

Usage of AWS – ECR (Elastic Container Registry) and deploy a Docker Image – Hands-on guide.

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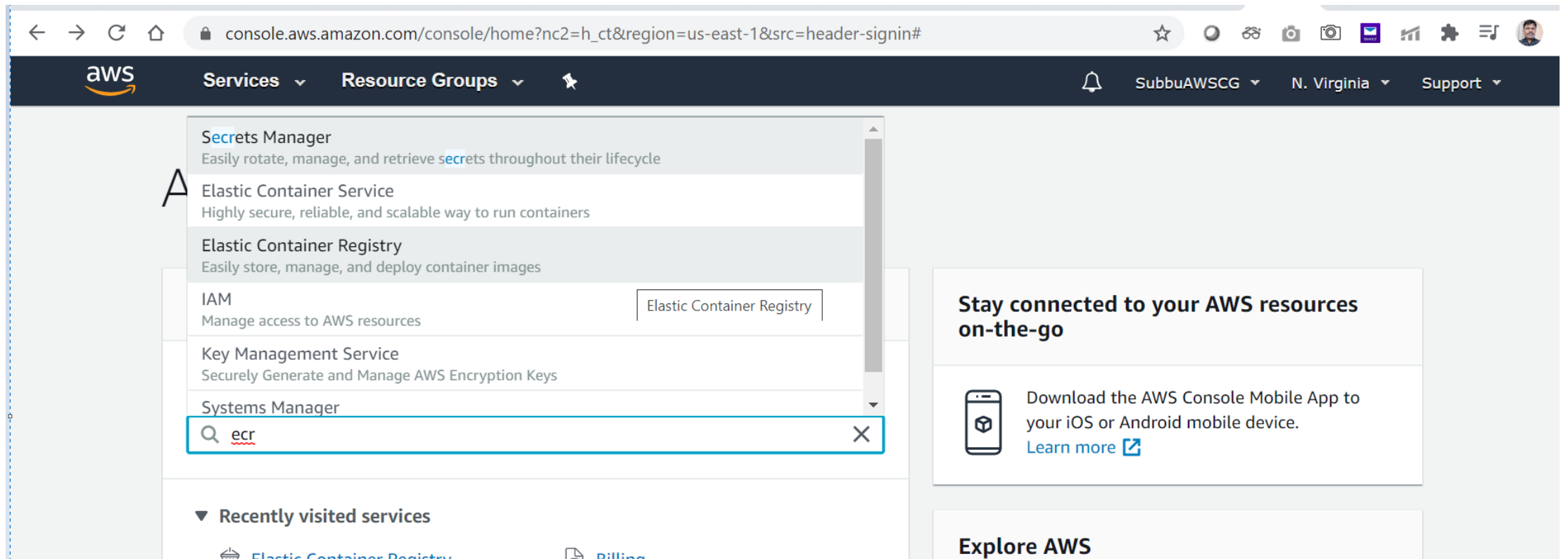
Pre-requisites:

1. Docker Desktop installed, on your local system.
2. A working, Java Microservices project on your local system, with the Dockerfile setup. Create a local Docker Image using a Dockerfile. The same Docker image can be used for tagging, pushing and testing on ECR.
3. For detailed hands-on guide including the steps, screenshots and code base for the above points 2 and 3, please refer to my below URL's.
 - <https://github.com/subbugh/java-microservices-springboot-docker-dockerhub>
 - <https://github.com/subbugh/java-microservices-springboot-docker>
 - <https://github.com/subbugh/java-microservices-springboot>

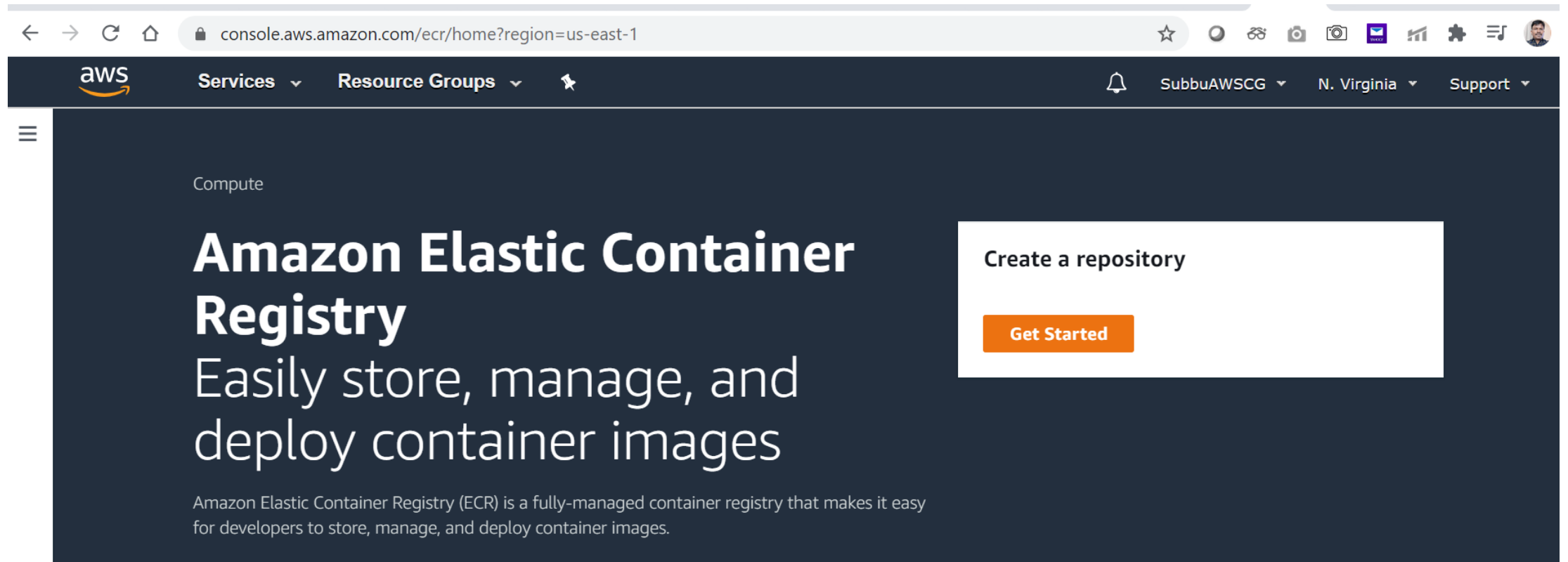
Steps: This document is to guide you to push an image to AWS-ECR and deploy the same.

1. Log into AWS Console.
2. Create ECR Repository.
3. A local Java Microservices application and Docker setup on your desktop. (Refer to Slide number 2)
4. Create a local Docker image, using a Dockerfile. . (Refer to Slide number 2)
5. Log into AWS – ECR, through a terminal.
6. Tag the local docker image, to push to the ECR.
7. Push the tagged docker image into the ECR Repository.
8. Run the pushed image and test it on the Browser, for the expected results.

Log into AWS Console and go to ECR:



Get started with ECR:



The screenshot shows the AWS Elastic Container Registry (ECR) console interface. At the top, the browser address bar displays the URL `console.aws.amazon.com/ecr/home?region=us-east-1`. The AWS navigation bar includes the AWS logo, 'Services' and 'Resource Groups' dropdown menus, a notification bell, the user name 'SubbuAWSCG', the region 'N. Virginia', and a 'Support' dropdown. On the left, a hamburger menu icon is visible. The main content area has a dark blue background. It features the heading 'Compute' in a small font, followed by the large title 'Amazon Elastic Container Registry' and the subtitle 'Easily store, manage, and deploy container images'. Below this, a descriptive paragraph states: 'Amazon Elastic Container Registry (ECR) is a fully-managed container registry that makes it easy for developers to store, manage, and deploy container images.' To the right of this text is a white rectangular box with the heading 'Create a repository' and an orange 'Get Started' button.

Compute

Amazon Elastic Container Registry

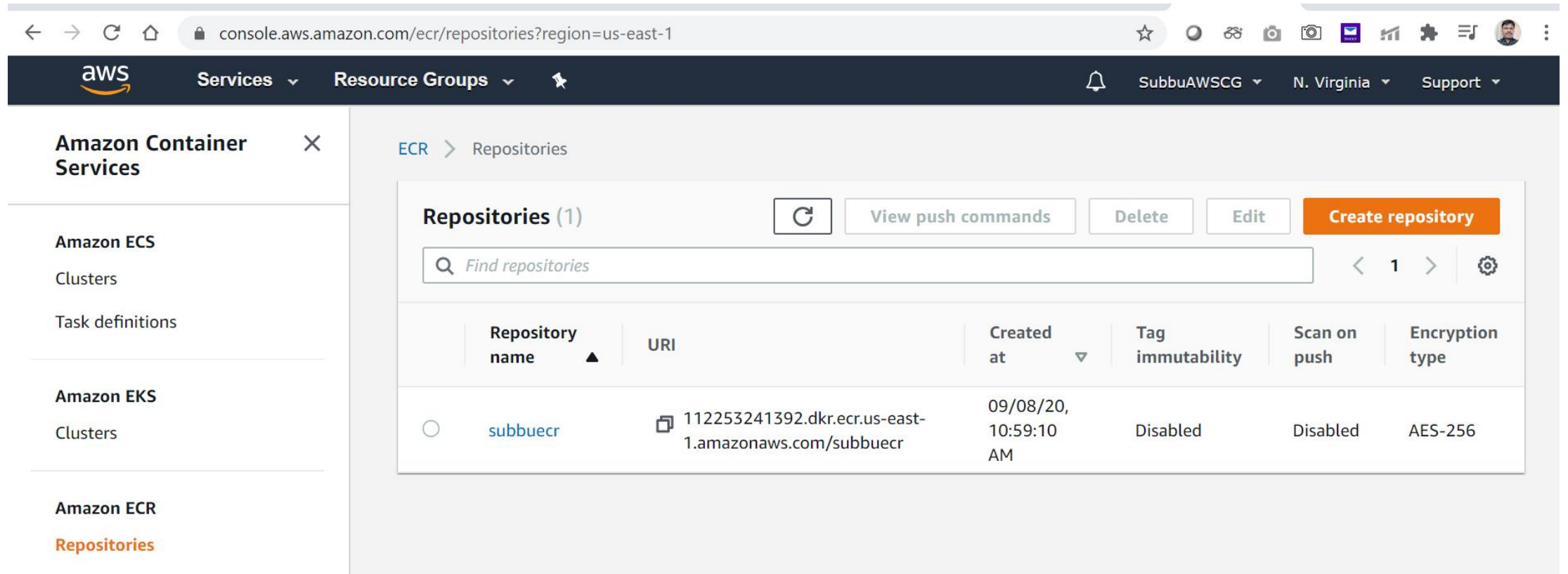
Easily store, manage, and deploy container images

Amazon Elastic Container Registry (ECR) is a fully-managed container registry that makes it easy for developers to store, manage, and deploy container images.

Create a repository

[Get Started](#)

Click on Create Repository:



The screenshot shows the AWS Management Console interface for Amazon ECR Repositories. The left sidebar lists services under 'Amazon Container Services', including Amazon ECS, Amazon EKS, and Amazon ECR. The 'Repositories' link under Amazon ECR is highlighted in orange. The main content area shows the 'Repositories (1)' page with a search bar, a table of existing repositories, and a prominent orange 'Create repository' button.

Repositories (1)

Find repositories

	Repository name ▲	URI	Created at ▼	Tag immutability	Scan on push	Encryption type
<input type="radio"/>	subbuecr	112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr	09/08/20, 10:59:10 AM	Disabled	Disabled	AES-256

Buttons: View push commands, Delete, Edit, Create repository

Type in the name for the Repository:

console.aws.amazon.com/ecr/create-repository?region=us-east-1

aws Services Resource Groups

SubbuAWSCG N. Virginia Support

ECR > Repositories > Create repository

Create repository

Repository access and tags

Repository name

112253241392.dkr.ecr.us-east-1.amazonaws.com/ subbuecr

A namespace can be included with your repository name (e.g. namespace/repo-name).

Tag immutability

Enable tag immutability to prevent image tags from being overwritten by subsequent image pushes using the same tag. Disable tag immutability to allow image tags to be overwritten.

☐ Disabled

Image scan settings

ECR Repository is created successfully:

The screenshot displays the AWS Management Console interface. At the top, a green banner indicates 'Successfully created repository subbuecr' with a 'View push commands' button. The left sidebar shows the navigation menu with 'Amazon ECR' and 'Repositories' selected. The main content area shows the 'Repositories (1)' section with a search bar and a table listing the repository 'subbuecr'.

ECR > Repositories

Repositories (1) [Refresh] [View push commands] [Delete] [Edit] [Create repository]

Find repositories

	Repository name ▲	URI	Created at ▼	Tag immutability	Scan on push	Encryption type
<input type="radio"/>	subbuecr	112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr	09/08/20, 10:59:10 AM	Disabled	Disabled	AES-256

Click on View Push Commands:

aws Services Resource Groups SubbuAWSCG N. Virginia Support

Amazon Container Services

Amazon ECS
Clusters
Task definitions

Amazon EKS
Clusters

Amazon ECR
Repositories

Push commands for subbuecr

macOS / Linux Windows

Make sure that you have the latest version of the AWS Tools for PowerShell and Docker installed. For more information, see [Getting Started with Amazon ECR](#).

Use the following steps to authenticate and push an image to your repository. For additional registry authentication methods, including the Amazon ECR credential helper, see [Registry Authentication](#).

1. Retrieve an authentication token and authenticate your Docker client to your registry.
Use AWS Tools for PowerShell:

```
(Get-ECRLoginCommand).Password | docker login --username AWS --password-stdin 112253241392.dkr.ecr.us-east-1.amazonaws.com
```
2. Build your Docker image using the following command. For information on building a Docker file from scratch see the instructions [here](#). You can skip this step if your image is already built:

```
docker build -t subbuecr .
```
3. After the build completes, tag your image so you can push the image to this repository:

```
docker tag subbuecr:latest 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
```
4. Run the following command to push this image to your newly created AWS repository:

```
docker push 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
```

Close

View push commands

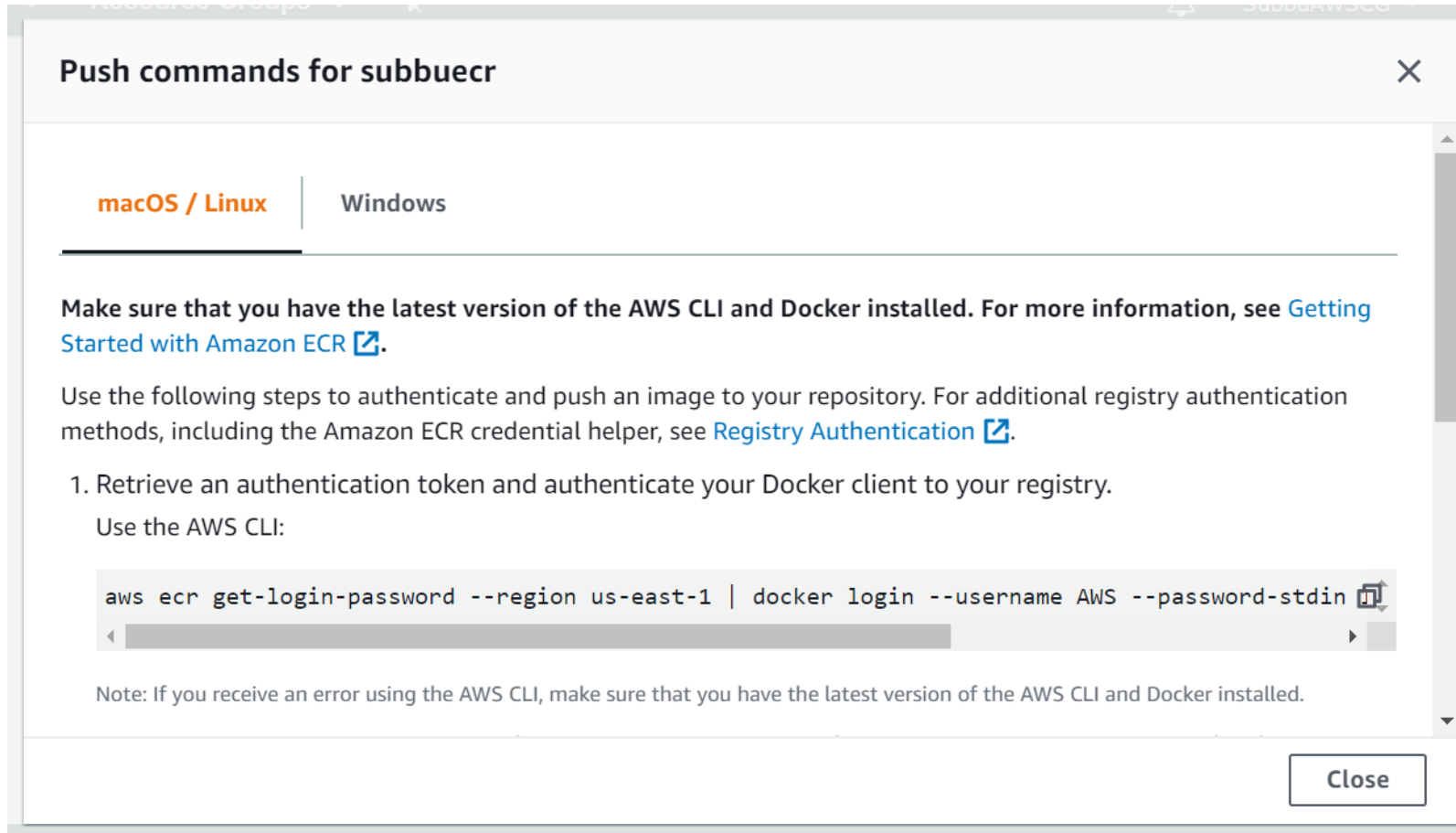
Create repository

Scan on push Encryption type

Disabled AES-256

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Commands to Login:



The screenshot shows a modal dialog box titled "Push commands for subbuecr" with a close button (X) in the top right corner. Below the title bar, there are two tabs: "macOS / Linux" (which is selected and highlighted with an orange underline) and "Windows". The main content area contains the following text:

Make sure that you have the latest version of the AWS CLI and Docker installed. For more information, see [Getting Started with Amazon ECR](#).

Use the following steps to authenticate and push an image to your repository. For additional registry authentication methods, including the Amazon ECR credential helper, see [Registry Authentication](#).

1. Retrieve an authentication token and authenticate your Docker client to your registry.

Use the AWS CLI:

```
aws ecr get-login-password --region us-east-1 | docker login --username AWS --password-stdin
```

Below the code block is a horizontal scrollbar. At the bottom of the dialog, there is a note: "Note: If you receive an error using the AWS CLI, make sure that you have the latest version of the AWS CLI and Docker installed." and a "Close" button in the bottom right corner.

Commands to build the image, from the local jar “”. Also has the commands to tag the image and push into ECR – AWS.

Push commands for subbuecr

2. Build your Docker image using the following command. For information on building a Docker file from scratch see the instructions [here](#). You can skip this step if your image is already built:

```
docker build -t subbuecr .
```

3. After the build completes, tag your image so you can push the image to this repository:

```
docker tag subbuecr:latest 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
```

4. Run the following command to push this image to your newly created AWS repository:

```
docker push 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
```

Close

Commands used on the PowerShell:

Login to the ECR-AWS:

```
aws ecr get-login-password --region us-east-1 | docker login --username AWS --password-stdin 112253241392.dkr.ecr.us-east-1.amazonaws.com
```

Build your Docker image using the following command:

```
docker build -t subbuecr .
```

Tag your image so you can push the image to this repository:

```
docker tag subbuecr:latest 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
```

Run the following command to push this image to your newly created AWS repository:

```
docker push 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
```

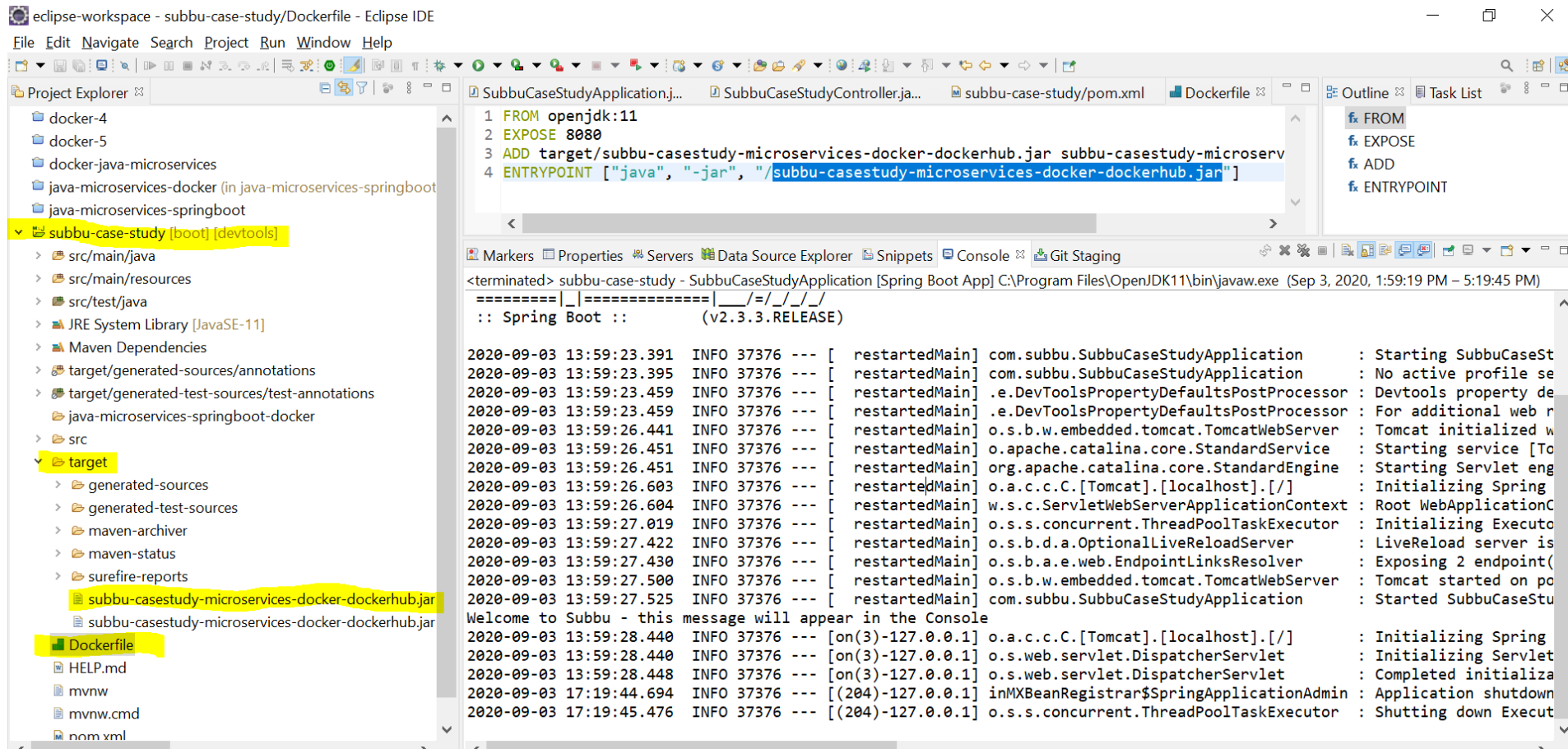
Run the Image:

```
docker run -p 9094:8080 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
```

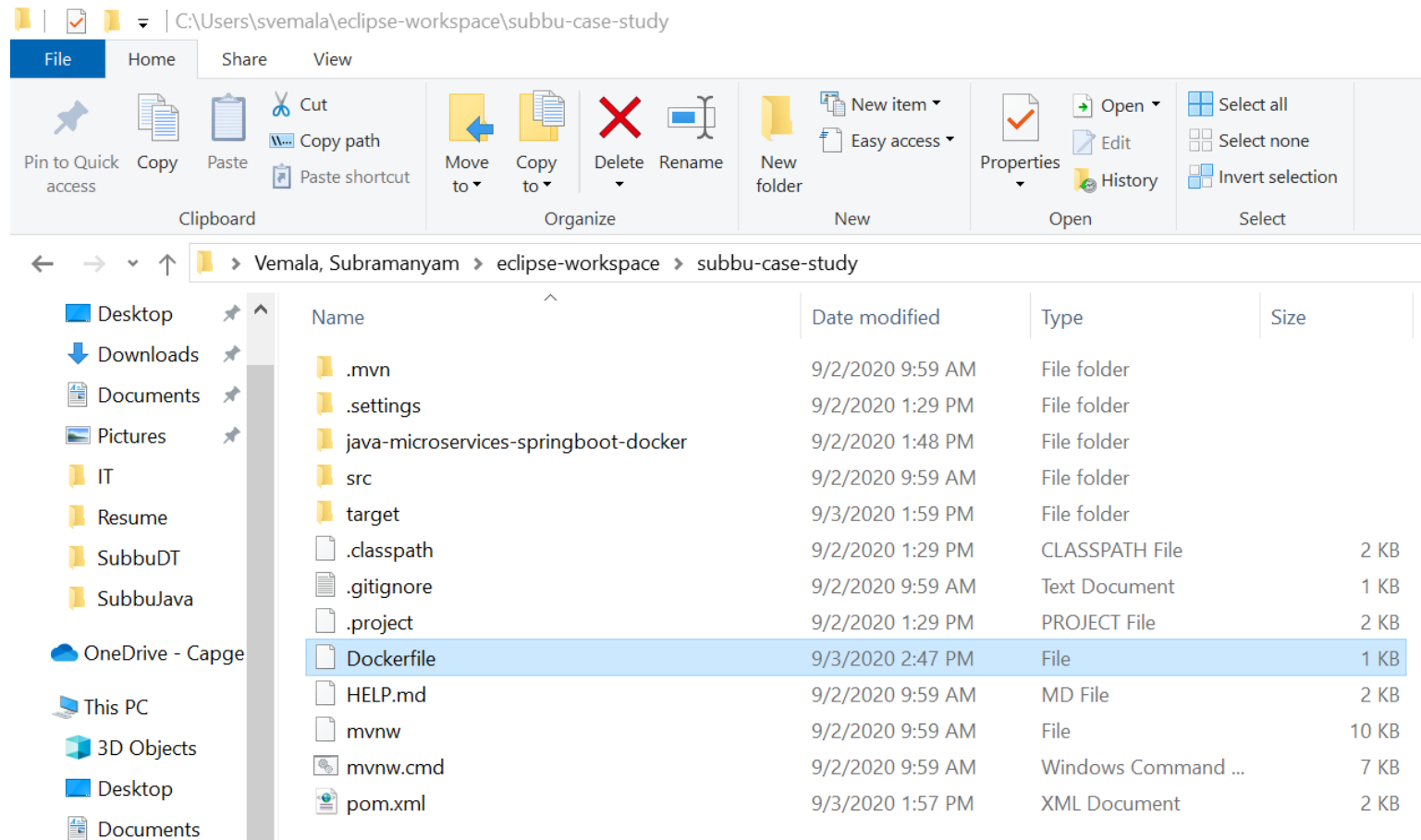
Test the Deployment on the Browser:

```
https://localhost:9094/message
```

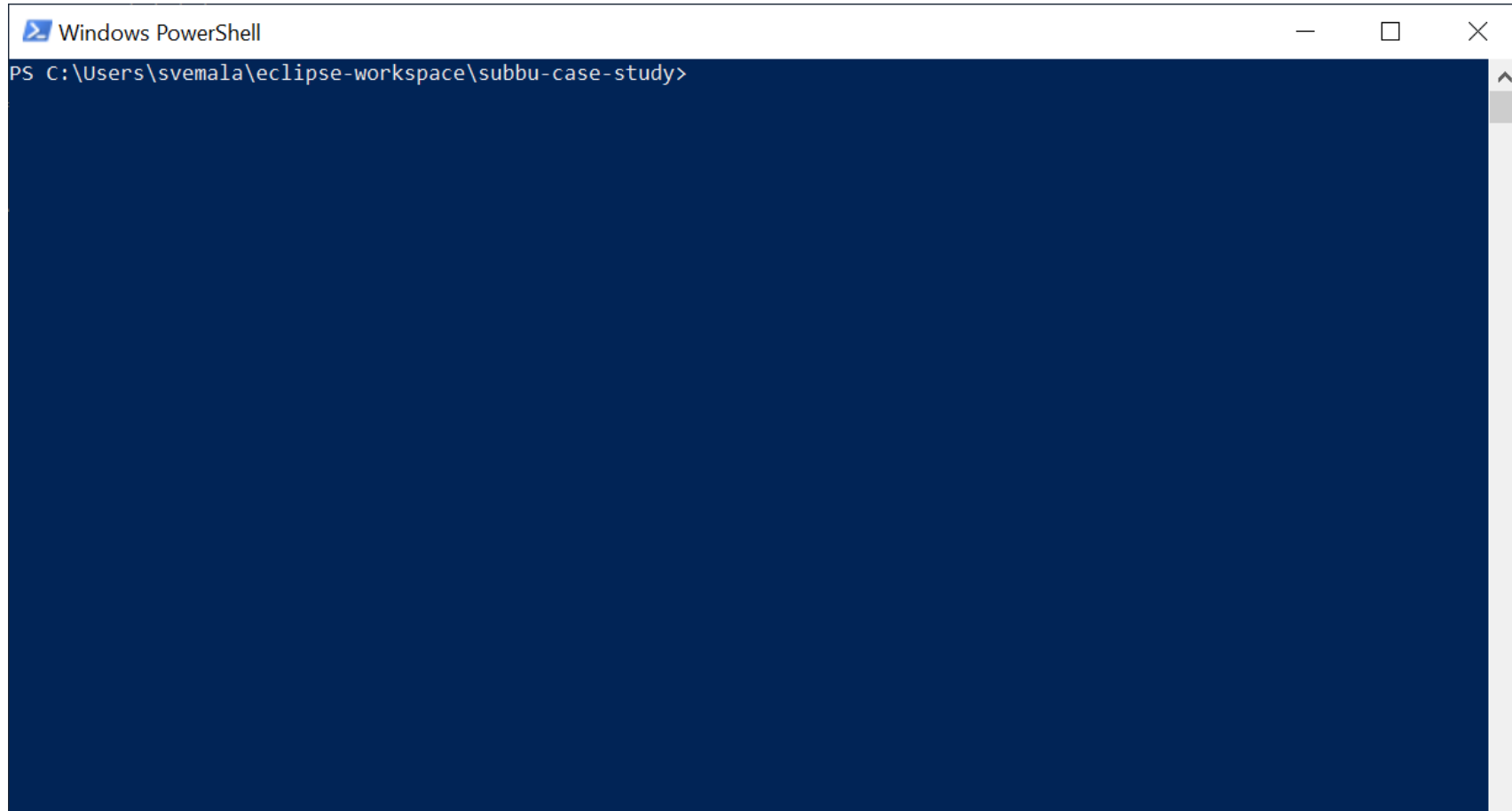
A Demo Java Microservices project on the Eclipse, to enable our Docker and AWS-ECR:



C:\Users\svemala\eclipse-workspace\subbu-case-study



Power Shell – Change the path to the location of Dockerfile:



Log into AWS – ECR:

```
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> aws ecr get-login-password --region us-east-1 | docker login --username AWS --password-stdin 112253241392.dkr.ecr.us-east-1.amazonaws.com
Login Succeeded
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
subbudockerhub/subbu-casestudy-microservices-docker-dockerhub.jar	latest	ca813a46d63d	5 days ago	646MB
subbu-casestudy-microservices-docker.jar	latest	e7554d59f74b	6 days ago	646MB
<none>	<none>	54538fc8948d	6 days ago	646MB
microservicesdockerjar3.jar	latest	2eb634581cbb	7 days ago	636MB
<none>	<none>	e41c35024224	7 days ago	636MB
<none>	<none>	bfc7ead597e5	7 days ago	636MB
openjdk	11	455ecea6f4f2	7 days ago	627MB
docker/desktop-storage-provisioner	v1.1	e704287ce753	5 months ago	41.8MB
docker/desktop-vpnkit-controller	v1.0	79da37e5a3aa	6 months ago	36.6MB
docker/desktop-kubernetes	kubernetes-v1.16.5-cni-v0.7.5-critools-v1.15.0	a86647f0b376	7 months ago	279MB
k8s.gcr.io/kube-apiserver	v1.16.5	fc838b21afbb	7 months ago	159MB
k8s.gcr.io/kube-proxy	v1.16.5	0ee1b8a3ebe0	7 months ago	82.7MB
k8s.gcr.io/kube-scheduler	v1.16.5	b4d073a9efda	7 months ago	83.5MB
k8s.gcr.io/kube-controller-manager	v1.16.5	441835dd2301	7 months ago	151MB
docker/kube-compose-controller	v0.4.25-alpha1	129151cdf35f	10 months ago	35.6MB
docker/kube-compose-api-server	v0.4.25-alpha1	989749268895	10 months ago	50.7MB
docker/kube-compose-installer	v0.4.25-alpha1	2a71ac5a1359	10 months ago	42.3MB
k8s.gcr.io/etcd	3.3.15-0	b2756210eeab	12 months ago	247MB
k8s.gcr.io/kube-proxy	v1.14.6	ed8adf767eeb	12 months ago	82.1MB
k8s.gcr.io/kube-apiserver	v1.14.6	0e422c9884cf	12 months ago	209MB
k8s.gcr.io/kube-controller-manager	v1.14.6	4bb274b1f2c3	12 months ago	157MB
k8s.gcr.io/kube-scheduler	v1.14.6	d27987bc993e	12 months ago	81.6MB
k8s.gcr.io/coredns	1.6.2	bf261d157914	13 months ago	44.1MB
docker/kube-compose-controller	v0.4.23	a8c3d87a58e7	15 months ago	35.3MB
docker/kube-compose-api-server	v0.4.23	f3591b2cb223	15 months ago	49.9MB
k8s.gcr.io/coredns	1.3.1	eb516548c180	20 months ago	40.3MB
k8s.gcr.io/etcd	3.3.10	2c4adeb21b4f	21 months ago	258MB
k8s.gcr.io/pause	3.1	da86e6ba6ca1	2 years ago	742kB

```
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker tag subbu-casestudy-microservices-docker-dockerhub.jar:latest 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbu-casestudy-mic
```


Build command to create repository:

```
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker build -t subbuecr .
Sending build context to Docker daemon 28.15MB
Step 1/4 : FROM openjdk:11
--> 455ecea6f4f2
Step 2/4 : EXPOSE 8080
--> Using cache
--> 6ede0b7d669c
Step 3/4 : ADD target/subbu-casestudy-microservices-docker-dockerhub.jar subbu-casestudy-microservices-docker-dockerhub.jar
--> Using cache
--> c8f0306d960e
Step 4/4 : ENTRYPOINT ["java", "-jar", "/subbu-casestudy-microservices-docker-dockerhub.jar"]
--> Using cache
--> ca813a46d63d
Successfully built ca813a46d63d
Successfully tagged subbuecr:latest
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.
```

New repository created: subbuecr

```
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker images
REPOSITORY                                TAG                                IMAGE ID                                CREATED                                SIZE
112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecrdockerimage    latest                            ca813a46d63d                           5 days ago                            646MB
subbuecr                                latest                            ca813a46d63d                           5 days ago                            646MB
subbuecrdockerimage                    latest                            ca813a46d63d                           5 days ago                            646MB
subbudockerhub/subbu-casestudy-microservices-docker-dockerhub.jar    latest                            ca813a46d63d                           5 days ago                            646MB
subbu-casestudy-microservices-docker.jar    latest                            e7554d59f74b                           6 days ago                            646MB
<none>                                <none>                            54538fc8948d                           6 days ago                            646MB
microservicesdockerjar3.jar            latest                            2eb634581cbb                           7 days ago                            636MB
<none>                                <none>                            e41c35024224                           7 days ago                            636MB
<none>                                <none>                            bfc7ead597e5                           7 days ago                            636MB
openjdk                                11                               455ecea6f4f2                           7 days ago                            627MB
docker/desktop-storage-provisioner      v1.1                             e704287ce753                           5 months ago                          41.8MB
docker/desktop-vpnkit-controller         v1.0                             79da37e5a3aa                           6 months ago                          36.6MB
docker/desktop-kubernetes                kubernetes-v1.16.5-cni-v0.7.5-critools-v1.15.0 a86647f0b376                           7 months ago                          279MB
k8s.gcr.io/kube-scheduler                v1.16.5                          b4d073a9efda                           7 months ago                          83.5MB
k8s.gcr.io/kube-proxy                    v1.16.5                          0ee1b8a3ebe0                           7 months ago                          82.7MB
k8s.gcr.io/kube-apiserver                v1.16.5                          fc838b21afbb                           7 months ago                          159MB
k8s.gcr.io/kube-controller-manager       v1.16.5                          441835dd2301                           7 months ago                          151MB
docker/kube-compose-controller            v0.4.25-alpha1                   129151cdf35f                           10 months ago                         35.6MB
docker/kube-compose-api-server            v0.4.25-alpha1                   989749268895                           10 months ago                         50.7MB
docker/kube-compose-installer             v0.4.25-alpha1                   2a71ac5a1359                           10 months ago                         42.3MB
k8s.gcr.io/etcd                          3.3.15-0                         b2756210eeab                           12 months ago                         247MB
k8s.gcr.io/kube-proxy                    v1.14.6                          ed8adf767eeb                           12 months ago                         82.1MB
k8s.gcr.io/kube-apiserver                v1.14.6                          0e422c9884cf                           12 months ago                         209MB
k8s.gcr.io/kube-scheduler                v1.14.6                          d27987bc993e                           12 months ago                         81.6MB
k8s.gcr.io/kube-controller-manager       v1.14.6                          4bb274b1f2c3                           12 months ago                         157MB
k8s.gcr.io/coredns                       1.6.2                             bf261d157914                           13 months ago                         44.1MB
docker/kube-compose-controller            v0.4.23                          a8c3d87a58e7                           15 months ago                         35.3MB
docker/kube-compose-api-server            v0.4.23                          f3591b2cb223                           15 months ago                         49.9MB
k8s.gcr.io/coredns                       1.3.1                             eb516548c180                           20 months ago                         40.3MB
k8s.gcr.io/etcd                          3.3.10                           2c4adeb21b4f                           21 months ago                         258MB
k8s.gcr.io/pause                         3.1                               da86e6ba6ca1                           2 years ago                           742kB
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker push 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecrdockerimage
```

Tag the repository: docker tag subbuecr:latest
112253241392.dkr.ecr.us-east-
1.amazonaws.com/subbuecr:latest

```
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker tag subbuecr:latest 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker images
```

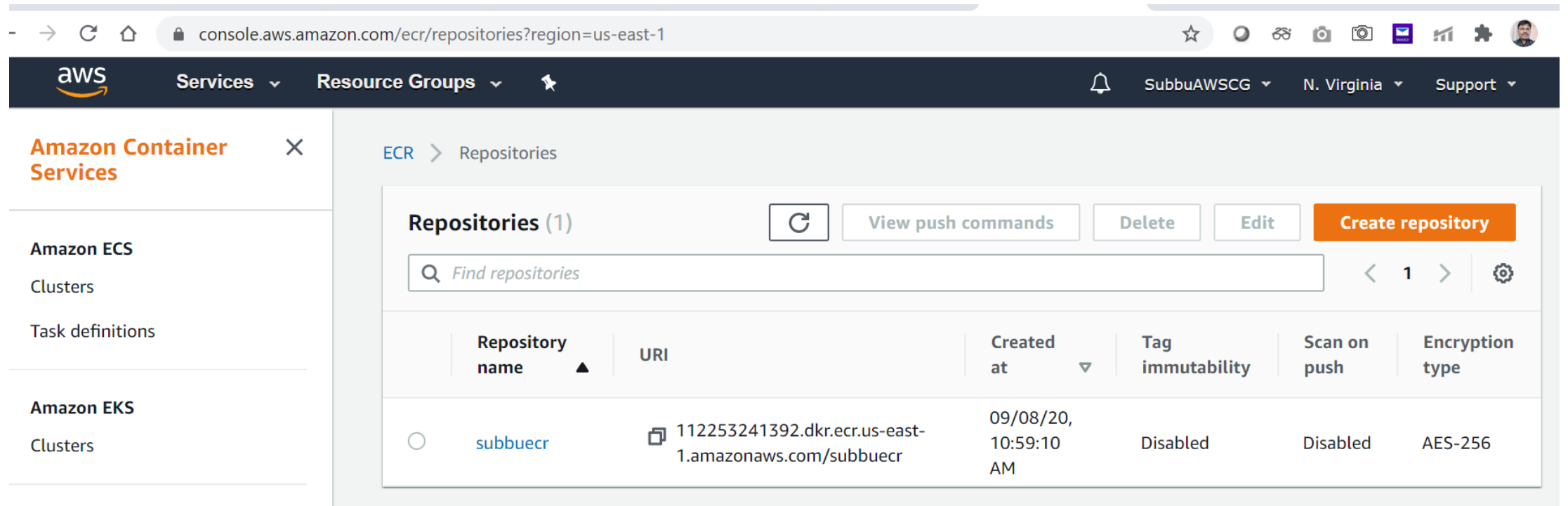
REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecrdockerimage	latest	ca813a46d63d	5 days ago	646MB
subbuecr	latest	ca813a46d63d	5 days ago	646MB
subbuecrdockerimage	latest	ca813a46d63d	5 days ago	646MB
subbudockerhub/subbu-casestudy-microservices-docker-dockerhub.jar	latest	ca813a46d63d	5 days ago	646MB
112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr	latest	ca813a46d63d	5 days ago	646MB
subbu-casestudy-microservices-docker.jar	latest	e7554d59f74b	6 days ago	646MB
<none>	<none>	54538fc8948d	6 days ago	646MB
microservicesdockerjar3.jar	latest	2eb634581cbb	7 days ago	636MB
<none>	<none>	e41c35024224	7 days ago	636MB
<none>	<none>	bfc7ead597e5	7 days ago	636MB
openjdk	11	455ecea6f4f2	7 days ago	627MB
docker/desktop-storage-provisioner	v1.1	e704287ce753	5 months ago	41.8MB
docker/desktop-vpnkit-controller	v1.0	79da37e5a3aa	6 months ago	36.6MB
docker/desktop-kubernetes	kubernetes-v1.16.5-cni-v0.7.5-critools-v1.15.0	a86647f0b376	7 months ago	279MB
k8s.gcr.io/kube-apiserver	v1.16.5	fc838b21afbb	7 months ago	159MB
k8s.gcr.io/kube-controller-manager	v1.16.5	441835dd2301	7 months ago	151MB
k8s.gcr.io/kube-scheduler	v1.16.5	b4d073a9efda	7 months ago	83.5MB
k8s.gcr.io/kube-proxy	v1.16.5	0ee1b8a3ebe0	7 months ago	82.7MB
docker/kube-compose-controller	v0.4.25-alpha1	129151cdf35f	10 months ago	35.6MB
docker/kube-compose-api-server	v0.4.25-alpha1	989749268895	10 months ago	50.7MB
docker/kube-compose-installer	v0.4.25-alpha1	2a71ac5a1359	10 months ago	42.3MB
k8s.gcr.io/etcd	3.3.15-0	b2756210eeab	12 months ago	247MB
k8s.gcr.io/kube-proxy	v1.14.6	ed8adf767eeb	12 months ago	82.1MB
k8s.gcr.io/kube-apiserver	v1.14.6	0e422c9884cf	12 months ago	209MB
k8s.gcr.io/kube-scheduler	v1.14.6	d27987bc993e	12 months ago	81.6MB
k8s.gcr.io/kube-controller-manager	v1.14.6	4bb274b1f2c3	12 months ago	157MB
k8s.gcr.io/coredns	1.6.2	bf261d157914	13 months ago	44.1MB
docker/kube-compose-controller	v0.4.23	a8c3d87a58e7	15 months ago	35.3MB
docker/kube-compose-api-server	v0.4.23	f3591b2cb223	15 months ago	49.9MB
k8s.gcr.io/coredns	1.3.1	eb516548c180	20 months ago	40.3MB
k8s.gcr.io/etcd	3.3.10	2c4adeb21b4f	21 months ago	258MB
k8s.gcr.io/pause	3.1	da86e6ba6ca1	2 years ago	742kB

```
PS C:\Users\svemala\eclipse-workspace\subbu-case-study>
```

Push the Docker Image, that we have tagged: “docker push 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest”, is the command.

```
k8s.gcr.io/pause 3.1 da80e0ba0ca1
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker push 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
The push refers to repository [112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr]
e87e5457167a: Pushed
beec189e63c5: Pushed
03ae48cd6c8d: Pushed
de9aadc6b492: Pushed
e5df62d9b33a: Pushed
7a9460d53218: Pushed
b2765ac0333a: Pushed
0ced13fcf944: Pushed
latest: digest: sha256:a96fc0c8a1cc09a7391e0e659e062cf64dec43a45fa94b4ea9a64c5412862da5 size: 2006
PS C:\Users\svemala\eclipse-workspace\subbu-case-study>
```

AWS – ECR – Repository: “subbuecr”, is the name.



The screenshot shows the AWS Management Console interface for the Amazon Elastic Container Registry (ECR) service. The browser address bar indicates the URL: `console.aws.amazon.com/ecr/repositories?region=us-east-1`. The console header includes the AWS logo, navigation links for Services and Resource Groups, and user information for SubbuAWSCG in the N. Virginia region.

The left sidebar shows the navigation menu with categories like Amazon Container Services, Amazon ECS, and Amazon EKS. The main content area displays the ECR Repositories page, showing a list of repositories. A search bar is present, and a table lists the repository details.

	Repository name ▲	URI	Created at ▼	Tag immutability	Scan on push	Encryption type
<input type="radio"/>	subbuecr	112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr	09/08/20, 10:59:10 AM	Disabled	Disabled	AES-256

Image pushed to the Repository subbuecr: Image URI is reflecting.

← → ↻ 🏠 console.aws.amazon.com/ecr/repositories/subbuecr/?region=us-east-1 ☆ 🔍 📷 📷 📧 📶 ⚙️ 👤

aws Services ▾ Resource Groups ▾ 📌

🔔 SubbuAWSCG ▾ N. Virginia ▾ Support ▾

Amazon Container Services ✕

Amazon ECS

Clusters

Task definitions

Amazon EKS

Clusters

Amazon ECR

Repositories

Images

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ECR > Repositories > subbuecr



subbuecr

[View push commands](#)

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< 1 > ⚙️

<input type="checkbox"/>	Image tag	Image URI	Pushed at ▾	Digest
<input type="checkbox"/>	latest	 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest	09/08/20, 06:45:58 PM	 sha256:a96fc0c8a..

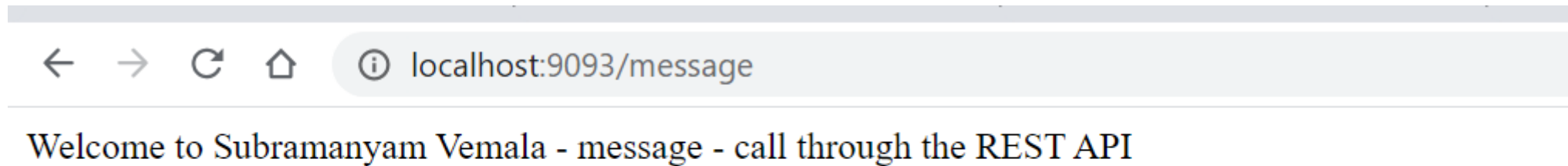
Run the tagged Docker image, 9093 is the external port mapped to the Docker's internal port 8080: "docker run -p 9093:8080 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest"

```
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker run -p 9093:8080 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
```

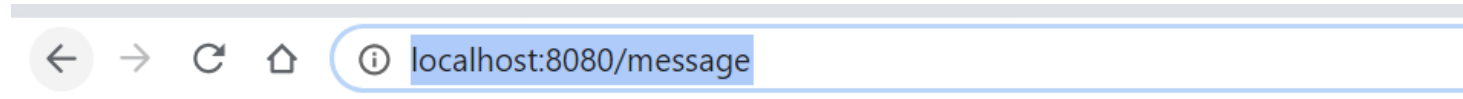
[illegible]

```
2020-09-08 13:25:39.096 INFO 1 --- [main] com.subbu.SubbuCaseStudyApplication : Starting SubbuCaseStudyApplication v0.0.1-SNAPSHOT on aa9bb78f110b with PID 1 (/subbu-casestudy-microservices-docker-dockerhub.jar started by root in /)
2020-09-08 13:25:39.103 INFO 1 --- [main] com.subbu.SubbuCaseStudyApplication : No active profile set, falling back to default profiles: default
2020-09-08 13:25:41.367 INFO 1 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)
2020-09-08 13:25:41.394 INFO 1 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2020-09-08 13:25:41.396 INFO 1 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.37]
2020-09-08 13:25:41.532 INFO 1 --- [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2020-09-08 13:25:41.532 INFO 1 --- [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 2265 ms
2020-09-08 13:25:42.218 INFO 1 --- [main] o.s.s.concurrent.ThreadPoolTaskExecutor : Initializing ExecutorService 'applicationTaskExecutor'
2020-09-08 13:25:42.596 INFO 1 --- [main] o.s.b.a.e.web.EndpointLinksResolver : Exposing 2 endpoint(s) beneath base path '/actuator'
2020-09-08 13:25:42.687 INFO 1 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context path ''
2020-09-08 13:25:42.716 INFO 1 --- [main] com.subbu.SubbuCaseStudyApplication : Started SubbuCaseStudyApplication in 4.789 seconds (JVM running for 5.555)
Welcome to Subbu - this message will appear in the Console
```

Test the URL on the Browser:
<http://localhost:9093/message>



Make sure like local application or Tomcat not running:
<http://localhost:8080/message>:



This site can't be reached

localhost refused to connect.

Try:

- Checking the connection
- [Checking the proxy and the firewall](#)

ERR_CONNECTION_REFUSED

Delete the local image: “docker rmi 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr”, is the command.

```
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker images
REPOSITORY                                     TAG                                     IMAGE ID                                     CREATED                                     SIZE
subbudockerhub/subbu-casestudy-microservices-docker-dockerhub.jar   latest                                ca813a46d63d                               5 days ago                                646MB
112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr               latest                                ca813a46d63d                               5 days ago                                646MB
112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecrdockerimage    latest                                ca813a46d63d                               5 days ago                                646MB
subbuecr                                                            latest                                ca813a46d63d                               5 days ago                                646MB
subbuecrdockerimage                                                 latest                                ca813a46d63d                               5 days ago                                646MB
subbu-casestudy-microservices-docker.jar                             latest                                e7554d59f74b                               6 days ago                                646MB
<none>                                                                <none>                                54538fc8948d                               6 days ago                                646MB
microservicesdockerjar3.jar                                          latest                                2eb634581cbb                               7 days ago                                636MB
<none>                                                                <none>                                e41c35024224                               7 days ago                                636MB
<none>                                                                <none>                                bfc7ead597e5                               7 days ago                                636MB
openjdk                                                             11                                   455ecea6f4f2                               7 days ago                                627MB
docker/desktop-storage-provisioner                                  v1.1                                e704287ce753                               5 months ago                              41.8MB
docker/desktop-vpnkit-controller                                   v1.0                                79da37e5a3aa                               6 months ago                              36.6MB
docker/desktop-kubernetes                                           kubernetes-v1.16.5-cni-v0.7.5-critools-v1.15.0
a86647f0b376                                                           7 months ago                              279MB
k8s.gcr.io/kube-controller-manager                                  v1.16.5                             441835dd2301                               7 months ago                              151MB
k8s.gcr.io/kube-proxy                                               v1.16.5                             0ee1b8a3ebe0                               7 months ago                              82.7MB
k8s.gcr.io/kube-scheduler                                           v1.16.5                             b4d073a9efda                               7 months ago                              83.5MB
k8s.gcr.io/kube-apiserver                                           v1.16.5                             fc838b21afbb                               7 months ago                              159MB
docker/kube-compose-controller                                      v0.4.25-alpha1                      129151cdf35f                               10 months ago                             35.6MB
docker/kube-compose-api-server                                      v0.4.25-alpha1                      989749268895                               10 months ago                             50.7MB
docker/kube-compose-installer                                       v0.4.25-alpha1                      2a71ac5a1359                               10 months ago                             42.3MB
k8s.gcr.io/etcd                                                     3.3.15-0                            b2756210eeab                               12 months ago                             247MB
k8s.gcr.io/kube-proxy                                               v1.14.6                             ed8adf767eeb                               12 months ago                             82.1MB
k8s.gcr.io/kube-apiserver                                           v1.14.6                             0e422c9884cf                               12 months ago                             209MB
k8s.gcr.io/kube-controller-manager                                  v1.14.6                             4bb274b1f2c3                               12 months ago                             157MB
k8s.gcr.io/kube-scheduler                                           v1.14.6                             d27987bc993e                               12 months ago                             81.6MB
k8s.gcr.io/coredns                                                  1.6.2                               bf261d15791a                               13 months ago                             44.1MB
docker/kube-compose-controller                                      v0.4.23                             a8c3d87a58e7                               15 months ago                             35.3MB
docker/kube-compose-api-server                                      v0.4.23                             f3591b2cb223                               15 months ago                             49.9MB
k8s.gcr.io/coredns                                                  1.3.1                               eb516548c180                               20 months ago                             40.3MB
k8s.gcr.io/etcd                                                     3.3.10                              2c4adeb21b4f                               21 months ago                             258MB
k8s.gcr.io/pause                                                    3.1                                  da86e6ba6ca1                               2 years ago                               742kB
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker rmi 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
Untagged: 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest
Untagged: 112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr@sha256:a96fc0c8a1cc09a7391e0e659e062cf64dec43a45fa94b4ea9a64c5412862da5
PS C:\Users\svemala\eclipse-workspace\subbu-case-study>
```

Local image “112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr” is deleted:

```
PS C:\Users\svemala\eclipse-workspace\subbu-case-study> docker images
```

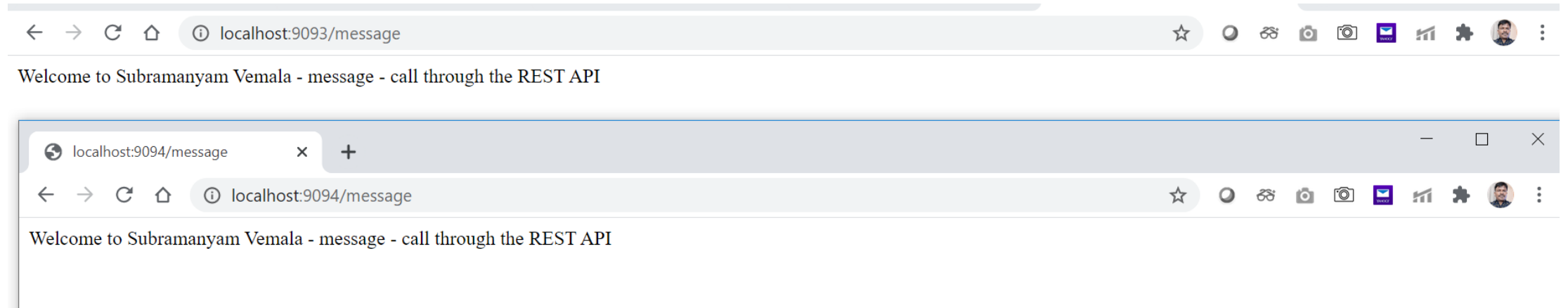
REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
subbudockerhub/subbu-casestudy-microservices-docker-dockerhub.jar	latest	ca813a46d63d	5 days ago	646MB
112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecrdockerimage	latest	ca813a46d63d	5 days ago	646MB
subbuecr	latest	ca813a46d63d	5 days ago	646MB
subbuecrdockerimage	latest	ca813a46d63d	5 days ago	646MB
subbu-casestudy-microservices-docker.jar	latest	e7554d59f74b	6 days ago	646MB
<none>	<none>	54538fc8948d	6 days ago	646MB
microservicesdockerjar3.jar	latest	2eb634581cbb	7 days ago	636MB
<none>	<none>	e41c35024224	7 days ago	636MB
<none>	<none>	bfc7ead597e5	7 days ago	636MB
openjdk	11	455ecea6f4f2	7 days ago	627MB
docker/desktop-storage-provisioner	v1.1	e704287ce753	5 months ago	41.8MB
docker/desktop-vpnkit-controller	v1.0	79da37e5a3aa	6 months ago	36.6MB
docker/desktop-kubernetes	kubernetes-v1.16.5-cni-v0.7.5-critools-v1.15.0	a86647f0b376	7 months ago	279MB
k8s.gcr.io/kube-scheduler	v1.16.5	b4d073a9efda	7 months ago	83.5MB
k8s.gcr.io/kube-apiserver	v1.16.5	fc838b21afbb	7 months ago	159MB
k8s.gcr.io/kube-controller-manager	v1.16.5	441835dd2301	7 months ago	151MB
k8s.gcr.io/kube-proxy	v1.16.5	0ee1b8a3ebe0	7 months ago	82.7MB
docker/kube-compose-controller	v0.4.25-alpha1	129151cdf35f	10 months ago	35.6MB
docker/kube-compose-api-server	v0.4.25-alpha1	989749268895	10 months ago	50.7MB
docker/kube-compose-installer	v0.4.25-alpha1	2a71ac5a1359	10 months ago	42.3MB
k8s.gcr.io/etcd	3.3.15-0	b2756210eeab	12 months ago	247MB
k8s.gcr.io/kube-proxy	v1.14.6	ed8adf767eeb	12 months ago	82.1MB
k8s.gcr.io/kube-apiserver	v1.14.6	0e422c9884cf	12 months ago	209MB
k8s.gcr.io/kube-scheduler	v1.14.6	d27987bc993e	12 months ago	81.6MB
k8s.gcr.io/kube-controller-manager	v1.14.6	4bb274b1f2c3	12 months ago	157MB
k8s.gcr.io/coredns	1.6.2	bf261d157914	13 months ago	44.1MB
docker/kube-compose-controller	v0.4.23	a8c3d87a58e7	15 months ago	35.3MB
docker/kube-compose-api-server	v0.4.23	f3591b2cb223	15 months ago	49.9MB
k8s.gcr.io/coredns	1.3.1	eb516548c180	20 months ago	40.3MB
k8s.gcr.io/etcd	3.3.10	2c4adeb21b4f	21 months ago	258MB
k8s.gcr.io/pause	3.1	da86e6ba6ca1	2 years ago	742kB

```
PS C:\Users\svemala\eclipse-workspace\subbu-case-study>
```

Now the image is downloaded from ECR-subbuecr-AWS, as it could not find the image (112253241392.dkr.ecr.us-east-1.amazonaws.com/subbuecr:latest) locally and the application is mapped with the external port 9094, through the command.

[illegible]

Now you can see like the application is working on both the ports 9094 and 9093:



Appendix:

AWS – ECR:

<https://aws.amazon.com/ecr/>

<https://docs.aws.amazon.com/AmazonECR/latest/userguide/Registries.html>

<https://docs.aws.amazon.com/AmazonECR/latest/userguide/troubleshooting.html>

Java, SpringBoot, Docker and DockerHub:

<https://github.com/subbugh/java-microservices-springboot-docker-dockerhub>

<https://github.com/subbugh/java-microservices-springboot>

<https://github.com/subbugh/java-microservices-springboot-docker>