

- In order to run the docker, is needed to download docker installer from: [docker.com](https://www.docker.com/products/docker-desktop) (<https://www.docker.com/products/docker-desktop> - in my case windows 10 is the OS)



Project structure for each endpoint changed a bit. Was added Dockerfile file to the Root directory (pom.xml level)


- For the first endpoint we have:

c:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-client-oauth2-app-get*					*
Name	Ext	Size	Date	Attr	
..	<DIR>		03/29/2020 00:49	---	
[src]	<DIR>		03/28/2020 00:09	---	
[target]	<DIR>		03/28/2020 00:09	---	
[.apt_generated]	<DIR>		03/27/2020 22:51	---	
[.apt_generated_tests]	<DIR>		03/27/2020 22:51	---	
[.settings]	<DIR>		03/28/2020 00:09	---	
.classpath		1.8 k	03/27/2020 22:51	-a-	
.factorypath		146 b	03/27/2020 22:52	-a-	
.project		578 b	03/28/2020 00:09	-a-	
Dockerfile		530 b	03/29/2020 00:47	-a-	
pom	xml	1.8 k	03/29/2020 00:49	-a-	

- And for the 2nd:

c:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post*					*
Name	Ext	Size	Date	Attr	
..	<DIR>		03/29/2020 00:17	---	
[src]	<DIR>		03/28/2020 00:10	---	
[target]	<DIR>		03/28/2020 00:10	---	
[.apt_generated]	<DIR>		03/27/2020 22:50	---	
[.apt_generated_tests]	<DIR>		03/27/2020 22:50	---	
[.settings]	<DIR>		03/28/2020 00:10	---	
.classpath		1.8 k	03/27/2020 22:50	-a-	
.factorypath		146 b	03/27/2020 22:52	-a-	
.project		577 b	03/28/2020 00:10	-a-	
Dockerfile		525 b	03/29/2020 00:26	-a-	
pom	xml	2.1 k	03/29/2020 00:17	-a-	

- Dockerfile for client is having the next content:

 Lister - [C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-client-oauth2-app-get\Dockefile]

File Edit Options Help

```
FROM maven:3.6.3-jdk-8 AS build
WORKDIR /usr/src/app
```

```
COPY pom.xml .
RUN mvn dependency:go-offline
```

```
COPY src ./src
```

```
RUN mvn clean package
```

```
FROM openjdk:8-jdk-slim
```

```
# Add a user to run the application so that it doesn't need to run as root
RUN adduser --gecos '' --disabled-password --shell /bin/sh marin
WORKDIR /home/marin
```

```
COPY --from=build /usr/src/app/target/boot-client-0.0.1.war
/home/marin/boot-client.war
```

```
RUN chmod +x /home/marin/boot-client.war
```


```
USER marin
```

```
ENTRYPOINT ["java", "-jar", "boot-client.war"]
```

```
EXPOSE 8090
```

Note: Eclipse with mvn and tomcat 8.5.1 is running perfectly the jar file as a web(jsp page). In case of docker, if we need to run the JSP page, the 'jar' should be replaced with 'war'.

- Now for Server, the next one:

 Lister - [C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post\Dockerrfile]

File Edit Options Help

```
FROM maven:3.6.3-jdk-8 AS build
WORKDIR /usr/src/app
```

```
COPY pom.xml .
RUN mvn dependency:go-offline
```

```
COPY src ./src
```

```
RUN mvn clean package
```

```
FROM openjdk:8-jdk
```

```
# Add a user to run the application so that it doesn't need to run as root
RUN adduser --gecos '' --disabled-password --shell /bin/sh marin
WORKDIR /home/marin
```

```
COPY --from=build /usr/src/app/target/boot-server-0.0.1.jar
/home/marin/boot-server.jar
```

```
RUN chmod +x /home/marin/boot-server.jar
```

```
USER marin
```

```
ENTRYPOINT ["java", "-jar", "boot-server.jar"]
```

```
EXPOSE 8080
```

- In order to build the image next command needs to be run:
➔ `docker build --tag boot-server:1.0 .`

```

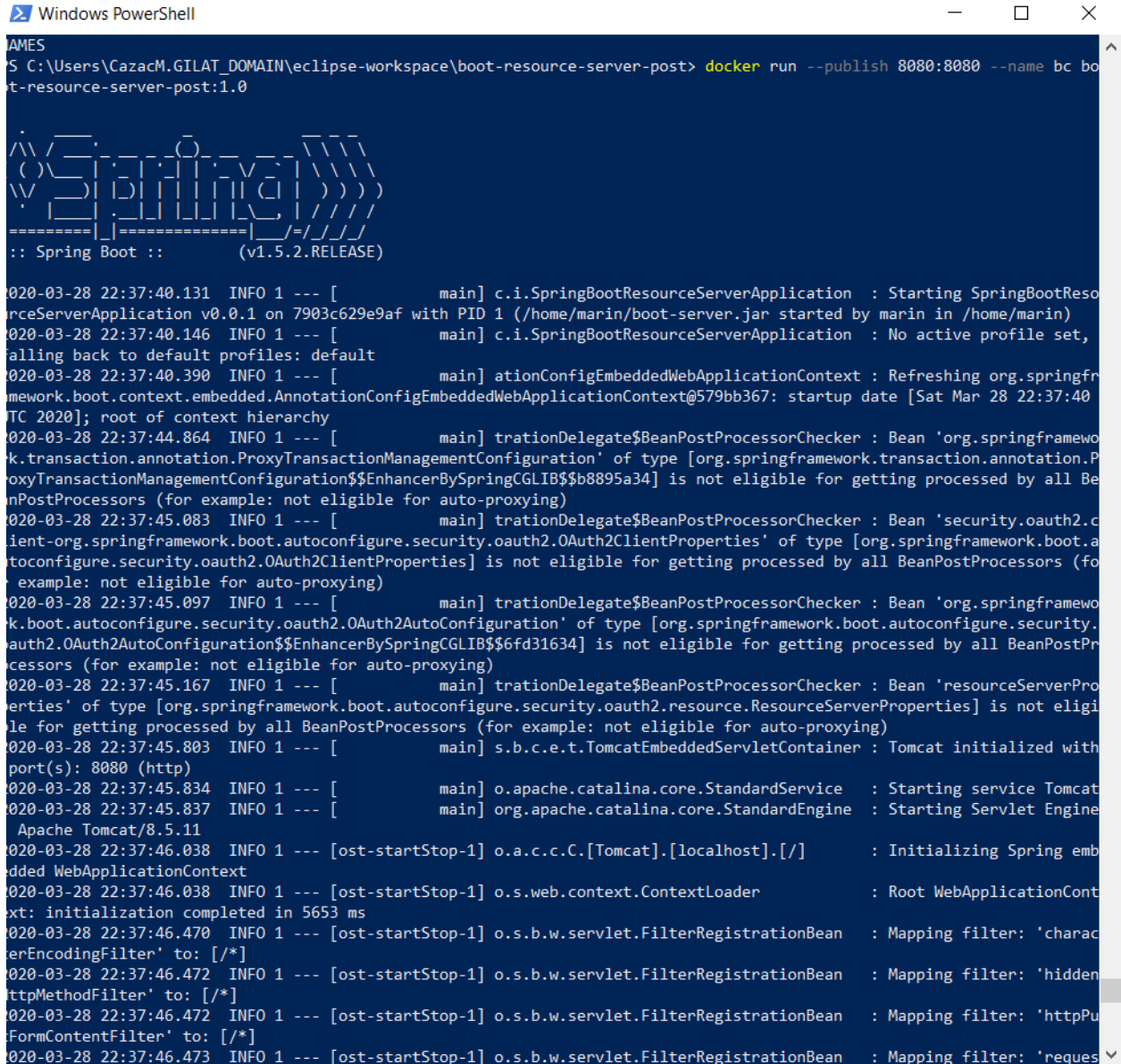
Downloaded from central: https://repo.maven.apache.org/maven2/org/sonatype/sisu/sisu-guice/2.1.7/sisu-guice-2.1.7-noaop.jar (472 kB at 87 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/com/google/guava/guava/18.0/guava-18.0.jar (2.3 MB at 187 kB/s)
[INFO] -----
[INFO] -----
[INFO] Total time: 51.419 s
[INFO] Finished at: 2020-03-28T22:21:58Z
[INFO] -----
Removing intermediate container bfafa1cb0376
--> 1ca8df84683b
--> cdf26cc71b50
Step 8/14 : RUN adduser --gecos '' --disabled-password --shell /bin/sh marin
--> Running in b845cb48c963
Adding user `marin' ...
Adding new group `marin' (1000) ...
Adding new user `marin' (1000) with group `marin' ...
Creating home directory `/home/marin' ...
Copying files from `/etc/skel' ...
Removing intermediate container b845cb48c963
--> fa20363db89f
Step 9/14 : WORKDIR /home/marin
--> Running in 7a2f9d19293f
Removing intermediate container 7a2f9d19293f
--> 6255f419d4a7
Step 10/14 : COPY --from=build /usr/src/app/target/boot-server-0.0.1.jar /home/marin/boot-server.jar
--> 6f867929ea1d
Step 11/14 : RUN chmod +x /home/marin/boot-server.jar
--> Running in e01b1b726642
Removing intermediate container e01b1b726642
--> 73befc60e819
Step 12/14 : USER marinus
--> Running in f2238b2db4a0
Removing intermediate container f2238b2db4a0
--> 04923d3f447e
Step 13/14 : ENTRYPOINT ["java", "-jar", "boot-server.jar"]
--> Running in ea7dd67bfe1f
Removing intermediate container ea7dd67bfe1f
--> 31968a89e1b3
Step 14/14 : EXPOSE 8080
--> Running in 6a701546adc7
Removing intermediate container 6a701546adc7
--> a130a3f24c8f
Successfully built a130a3f24c8f
Successfully tagged boot-client:1.0
SECURITY WARNING: You are building a Docker image from Windows against a non-Windows Docker host. All files and directories added to build context will have '-rwxr-xr-x' permissions. It is recommended to double check and reset permissions for sensitive files and directories.
PS C:\Users\CazacM.GILAT\DOMAIN\eclipse-workspace\boot-resource-server-post> docker ps

```

- In order to build the client image next command needs to be run:
→ `docker build --tag boot-client:1.0 .`

```
Windows PowerShell
jar (472 kB at 124 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/com/google/guava/guava/18.0/guava-18.0.jar (2.3 MB at 269
kB/s)
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 54.875 s
[INFO] Finished at: 2020-03-28T22:54:57Z
Removing intermediate container 9dd03349a178
--> 71d0af2aa24
Step 7/14 : FROM openjdk:8-jdk-slim
8-jdk-slim: Pulling from library/openjdk
68ced04f60ab: Pull complete
4874c5772968: Pull complete
1036c6da18fe: Pull complete
cd812b6e86d2: Pull complete
Digest: sha256:c52cd7830a13725465b546e76e57f07fad56ce27e7b7efdc6a120a84d142a642
Status: Downloaded newer image for openjdk:8-jdk-slim
--> f1f4a3dcefbd
Step 8/14 : RUN adduser --gecos '' --disabled-password --shell /bin/sh marin
--> Running in 252a37b7793d
Adding user `marin' ...
Adding new group `marin' (1000) ...
Adding new user `marin' (1000) with group `marin' ...
Creating home directory `/home/marin' ...
Copying files from `/etc/skel' ...
Removing intermediate container 252a37b7793d
--> 578dae16e058
Step 9/14 : WORKDIR /home/marin
--> Running in 32154deb0da1
Removing intermediate container 32154deb0da1
--> 16b70cc53d7d
Step 10/14 : COPY --from=build /usr/src/app/target/boot-client-0.0.1.war /home/marin/boot-client.war
--> 6937d6344e82
Step 11/14 : RUN chmod +x /home/marin/boot-client.war
--> Running in b59b6f1216b4
Removing intermediate container b59b6f1216b4
--> bc84fe1943c3
Step 12/14 : USER marin
--> Running in 77932470e385
Removing intermediate container 77932470e385
--> 77dd671f9e97
Step 13/14 : ENTRYPOINT ["java", "-jar", "boot-client.war"]
--> Running in e6aa5fa2da74
Removing intermediate container e6aa5fa2da74
--> b943be537134
Step 14/14 : EXPOSE 8090
--> Running in 06fb329fa51c
Removing intermediate container 06fb329fa51c
--> a4b81d7eae28
Successfully built a4b81d7eae28
Successfully tagged boot-client:1.0
SECURITY WARNING: You are building a Docker image from Windows against a non-Windows Docker host. All files and director
ies added to build context will have '-rwxr-xr-x' permissions. It is recommended to double check and reset permissions f
or sensitive files and directories.
```

- In order to run (start) the server image we need to use the next command:
 → `docker run --publish 8080:8080 --name bc boot-resource-server-post:1.0`
 where first 8080 means local PC port and 2nd 8080 means image(container) internal port
 Note. bc is the abbreviation on how we can delete the image. For deleting the image
 command: 'docker rm bc' needs to be used



```

Windows PowerShell
C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post> docker run --publish 8080:8080 --name bc boot-resource-server-post:1.0

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:: Spring Boot :: (v1.5.2.RELEASE)

2020-03-28 22:37:40.131 INFO 1 --- [main] c.i.SpringBootResourceServerApplication : Starting SpringBootResourceServerApplication v0.0.1 on 7903c629e9af with PID 1 (/home/marin/boot-server.jar started by marin in /home/marin)
2020-03-28 22:37:40.146 INFO 1 --- [main] c.i.SpringBootResourceServerApplication : No active profile set, falling back to default profiles: default
2020-03-28 22:37:40.390 INFO 1 --- [main] ationConfigEmbeddedWebApplicationContext : Refreshing org.springframework.boot.context.embedded.AnnotationConfigEmbeddedWebApplicationContext@579bb367: startup date [Sat Mar 28 22:37:40.390 UTC 2020]; root of context hierarchy
2020-03-28 22:37:44.864 INFO 1 --- [main] trationDelegate$BeanPostProcessorChecker : Bean 'org.springframework.transaction.annotation.ProxyTransactionManagementConfiguration' of type [org.springframework.transaction.annotation.ProxyTransactionManagementConfiguration$$EnhancerBySpringCGLIB$$b8895a34] is not eligible for getting processed by all BeanPostProcessors (for example: not eligible for auto-proxying)
2020-03-28 22:37:45.083 INFO 1 --- [main] trationDelegate$BeanPostProcessorChecker : Bean 'security.oauth2.client-org.springframework.boot.autoconfigure.security.oauth2.0Auth2ClientProperties' of type [org.springframework.boot.autoconfigure.security.oauth2.0Auth2ClientProperties] is not eligible for getting processed by all BeanPostProcessors (for example: not eligible for auto-proxying)
2020-03-28 22:37:45.097 INFO 1 --- [main] trationDelegate$BeanPostProcessorChecker : Bean 'org.springframework.boot.autoconfigure.security.oauth2.0Auth2AutoConfiguration' of type [org.springframework.boot.autoconfigure.security.oauth2.0Auth2AutoConfiguration$$EnhancerBySpringCGLIB$$6fd31634] is not eligible for getting processed by all BeanPostProcessors (for example: not eligible for auto-proxying)
2020-03-28 22:37:45.167 INFO 1 --- [main] trationDelegate$BeanPostProcessorChecker : Bean 'resourceServerProperties' of type [org.springframework.boot.autoconfigure.security.oauth2.resource.ResourceServerProperties] is not eligible for getting processed by all BeanPostProcessors (for example: not eligible for auto-proxying)
2020-03-28 22:37:45.803 INFO 1 --- [main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat initialized with port(s): 8080 (http)
2020-03-28 22:37:45.834 INFO 1 --- [main] o.apache.catalina.core.StandardService : Starting service Tomcat
2020-03-28 22:37:45.837 INFO 1 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet Engine: Apache Tomcat/8.5.11
2020-03-28 22:37:46.038 INFO 1 --- [ost-startStop-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2020-03-28 22:37:46.038 INFO 1 --- [ost-startStop-1] o.s.web.context.ContextLoader : Root WebApplicationContext: initialization completed in 5653 ms
2020-03-28 22:37:46.470 INFO 1 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mapping filter: 'characterEncodingFilter' to: [/]
2020-03-28 22:37:46.472 INFO 1 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mapping filter: 'hiddenHttpMethodFilter' to: [/]
2020-03-28 22:37:46.472 INFO 1 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mapping filter: 'httpPutFormContentFilter' to: [/]
2020-03-28 22:37:46.473 INFO 1 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mapping filter: 'request' to: [/]

```

```
➔ docker run --publish 8090:8090 --name bcl boot-client:1.0
```

Same note here. Just in place of 'bc' will be used the 'bcl'

```
Windows PowerShell
```

```
Step 14/14 : EXPOSE 8090
--> Running in 06fb329fa51c
Removing intermediate container 06fb329fa51c
--> a4b81d7eae28
Successfully built a4b81d7eae28
Successfully tagged boot-client:1.0
SECURITY WARNING: You are building a Docker image from Windows against a non-Windows Docker host. All files and directories added to build context will have '-rwxr-xr-x' permissions. It is recommended to double check and reset permissions for sensitive files and directories.
PS C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-client-oauth2-app-get> docker run --publish 8090:8090 --name bcl boot-client:1.0

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:: Spring Boot ::               (v1.5.2.RELEASE)

2020-03-28 22:57:27.717 INFO 1 --- [           main] com.ids.SpringBootApplicationG : Starting SpringBootApplicationG
et v0.0.1 on 0a61599e91fe with PID 1 (/home/marin/boot-client.war started by marin in /home/marin)
2020-03-28 22:57:27.733 INFO 1 --- [           main] com.ids.SpringBootApplicationG : No active profile set,
falling back to default profiles: default
2020-03-28 22:57:27.961 INFO 1 --- [           main] ationConfigEmbeddedWebApplicationContext : Refreshing org.springframework.boot.context.embedded.AnnotationConfigEmbeddedWebApplicationContext@579bb367: startup date [Sat Mar 28 22:57:27 UTC 2020]; root of context hierarchy
2020-03-28 22:57:31.837 INFO 1 --- [           main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat initialized with
port(s): 8090 (http)
2020-03-28 22:57:31.880 INFO 1 --- [           main] o.apache.catalina.core.StandardService : Starting service Tomcat
2020-03-28 22:57:31.884 INFO 1 --- [           main] org.apache.catalina.core.StandardEngine : Starting Servlet Engine
: Apache Tomcat/8.5.11
2020-03-28 22:57:34.486 INFO 1 --- [ost-startStop-1] org.apache.jasper.servlet.TldScanner : At least one JAR was scanned for TLDs yet contained no TLDs. Enable debug logging for this logger for a complete list of JARs that were scanned but no TLDs were found in them. Skipping unneeded JARs during scanning can improve startup time and JSP compilation time.
2020-03-28 22:57:35.391 INFO 1 --- [ost-startStop-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2020-03-28 22:57:35.397 INFO 1 --- [ost-startStop-1] o.s.web.context.ContextLoader : Root WebApplicationContext: initialization completed in 7435 ms
2020-03-28 22:57:35.771 INFO 1 --- [ost-startStop-1] o.s.b.w.servlet.ServletRegistrationBean : Mapping servlet: 'dispatcherServlet' to [/]
2020-03-28 22:57:35.777 INFO 1 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mapping filter: 'characterEncodingFilter' to: [*/*]
2020-03-28 22:57:35.779 INFO 1 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mapping filter: 'hiddenHttpMethodFilter' to: [*/*]
2020-03-28 22:57:35.779 INFO 1 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mapping filter: 'multipartFormContentFilter' to: [*/*]
2020-03-28 22:57:35.780 INFO 1 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mapping filter: 'requestContextFilter' to: [*/*]
2020-03-28 22:57:36.445 INFO 1 --- [           main] s.w.s.m.a.RequestMappingHandlerAdapter : Looking for @ControllerAdvice: org.springframework.boot.context.embedded.AnnotationConfigEmbeddedWebApplicationContext@579bb367: startup date [Sat Mar 28 22:57:27 UTC 2020]; root of context hierarchy
2020-03-28 22:57:36.579 INFO 1 --- [           main] s.w.s.m.a.RequestMappingHandlerMapping : Mapped "{[/showEmployeeSlMethods=IGET]]": onto public org.springframework.web.servlet.ModelAndView com.ids.controllers.EmployeeController.showF
```

```
000) with group marin' ...
/home/marin' ...
skel' ...
tainer b845cb48c963

/marin
293f
tainer 7a2f9d19293f

build /usr/src/app/target/bo
/home/marin/boot-server.jar
5642
tainer e01b1b726642

b4a0
tainer f2238b2db4a0

"java", "-jar", "boot-server
fe1f
tainer ea7dd67bfe1f

adc7
tainer 6a701546adc7

f24c8f
client:1.0
building a Docker image for
```



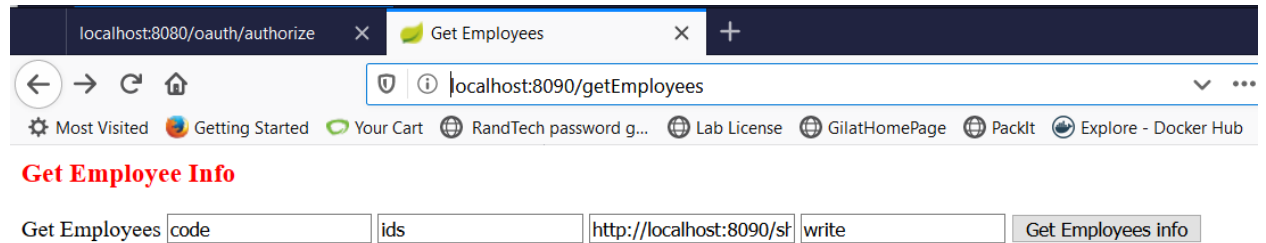
```
PS C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post> docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
0a61599e91fe	boot-client:1.0	"java -jar boot-clie..."	2 hours ago	Up 2 hours	0.0.0.0:8090->8090/tcp
7903c629e9af	boot-resource-server-post:1.0	"java -jar boot-serv..."	2 hours ago	Up 2 hours	0.0.0.0:8080->8080/tcp

```
PS C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post>
```


From here, are starting all the steps like in the simple development:

Starting client application, then with 1st connect to it(GET):



localhost:8080/oauth/authorize × Get Employees × +

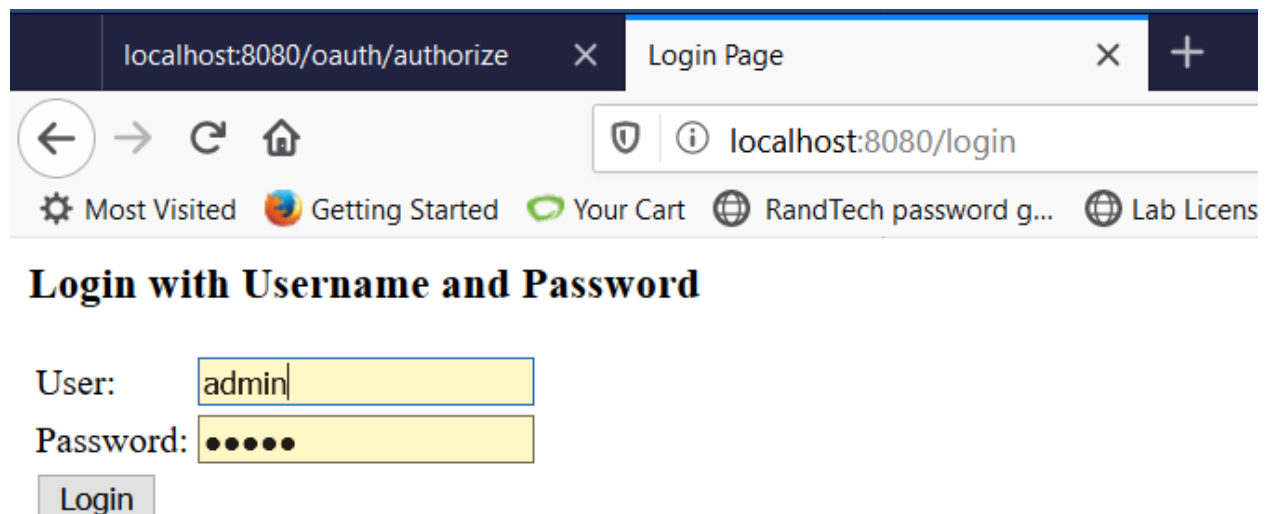
localhost:8090/getEmployees

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Get Employee Info

Get Employees Get Employees info

Press on “Get Employees info” button



localhost:8080/oauth/authorize × Login Page × +

localhost:8080/login

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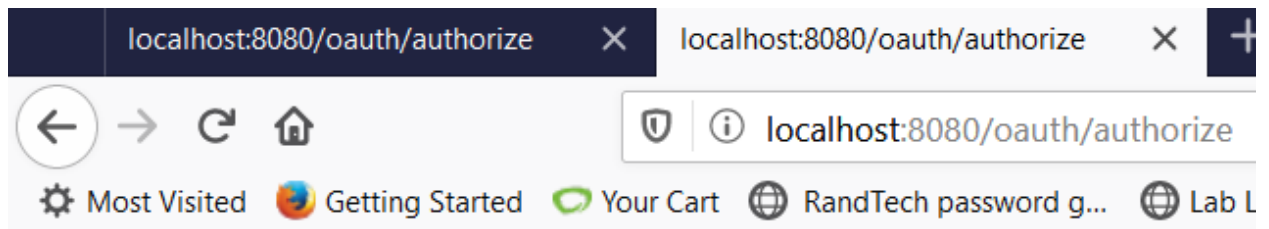
Login with Username and Password

User:

Password:

Login

Enter username ‘admin’ with password ‘admin’ and press Login
In the page bellow, check the Approve radio button



OAuth Approval

Do you authorize 'ids' to access your protected resources?

- scope.write: ☒ Approve ☐ Deny

Authorize

...

Docker stop <container name> - is stopping the docker. In this way we may see that the ports are not more used.

```
PS C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post> docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
TS
0a61599e91fe        boot-client:1.0    "java -jar boot-clie..." 2 hours ago         Up 2 hours          0.0.0.0:8090->8090/tcp
7903c629e9af        boot-resource-server-post:1.0 "java -jar boot-serv..." 2 hours ago         Up 2 hours          0.0.0.0:8080->8080/tcp
PS C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post> docker stop bc
bc
PS C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post> docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
0a61599e91fe        boot-client:1.0    "java -jar boot-clie..." 2 hours ago         Up 2 hours          0.0.0.0:8090->8090/tcp
7903c629e9af        boot-resource-server-post:1.0 "java -jar boot-serv..." 2 hours ago         Exited (143) 8 seconds ago
PS C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post> docker stop bcl
bcl
PS C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post> docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
0a61599e91fe        boot-client:1.0    "java -jar boot-clie..." 2 hours ago         Exited (143) 8 seconds ago
7903c629e9af        boot-resource-server-post:1.0 "java -jar boot-serv..." 2 hours ago         Exited (143) 27 seconds ago
PS C:\Users\CazacM.GILAT_DOMAIN\eclipse-workspace\boot-resource-server-post>
```

Note! One very important point is that pom.xml files have been modified as well. 1 very important note is in order to support JSP, as already was written, we need to change in place on JAR, to put WAR.