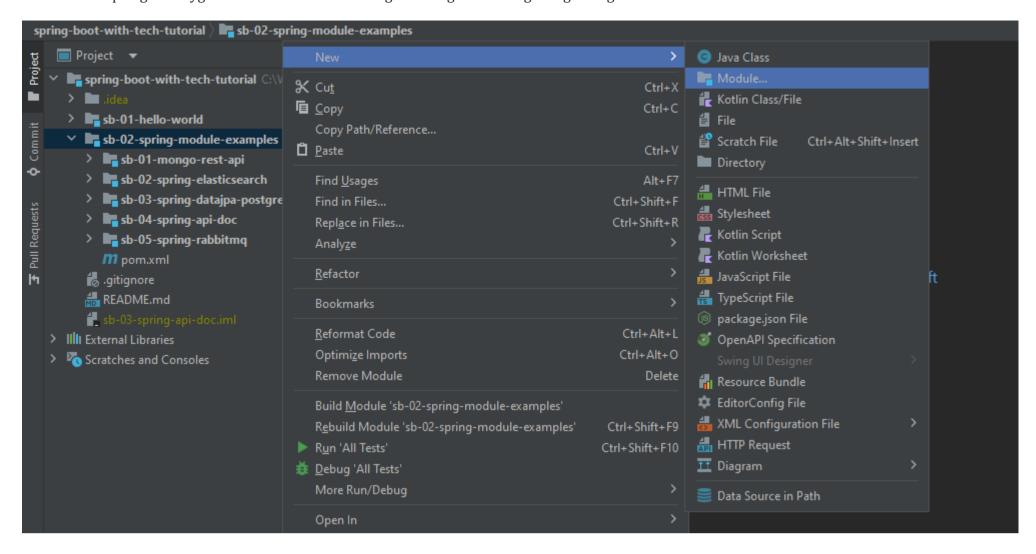
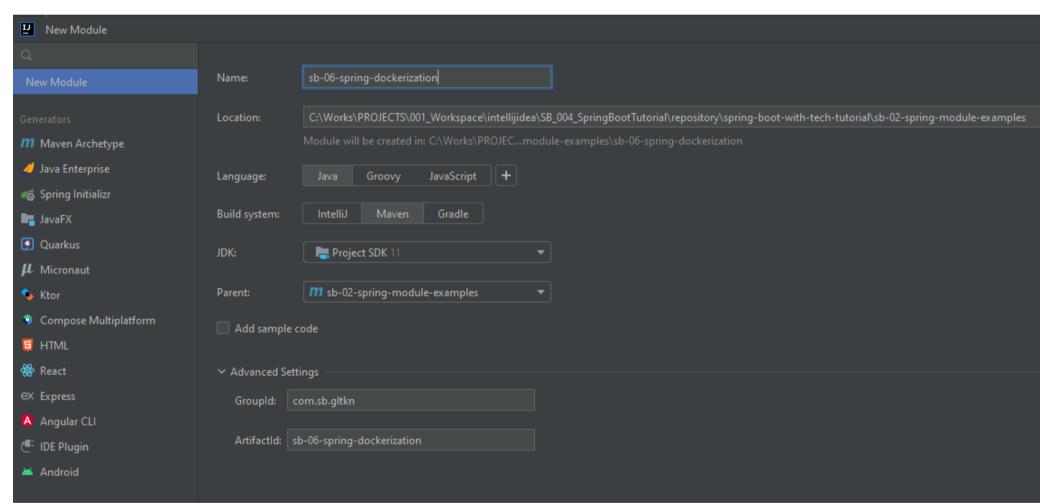
Bu bölümde SpringBoot uygulamamızı nasıl docker image haline getirebileceğimiz göreceğiz.





```
至 🛨 💠 — 🕅 pom.xml (sb-06-spring-dockerization) ×
🔳 Project 🔻
                                                            <?xml version="1.0" encoding="UTF-8"?>
spring-boot-with-tech-tutorial C:\Works\PROJECTS\001_Workspace 1
> 🖿 .ide
                                                            roject xmlns="http://maven.apache.org/POM/4.0.0"
> II sb-01-hello-world
                                                                      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

✓ I sb-02-spring-module-examples

                                                                      xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://m
  > 📴 sb-01-mongo-rest-api
                                                                <parent>
  > a sb-02-spring-elasticsearch
                                                                     <groupId>org.springframework.boot
  > 📴 sb-03-spring-datajpa-postgresql
                                                                     <artifactId>spring-boot-starter-parent</artifactId>
  > a sb-04-spring-api-doc
                                                                     <version>2.7.0
  > 📴 sb-05-spring-rabbitmq
                                                                     <relativePath/> <!-- lookup parent from repository -->

✓ I sb-06-spring-dockerization

                                                                </parent>

✓ Image: Src |

                                                                <modelVersion>4.0.0</modelVersion>
       🗸 🖿 main
            iava java
                                                                <artifactId>sb-06-spring-dockerization</artifactId>
            resources
       > test
                                                                properties>
       m pom.xml
                                                                     <maven.compiler.source>11</maven.compiler.source>
                                                                     <maven.compiler.target>11</maven.compiler.target>
   👼 .gitignore
  README.md
                                                             </properties>
   sb-03-spring-api-doc.iml
IIII External Libraries
                                                                <dependencies>
Scratches and Consoles
                                                                     <dependency>
                                                                         <groupId>org.springframework.boot</groupId>
                                                                         <artifactId>spring-boot-starter-web</artifactId>
                                                                         <version>2.7.0
                                                                     </dependency>
                                                                </dependencies>
                                                                <build>
                                                                     <plugins>
```

```
👱 🛨 🔯 — 😉 MessageAPI.java ×
                                                                                                                                                                                                                                                                         🥳 Application.java 🤇
Project
   spring-boot-with-tech-tutorial C:\Works\PROJECTS\001_Workspace 1
                                                                                                                                                                                                                                      package com.sb.gltkn.api;
    > 🖿 .idea
    > R sb-01-hello-world
                                                                                                                                                                                                                                      import org.springframework.web.bind.annotation.GetMapping;

✓ I sb-02-spring-module-examples

                                                                                                                                                                                                                                       import org.springframework.web.bind.annotation.RequestMapping;
             > 📴 sb-01-mongo-rest-api
                                                                                                                                                                                                                                      import org.springframework.web.bind.annotation.RestController;
             > | sb-02-spring-elasticsearch
             > a sb-03-spring-datajpa-postgresql
                                                                                                                                                                                                                                      @RestController
             > a sb-04-spring-api-doc
                                                                                                                                                                                                                                      @RequestMapping(@\\"/message")
             > I sb-05-spring-rabbitmq
                                                                                                                                                                                                                                      public class MessageAPI {

✓ I sb-06-spring-dockerization

✓ Image: Since the si
                                                                                                                                                                                                                                                      @GetMapping 🛇 🗸

✓ Imain

                                                                                                                                                                                                                                                      public String sendMessage(){
                                                                                                                                                                                                    12 🗞
                                        🗸 🖿 java
                                                🜀 Application
                                                Com.sb.gltkn.api
                                                                  MessageAPI
                                                resources
                               > test
```

Docker image'ını docker file veya maven plugin yöntemiyle oluşturabiliriz.

Docker file yöntemi:

```
### dockerfile
```

FROM

The base image for building a new image. This command must be on top of the dockerfile.

MAINTAINER

Optional, it contains the name of the maintainer of the image.

RUN

Used to execute a command during the build process of the docker image.

ADD

Copy a file from the host machine to the new docker image. There is an option to use a URL for the file, docker will then download that file to the destination directory.

ENV

Define an environment variable.

CMD

Used for executing commands when we build a new container from the docker image.

ENTRYPOINT

Define the default command that will be executed when the container is running.

WORKDIR

This is directive for CMD command to be executed.

USER

Set the user or UID for the container created with the image.

VOLUME

Enable access/linked directory between the container and the host machine.

Now let's start to create our first dockerfile.

```
FROM java:8-jdk-alpine
COPY ./target/app.jar /usr/app/
WORKDIR /usr/app
RUN sh -c 'touch app.jar'
ENTRYPOINT ["java","-jar","app.jar"]
```

Biz aşağıdaki maven plugin ile oluşturacağız.

```
<plu><plugin>
 <groupId>io.fabric8/groupId>
 <artifactId>docker-maven-plugin</artifactId>
 <version>0.26.0</version>
 <extensions>true</extensions>
 <configuration>
   <verbose>true</verbose>
   <images>
      <image>
       <name>${project.artifactId}</name>
       <build>
         <from>java:8-jdk-alpine</from>
         <entryPoint>
           <exec>
             <args>java</args>
             <args>-jar</args>
             <args>/maven/${project.artifactId}-${project.version}.jar</args>
           </exec>
         </entryPoint>
         <assembly>
           <descriptorRef>artifact</descriptorRef>
         </assembly>
       </build>
     </image>
   </images>
 </configuration>
 <executions>
   <execution>
     <id>build</id>
     <phase>post-integration-test</phase>
     <goals>
       <goal>build</goal>
     </goals>
   </execution>
 </executions>
</plugin>
```

Projemizin pom.xml'inde plugins tag'i arasına eklemeliyiz.

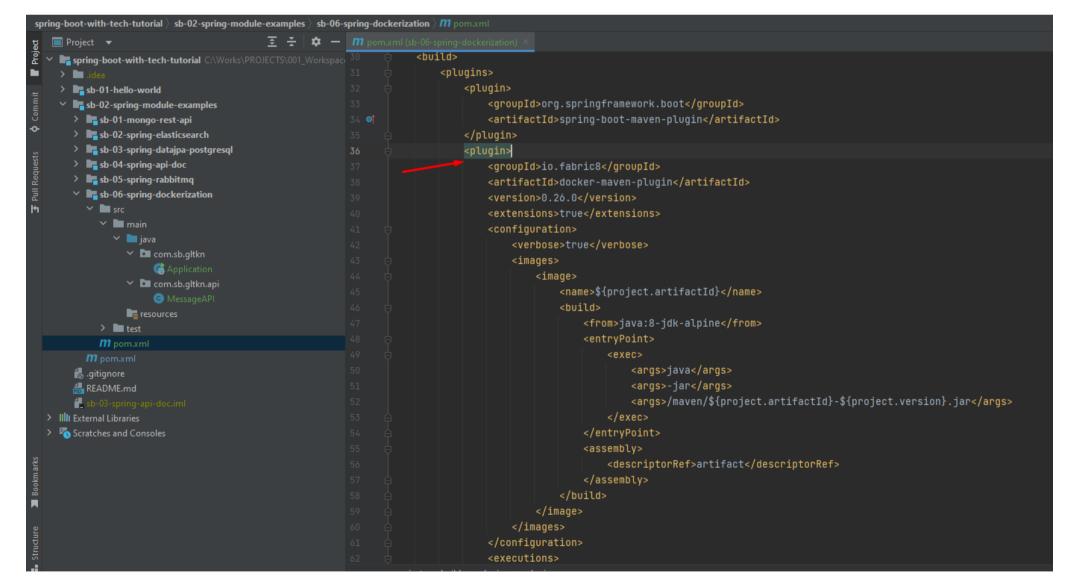
```
호 높 | 🌣 🗕
■ Project ▼
                                                               <parent>
spring-boot-with-tech-tutorial C:\Works\PROJECTS\001_Workspac
                                                                   <groupId>org.springframework.boot</groupId>
 > =
                                                                   <artifactId>spring-boot-starter-parent</artifactId>
   sb-01-hello-world
                                                                   <version>2.7.0
 sb-02-spring-module-examples
                                                                   <relativePath/> <!-- lookup parent from repository -->
   > 📴 sb-01-mongo-rest-api
   > B sb-02-spring-elasticsearch
                                                               </parent>
   > 📭 sb-03-spring-datajpa-postgresql
                                                               <modelVersion>4.0.0</modelVersion>
   > a sb-04-spring-api-doc
   > 1 sb-05-spring-rabbitmq
                                                               <artifactId>sb-06-spring-dockerization</artifactId>

✓ I sb-06-spring-dockerization

                                                               <version>1.0.1-RELEASE

✓ Image: Src

        🗡 🖿 main
                                                               operties>
                                                                   <maven.compiler.source>11</maven.compiler.source>
            <maven.compiler.target>11</maven.compiler.target>
                 🜀 Application
                                                               </properties>
             Y com.sb.gltkn.api
                 MessageAPI
                                                               <dependencies>
            resources
        > test
                                                                   <dependency>
                                                                        <groupId>org.springframework.boot</groupId>
                                                                       <artifactId>spring-boot-starter-web</artifactId>
   😸 .gitignore
                                                                        <version>2.7.0
   README.md
                                                                   </dependency>
   sb-03-spring-api-doc.iml
                                                               </dependencies>
Ill External Libraries
 Scratches and Consoles
                                                               <build>
                                                                   <plugins>
                                                                            <groupId>org.springframework.boot</groupId>
                                                                            <artifactId>spring-boot-maven-plugin</artifactId>
                                                                       </plugin>
                                                                        <plugin>
                                                                            <groupId>io.fabric8
```



45. Satırdaki \${project.artifactId} alanına pom.xml'deki <artifactId>sb-06-spring-dockerization</artifactId> bilgisi gelecektir. Yani bu docker image ismi olacaktır.

Projemiz build ediltikten sonra aşağıdaki yapıda bir jar dosyası oluşacaktır. sb-06-spring-dockerization-1.0.1-RELEASE.jar

Bu sebeple 52 satırda bu jar dosyasını gösteren tanım bulunmaktadır.

<args>/maven/\${project.artifactId}-\${project.version}.jar</args>

entryPoint içindeki bu komutlar ile docker container çalıştığında default olarak devreye girecektir.



fabric8 is discontinued

The fabric8 suite has been discontinued, following you can find a list of the sub-projects that remain active.



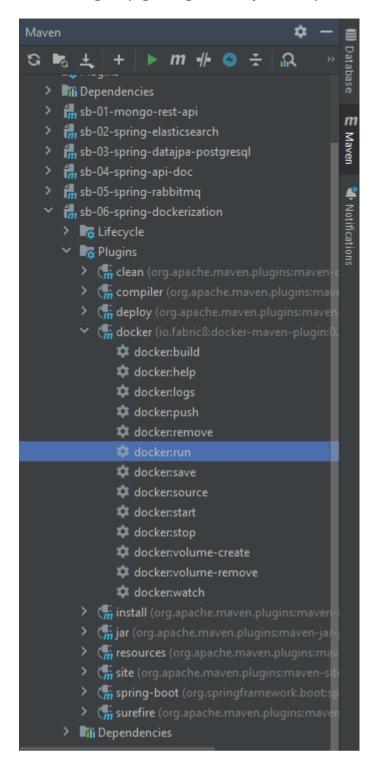
EmreGltkn@DESKTOP-DN9PH1A MINGW64 ~ \$ docker-machine ls NAME ACTIVE DRIVER STATE URL SWARM DOCKER ERRORS default - virtualbox Stopped Unknown

```
EmreGltkn@DESKTOP-DN9PH1A MINGW64 ~
$ docker-machine start default
Starting "default"...
(default) Check network to re-create if needed...
(default) Windows might ask for the permission to configure a dhcp server. Sometimes, such co
(default) Waiting for an IP...
```

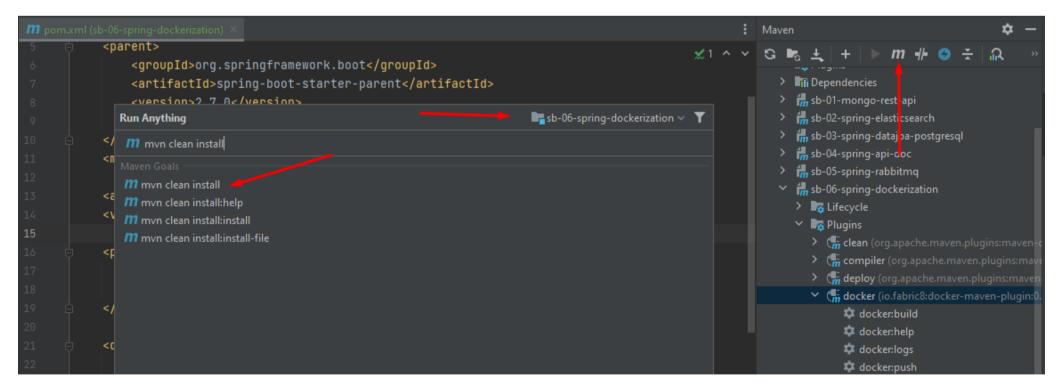
Ben windows 10 Home'da çalıştığım için aşağıdaki 3 tanımı da maven plugin'e ekliyorum.

<sourceDirectory>src/main/docker</sourceDirectory>
<dockerHost>tcp://192.168.99.102:2376</dockerHost>
<certPath>/Users/EmreGltkn/.docker/machine/machines/default</certPath>

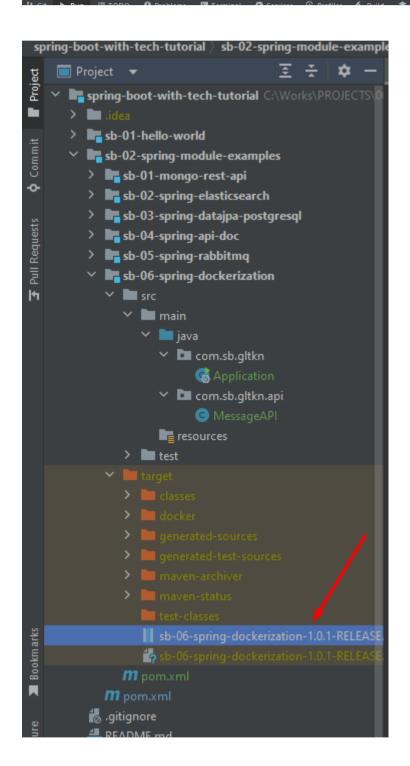
Docker image'ı aşağıdaki gibi run diyerek oluşturabiliriz.



Ancak biz aşağıdaki gibi clean yaparak çalıştıralım.



```
sb-06-spring-dockerization [clean...]: At 26.059 sec, 671 ms [INPU] שונוגבא> שונוגבא> שונוגבא Snazoo: מאטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידאטטאסטידא
                                                                                                             [INFO] DOCKER> Status: Downloaded newer image for java:8-jdk-alpine
                                                                                                             [INFO] DOCKER> Pulled java:8-jdk-alpine in 35 seconds
                                                                                                             [INFO] Copying files to C:\Works\PROJECTS\001_Workspace\intellijidea\SB_004_SpringBootTutorial\repository\spring-boot-with-tech-tutorial\sb-0
                                                                                                             [INFO] Building tar: C:\Works\PROJECTS\001_Workspace\intellijidea\SB_004_SpringBootTutorial\repository\spring-boot-with-tech-tutorial\sb-02-s
                                                                                                             [INFO] DOCKER> [sb-06-spring-dockerization:latest]: Created docker-build.tar in 1 second
                                                                                                             [INFO] DOCKER>
                                                                                                             [INFO] DOCKER> ---> 3fd9dd82815c
                                                                                                             [INFO] DOCKER> Step 2/3 : COPY maven /maven/
                                                                                                             [INFO] DOCKER>
                                                                                                             [INFO] DOCKER> Step 3/3 : ENTRYPOINT ["java","-jar","/maven/sb-06-spring-dockerization-1.0.1-RELEASE.jar"]
                                                                                                             [INFO] DOCKER>
                                                                                                             [INFO] DOCKER> ---> Running in 50918fb6697e
                                                                                                             [INFO] DOCKER> ---> 5a1c45b3f678
                                                                                                             [INFO] DOCKER> [sb-06-spring-dockerization:latest]: Built image sha256:5a1c4
                                                                                                             [INFO] --- maven-install-plugin:2.5.2:install (default-install) @ sb-06-spring-dockerization ---
                                                                                                             [INFO] Installing <a href="mailto:c:\works\PROJECTS\001_Workspace\intellijidea\SB_004_SpringBootTutorial\repository\spring-boot-with-tech-tutorial\sb-02-spring">c:\works\PROJECTS\001_Workspace\intellijidea\SB_004_SpringBootTutorial\repository\spring-boot-with-tech-tutorial\sb-02-spring">c:\works\PROJECTS\001_Workspace\intellijidea\SB_004_SpringBootTutorial\repository\spring-boot-with-tech-tutorial\sb-02-spring">c:\works\PROJECTS\001_Workspace\intellijidea\SB_004_SpringBootTutorial\repository\spring-boot-with-tech-tutorial\sb-02-spring">c:\works\pringBootTutorial\repository\spring-boot-with-tech-tutorial\sb-02-springBootTutorial\repository\spring-boot-with-tech-tutorial\sb-02-springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTutorial\repository\springBootTu
```



Buradaki image'larda 8-jdk-alpine 145 mb'mış. Bununla birlikte bizim image'ımız 163 mb olmuştur. Aslında bizim jar dosyamız 163-145 = 18 mb'mış.

```
EmreGltkn@DESKTOP-DN9PH1A MINGW64 ~
$ docker-machine env default
export DOCKER_TLS_VERIFY="1"
export DOCKER_HOST="tcp://192.168.99.102:2376"
export DOCKER_CERT_PATH="C:\Users\EmreGltkn\.docker\machine\machines\default"
export DOCKER_MACHINE_NAME="default"
export COMPOSE_CONVERT_WINDOWS_PATHS="true"
# Run this command to configure your shell:
# eval $("C:\Users\EmreGltkn\bin\docker-machine.exe" env default)
EmreGltkn@DESKTOP-DN9PH1A MINGW64 ~
$ eval "$(docker-machine env default)"
EmreGltkn@DESKTOP-DN9PH1A MINGW64 ~
$ docker images
                            TAG
REPOSITORY
                                           IMAGE ID
                                                          CREATED
                                                                           SIZE
sb-06-spring-dockerization
                             latest
                                           5a1c45b3f678
                                                          44 minutes ago
                                                                           163MB
rabbitmq
                             3-management
                                           77d763f31ce4
                                                          4 days ago
                                                                           257MB
adminer
                             latest
                                           6261a306e265
                                                                           90.6MB
                                                          2 weeks ago
elasticsearch
                            8.2.3
                                           59306705ed62 2 weeks ago
                                                                           1.2GB
postgres
                             latest
                                                                           376MB
                                           5b21e2e86aab 4 weeks ago
mongo
                            4.4.6
                                           61ea24dc52c6
                                                         11 months ago
                                                                           423MB
elasticsearch
                             7.4.2
                                           b1179d41a7b4
                                                          2 years ago
                                                                           855MB
java
                            8-jdk-alpine
                                           3fd9dd82815c
                                                          5 years ago
                                                                           145MB
mreGltkn@DESKTOP-DN9PH1A MINGW64 ~
```

Şimdi bu oluşturduğumuz docker image'ımızı çalıştıralım.

```
EmreGltkn@DESKTOP-DN9PH1A MINGW64 ~
$ docker run -p 8080:8080 sb-06-spring-dockerization
```

http://localhost:8080/message



Docker Image'den gönderildi.