

## Day 17 Task: Docker Project for DevOps Engineers.

### Task:

- Create a Dockerfile for a simple web application (e.g. a Node.js or Python app)
  - Build the image using the Dockerfile and run the container
  - Verify that the application is working as expected by accessing it in a web browser
  - Push the image to a public or private repository (e.g. Docker Hub)
- a. Create a Dockerfile for a simple web application (e.g. a Node.js or Python app)

```
#base image
FROM node:18-slim

#Working directory
WORKDIR /app

#Copy the application code from local to the container
COPY . .

# Expose port 3000
EXPOSE 3000

# Command to run the application
CMD ["node", "index.js"]

~
~
```

```

ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ ls
node-todo-cicd
ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ mkdir todo-app
ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ ls
node-todo-cicd  todo-app
ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ cd todo-app
ubuntu@ip-172-31-24-155:~/docker-projects/node.js/todo-app$ vim Dockerfile
ubuntu@ip-172-31-24-155:~/docker-projects/node.js/todo-app$ ls
Dockerfile
ubuntu@ip-172-31-24-155:~/docker-projects/node.js/todo-app$ vim index.js
ubuntu@ip-172-31-24-155:~/docker-projects/node.js/todo-app$ ls
Dockerfile  index.js
ubuntu@ip-172-31-24-155:~/docker-projects/node.js/todo-app$ docker build -t simple-todo .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
             Install the buildx component to build images with BuildKit:
             https://docs.docker.com/go/buildx/

Sending build context to Docker daemon  4.096kB
Step 1/5 : FROM node:18-slim
18-slim: Pulling from library/node
e4fff0779e6d: Already exists
a6a229b4e56f: Pull complete
e42c00a0ef38: Pull complete
f862ff7d9585: Pull complete
1326ef1e2928: Pull complete
Digest: sha256:d6d454e08d92b4f5c6b39875210472e55da2172546a2d20891473f0329bcd1bf
Status: Downloaded newer image for node:18-slim
--> 1c863d6dadbd1
Step 2/5 : WORKDIR /app
--> Running in 2f8cf7c4a2eb
Removing intermediate container 2f8cf7c4a2eb
--> 0fd939b94dde
Step 3/5 : COPY . .

```

```

Step 3/5 : COPY . .
--> c14dc72dcc8a
Step 4/5 : EXPOSE 3000
--> Running in a2c42ba05264
Removing intermediate container a2c42ba05264
--> 043a067f74a0
Step 5/5 : CMD ["node", "index.js"]
--> Running in 6020c3991c3f
Removing intermediate container 6020c3991c3f
--> fc61d2a8543a
Successfully built fc61d2a8543a
Successfully tagged simple-todo:latest
ubuntu@ip-172-31-24-155:~/docker-projects/node.js/todo-app$ docker run -p 3000:3000 simple-todo
Server running at http://localhost:3000/

```

- **Verify that the application is working as expected by accessing it in a web browser**

```

ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
NAMES
2fb51d53a004   simple-todo    "docker-entrypoint.s..." 6 minutes ago  Up 6 minutes  0.0.0.0:3000->3000/tcp, :::3000->3000/tcp
sharp_chatterjee
6ee75a598784   multistage:latest "python app.py"          2 hours ago   Up 2 hours    0.0.0.0:5000->5000/tcp, :::5000->5000/tcp
flask-app
ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ curl http://localhost:3000/tasks
{"message":"Task added"}ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ curl -X POST -H "Content-Type: application/json" -d '{"task": "Buy groceries"}' http://localhost:3000/tasks
{"id":1,"task":"Buy groceries"}ubuntu@ip-172-31-24-155:~/docker-projects/node.js$

```

- Push the image to a public or private repository (e.g. Docker Hub )

The screenshot shows a web browser window with the address bar displaying '3.17.142.119:3000/tasks'. The page content shows a JSON array with one object representing a task:

```

1 [
2   {
3     "id": 1,
4     "task": "Buy groceries"
5   }
6 ]

```

- Push the image to a public or private repository (e.g. Docker Hub )

The screenshot shows a terminal window with the following commands and output:

```

ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ docker login
Authenticating with existing credentials...
WARNING! Your password will be stored unencrypted in /home/ubuntu/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ docker image tag simple-todo:latest mkanisetty/simple-todo:latest
ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ docker images

```


REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
simple-todo	latest	fc61d2a8543a	53 minutes ago	192MB
mkanisetty/simple-todo	latest	fc61d2a8543a	53 minutes ago	192MB
multistage	latest	c11e8efb6d09	3 hours ago	151MB
python-full	latest	fa422dafd468	3 hours ago	1.02GB
python	3.11	dbb93f5d8e5a	2 weeks ago	1.01GB
python	3.11-slim	10f461201cdb	2 weeks ago	130MB
node	18-slim	1c863d6dadbb	5 weeks ago	192MB
hello-world	latest	d2c94e258dcb	15 months ago	13.3kB

```

ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ docker push mkanisetty/simple-todo:latest
The push refers to repository [docker.io/mkanisetty/simple-todo]
5f944800b123: Pushed
707f6f589bbd: Pushed
08ebd4370027: Mounted from library/node
49be454668e7: Mounted from library/node
ef4c9d91a2b5: Mounted from library/node
33ebb0e86d8b: Mounted from library/node
9853575bc4f9: Mounted from library/node
latest: digest: sha256:144f9c8ad3722e2f5e6007408df57a48199eab3b58d1a43f5b10cf46efc3f0ab size: 1780
ubuntu@ip-172-31-24-155:~/docker-projects/node.js$ docker images





```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
simple-todo	latest	fc61d2a8543a	55 minutes ago	192MB
mkanisetty/simple-todo	latest	fc61d2a8543a	55 minutes ago	192MB
multistage	latest	c11e8efb6d09	3 hours ago	151MB

 **dockerhub**

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mkanisetty

▼

Search by repository name



All Content

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Create repository

mkanisetty / simple-todo

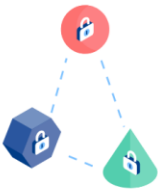
Contains: Image • Last pushed: less than a minute ago

☆ 0   ↓ 0   Public   Scout inactive

mkanisetty / my-flask-app-image

Contains: Image • Last pushed: 21 days ago

☆ 0   ↓ 11   Public   Scout inactive



Create An

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<https://hub.docker.com/repositories/docker/mkanisetty/my-flask-app-image>