

## Automate CI Jenkins pipeline to deploy a war file for a Springboot application

Download the javaspring boot application along with version and dependencies from spring init

<https://start.spring.io/>

The screenshot shows the Spring Initializr web application interface. The browser's address bar displays <https://start.spring.io/>. The page is divided into several sections:

- Project:** Includes radio buttons for **Gradle - Groovy**, **Gradle - Kotlin**, and **Maven** (which is selected).
- Language:** Includes radio buttons for **Java** (selected), **Kotlin**, and **Groovy**.
- Spring Boot:** Includes radio buttons for versions: **3.5.0 (SNAPSHOT)**, **3.5.0 (M3)**, **3.4.5 (SNAPSHOT)**, **3.4.4** (selected), and **3.3.11 (SNAPSHOT)**.
- Project Metadata:** Includes input fields for **Group** (com.example), **Artifact** (springboot), **Name** (springboot), **Description** (Demo project for Spring Boot), and **Package name** (com.example.springboot).
- Packaging:** Includes radio buttons for **Jar** (selected) and **War**.
- Java:** Includes radio buttons for versions: **24**, **21**, and **17** (selected).
- Dependencies:** Includes a button **ADD DEPENDENCIES... CTRL + B** and a section for **Spring Web** (WEB) with a description: "Build web, including RESTful, applications using Spring MVC. Uses Apache Tomcat as the default embedded container."

At the bottom of the form, there are buttons for **GENERATE CTRL + G**, **EXPLORE CTRL + SPACE**, and a menu icon **...**. The browser's taskbar at the bottom shows the Windows Start button, a search bar, and various application icons. The system tray on the right shows the date and time as 12:42 PM on 2025-03-26.

1. In the **maven central repository** find the dependency code for **thyme leaf** to add it to the POM.xml file  
<https://mvnrepository.com/artifact/org.springframework.boot/spring-boot-starter-thymeleaf/3.4.0>

Add **index.html** file under **templates** folder with below code

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>
```

```
    Create a Portfolio Gallery  
    using HTML and CSS
```

```
</title>
```

```
<meta name="viewport"
```

```
    content="width=device-width, initial-scale=1">
```

```
</head>
```

```
<body>
```

```
<style>
```

```
  * {  
    box-sizing: border-box;  
  }
```

```
  /* padding for whole body */  
  body {  
    padding: 15px;  
  }
```

```
  /* styling body */  
  .container {  
    max-width: 1200px;  
    margin: auto;  
  }
```

```
  h1 {  
    color: white;  
  }
```

```
  /* anchor tag decoration */  
  a {  
    text-decoration: none;  
    color: #5673C8;  
  }
```

```
  a:hover {  
    color: lightblue;  
  }
```

```
  /* paragraph tag decoration */  
  p {  
    display: -webkit-box;  
    -webkit-box-orient: vertical;  
    -webkit-line-clamp: 4;  
    overflow: hidden;
```

```

}

/* row and column decoration */
.row {
    margin: 0px -18px;
    padding: 8px;
}

.row>.column {
    padding: 6px;
}

.column {
    float: left;
    width: 20%;
    position: relative; /* Add position relative */
    transition: all 0.3s ease; /* Smooth transition */
}

.column:hover {
    width: 25%;
    top: -20px; /* Move up on hover */
    box-shadow: 0 14px 8px rgba(0, 128, 0, 0.5); /* Add box shadow on hover */
}

.row:after {
    content: "";
    display: table;
    clear: both;
}

/* content decoration */
.content {
    background-color: white;
    padding: 10px;
    border: 1px solid gray;
}

/* window size 850 width set */
@media screen and (max-width: 850px) {

```

```

        .column {
            width: 50%;
        }
    }

    /* window size 400 width set */
    @media screen and (max-width: 400px) {
        .column {
            width: 100%;
        }
    }

    .title {
        text-align: center;
        position: relative;
        width: 100%;
        height: 15%;
        background-color: green;
    }

```

```

</style>
<!-- title and tag -->
<div class="title"><h1>Automate Javaspring app using CICD on
Jenkins</h1></div>
<div class="container">

```

```

    <h3>A Computer Science Portal for Geeks</h3>
    <hr>

```

```

    <!-- Content of the body-->
    <h2>Portfolio</h2>
    <div class="row">
        <div class="column">
            <div class="content">
                <img src=
                    "https://www.geeksforgeeks.org/wp-content/uploads/html.png"
                    alt="" style="width:100%">
                <h3>
                    <a href="#">HTML Tutorials</a>
                </h3>
            </div>
        </div>
    </div>

```

```
<p>
    HTML stands for Hyper Text Markup
    Language. It is used to design web
    pages using markup language. HTML
    is the combination of Hypertext and
    Markup language. Hypertext defines
    the link between the web pages.
</p>
</div>
</div>
```

```
<div class="column">
    <div class="content">
        <img src=
            "https://www.geeksforgeeks.org/wp-content/uploads/CSS.png"
            alt="" style="width:100%">
        <h3>
            <a href="#">CSS Tutorials</a>
        </h3>
        <p>
            Cascading Style Sheets, fondly referred
            to as CSS, is a simply designed language
            intended to simplify the process of
            making web pages presentable. CSS allows
            you to apply styles to web pages.
        </p>
    </div>
</div>
```

```
<div class="column">
    <div class="content">
        
        <h3>
            <a href="#">PHP Tutorials</a>
        </h3>

        <p>
            The term PHP is an acronym for PHP:
            Hypertext Preprocessor. PHP is a
```

```

        server-side scripting language
        designed specifically for web
        development. PHP can be easily
        embedded in HTML files.
    </p>
</div>
</div>

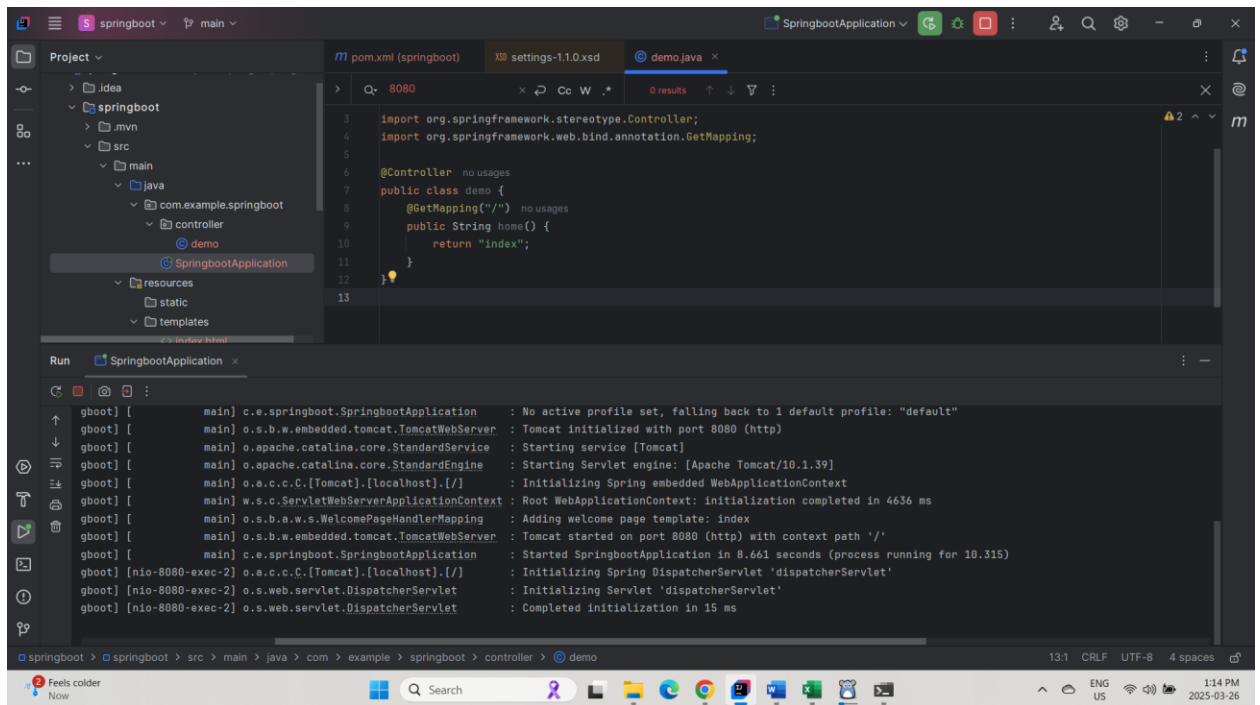
<div class="column">
    <div class="content">
        <img src=
            "https://www.geeksforgeeks.org/wp-
content/uploads/javascript.png"
            alt="" style="width:100%">
        <h3>
            <a href="#">JavaScript Tutorials</a>
        </h3>
        <p>
            Javascript was developed by Brendan
            Eich in 1995. At first, it was called
            LiveScript but was later name to
            JavaScript. JavaScript is the muscle
            of the structure
        </p>
    </div>
</div>

</div>
</div>
</body>

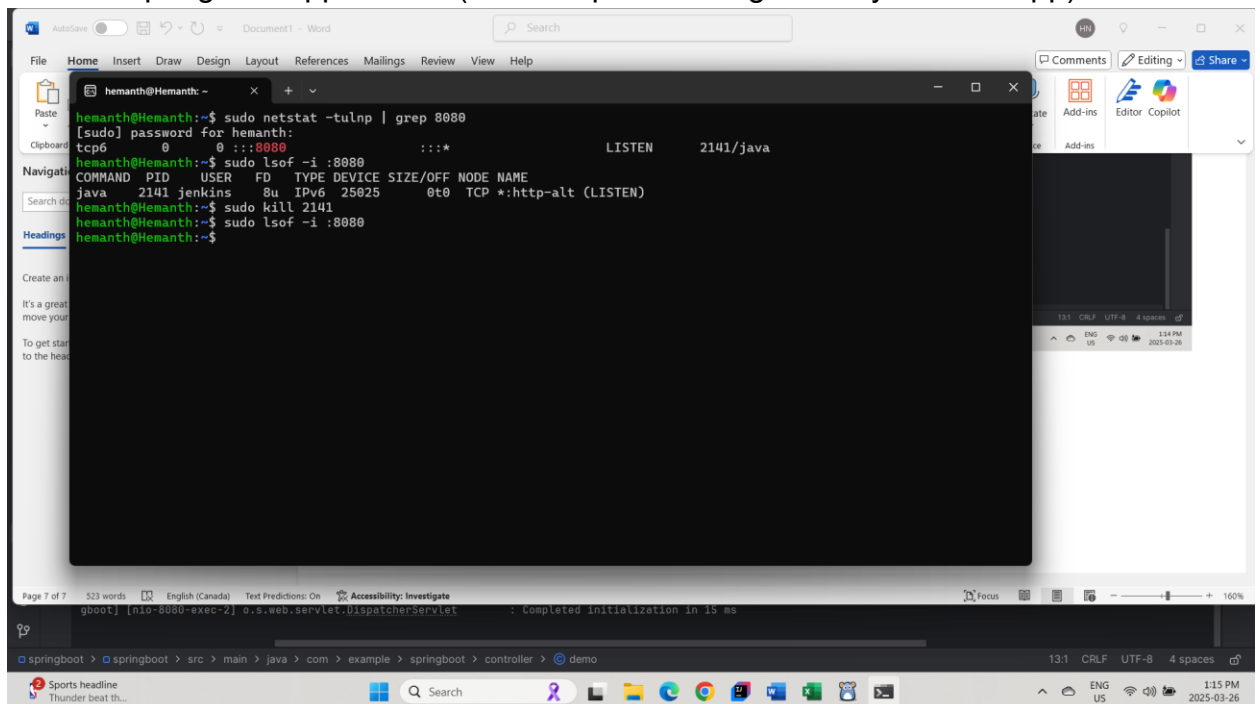
</html>

```

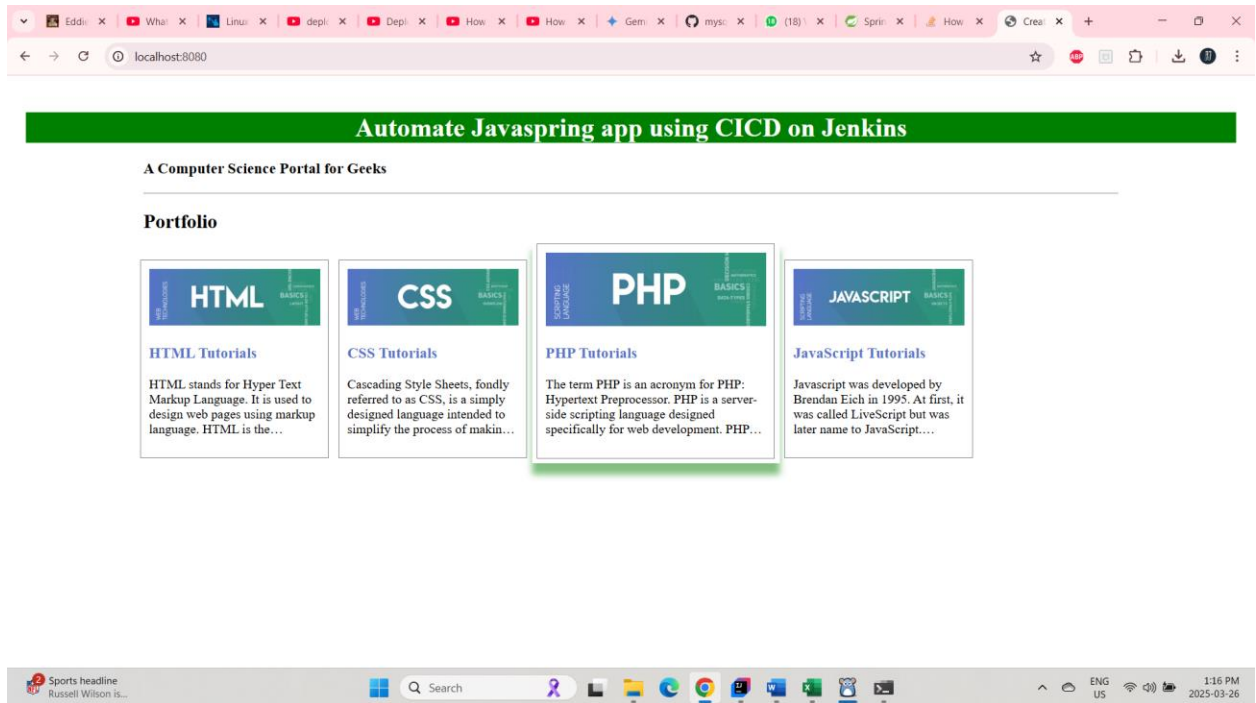
Under springboot folder , create a **demo.java** file with below code



## 2. Run the springboot application (kill if the port is being used by another app)



## 3. Launch the application at 8080 port

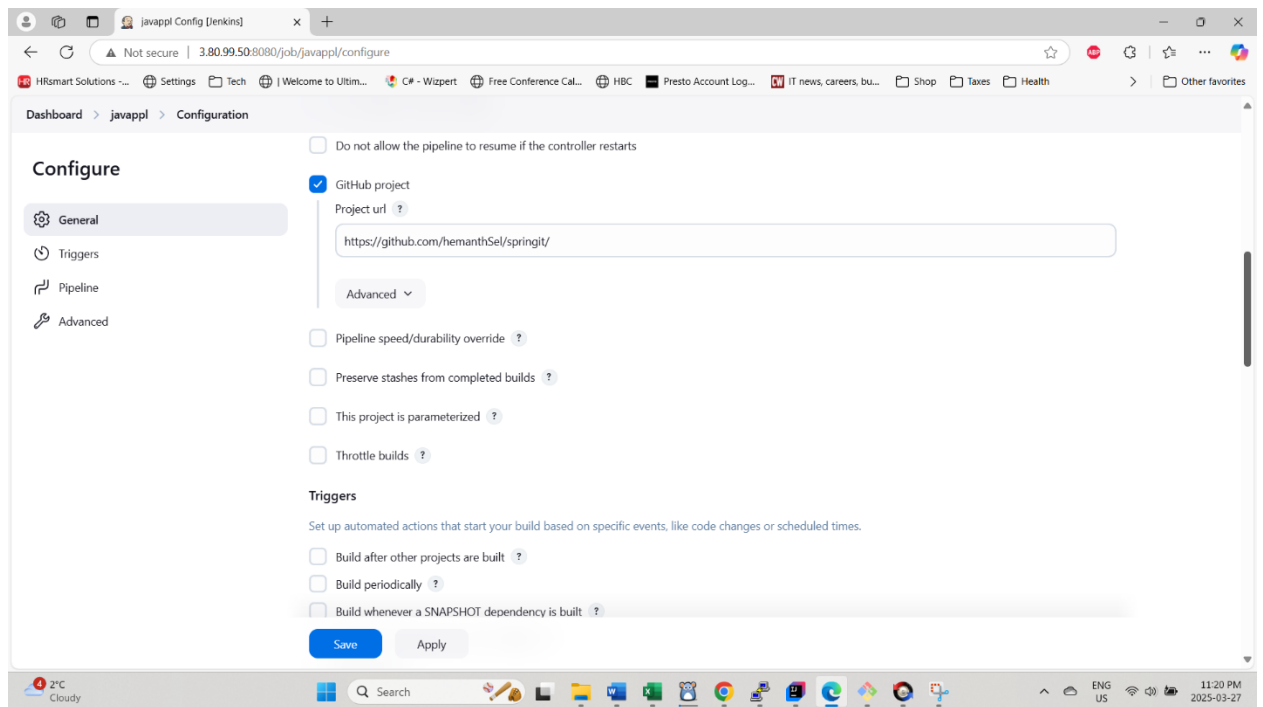


4. Add dockerfile, JenkinsFile and update **Pom.xml** with dependency and commit

```
heman@Hemanth MINGW64 /d/GitProjects/springit/springboot/springboot (main)
$ git push -u origin main
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 1.49 KiB | 508.00 KiB/s, done.
Total 5 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/hemanthSel/springit.git
 6d464ef..98415c3  main -> main
branch 'main' set up to track 'origin/main'.
heman@Hemanth MINGW64 /d/GitProjects/springit/springboot/springboot (main)
```

5. Create a job in Jenkins and map SVM with github repo





Run image

```
root@ip-172-31-31-78:~  
root@ip-172-31-31-78:~# ls -l  
root@ip-172-31-31-78:~# docker ps  
CONTAINER ID   IMAGE      COMMAND                  CREATED    STATUS    PORTS    NAMES  
root@ip-172-31-31-78:~# docker ps -a  
CONTAINER ID   IMAGE      COMMAND                  CREATED    STATUS    PORTS    NAMES  
66db8141e770   sonarqube:latest   "/opt/sonarqube/dock..." 3 days ago   Exited (255) About an hour ago   0.0.0.0:9000->9000/tcp, [::]:9000->9000/tcp   sonarqube  
root@ip-172-31-31-78:~# docker pull image hemanth509/java-one:V1.001  
docker: 'docker pull' requires 1 argument  
Usage: docker pull [OPTIONS] NAME[:TAG][@DIGEST]  
Run 'docker pull --help' for more information  
root@ip-172-31-31-78:~# docker pull hemanth509/java-one:V1.001  
V1.001: Pulling from hemanth509/java-one  
Digest: sha256:670933b87e5432d9522f8c5f7af96229bdfb61c2000c67ad6f3df891a6607e9  
Status: Image is up to date for hemanth509/java-one:V1.001  
docker.io/hemanth509/java-one:V1.001  
root@ip-172-31-31-78:~# docker images  
REPOSITORY      TAG      IMAGE ID      CREATED      SIZE  
hemanth509/java-one   V1.001   e56041068454   9 minutes ago   430MB  
java-one           latest   e56041068454   9 minutes ago   430MB  
<none>             <none>   14e7d15897e1   13 minutes ago   430MB  
<none>             <none>   e9a42bf1c2d7   2 days ago      430MB  
sonarqube          latest   94a7de374354   3 weeks ago     1.17GB  
root@ip-172-31-31-78:~# docker run java-one  
  
:: Spring Boot ::  
(v3.4.4)  
  
2025-03-28T06:57:32.290Z INFO 1 --- [springboot] [main] c.e.springboot.SpringbootApplication : Starting SpringbootApplication v0.0.1-SNAPSHOT using Java 17.0.2 with PID 1 (/app/java-one.jar star  
ted by root in /app)  
2025-03-28T06:57:32.302Z INFO 1 --- [springboot] [main] c.e.springboot.SpringbootApplication : No active profile set, falling back to 1 default profile: "default"  
2025-03-28T06:57:33.693Z INFO 1 --- [springboot] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 8080 (http)  
2025-03-28T06:57:33.711Z INFO 1 --- [springboot] [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]  
2025-03-28T06:57:33.722Z INFO 1 --- [springboot] [main] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.39]  
2025-03-28T06:57:33.754Z INFO 1 --- [springboot] [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext  
2025-03-28T06:57:33.757Z INFO 1 --- [springboot] [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1303 ms  
2025-03-28T06:57:33.926Z INFO 1 --- [springboot] [main] o.s.b.a.w.s.WelcomePageHandlerMapping : Adding welcome page template: index  
2025-03-28T06:57:34.298Z INFO 1 --- [springboot] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 8080 (http) with context path '/'  
2025-03-28T06:57:34.332Z INFO 1 --- [springboot] [main] c.e.springboot.SpringbootApplication : Started SpringbootApplication in 2.797 seconds (process running for 3.706)
```

Application up and running

3.80.99.50

Log in - SonarQube

Create a Portfolio Gallery using H

Not secure | 3.80.99.50:8080

HiSmart Solutions ... Settings Tech | Welcome to Ultim... C# - Wizpert Free Conference Cal... HBC Presto Account Log... IT news, careers, bu... Shop Taxes Health Other favorites

# Automate Jvaspring app using CICD on Jenkins

A Computer Science Portal for Geeks

## Portfolio

HTML

HTML Tutorials

HTML stands for Hyper Text Markup Language. It is used to design web pages using markup language. HTML is the...

CSS

CSS Tutorials

Cascading Style Sheets, fondly referred to as CSS, is a simply designed language intended to simplify the process of makin...

PHP

PHP Tutorials

The term PHP is an acronym for PHP: Hypertext Preprocessor. PHP is a server-side scripting language designed specifiCALLY for web development.

JAVASCRIPT

JavaScript Tutorials

JavaScript was developed by Brendan Eich in 1995. At first, it was called LiveScript but was later name to JavaScript...

Windy

Search

ENG US

3:03 AM 2025-03-28

```
root@ip-172-31-31-78: ~  
  
:: Spring Boot :: (v3.4.4)  
2025-03-28T06:59:27.775Z INFO 1 --- [springboot] [main] c.e.springboot.SpringbootApplication : Starting SpringbootApplication v0.0.1-SNAPSHOT using Java 17.0.2 with PID 1 (/app/java-one.jar started by root in /app)  
2025-03-28T06:59:27.780Z INFO 1 --- [springboot] [main] c.e.springboot.SpringbootApplication : No active profile set, falling back to 1 default profile: "default"  
2025-03-28T06:59:28.973Z INFO 1 --- [springboot] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 8080 (http)  
2025-03-28T06:59:28.989Z INFO 1 --- [springboot] [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]  
2025-03-28T06:59:28.990Z INFO 1 --- [springboot] [main] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.39]  
2025-03-28T06:59:29.005Z INFO 1 --- [springboot] [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext  
2025-03-28T06:59:29.030Z INFO 1 --- [springboot] [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1145 ms  
2025-03-28T06:59:29.188Z INFO 1 --- [springboot] [main] o.s.b.a.w.s.WelcomePageHandlerMapping : Adding welcome page template: index  
2025-03-28T06:59:29.507Z INFO 1 --- [springboot] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 8080 (http) with context path '/'  
2025-03-28T06:59:29.524Z INFO 1 --- [springboot] [main] c.e.springboot.SpringbootApplication : Started SpringbootApplication in 2.433 seconds (process running for 3.062)  
2025-03-28T07:02:20.941Z INFO 1 --- [springboot] [ionShutdownHook] o.s.b.w.e.tomcat.GracefulShutdown : Commencing graceful shutdown. Waiting for active requests to complete  
2025-03-28T07:02:20.948Z INFO 1 --- [springboot] [tomcat-shutdown] o.s.b.w.e.tomcat.GracefulShutdown : Graceful shutdown complete  
  
root@ip-172-31-31-78:~# docker ps  
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS          NAMES  
root@ip-172-31-31-78:~# docker ps -a  
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS          NAMES  
04a86eeb3cad   java-one   "java -jar /app/java..." 3 minutes ago   Exited (130) 11 seconds ago   8080/tcp       nervous_darwin  
69bf1fb39847   java-one   "java -jar /app/java..." 5 minutes ago   Exited (130) 4 minutes ago   8080/tcp       unruffled_ramanujan  
66db8141e770   sonarqube:latest "opt/sonarqube/dock..." 3 days ago     Exited (255) About an hour ago           0.0.0.0:9000->9000/tcp, [::]:9000->9000/tcp sonarqube  
  
root@ip-172-31-31-78:~# docker run -p 8080:8080 java-one  
:: Spring Boot :: (v3.4.4)  
2025-03-28T07:03:46.230Z INFO 1 --- [springboot] [main] c.e.springboot.SpringbootApplication : Starting SpringbootApplication v0.0.1-SNAPSHOT using Java 17.0.2 with PID 1 (/app/java-one.jar started by root in /app)  
2025-03-28T07:03:46.242Z INFO 1 --- [springboot] [main] c.e.springboot.SpringbootApplication : No active profile set, falling back to 1 default profile: "default"  
2025-03-28T07:03:47.628Z INFO 1 --- [springboot] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 8080 (http)  
2025-03-28T07:03:47.642Z INFO 1 --- [springboot] [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]  
2025-03-28T07:03:47.643Z INFO 1 --- [springboot] [main] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.39]  
2025-03-28T07:03:47.678Z INFO 1 --- [springboot] [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext  
2025-03-28T07:03:47.680Z INFO 1 --- [springboot] [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1304 ms  
2025-03-28T07:03:47.806Z INFO 1 --- [springboot] [main] o.s.b.a.w.s.WelcomePageHandlerMapping : Adding welcome page template: index  
2025-03-28T07:03:48.115Z INFO 1 --- [springboot] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 8080 (http) with context path '/'  
2025-03-28T07:03:48.140Z INFO 1 --- [springboot] [main] c.e.springboot.SpringbootApplication : Started SpringbootApplication in 2.635 seconds (process running for 3.203)  
2025-03-28T07:03:55.468Z INFO 1 --- [springboot] [nio-8080-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'  
2025-03-28T07:03:55.468Z INFO 1 --- [springboot] [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'  
2025-03-28T07:03:55.470Z INFO 1 --- [springboot] [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : Completed initialization in 2 ms
```