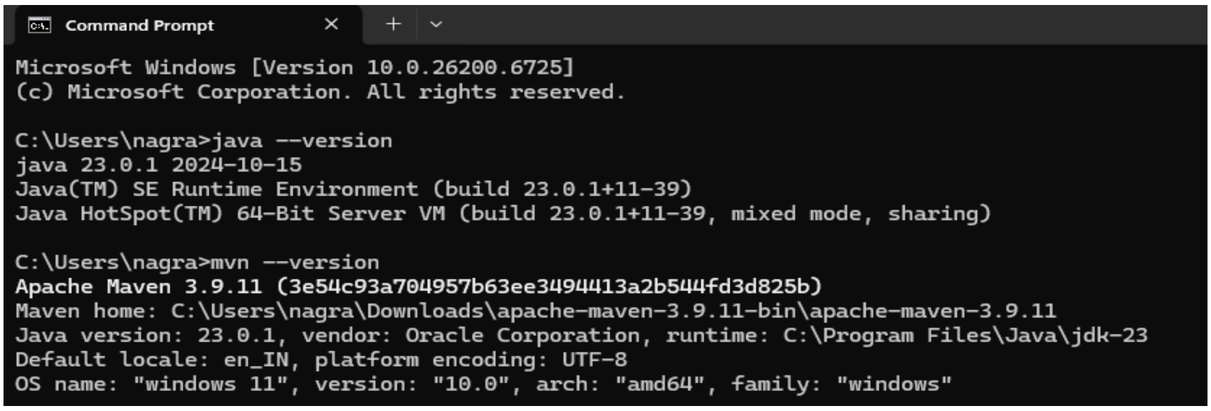


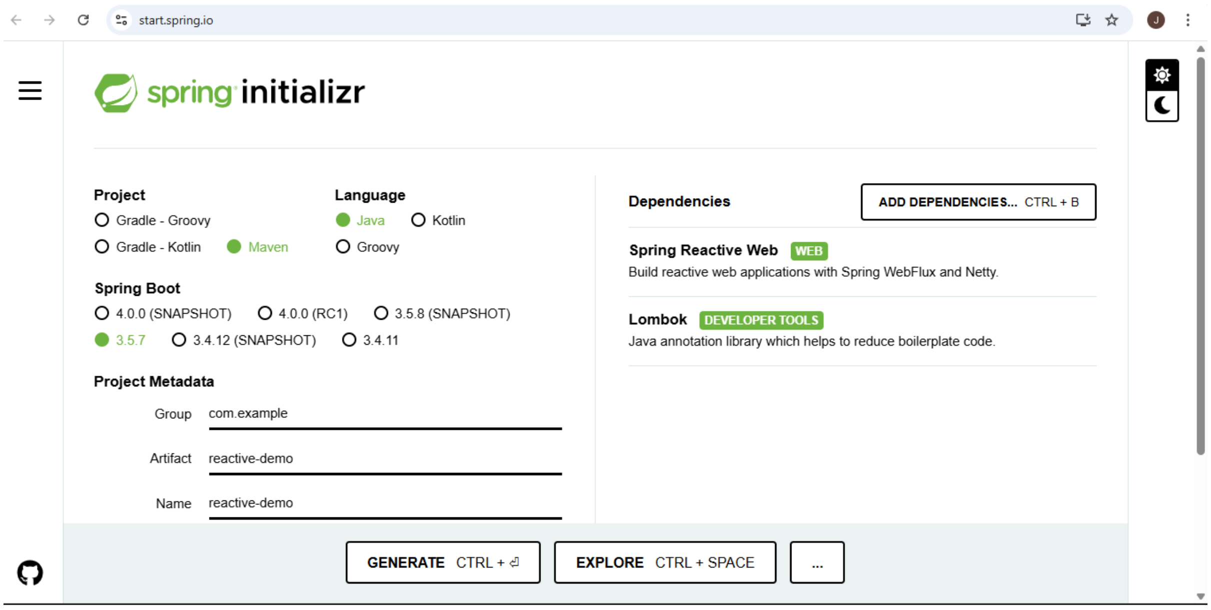
```
Microsoft Windows [Version 10.0.26200.6725]
(c) Microsoft Corporation. All rights reserved.

C:\Users\nagra>java --version
java 23.0.1 2024-10-15
Java(TM) SE Runtime Environment (build 23.0.1+11-39)
Java HotSpot(TM) 64-Bit Server VM (build 23.0.1+11-39, mixed mode, sharing)

C:\Users\nagra>mvn --version
Apache Maven 3.9.11 (3e54c93a704957b63ee3494413a2b544fd3d825b)
Maven home: C:\Users\nagra\Downloads\apache-maven-3.9.11-bin\apache-maven-3.9.11
Java version: 23.0.1, vendor: Oracle Corporation, runtime: C:\Program Files\Java\jdk-23
Default locale: en_IN, platform encoding: UTF-8
OS name: "windows 11", version: "10.0", arch: "amd64", family: "windows"
```

Version check

Create the project:-



Project
○ Gradle - Groovy
○ Gradle - Kotlin
● Maven

Language
● Java
○ Kotlin
○ Groovy

Spring Boot
○ 4.0.0 (SNAPSHOT) ○ 4.0.0 (RC1) ○ 3.5.8 (SNAPSHOT)
● 3.5.7 ○ 3.4.12 (SNAPSHOT) ○ 3.4.11

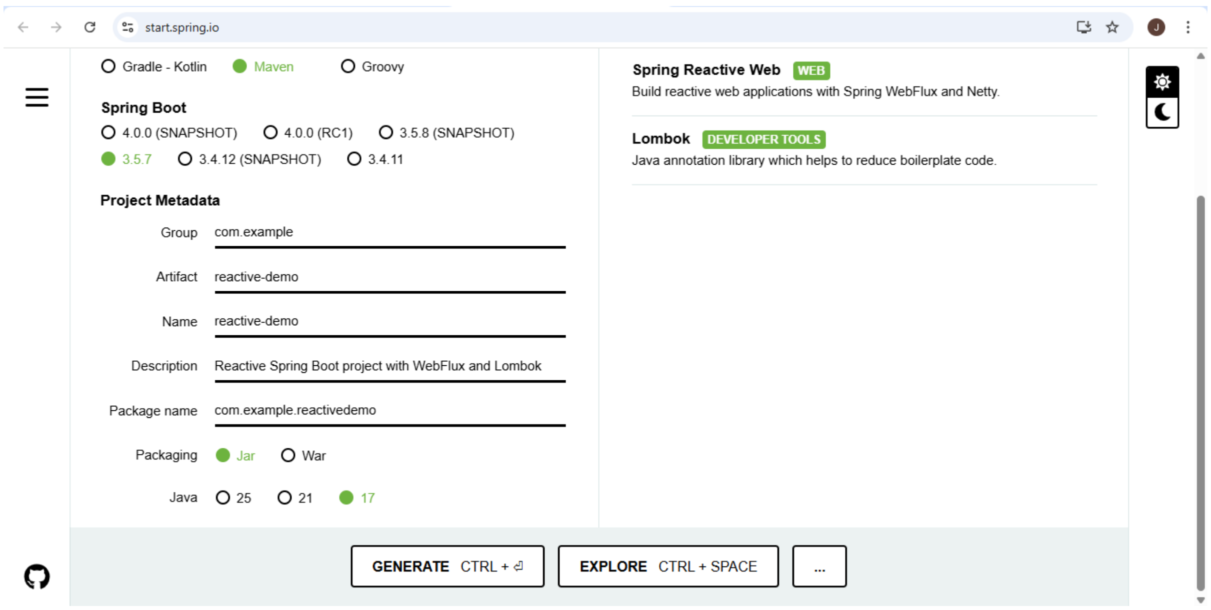
Project Metadata

Group	com.example
Artifact	reactive-demo
Name	reactive-demo

Dependencies ADD DEPENDENCIES... CTRL + B

Spring Reactive Web WEB
Build reactive web applications with Spring WebFlux and Netty.

Lombok DEVELOPER TOOLS
Java annotation library which helps to reduce boilerplate code.



○ Gradle - Kotlin ● Maven ○ Groovy

Spring Boot
○ 4.0.0 (SNAPSHOT) ○ 4.0.0 (RC1) ○ 3.5.8 (SNAPSHOT)
● 3.5.7 ○ 3.4.12 (SNAPSHOT) ○ 3.4.11

Project Metadata

Group	com.example
Artifact	reactive-demo
Name	reactive-demo
Description	Reactive Spring Boot project with WebFlux and Lombok
Package name	com.example.reactivedemo
Packaging	● Jar ○ War
Java	○ 25 ○ 21 ● 17

Spring Reactive Web WEB
Build reactive web applications with Spring WebFlux and Netty.

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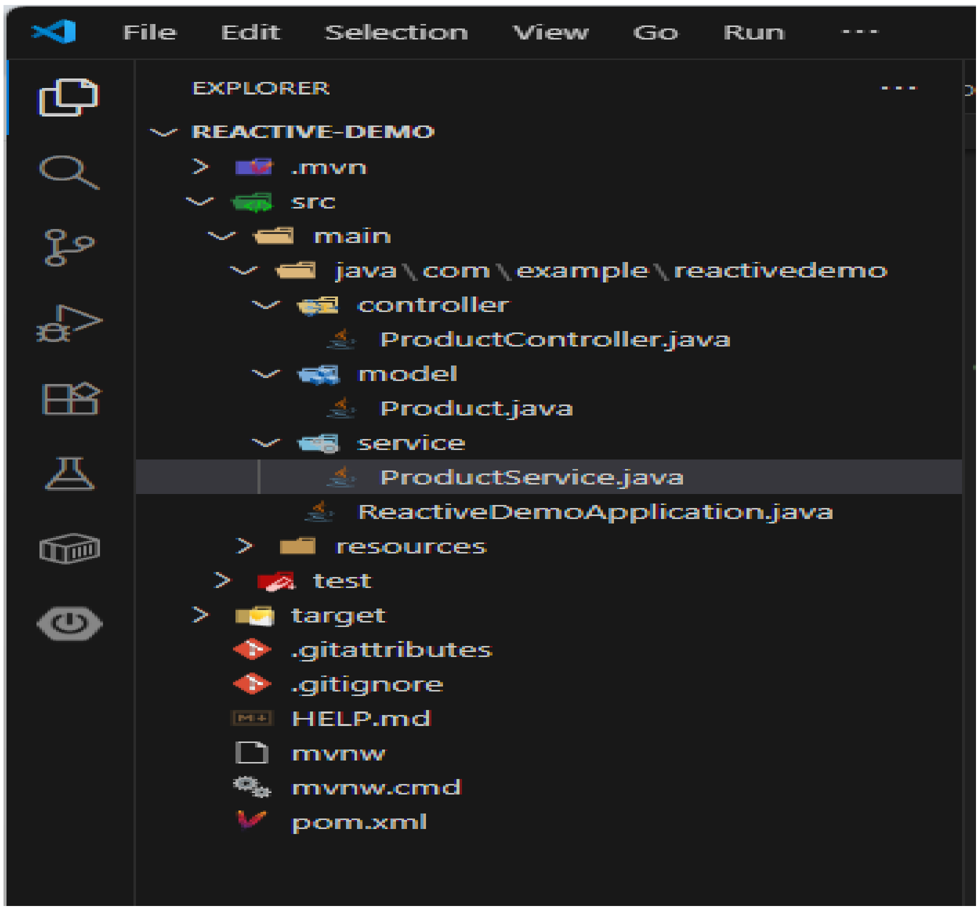
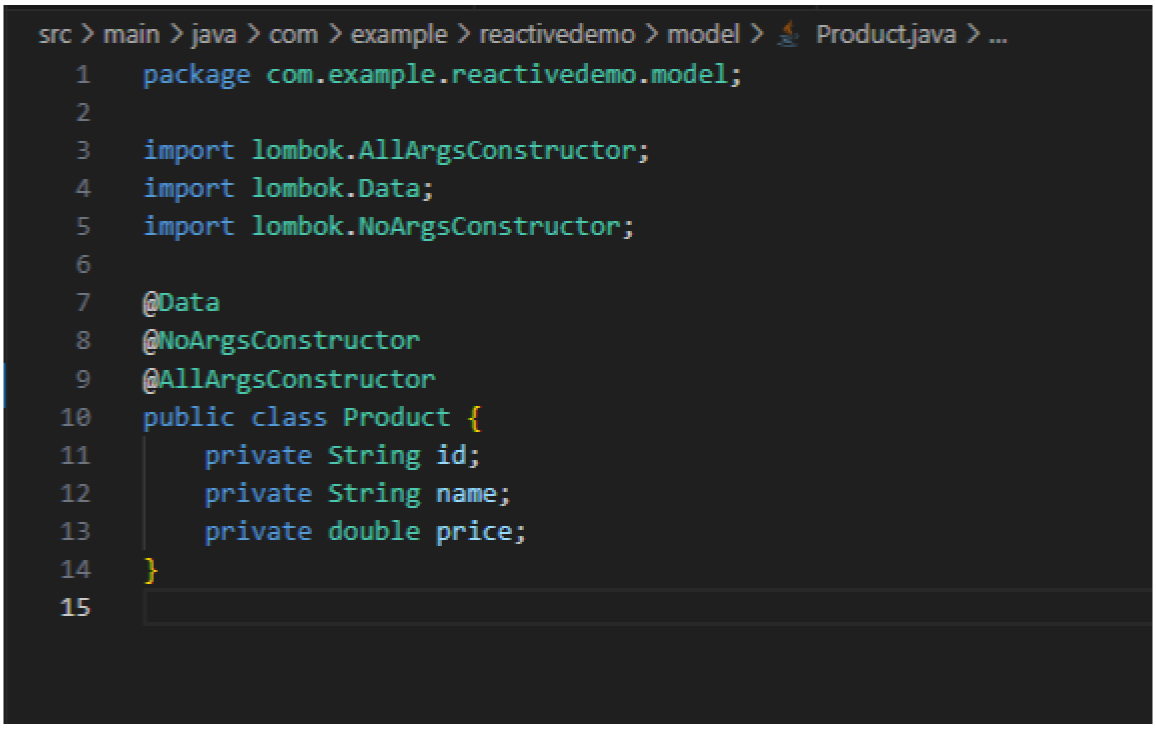
Java annotation library which helps to reduce boilerplate code.



```
REACTIVE-DEMO
  .mvn
  src
    main
      java\com\example\reactivedemo
        controller
          ProductController.java
        model
          Product.java
        service
          ProductService.java
        ReactiveDemoApplication.java
      resources
    test
  target
  .gitattributes
  .gitignore
  HELP.md
  mvnw
  mvnw.cmd
  pom.xml
```

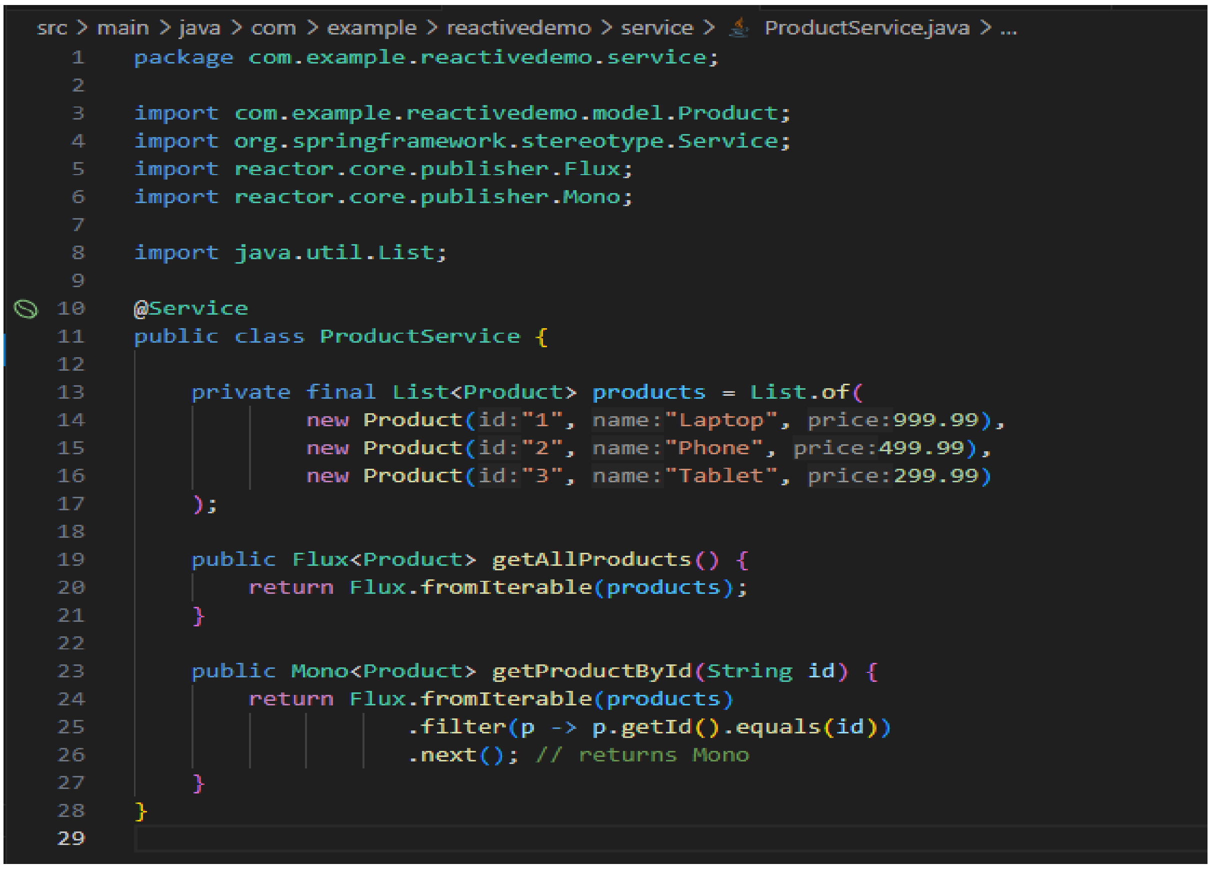
Project structure



src > main > java > com > example > reactivedemo > model > Product.java > ...

```java
package com.example.reactivedemo.model;

import lombok.AllArgsConstructor;
import lombok.Data;
import lombok.NoArgsConstructor;

@Data
@NoArgsConstructor
@AllArgsConstructor
public class Product {
    private String id;
    private String name;
    private double price;
}

```

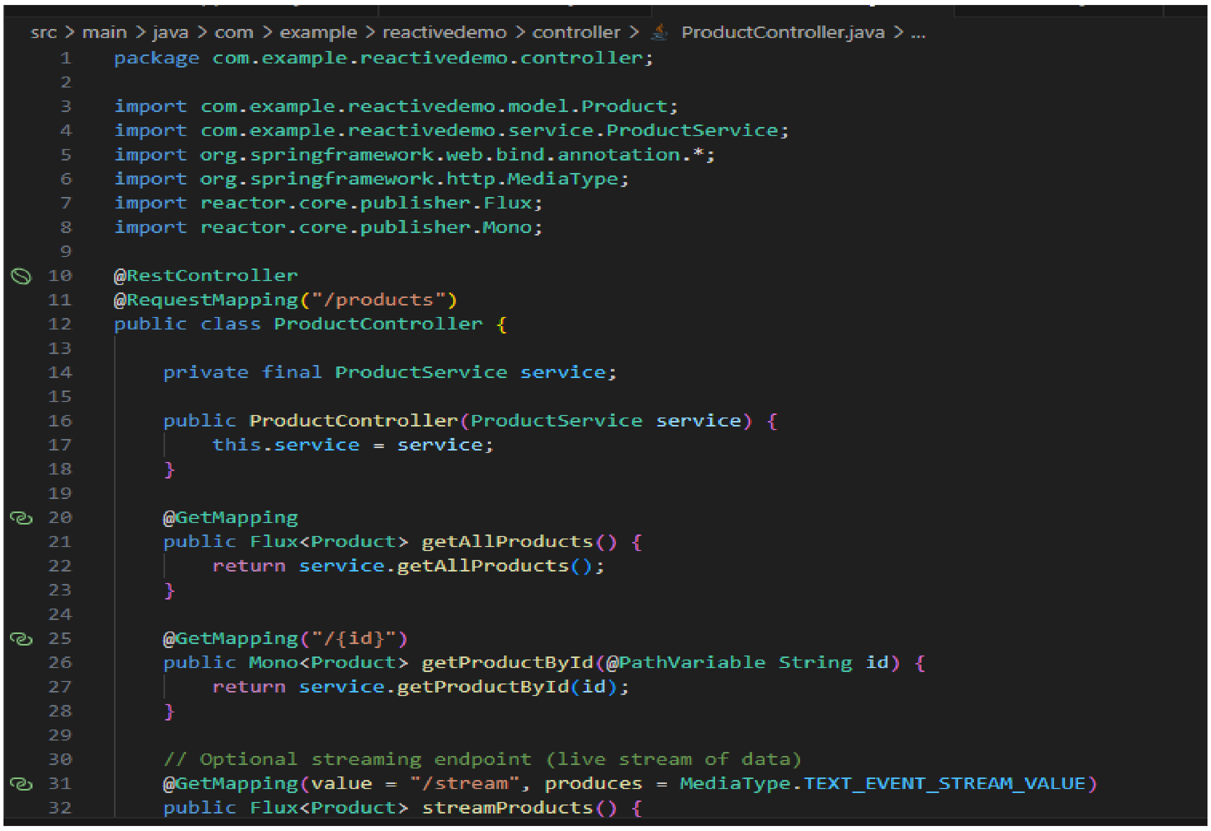
Code in Product.java file


src > main > java > com > example > reactivedemo > service > ProductService.java > ...

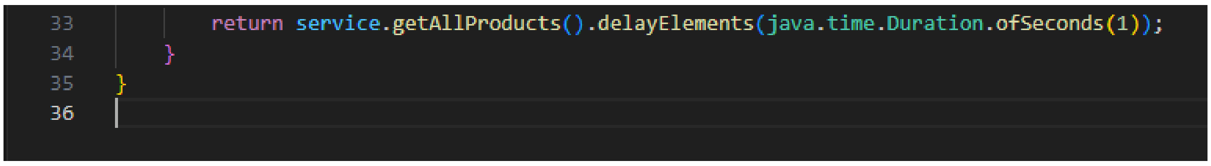
```java
package com.example.reactivedemo.service;

import com.example.reactivedemo.model.Product;
import org.springframework.stereotype.Service;
import reactor.core.publisher.Flux;
import reactor.core.publisher.Mono;

import java.util.List;

@Service
public class ProductService {

    private final List<Product> products = List.of(
            new Product(id:"1", name:"Laptop", price:999.99),
            new Product(id:"2", name:"Phone", price:499.99),
            new Product(id:"3", name:"Tablet", price:299.99)
    );

    public Flux<Product> getAllProducts() {
        return Flux.fromIterable(products);
    }

    public Mono<Product> getProductById(String id) {
        return Flux.fromIterable(products)
                    .filter(p -> p.getId().equals(id))
                    .next(); // returns Mono
    }
}

```

Code in ProductService.java file

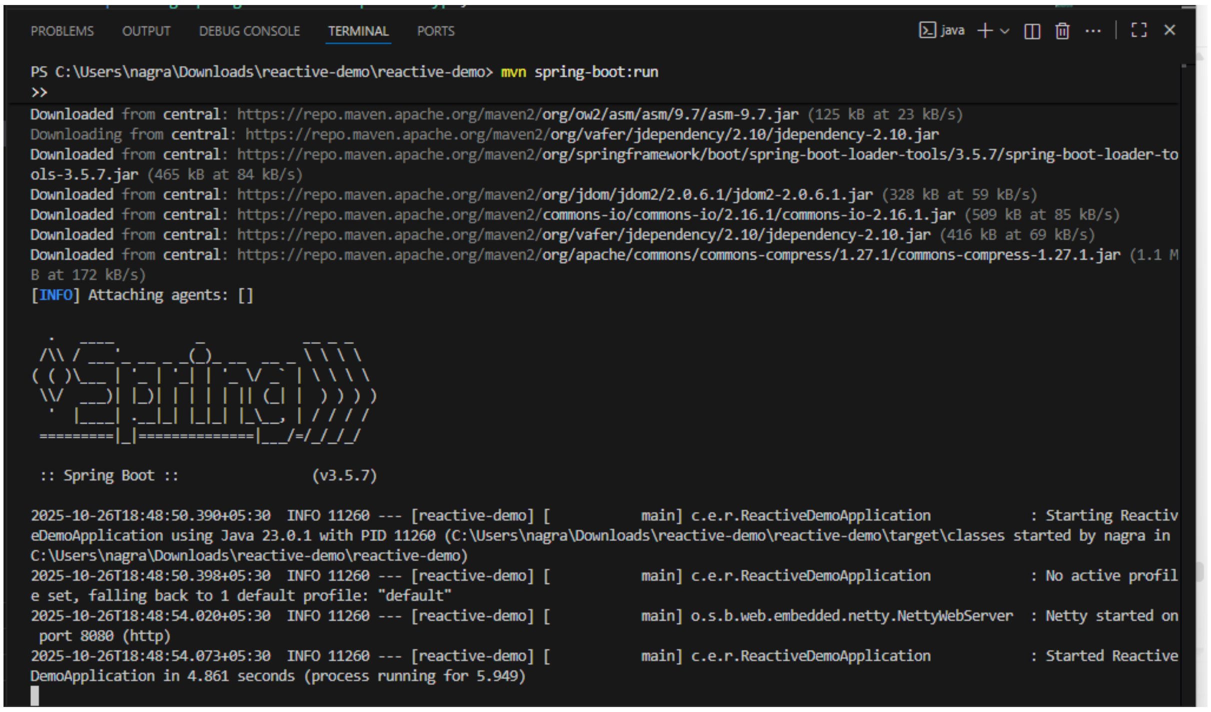
Code in ProductController.java file:-


src > main > java > com > example > reactivedemo > controller > ProductController.java > ...

```java
package com.example.reactivedemo.controller;

import com.example.reactivedemo.model.Product;
import com.example.reactivedemo.service.ProductService;
import org.springframework.web.bind.annotation.*;
import org.springframework.http.MediaType;
import reactor.core.publisher.Flux;
import reactor.core.publisher.Mono;

@RestController
@RequestMapping("/products")
public class ProductController {

    private final ProductService service;

    public ProductController(ProductService service) {
        this.service = service;
    }

    @GetMapping
    public Flux<Product> getAllProducts() {
        return service.getAllProducts();
    }

    @GetMapping("/{id}")
    public Mono<Product> getProductById(@PathVariable String id) {
        return service.getProductById(id);
    }

    // Optional streaming endpoint (live stream of data)
    @GetMapping(value = "/stream", produces = MediaType.TEXT_EVENT_STREAM_VALUE)
    public Flux<Product> streamProducts() {
```



```java
        return service.getAllProducts().delayElements(java.time.Duration.ofSeconds(1));
    }
}

```



```
PS C:\Users\nagra\Downloads\reactive-demo\reactive-demo> mvn spring-boot:run
>>
Downloaded from central: https://repo.maven.apache.org/maven2/org/ow2/asm/asm/9.7/asm-9.7.jar (125 kB at 23 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/vafer/jdependency/2.10/jdependency-2.10.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-loader-tools/3.5.7/spring-boot-loader-to
ols-3.5.7.jar (465 kB at 84 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/jdom/jdom2/2.0.6.1/jdom2-2.0.6.1.jar (328 kB at 59 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/commons-io/commons-io/2.16.1/commons-io-2.16.1.jar (509 kB at 85 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/vafer/jdependency/2.10/jdependency-2.10.jar (416 kB at 69 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.27.1/commons-compress-1.27.1.jar (1.1 M
B at 172 kB/s)
[INFO] Attaching agents: []

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( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/

 :: Spring Boot ::                (v3.5.7)

2025-10-26T18:48:50.390+05:30  INFO 11260 --- [reactive-demo] [           main] c.e.r.ReactiveDemoApplication            : Starting Reactiv
eDemoApplication using Java 23.0.1 with PID 11260 (C:\Users\nagra\Downloads\reactive-demo\reactive-demo\target\classes started by nagra in
C:\Users\nagra\Downloads\reactive-demo\reactive-demo)
2025-10-26T18:48:50.398+05:30  INFO 11260 --- [reactive-demo] [           main] c.e.r.ReactiveDemoApplication            : No active profil
e set, falling back to 1 default profile: "default"
2025-10-26T18:48:54.020+05:30  INFO 11260 --- [reactive-demo] [           main] o.s.b.web.embedded.netty.NettyWebServer  : Netty started on
 port 8080 (http)
2025-10-26T18:48:54.073+05:30  INFO 11260 --- [reactive-demo] [           main] c.e.r.ReactiveDemoApplication            : Started Reactive
DemoApplication in 4.861 seconds (process running for 5.949)
```
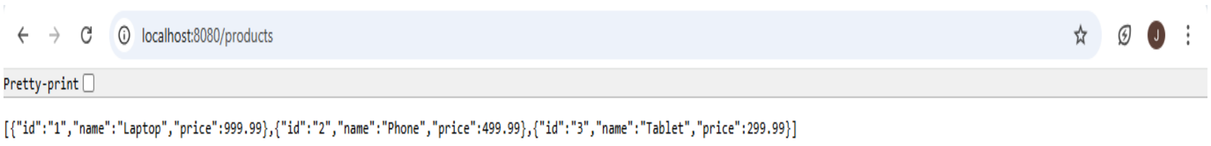

Run the Application

Test the Endpoints:-

1. Get all products

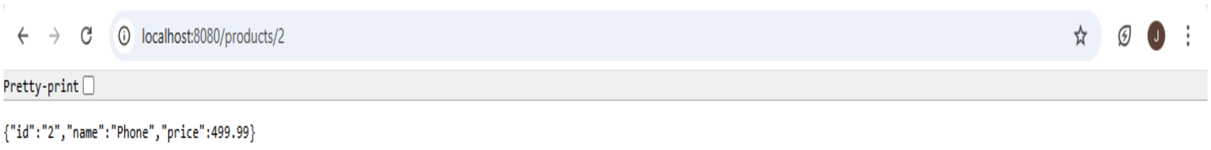


localhost:8080/products

Pretty-print

```
[{"id":"1","name":"Laptop","price":999.99},{"id":"2","name":"Phone","price":499.99},{"id":"3","name":"Tablet","price":299.99}]
```

2.Get a single product

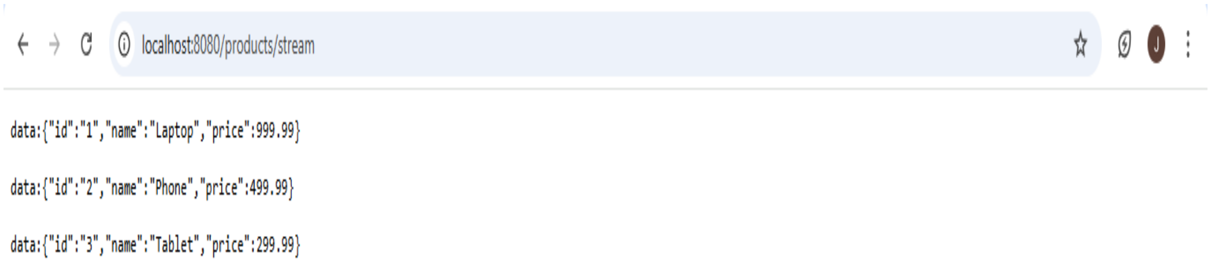


localhost:8080/products/2

Pretty-print

```
{"id":"2","name":"Phone","price":499.99}
```

3. Stream products



localhost:8080/products/stream

```
data:{"id":"1","name":"Laptop","price":999.99}

data:{"id":"2","name":"Phone","price":499.99}

data:{"id":"3","name":"Tablet","price":299.99}
```