

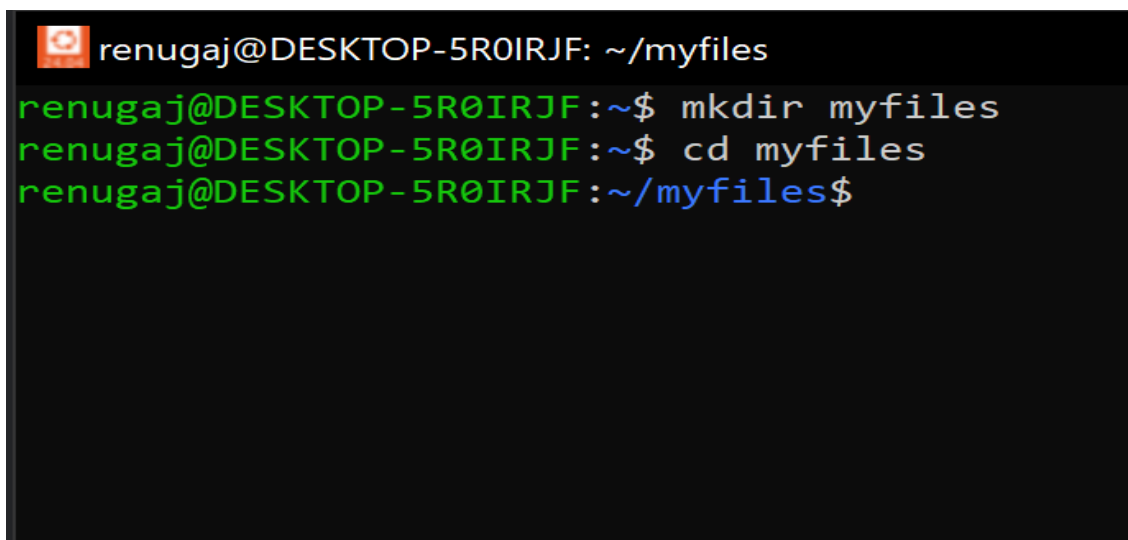
Creating your own Docker image step by step guide

Prerequisites

1. **Docker Installed:** Ensure Docker is installed on your machine. You can download it from [Docker's official website](#).
 2. **Docker Hub Account:** Create an account on [Docker Hub](#) if you don't have one.
 3. **Dockerfile:** Ensure you have a Dockerfile in your project directory.
-

Step 1: Create a new directory and navigate into it:

mkdir myfiles and navigate to the folder using **cd myfiles**

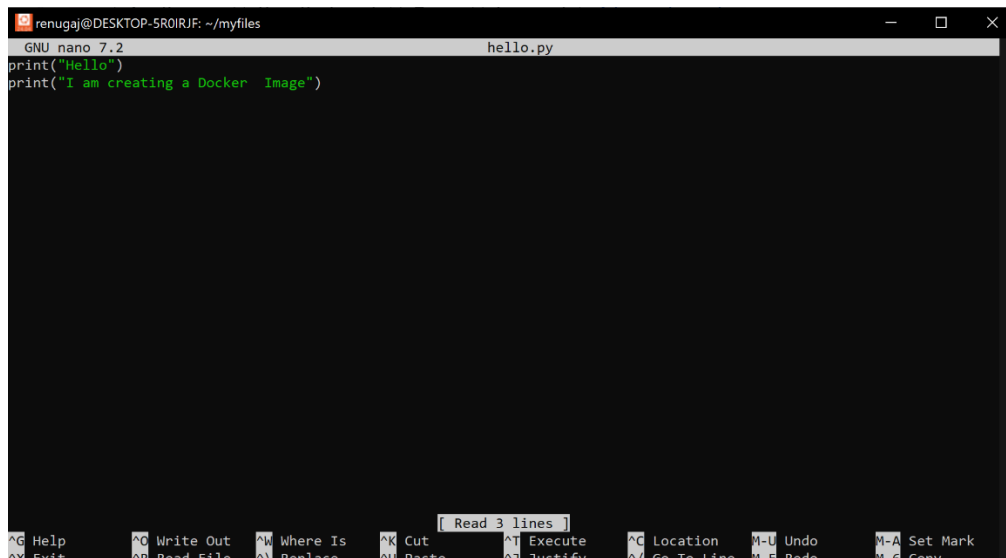
A terminal window with a dark background. The prompt is 'renugaj@DESKTOP-5R0IRJF: ~/myfiles'. The first command is 'mkdir myfiles', the second is 'cd myfiles', and the third is the prompt '~/myfiles\$'.

```
renugaj@DESKTOP-5R0IRJF: ~/myfiles
renugaj@DESKTOP-5R0IRJF:~$ mkdir myfiles
renugaj@DESKTOP-5R0IRJF:~$ cd myfiles
renugaj@DESKTOP-5R0IRJF:~/myfiles$
```

Step 2: Create a simple Python script named 'hello.py' :

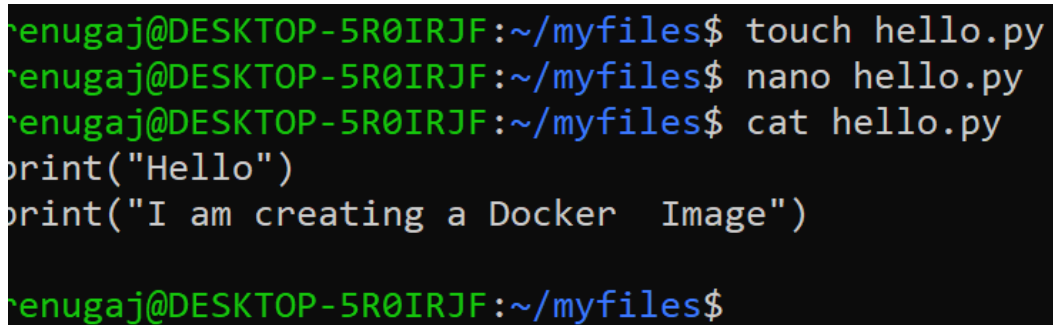
Use **touch** command to create a hello.py and use '**nano**' or '**vim**' text editors to save the coding.

```
print("Hello")
print("! am creating a Docker Image")
```



```
renugaj@DESKTOP-5R0IRJF: ~/myfiles
GNU nano 7.2 hello.py
print("Hello")
print("I am creating a Docker Image")
```

Press CTRL +X to exit the editor, when prompted, save the file.



```
renugaj@DESKTOP-5R0IRJF:~/myfiles$ touch hello.py
renugaj@DESKTOP-5R0IRJF:~/myfiles$ nano hello.py
renugaj@DESKTOP-5R0IRJF:~/myfiles$ cat hello.py
print("Hello")
print("I am creating a Docker Image")
renugaj@DESKTOP-5R0IRJF:~/myfiles$
```

Step 3 : Create a Dockerfile

A Dockerfile is a script that contains instructions to build a Docker image.

Example Dockerfile:

```
renugaj@DESKTOP-5R0IRJF: ~/myfiles
GNU nano 7.2 Dockerfile *
FROM python
WORKDIR /app
COPY . /app
CMD ["python","hello.py"]
```

Step 2: Build the Docker Image

1. Open a terminal or command prompt.
2. Navigate to the directory containing your Dockerfile.
3. Run the following command to build the Docker image:

`docker build -t your-dockerhub-username/your-image-name:your-tag .`

Replace:

- your-dockerhub-username with your Docker Hub username.
- your-image-name with the name of your image.
- your-tag with a version tag (e.g., v1, latest).
- Don't miss the dot at the end.

Example:

`docker build -t renugaj/mysamplehello .`

```
renugaj@DESKTOP-5R0IRJF: ~/myfiles
renugaj@DESKTOP-5R0IRJF:~/myfiles$ docker build -t renugaj/mysamplehello .
[+] Building 3.2s (9/9) FINISHED
=> [internal] load build definition from Dockerfile                                docker:default 0.1s
=> => transferring dockerfile: 105B                                              0.0s
=> [internal] load metadata for docker.io/library/python:latest                 1.4s
=> [auth] library/python:pull token for registry-1.docker.io                   0.0s
=> [internal] load .dockerignore                                                 0.1s
=> => transferring context: 2B                                                  0.0s
=> [1/3] FROM docker.io/library/python:latest@sha256:ab70aee8e1bc6ffe4f95953ee2a98ca545123195a2b56d4338c7ea8ff57 0.1s
=> => resolve docker.io/library/python:latest@sha256:ab70aee8e1bc6ffe4f95953ee2a98ca545123195a2b56d4338c7ea8ff57 0.1s
=> [internal] load build context                                                0.1s
=> => transferring context: 305B                                              0.0s
=> CACHED [2/3] WORKDIR /app                                                    0.0s
=> [3/3] COPY . /app                                                            0.1s
=> exporting to image                                                            0.9s
=> => exporting layers                                                         0.3s
=> => exporting manifest sha256:6358cd80d5d17eede2fcd1d4af8362b3f29b15d8b3330c7856b160ad3b1b7bda 0.1s
=> => exporting config sha256:cc8bffcbbfd15c220b5e8d9e6be5da8f1701272019f6dde4f176118f7a2960ab 0.0s
=> => exporting attestation manifest sha256:f7bf8695b1a08a06227ef6b12e56b4d16d7d42f2f677e4b017df812b74dcd959 0.1s
=> => exporting manifest list sha256:248a442419fb22cf37ba628401c23d85c136eab0bdac2551ff34706587fb49a4 0.1s
=> => naming to docker.io/renugaj/mysamplehello:latest                       0.0s
=> => unpacking to docker.io/renugaj/mysamplehello:latest                   0.1s
renugaj@DESKTOP-5R0IRJF:~/myfiles$
```

```
renugaj@DESKTOP-5R0IRJF:~/myfiles$ docker image ls
REPOSITORY          TAG          IMAGE ID      CREATED        SIZE
renugaj/mysamplehello latest       248a442419fb 4 minutes ago 1.47GB
helloworld          latest       258cc11070b9 About an hour ago 1.47GB
<none>              <none>      62d5c2a8dbcc About an hour ago 1.47GB
app                 latest       80f7a67ac108 2 weeks ago   1.5GB
nginx               1.27.4       9d6b58feebd2 3 weeks ago   279MB
nginx               latest       9d6b58feebd2 3 weeks ago   279MB
renugaj/nginx       latest       9d6b58feebd2 3 weeks ago   279MB
renugaj/nginx       sampletest   9d6b58feebd2 3 weeks ago   279MB
<none>              <none>      91734281c0eb 3 weeks ago   279MB
ubuntu              latest       72297848456d 4 weeks ago   117MB
httpd               latest       3195404327ec 4 weeks ago   221MB
mysql               latest       146682692a3a 5 weeks ago   1.09GB
busybox             latest       a5d0ce49aa80 5 months ago  6.56MB
renugaj@DESKTOP-5R0IRJF:~/myfiles$
```

You can test your new docker image **renugaj/mysamplehello** using **docker run renugaj/mysamplehello**

You should receive an output below.

```
renugaj@DESKTOP-5R0IRJF:~/myfiles$ docker run renugaj/mysamplehello
Hello
I am creating a Docker Image
renugaj@DESKTOP-5R0IRJF:~/myfiles$
```

Step 3: Log in to Docker Hub

- Authenticate your Docker CLI with Docker Hub:

docker login

- Enter your Docker Hub username and password when prompted.

Step 4: Push the Docker Image to Docker Hub

- Push the image to your Docker Hub repository:

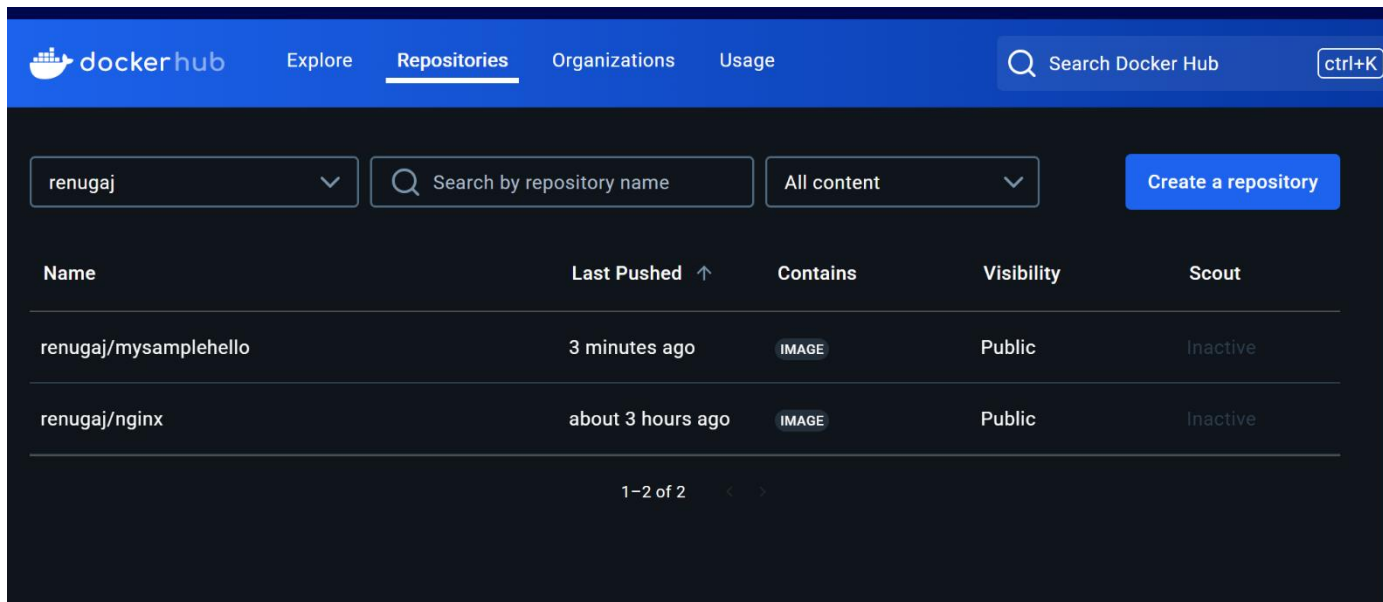
docker push your-dockerhub-username/your-image-name:your-tag

Eg : **docker push renugaj/mysamplehello**

```
renugaj@DESKTOP-5R0IRJF:~/myfiles$ docker push renugaj/mysamplehello
Using default tag: latest
The push refers to repository [docker.io/renugaj/mysamplehello]
8031108f3cda: Pushed
155ad54a8b28: Pushed
1d281e50d3e4: Pushed
81a105e186f3: Pushed
c6b7767bb1d2: Pushed
21754c21aa78: Pushed
854e2aed8deb: Pushed
5e9ad5aa09b4: Pushed
447713e77b4f: Pushed
d90fde964f8c: Pushed
latest: digest: sha256:5d3931cdeb7b2f5d97c5ffb2dd5bc1f91d0717c29bd8cff81bdfb27fdda43a44 size: 856
renugaj@DESKTOP-5R0IRJF:~/myfiles$
```

Step 5: Verify the Image on Docker Hub

1. Go to [Docker Hub](https://hub.docker.com/).
2. Log in to your account.
3. Navigate to your repository to verify that the image has been successfully pushed.



Step 6: Pull and Run the Image (Optional)

To test the image, you can pull and run it on another machine:

`docker run -d your-dockerhub-username/your-image-name:your-tag`

```
renugaj@DESKTOP-5R0IRJF:~/myfiles$ docker run renugaj/mysamplehello
Hello
I am creating a Docker Image
renugaj@DESKTOP-5R0IRJF:~/myfiles$
```

Troubleshooting

- **Permission Denied:** Ensure you are logged in to Docker Hub using `docker login`.
- **Image Not Found:** Double-check the image name and tag.
- **Build Errors:** Verify your Dockerfile for syntax errors or missing dependencies.

Enjoy creating your Dockerfile and image !!!