storing key-value pairs for quick retrieval.

### 8. JPA (Java Persistence API)

Definition: A specification for managing relational data in Java applications using object-relational mapping (ORM).

### 9. Persistent Context

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Definition: An environment in JPA that manages the lifecycle of entity instances and ensures they are synchronized with the database.

### 10. JUnit

Definition: A framework for writing and running repeatable unit tests in Java applications.

### 11. User Validator

Definition: A class responsible for encapsulating and managing user validation logic, ensuring it is separate from other application concerns.

### 12. Validation Logic

Definition: The rules and processes used to verify the correctness and completeness of user input or application data.

### 13. Persistence Logic

Definition: The operations and processes used to store, retrieve, and manage application data in a database or other storage system.

### 14. UserPersistenceService

Definition: A service class that manages the persistence of user objects, ensuring separation of concerns in the application.

### 15. NoSQL Databases (e.g., MongoDB)

Definition: Databases designed for unstructured data storage, often used for scalability and high-performance requirements.

### 16. Dependency Injection

Definition: A design pattern in which an object's dependencies are provided by an external source rather than being created by the object itself.

### 17. Controller Bean

Definition: A Spring-managed component in a web application that handles HTTP requests and coordinates application logic.