St. Francis Institute of Technology
Department of Computer Engineering

Five Days Student Development Programme
on
DevOps
(28th June to 2nd July 2021)

Assignment 02

Docker Task

1. Create a Docker Hub Account (https://hub.docker.com/)
2. Create a Dockerfile for your Mini Project or choose from a simple Java Application/ Web application or application of your choice.
3. Create an Image using that Dockerfile and Containerize your application. (Name of the Image and Container should be (full name-roll no)
4. Push the image on Docker Hub Repository and provide the link to it in the report.
5. Take screenshots of all the steps and prepare a report for the same.

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Link for my docker hub repository :

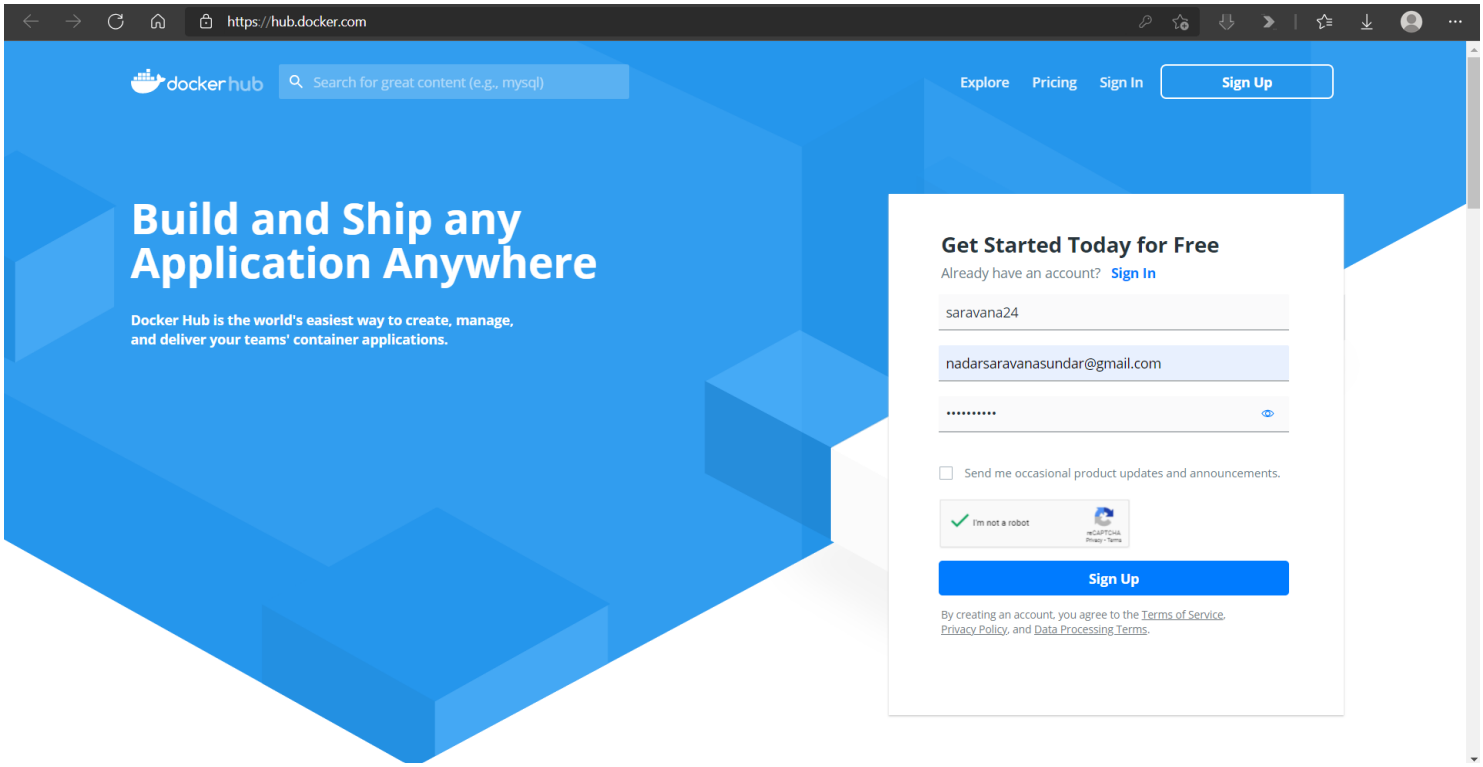
https://hub.docker.com/repository/docker/saravana24/saravana-sundar-nadar-192072

Docker

Steps to create Docker Hub Repository.

1. Download Docker Desktop.

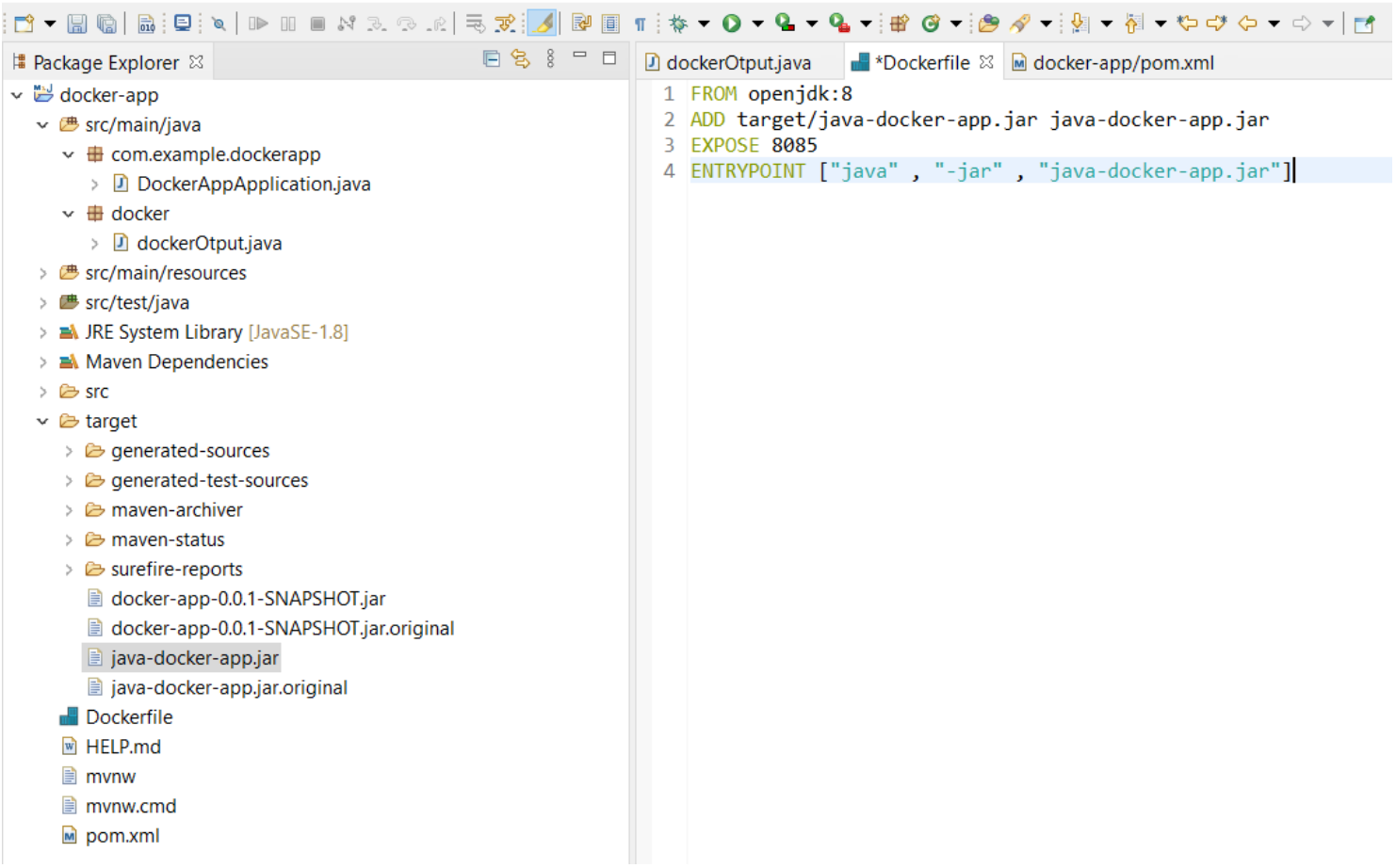
Create a Docker Hub Account (Docker Hub) and Download and install Docker Desktop Application .



2. Create a Docker File of the Simple Java Application.

In this step, you write a Dockerfile that builds a Docker image. The image contains all the dependencies the Java application requires, including Java JDK itself.
In your project directory, create a file named Dockerfile.

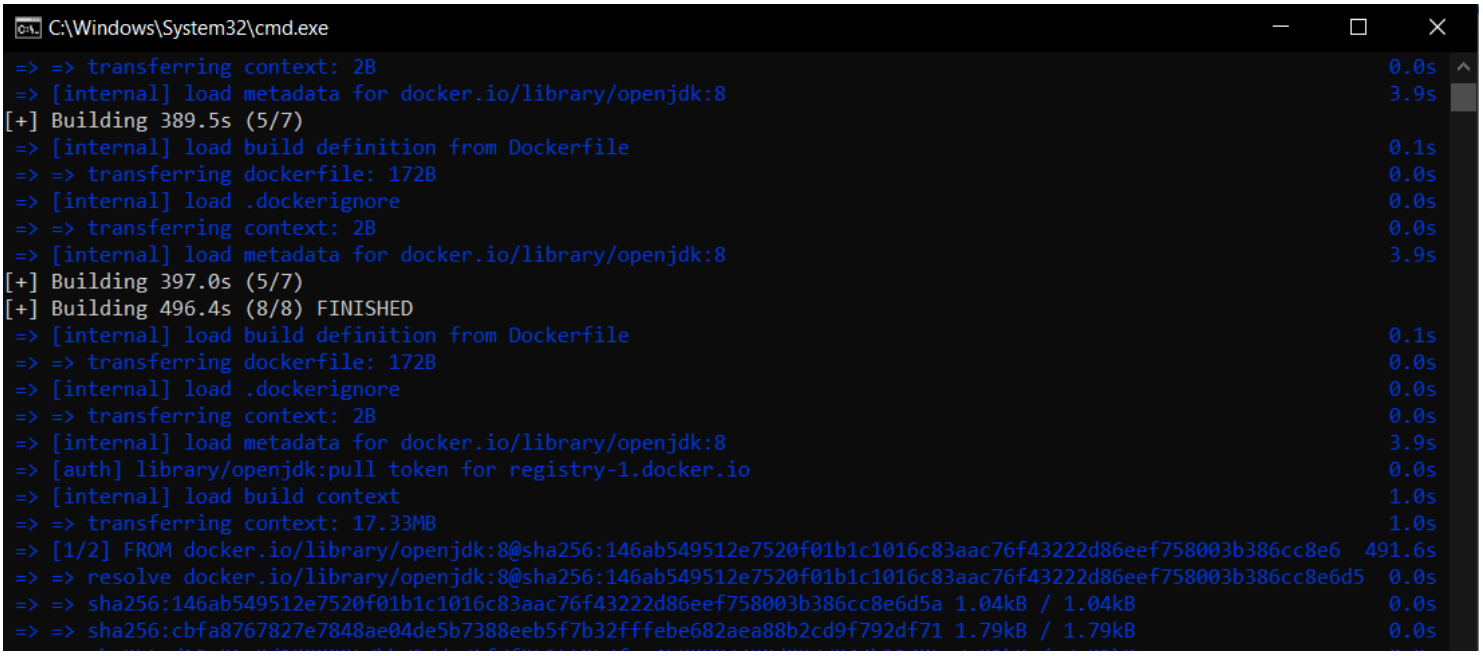
Also Clean Build Your Java application and create a jar file of your Application.



3. Create Docker image.

Create a docker image by using the command : docker build -f Dockerfile -t saravana-sundar-192072 .

in the terminal.It takes a while for downloading the mentioned BaseImage - “openjdk:8”.



```
 => exporting to image                                                                                    0.2s
 => => exporting layers                                                                                   0.2s
 => => writing image sha256:bb81c35596b6fff9e9b58a61a221c177bf146bbbc2ea2b9ea16978db4fa6b6f8              0.0s
 => => naming to docker.io/library/saravana-sundar-192072                                                 0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

E:\DevOps Workshop\Docker\docker-app>docker image ls
REPOSITORY                    TAG       IMAGE ID       CREATED         SIZE
saravana-sundar-192072        latest    bb81c35596b6   4 minutes ago   531MB
docker101tutorial             latest    8aa870ba39d3   4 hours ago     28.2MB
saravana24/docker101tutorial  latest    8aa870ba39d3   4 hours ago     28.2MB
alpine/git                    latest    b8f176fa3f0d   6 weeks ago     25.1MB

E:\DevOps Workshop\Docker\docker-app>
```

4. Create a container using Image.

Run the Docker Image to obtain a Container for your application.

Use command : docker run -p 8085:8085 saravana-sundar-192072

```
E:\DevOps Workshop\Docker\docker-app>docker image ls
REPOSITORY                    TAG       IMAGE ID       CREATED          SIZE
saravana-sundar-192072        latest    dee945c35da7   21 seconds ago   531MB
<none>                        <none>    bb81c35596b6   14 minutes ago   531MB
docker101tutorial             latest    8aa870ba39d3   4 hours ago      28.2MB
saravana24/docker101tutorial  latest    8aa870ba39d3   4 hours ago      28.2MB
alpine/git                    latest    b8f176fa3f0d   6 weeks ago      25.1MB

E:\DevOps Workshop\Docker\docker-app>docker run -p 8085:8085 saravana-sundar-192072
```

5. Run Your Java Application locally in the browser .

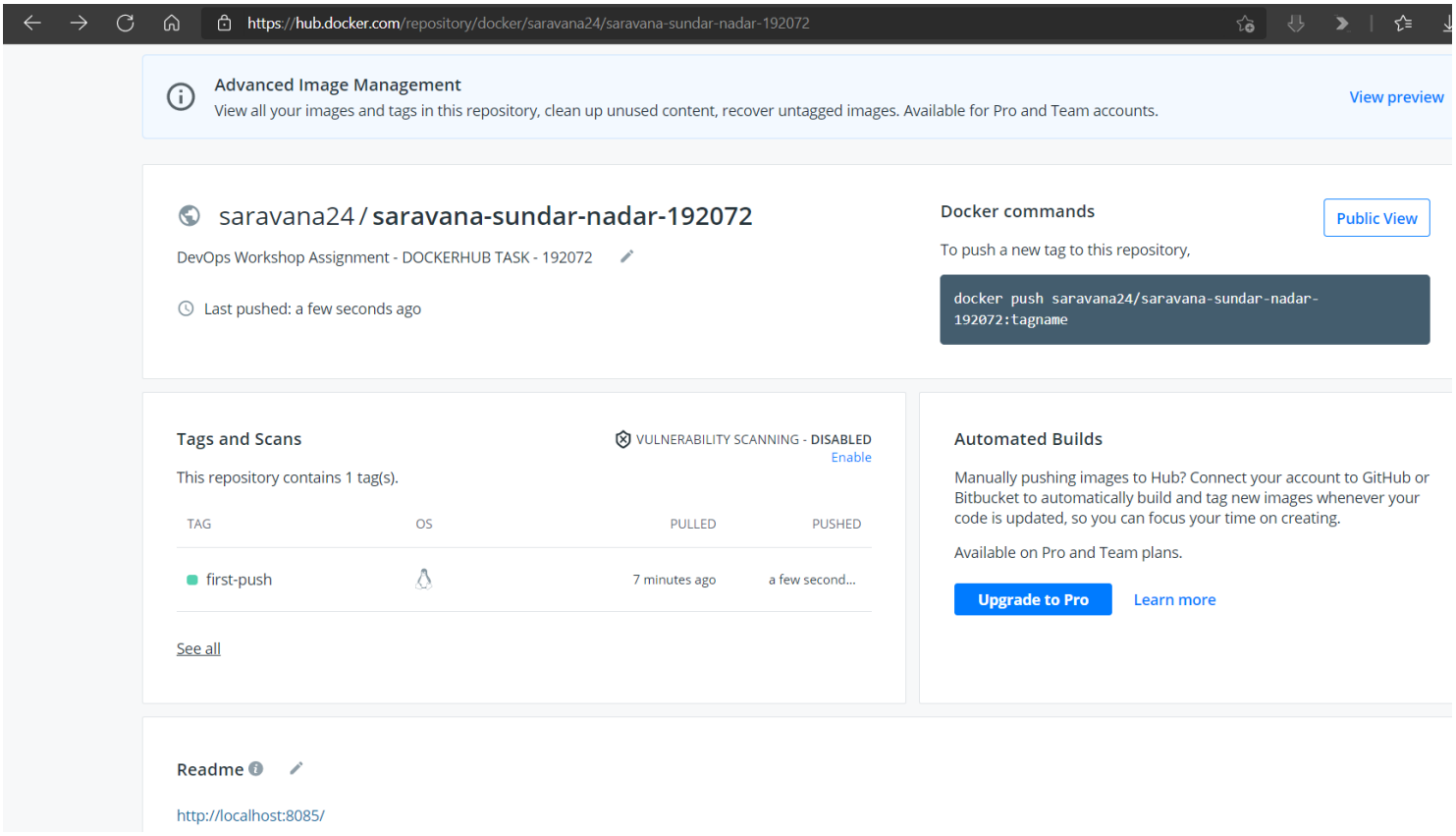
6. Push Your Local image to Dockerhub remote repository.

Add a tag before pushing.
Use Command : docker push saravana-sundar-192072

```
E:\DevOps Workshop\Docker\docker-app>docker images
REPOSITORY                                TAG          IMAGE ID       CREATED          SIZE
saravana-sundar-nadar-192072              latest       7ad14a1fae4d   26 minutes ago   531MB
saravana24/saravana-sundar-nadar-192072   first-push   7ad14a1fae4d   26 minutes ago   531MB
docker101tutorial                         latest       8aa870ba39d3   18 hours ago     28.2MB
saravana24/docker101tutorial              latest       8aa870ba39d3   18 hours ago     28.2MB
alpine/git                                latest       b8f176fa3f0d   6 weeks ago      25.1MB

E:\DevOps Workshop\Docker\docker-app>docker push saravana24/saravana-sundar-nadar-192072:first-push
The push refers to repository [docker.io/saravana24/saravana-sundar-nadar-192072]
7fe1bdafc249: Layer already exists
aed5f5426b27: Layer already exists
c3d00b097cce: Layer already exists
79c550eb7bd2: Layer already exists
7095af798ace: Layer already exists
fe6a4fdbedc0: Layer already exists
e4d0e810d54a: Layer already exists
4e006334a6fd: Layer already exists
first-push: digest: sha256:3c6d0a6744e019e75ca229715240609fb1b1e77e7e3ae78f0aa0decec013d9d0 size: 2006

E:\DevOps Workshop\Docker\docker-app>
```



Hence, Remote Docker hub repository is Created.

Link for my docker hub repository :

https://hub.docker.com/repository/docker/saravana24/saravana-sundar-nadar-192072