

Day 17 Task: Docker Project for DevOps Engineers:

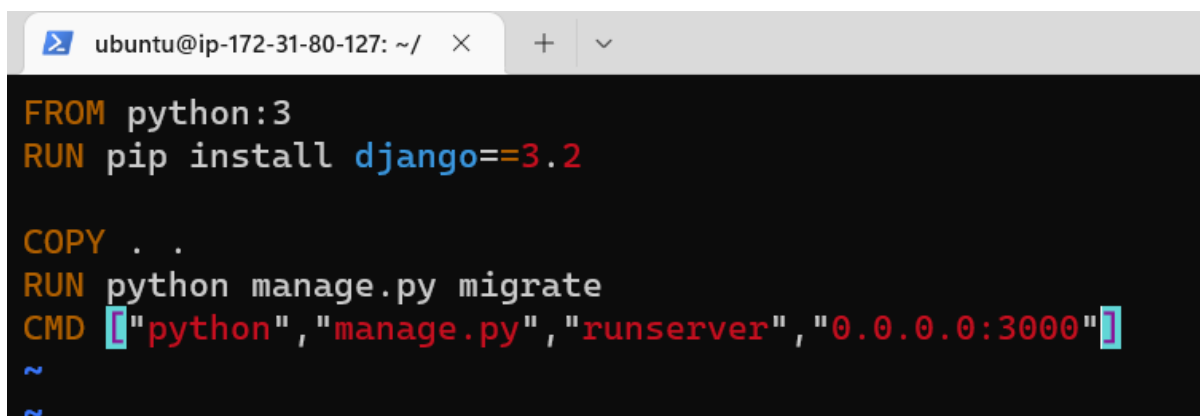
Dockerfile:

A Dockerfile is a script that contains instructions for building a Docker image. It is used to automate the process of creating and configuring a container image. The Dockerfile specifies the base image to use, the commands to run to install dependencies, and any other configuration options.

A Dockerfile is like a set of instructions for making a container. It tells Docker what base image to use, what commands to run, and what files to include. For example, if you were making a container for a website, the Dockerfile might tell Docker to use an official web server image, copy the files for your website into the container, and start the web server when the container starts.

Task:

1. Create a Dockerfile for a simple web application (e.g. a Node.js or Python app)

A screenshot of a terminal window with a dark background. The terminal shows the contents of a Dockerfile. The first line is 'FROM python:3'. The second line is 'RUN pip install django==3.2'. The third line is 'COPY . .'. The fourth line is 'RUN python manage.py migrate'. The fifth line is 'CMD ["python", "manage.py", "runserver", "0.0.0.0:3000"]'. The terminal window has a title bar that says 'ubuntu@ip-172-31-80-127: ~/ × + v'. There are two tilde symbols (~) at the bottom of the terminal window.

```
FROM python:3
RUN pip install django==3.2

COPY . .
RUN python manage.py migrate
CMD ["python", "manage.py", "runserver", "0.0.0.0:3000"]
~
~
```

- **FROM** : Specifies the base image to use as the starting point for the new image.
- **RUN** : Runs commands in the container, such as installing software or updating system settings.
- **COPY** : Copies files or directories from the host machine to the container file system.
- **CMD** : Specifies the command that should be run when the container is started.

2. Build an Image using Dockerfile.

To build an image using a Dockerfile, you can use the “docker build” command.

```

rel.sock: connect: permission denied
ubuntu@ip-172-31-80-127:~/django-todo-cicd$ sudo docker build -t nihal0019/todoapp .
Sending build context to Docker daemon 548.4kB
Step 1/5 : FROM python:3
--> b44268c8cbc0
Step 2/5 : RUN pip install django==3.2
--> Using cache
--> 05caeb203dec
Step 3/5 : COPY . .
--> 70331bde5732
Step 4/5 : RUN python manage.py migrate
--> Running in 951e4d615207

```

3. Run the image to create a container.

To run a container from an image, you can use the “docker run” command.

```

Successfully tagged nihal0019/todoapp:latest
ubuntu@ip-172-31-80-127:~/django-todo-cicd$ sudo docker run -d -p 80:3000 nihal0019/todoapp
c6885bb45846855e42026fcd9c1a5ead0b6a98163b35a7b54f86d1d0bf6e1b6
ubuntu@ip-172-31-80-127:~/django-todo-cicd$
ubuntu@ip-172-31-80-127:~/django-todo-cicd$ |

```

4. Verify that the application is working as expected by accessing it in a web browser.

Todo List

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

To push an image to a public or private repository, you first need to have an account on the repository platform (e.g. Docker Hub) and be logged in.

Once you are logged in, you can use the “**docker push**” command to push your image to a specific repository.

```

ubuntu@ip-172-31-80-127:~/django-todo-cicd$ sudo docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to
one.
Username: nihal0019
Password:
WARNING! Your password will be stored unencrypted in /root/.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-172-31-80-127:~/django-todo-cicd$ sudo docker push nihal0019/todoapp
Using default tag: latest
The push refers to repository [docker.io/nihal0019/todoapp]
f987a336d8d1: Pushed
2395b050e323: Pushed
f8dfde14cd17: Pushed
c110d2a211c2: Mounted from library/python
f0516dcd8c5f: Mounted from library/python
31c905cb9fd7: Mounted from library/python
dc6462f7bb8b: Mounted from library/python
a4db1a405763: Mounted from library/python
9f4f964da727: Mounted from library/python
49b333f7bad4: Mounted from library/python
a463dbda4664: Mounted from library/python
a9099c3159f5: Mounted from library/python
latest: digest: sha256:c46bad0a2f64d22edf189a8e2caf71cac6fde364810fc73a9bb096c15f84944f size: 2851
ubuntu@ip-172-31-80-127:~/django-todo-cicd$
```



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nihal0019/todoapp

By [nihal0019](#) • Updated a minute ago

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Thank you for reading! I hope you find this article helpful.

Happy Learning 😊