**Exercise 1: Online Bookstore - Setting Up RESTful Services**

**Business Scenario:**

You are tasked with developing a RESTful service for an online bookstore. The service will manage books, authors, and customers.

**Instructions:**

1. **Setup Spring Boot Project:**
   * Initialize a new Spring Boot project named **BookstoreAPI**.
   * Add dependencies: **Spring Web, Spring Boot DevTools, Lombok**.
2. **Project Structure:**
   * Familiarize yourself with the generated project structure.
3. **What's New in Spring Boot 3:**
   * Explore and document the new features introduced in Spring Boot 3.

**Answers: -**

**Exercise 1: Online Bookstore - Setting Up RESTful Services**

**1. Setting up Spring Boot Project**

**Step-by-Step Guide:**

1. **Initialize a new Spring Boot project:**
   * Use [Spring Initializr](https://start.spring.io/) or your IDE (like IntelliJ IDEA or Eclipse).
   * Set the project name to **BookstoreAPI**.
   * Select the following dependencies:
     + **Spring Web**: To build web, including RESTful, applications.
     + **Spring Boot DevTools**: For fast application restart and live reload.
     + **Lombok**: To reduce boilerplate code, such as getters, setters, and constructors.
2. **Project Structure:**
   * Once your project is generated, familiarize yourself with the structure:
     + **src/main/java**: Contains your Java code.
     + **src/main/resources**: Contains configuration files like application.properties.
     + **src/test/java**: Contains test cases.
     + **pom.xml**: Maven build file, where dependencies are managed.

**3. What's New in Spring Boot 3:**

Spring Boot 3 introduced several new features and improvements over previous versions. Here are some key highlights:

1. **Jakarta EE 9+ Support:**
   * Spring Boot 3 is based on Jakarta EE 9+, meaning packages from javax.\* have moved to jakarta.\*. This migration was a significant change for developers upgrading from previous versions.
2. **Java 17 Support:**
   * Spring Boot 3 supports Java 17, the latest Long-Term Support (LTS) version of Java. This includes new language features and enhancements.
3. **GraalVM Native Image Support:**
   * Spring Boot 3 has built-in support for GraalVM Native Images, enabling developers to compile Spring Boot applications into native executables, resulting in faster startup times and reduced memory usage.
4. **New Observability Features:**
   * Spring Boot 3 introduced improved observability with Micrometer and OpenTelemetry integration, making it easier to monitor and trace applications.
5. **Improved AOT Compilation:**
   * Ahead-of-Time (AOT) compilation has been enhanced, allowing for more efficient code execution in various deployment environments.
6. **Enhanced Security Configurations:**
   * Security configurations have been streamlined and made more flexible with the introduction of new features in Spring Security, especially with the migration to the new package names.

These features make Spring Boot 3 a powerful and modern choice for building RESTful services and other types of applications.