Spring Boot Application: Running, Packaging and Deployment

1.   How to run a Spring Boot application outside the IDE:
   1.1.   Simply open a command window or terminal
   1.2.   cd to the project's root folder (e.g. c:\project-root>)
   1.3.   Execute the command: c:\project-root> ***mvn spring-boot:run***

2.   How to Package a Spring Boot Web application as an Executable JAR file for deployment:
   2.1.   First, check the pom.xml file and make sure that it contains the setting: `<packaging>`jar`</packaging>`; if not then add it.
   2.2.   To build the deployable/executable JAR, open a command window/terminal and run the cmd: ***mvn package***
   2.3.   To run the JAR, execute the command: `java -jar target/mymodule-0.0.1-SNAPSHOT.jar`
         (Note: This assumed to have cd-ed into the project root folder)

3.   How to Package a Spring Boot Web application as an Executable WAR file for deployment to an external web container:
   3.1.   First, a Spring Boot Web application needs to have certain special configurations to enable it to be packaged as a Web Application Archive ('war') file, for deployment to an external web container (such as Apache tomcat or a full-blown JavaEE app server like Oracle Weblogic, Redhat JBoss EAP or IBM WebSphere etc.)
   3.2.   First, check the pom.xml file and make sure that it contains the setting: `<packaging>`war`</packaging>`; if not then add it.
   3.3.   Add the following dependency:

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

   3.4.   update your application's main class to extend `SpringBootServletInitializer`, as shown below:

```
@SpringBootApplication
public class Application extends
SpringBootServletInitializer {

        @Override
        protected SpringApplicationBuilder
configure(SpringApplicationBuilder application) {
                return application.sources(Application.class);
```

```
        }

        public static void main(String[] args) {
            SpringApplication.run(Application.class,
args);
        }

}
```

3.5. To build/package the app, on the command window/terminal, run the command,
      mvn clean package
3.6. Go to the target folder and copy out the .war file produced to the webapps
      sub-folder of your tomcat (or JavaEE app server) installation folder.
3.7. Start your tomcat/app server and test by opening a browser and navigate to your
      webapp's homepage url.
3.8. Voila! The End