Spring Boot Embedded Servers & Object Methods in Java

7. Which Server is used in Spring Boot? Use Case of Each

Spring Boot uses embedded servers (runs without needing external app servers like WebLogic).

- **Default: Apache Tomcat**

- Default embedded servlet container.

- Good for most REST APIs and web apps.

- Widely supported, lots of community help.

> ***Use Case: Standard CRUD-based microservices, MVC web apps, REST APIs.***

- **Alternative: Jetty**

- Lightweight and asynchronous request handling.

- Slightly faster startup, lower memory footprint than Tomcat.

> ***Use Case: Apps requiring better performance under high concurrency (e.g., chat apps).***

- **Alternative: Undertow**

- Designed for high-performance, non-blocking I/O.

- Supports reactive programming out of the box.

> ***Use Case: Reactive microservices, real-time apps (e.g., WebSockets, streaming apps).***

- Production: On Azure Cloud

- Uses embedded server (Tomcat/Jetty/Undertow) in environments like Azure App Service, Azure Spring Apps, or AKS.

8. Can We Change the Server in Spring Boot? (e.g., to Jetty)

Yes, Spring Boot allows changing the embedded server easily via Maven/Gradle.

1. Steps to Switch to Jetty:

- **Step 1: Exclude Tomcat**

```
<dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-web</artifactId>
    <exclusions>
        <exclusion>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-starter-tomcat</artifactId>
        </exclusion>
    </exclusions>
</dependency>
```

- **Step 2: Add Jetty Dependency**

```
<dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-jetty</artifactId>
</dependency>
```

- **To use Undertow instead of Jetty:**

```
<dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-undertow</artifactId>
</dependency>
```

To confirm, look for server startup logs like:

Jetty: Jetty started on port(s): 8080 (http/1.1)

Undertow: Undertow started on port(s): 8080 (http/1.1)