

# 01 - Spring Data Rest Introduction

Spring Data REST is a part of the Spring framework that automatically exposes RESTful endpoints for repositories defined by Spring Data.

- It eliminates the need to manually create controller and service layers.
- It automatically handles basic CRUD operations for entities based on repository interfaces, making the development process faster and more efficient.

## Advantages of Spring Data Rest:

### 1. Automatic RESTful API Generation:

- Spring Data REST automatically exposes REST endpoints for repositories.
- There's no need to create Controller and Service classes manually.

### 2. Repository Exposure:

- It works directly on repository interfaces like CrudRepository, JpaRepository, and PagingAndSortingRepository, exposing common operations such as:
  - GET for fetching resources.
  - POST for creating new resources.
  - PUT/ PATCH for updating resources.
  - DELETE for removing resources.

### 3. HATEOAS:

- Hypermedia As The Engine of Application State (HATEOAS) allows clients to navigate between related resources easily by following hypermedia links included in the response.

#### **4. Customization:**

- While Spring Data REST provides default implementations, but still we can customize the endpoints, and add validations using event listeners, projections, and custom queries if needed.

#### **5. Paging and Sorting:**

- By using `PagingAndSortingRepository`, Spring Data REST can handle pagination and sorting out of the box.

#### **6. Repository Events:**

- It allows you to capture and handle events such as `BeforeCreate`, `AfterCreate`, `BeforeSave`, and `AfterDelete` to add custom logic at various stages of the repository lifecycle.

#### **7. Ease of Use:**

- It eliminates the need for boilerplate code.
- REST endpoints can be customized through annotations like `@RepositoryRestResource`.