

Spring Professional Exam Tutorial v5.0

Question 14

Question 14 - What is the difference between an embedded container and a WAR?

WAR (Web Application Archive) is a file that represents web module. WAR cannot be executed in standalone mode, it needs to be deployed to Application Server like Tomcat or WildFly.

Embedded container is used to execute executables jars. Embedded container is packed as dependency in executable jar and will be responsible for executing only single application. WAR approach on the other hand uses Application Server which might be used to execute multiple applications at the same time.

WAR file has following structure:

- ▶ Assembly root:
 - ▶ JSP Pages, static HTML pages
 - ▶ META-INF/
 - ▶ MANIFEST.MF
 - ▶ WEB-INF/
 - ▶ web.xml (not required for Servlet 3+)
 - ▶ lib/
 - ▶ classes/
 - ▶ tags/

Spring Boot Executable JAR has following structure:

- ▶ Assembly root:
 - ▶ BOOT-INF/
 - ▶ classes/
 - ▶ lib/
 - ▶ ...
 - ▶ tomcat-embed-core-9.0.17.jar
 - ▶ ...
 - ▶ META-INF/
 - ▶ MANIFEST.MF
 - ▶ org.springframework.boot.loader
 - ▶ ...
 - ▶ JarLauncher.class
 - ▶ ...

Question 14 - What is the difference between an embedded container and a WAR?

To create WAR file with Spring Boot, you need to:

- Specify WAR packaging method:

```
<packaging>war</packaging>
```

- Specify required dependencies:

```
<dependencies>
  <dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-web</artifactId>
  </dependency>
  <dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-tomcat</artifactId>
    <scope>provided</scope>
  </dependency>
</dependencies>
```

- Use WAR plugin (explicit specification of this plugin is optional):

```
<build>
  <plugins>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
      <artifactId>maven-war-plugin</artifactId>
      <version>3.2.3</version>
    </plugin>
  </plugins>
</build>
```

Question 14 - What is the difference between an embedded container and a WAR?

To create Executable JAR file with embedded container in Spring Boot, you need to:

- Specify required dependencies:

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

- Use Spring Boot Maven plugin:

```
<build>
  <plugins>
    <plugin>
      <groupId>org.springframework.boot</groupId>
      <artifactId>spring-boot-maven-plugin</artifactId>
      <executions>
        <execution>
          <goals>
            <goal>repackage</goal>
          </goals>
        </execution>
      </executions>
    </plugin>
  </plugins>
</build>
```

