

Documentation

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The Process

Git hub Django → Docker container → docker hub

1. Create a new folder:



- Go to file explorer
- Select the location to create a new file
- Click on new
- Give a name to the file

2. open git bash and check directory:

- Changing of directory to where the file is located

```
6LABSYSTEM13@6LABSYSTEM13 MINGW64 ~ (main)
$ cd d:
```

- Changing of directory to the file Nani

```
6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d
$ cd Nani
```

3. Cloning of Git:

- It is used to copy local copy to repository
- Git clone is the command in Git version
- SYNTAX:

```
git clone https://github.com/username/repository.git
```

EXAMPLE:

```
6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani
$ git clone https://github.com/rajasoxit/batch02-django-app.git
fatal: destination path 'batch02-django-app' already exists and is not an empty directory.
```

4. Changing directory:

- Changing of directory to the file located

```
6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani
$ cd batch02-django-app
```

5.Docker ps:

- It is used to show the running process
- EXAMPLE: docker ps

```
6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani/batch02-django-app (main)
$ docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
```

6.Docker Build:

```
6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani/batch02-django-app (main)
$ docker build -t batch02-django-app .
[+] building 23.7s (10/10) FINISHED
=> [internal] load build definition from Dockerfile
=> transferring dockerfile: 435B
=> [internal] load metadata for docker.io/library/python:3.10-slim
=> [auth] library/python:pull token for registry-1.docker.io
=> [internal] load .dockerignore
=> transferring context: 2B
=> [1/4] FROM docker.io/library/python:3.10-slim@sha256:57038683f4a259e17fcffcece7ba30b1065f4b3317dabb5bd7c82640a5ed64f
=> resolve docker.io/library/python:3.10-slim@sha256:57038683f4a259e17fcffcece7ba30b1065f4b3317dabb5bd7c82640a5ed64f
=> sha256:765ef9c81879b3bfc7185726a38c8b3531b80fc48d6e54d8725afcabf02c60e1 15.65MB / 15.65MB
=> sha256:d15668d6a1de27ac749c4d14e5aa7769b29e8853056f3f17e0678fa13aae1812 248B / 248B
=> sha256:92e5f9e5de64a1369423a10d83393bf1a3533dd76c039b32cb0251bffd7ae33d 3.51MB / 3.51MB
=> sha256:254e724d77862dc53abbd3bf0e27f9d2f64293909cdd3d0aad6a8fe5a6680659 28.23MB / 28.23MB
=> extracting sha256:254e724d77862dc53abbd3bf0e27f9d2f64293909cdd3d0aad6a8fe5a6680659 0.5s
=> extracting sha256:92e5f9e5de64a1369423a10d83393bf1a3533dd76c039b32cb0251bffd7ae33d 0.1s
=> extracting sha256:765ef9c81879b3bfc7185726a38c8b3531b80fc48d6e54d8725afcabf02c60e1 0.3s
=> extracting sha256:d15668d6a1de27ac749c4d14e5aa7769b29e8853056f3f17e0678fa13aae1812 0.0s
=> [internal] load build context
=> transferring context: 68.97kB
=> [2/4] WORKDIR /app
=> [3/4] RUN pip install --upgrade pip && pip install django djangoframework gunicorn
=> [4/4] COPY . .
=> exporting to image
=> exporting layers
=> exporting manifest sha256:cda58a1281487f077f501492bce8cd0ff3175eb55afad2d49d1ac94ec0e
=> exporting config sha256:d2ae9ec3dd286850c60dcda7239895b8e184f4071542acc704f64a31ea19a
=> exporting attestation manifest sha256:933b28867a0f5687b25f5fd2e0275fe221747fe842efaf9d839332021e0beaa
=> exporting manifest list sha256:3fd846057b79e0104ebd90e02479c62c79c363964926e4d1c7340d81553f3d7
=> naming to docker.io/library/batch02-django-app:latest
=> unpacking to docker.io/library/batch02-django-app:latest
view build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/gbn964pw4ehp0s9kwso57pe
```

- It is used to create an image that we are going to build
- It is used to create container image
- EXAMPLE: Docker build -t Django-app .
- '.' is used to bring all files in the folder to build
- It creates docker image in the dockerfile

7.Docker Image:

- Docker image is used to read-only template
- It servers as blueprint for creating a Docker container

```
6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani/batch02-django-app (main)
$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
batch02-django-app   latest             6df83f5d27ea       13 seconds ago     302MB
docker/desktop-kubernetes
registry.k8s.io/kube-apiserver
registry.k8s.io/kube-proxy
registry.k8s.io/kube-controller-manager
registry.k8s.io/kube-scheduler
registry.k8s.io/etcd
registry.k8s.io/coredns/coredns
registry.k8s.io/pause
docker/desktop-vpnkit-controller
docker/desktop-storage-provisioner
```

8.Docker Run:

- It is used to Run the build image in the dockerfile

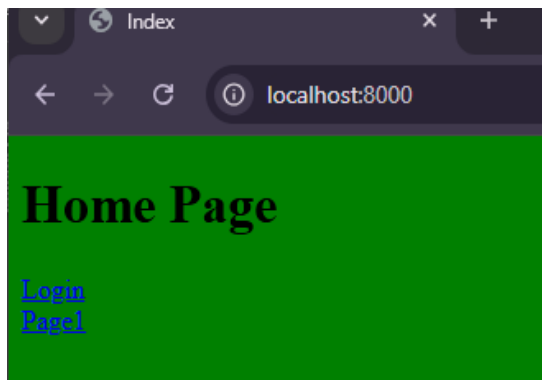
- Docker run is used in Docker file to execute and configure the docker image

EXAMPLE: Docker run -p 8000:8000 django-app

```
6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani/batch02-django-app (main)
$ docker run -p 8000:8000 batch02-django-app
```

9.Opening of browser:

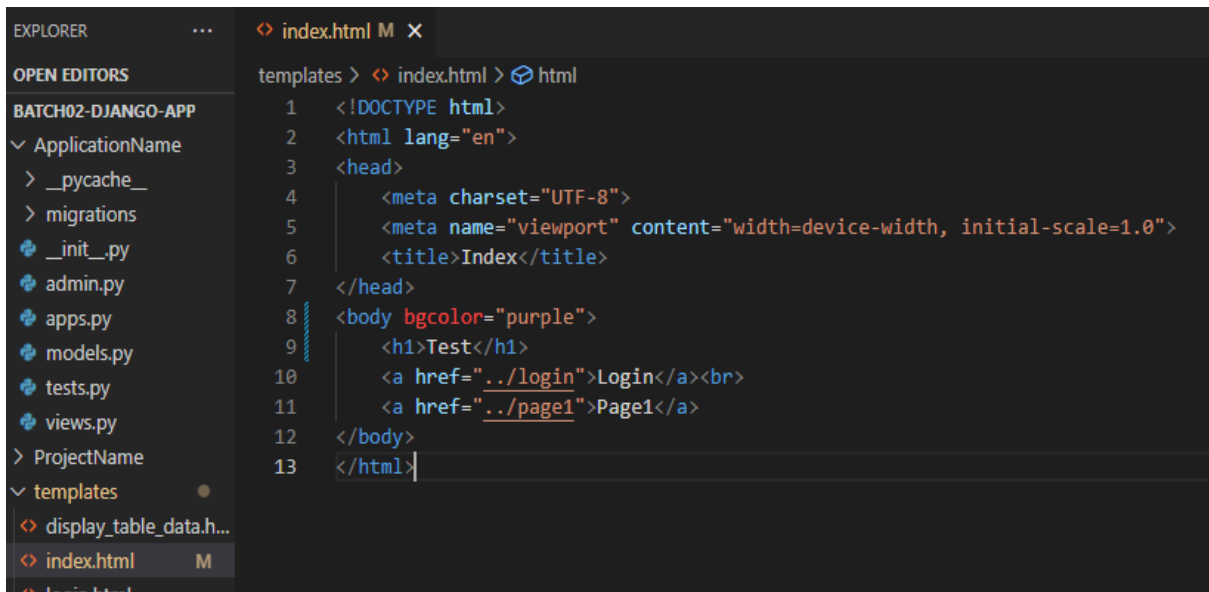
- Open the browser <https://localhost:8000/> to see the image the was developed



10.Visual Studio Code:

- Open VS code
- Open the with latest created folder
- Go to templates
- Select index.html
- It shows the code that we previously coded

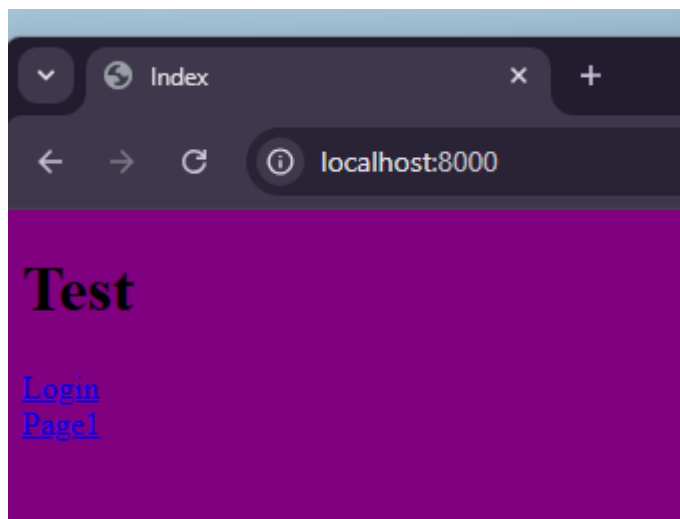
- Changing the “Home Page” to “TEST” and bgcolor “Green” to “purple”



```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Index</title>
7 </head>
8 <body bgcolor="purple">
9   <h1>Test</h1>
10  <a href=" ../login">Login</a><br>
11  <a href=" ../page1">Page1</a>
12 </body>
13 </html>
```

11.open browser:

- To see the changed file



12.Again build:

- Build the changed image
- EXAMPLE: docker build -t Django-app

```

6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani/batch02-django-app (main)
$ docker build -t batch02-django-app .
[*] Building 23.7s (10/10) FINISHED
[+] Building 23.7s (10/10) FINISHED
=> [internal] load build definition from Dockerfile
=> transferring dockerfile: 435B
=> [internal] load metadata for docker.io/library/python:3.10-slim
[auth] library/python:pull token for registry-1.docker.io
=> [internal] load .dockerignore
=> transferring context: 2B
=> [1/4] FROM docker.io/library/python:3.10-slim@sha256:57038683f4a259e17fcff1ccef7ba30b1065f4b3317dabb5bd7c82640a5ed64f
=> resolve docker.io/library/python:3.10-slim@sha256:57038683f4a259e17fcff1ccef7ba30b1065f4b3317dabb5bd7c82640a5ed64f
=> sha256:765ef9c81879b3bfc7185726a38c8b3531b80fc48d6e54d8725a6cabf02c60e1 15.65Mb / 15.65Mb
=> sha256:d15668d6a1de27ac749c4d14e5aa7769b29e8853056f3f17e0678fa13aae1812 248B / 248B
=> sha256:92e5f9e5de64a1369423a10d83393bfa3533dd76c039b32cb0251bffd7ae33d 3.51Mb / 3.51Mb
=> sha256:254e724d77862dc51abdb3bfc7185726a38c8b3531b80fc48d6e54d8725a6cabf02c60e1 28.23Mb / 28.23Mb
=> extracting sha256:254e724d77862dc51abdb3bfc7185726a38c8b3531b80fc48d6e54d8725a6cabf02c60e1 0.5s
=> extracting sha256:92e5f9e5de64a1369423a10d83393bfa3533dd76c039b32cb0251bffd7ae33d 0.1s
=> extracting sha256:765ef9c81879b3bfc7185726a38c8b3531b80fc48d6e54d8725a6cabf02c60e1 0.3s
=> extracting sha256:d15668d6a1de27ac749c4d14e5aa7769b29e8853056f3f17e0678fa13aae1812 0.0s
[+] [internal] load build context
=> transferring context: 68.97kB
[2/4] WORKDIR /app
[3/4] RUN pip install --upgrade pip && pip install django djangorestframework gunicorn
[4/4] COPY . .
=> exporting to image
=> exporting layers
=> exporting manifest sha256:cdea58a1281487f077f5014928bce8cdd0ff3175eb55afad2449d1ac94ec0e
=> exporting config sha256:d2ae9ec5dd286850c60dcda7239895b8e184f07154acc2704f64a31eal9a
=> exporting attestation manifest sha256:933b28967a0f5687b25f5fd2de0275fe221747fe842ebfa9d839332021a0beaa
=> exporting manifest list sha256:3f0846057b79e0104edbd90e02479c62c79c36396492de4d1c7340d81553fd37
=> naming to docker.io/library/batch02-django-app:latest
=> unpacking to docker.io/library/batch02-django-app:latest
view build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/ghn964pw4ehbp0s9kws057pe

```

13.Again run:

- Run the image that we build previously

```

6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani/batch02-django-app (main)
$ docker run -p 8000:8000 batch02-django-app
EXAMPLE: docker run -p 8000:8000 django-app

```

14.Docker hub:

- Create a docker hub account
- Login to docker hub
- Create a Repository in the docker hub



- **EXAMPLE:** batch02-django-app

15.Docker tag:

- It is used to create a tag to the docker image

SYNTAX:

```
docker tag SOURCE_IMAGE[:TAG] TARGET_IMAGE[:TAG]
```

- Source Image : the image that we have to create
- Target Image: the image for we have taken

```

6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani/batch02-django-app (main)
$ docker tag batch02-django-app naniviratian/nani

```

EXAMPLE: docker tag django-app rajasoxit/batch02-django-app

16.Docker Login:

- It is used to login into the docker
- It authenticating users to docker registers
- Pushing and pulling purpose

```
6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani/batch02-django-app (main)
$ docker login
Authenticating with existing credentials... [Username: naniviratian]

Info → To login with a different account, run 'docker logout' followed by 'docker login'

Login Succeeded
```

- Example: docker login

17.Docker Push:

- It is used to push the image to a registry
- Deploy them to different environments or to the others

Syntax: docker push NAME[:TAG]

EXAMPLE: docker push Nani/batch02-django-app

```
6LABSYSTEM47@6LABSYSTEM47 MINGW64 /d/Nani/batch02-django-app (main)
$ docker push naniviratian/nani
Using default tag: latest
The push refers to repository [docker.io/naniviratian/nani]
7d1090d2899a: Pushed
48344264c6b7: Pushed
765ef9c81879: Pushed
254e724d7786: Pushed
00dacfde973a: Pushed
4517f7d44fcf: Pushed
92e5f9e5de64: Pushed
d15668d6a1de: Pushed
latest: digest: sha256:4db5124c830208a1c6c504ee5b62d74d169ad083e392bb4de505afac28b801a0 size: 856
```