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## **Introduction**

The purpose of this project is to develop a Web based Food Recipe application where user can view various Recipes with their ingredients and steps to cook them.

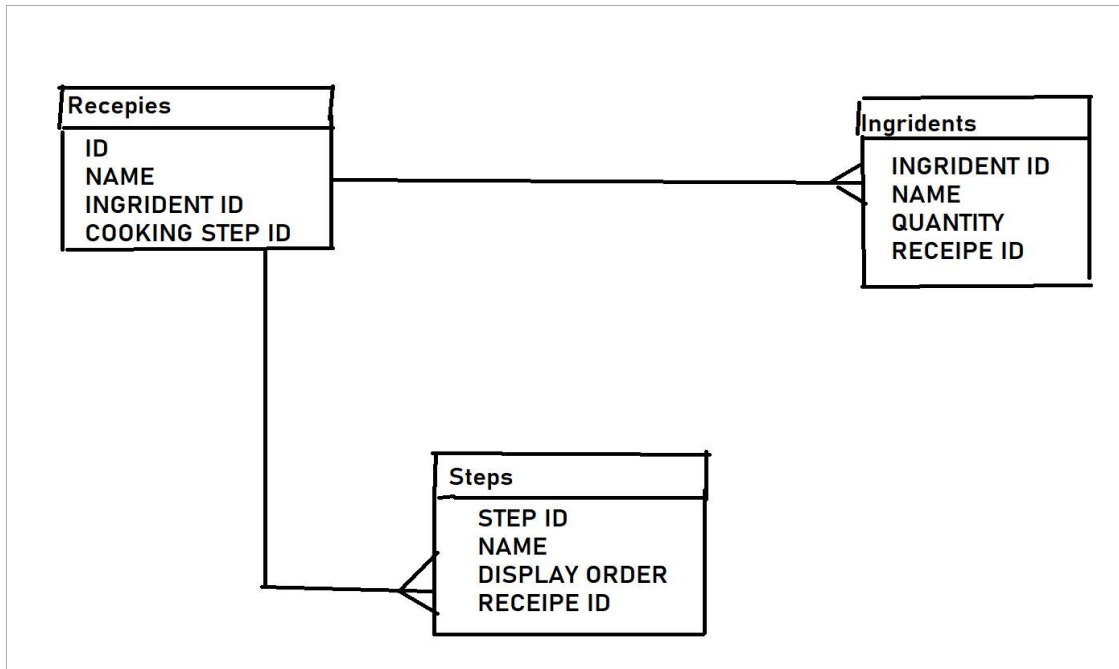
## **Requirements**

To develop this project various tools and methodologies should be followed during its development, testing and deployment process. These tools include using

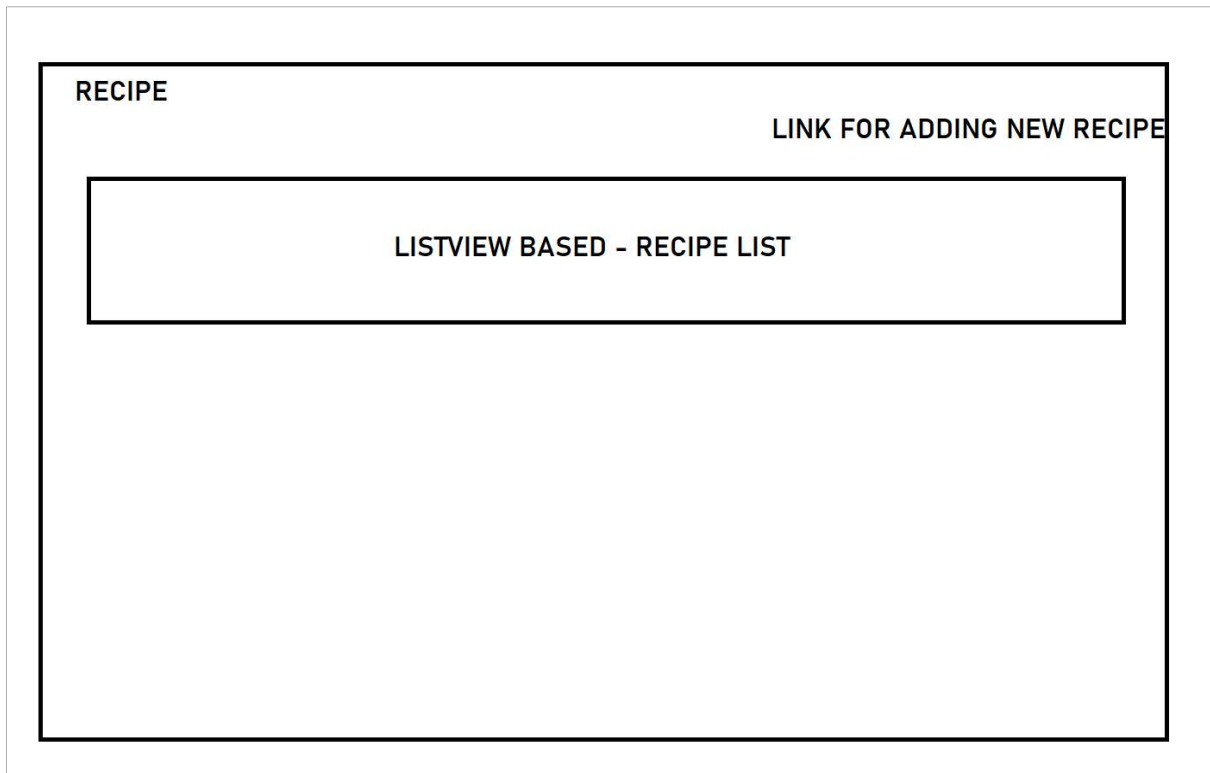
- GITHUB for version control,
- Jira for Agile project management,
- MySQL for database,
- Flask Framework for web based app using python,
- Jenkins for Automation server
- Nginx for Load balancing
- Docker for scaling network resources
- Using Azure cloud to architect solution for front-end and back-end

# Planning

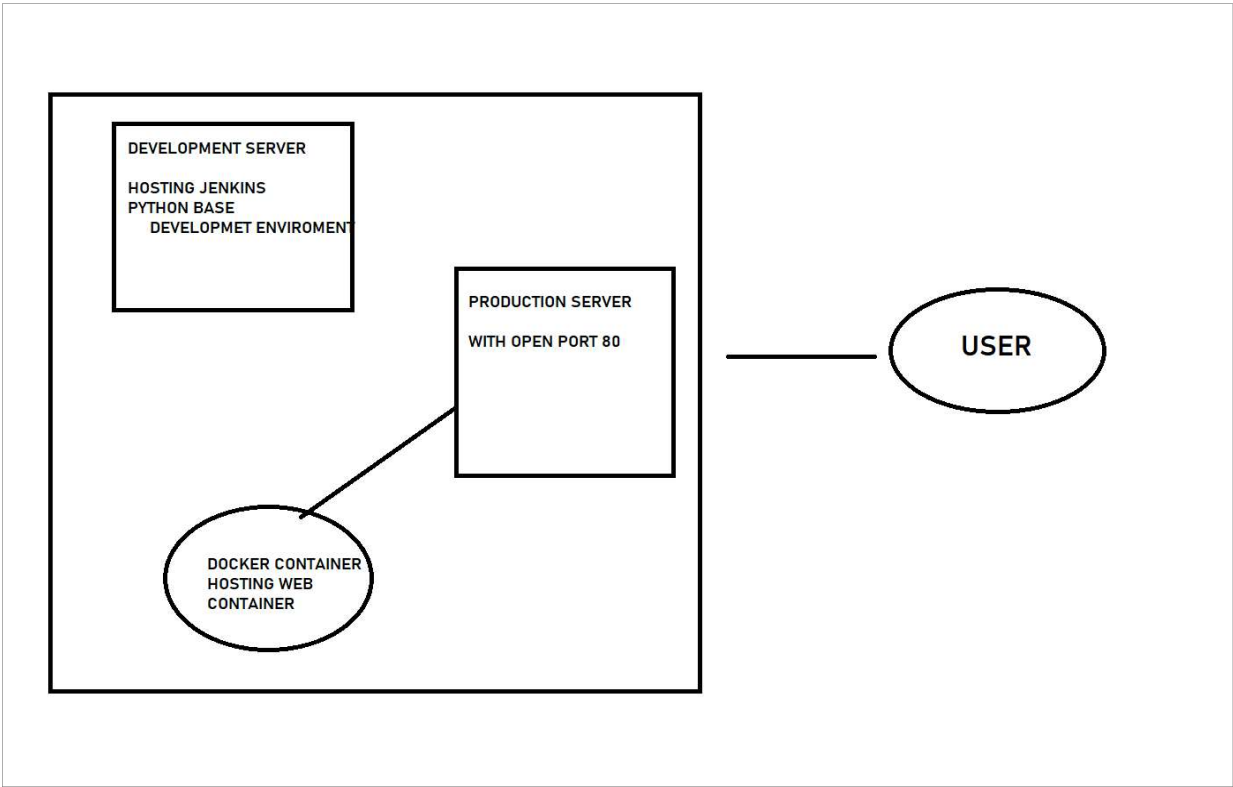
Database Design – It consists of 3 database recipe, ingredients and cooking steps. Where recipe table is linked on 1-many relationship.



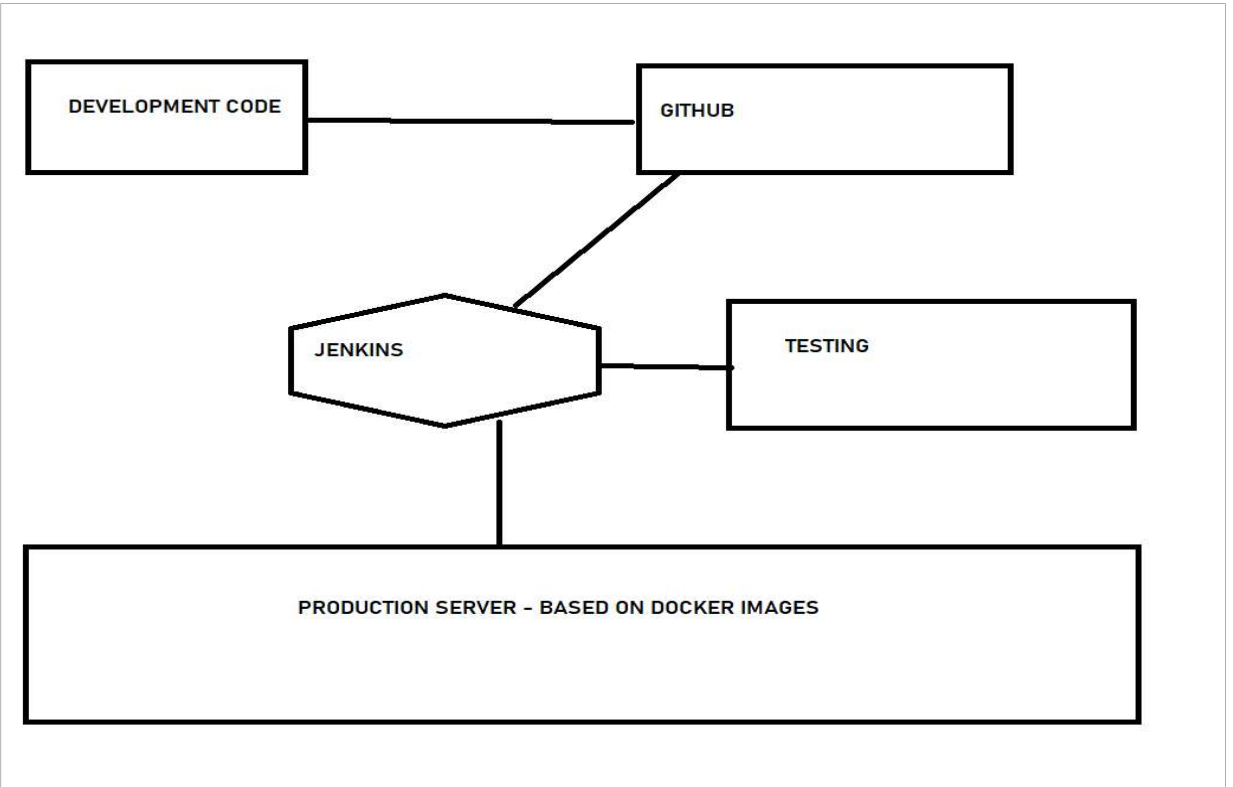
## GUI Design



Architecture Design



CI/CD Process Design



# Development

## Flask/Web App Development Using GITHUB

← → ↻

🔒 qaproductionservr.uksouth.cloudapp.azure.com

☆

🔒 ⬇

# Recipe Diary

ADD NEW Recipe

| Recipe Name | Ingredints | Cooking Steps |  |
|-------------|------------|---------------|--|
| test        |            |               | <div>Delete Recipe</div> <div>ADD NEW Ingredient</div> <div>ADD NEW Cooking Step</div> |


← → ↻

🔒 https://github.com/Amehta-GB/recipebook-qaproject

☆

🔒 ⬇

🔔

 Search or jump to...

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Amehta-GB / recipebook-qaproject Public

👁 Unwatch 1

🍴 Fork 0

★ Star 0

[Code](#) [Issues](#) [Pull requests 1](#) [Actions](#) [Projects](#) [Wiki](#) [Security](#) [Insights](#) [Settings](#)

main 2 branches 1 tag

Go to file

Add file

Code

Ubuntu and Ubuntu ver 1 a8160e1 9 hours ago 40 commits

\_\_pycache\_\_ ver 1 20 hours ago

templates VERSION 1 5 days ago

.coverage ver 1 20 hours ago

.dockerignore ver 1 yesterday

Dockerfile ver 1 23 hours ago

Jenkinsfile ver 1 9 hours ago

README.md ver 1 3 days ago

app.py 1 4 days ago

data.db VERSION 1 5 days ago

docker-compose.yaml ver 1 21 hours ago

requirements.txt ver 1 yesterday

test\_app.py 1 Devops 3 days ago

About

FINAL QA PROJECT

📖 README

★ 0 stars

👁 1 watching

🍴 0 forks

Releases 1

🏠 Development Latest 13 days ago

Packages

No packages published

[Publish your first package](#)

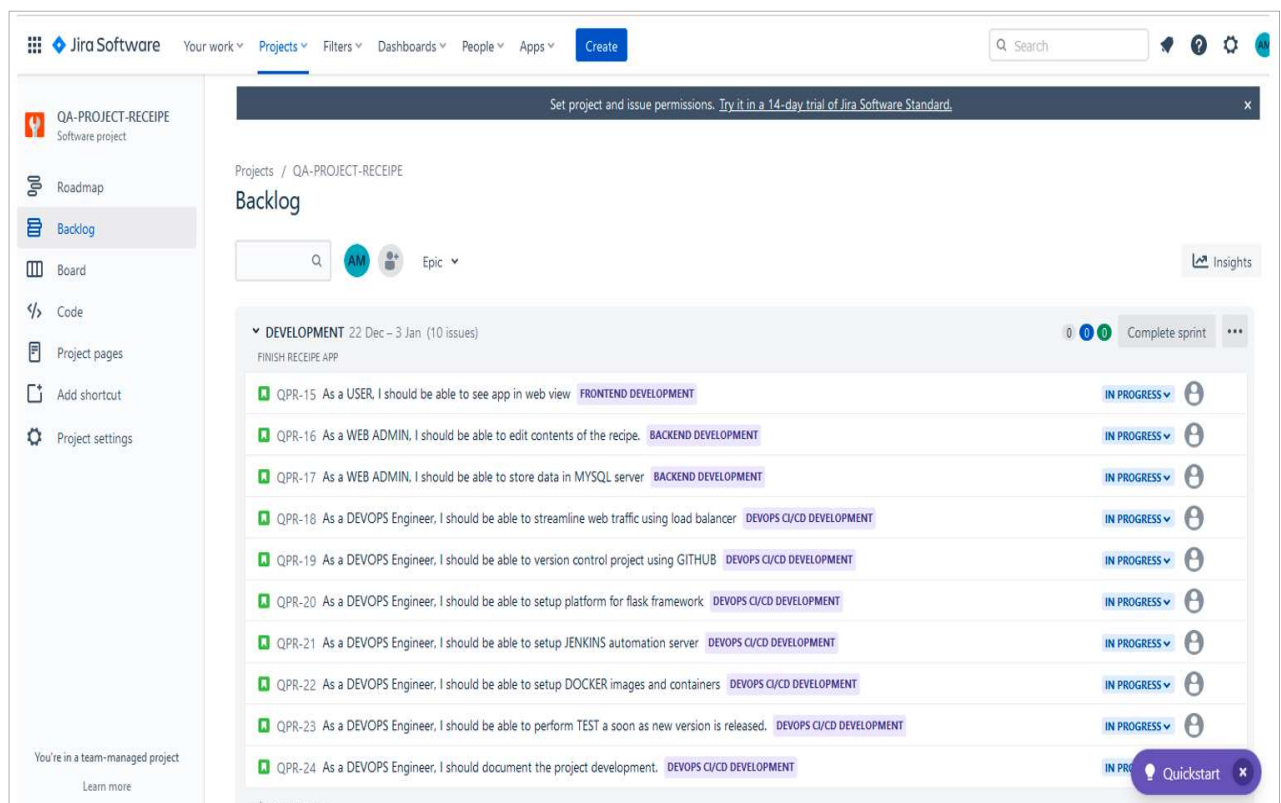
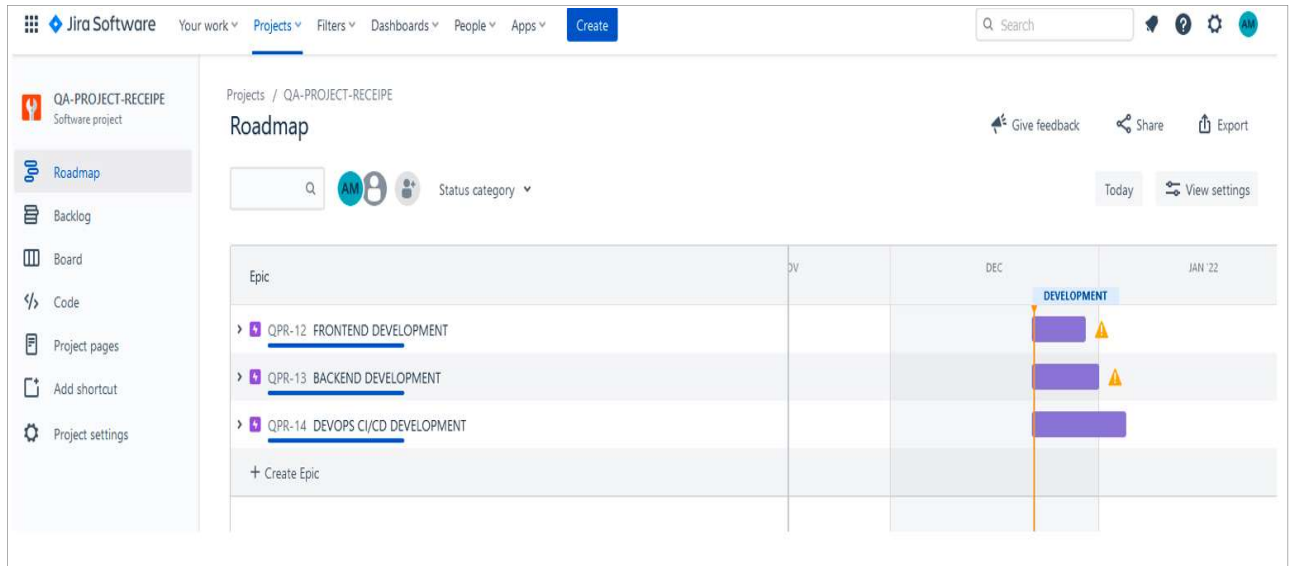
Languages

Python 55.7%

HTML 43.2%

## Architecture Development

Agile development using jira project planning is used





# CI/CD Development

Jenkins

Search

Developer

log out

Dashboard

qaprojectpipeline

Back to Dashboard

Status

Changes

Build Now

Configure

Delete Pipeline

Full Stage View

Rename

Pipeline Syntax

GitHub Hook Log

Build History

trend

Filter builds...

#23

03-Jan-2022 20:02

#22

03-Jan-2022 20:01

#21

03-Jan-2022 10:26

Pipeline qaprojectpipeline

pipeline

Edit description

Disable Project

Recent Changes

Stage View

Average stage times:  
(Average full run timer ~6s)

| Declarative:<br>Checkout SCM | Preparation | Test  | cleanup |
|------------------------------|-------------|-------|---------|
| 960ms                        | 2s          | 189ms | 1s      |

#23

Jan 03 20:02

1 commit

|       |    |       |    |
|-------|----|-------|----|
| 960ms | 2s | 189ms | 1s |
|-------|----|-------|----|

Permalinks

Last build (#21), 9 hr 34 min ago

Last stable build (#14), 11 hr ago

Last successful build (#14), 11 hr ago



## Testing

### FrontEnd App Testing

#### Recipe Diary

ADD NEW Recipe

| Recipe Name | Ingredients | Cooking Steps |  |
|-------------|-------------|---------------|--|
| test        |             |               | <div>Delete Recipe</div> <div>ADD NEW Ingredient</div> <div>ADD NEW Cooking Step</div> |

## Unit Testing

```
dev@DevelopmentServer:~$ cd recipebook-qaproject/
dev@DevelopmentServer:~/recipebook-qaproject$ python3 -m pytest --cov=app
platform linux -- Python 3.8.10, pytest-6.2.5, py-1.11.0, pluggy-1.0.0
rootdir: /home/dev/recipebook-qaproject
plugins: cov-3.0.0
collected 1 item

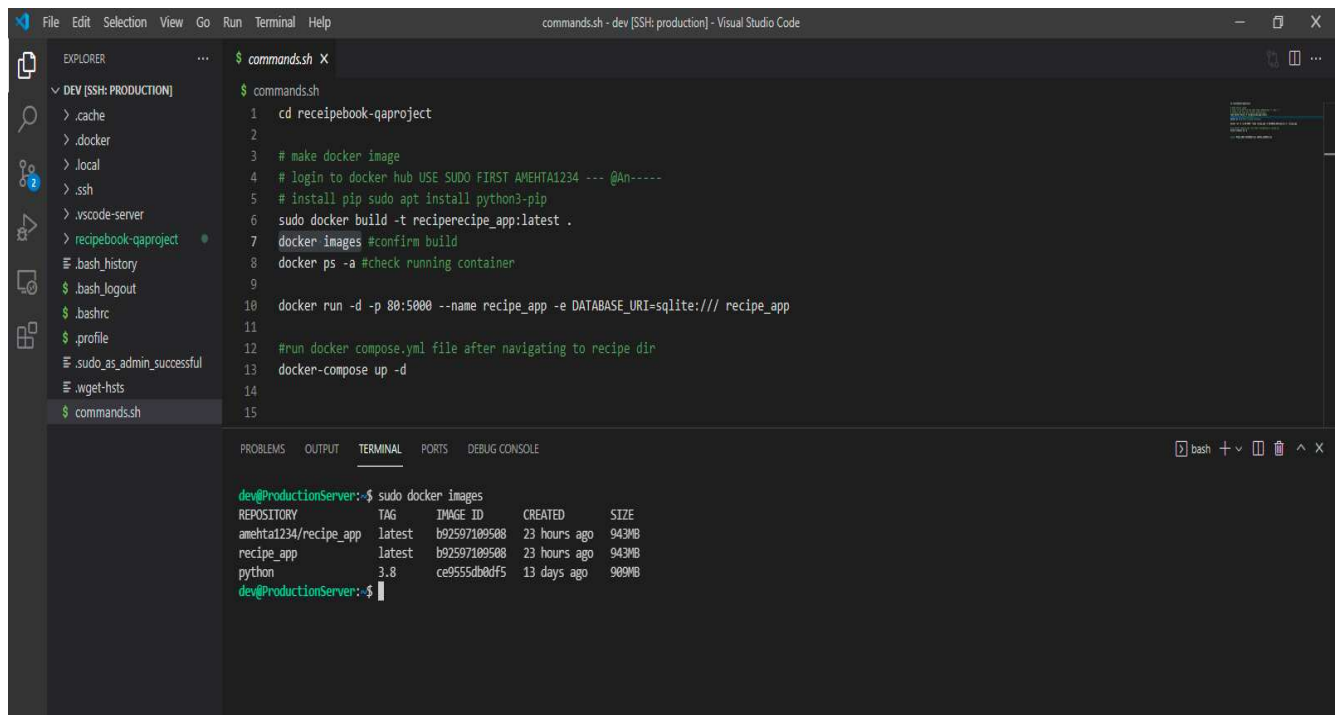
test_app.py . [100%]

----- coverage: platform linux, python 3.8.10-final-0 -----
Name      Stats   Miss  Cover
-----
app.py     88      42    52%
TOTAL     88      42    52%

===== 1 passed in 3.91s =====
dev@DevelopmentServer:~/recipebook-qaproject$
```

# Deployment

## Docker Images / Containers on Production Server

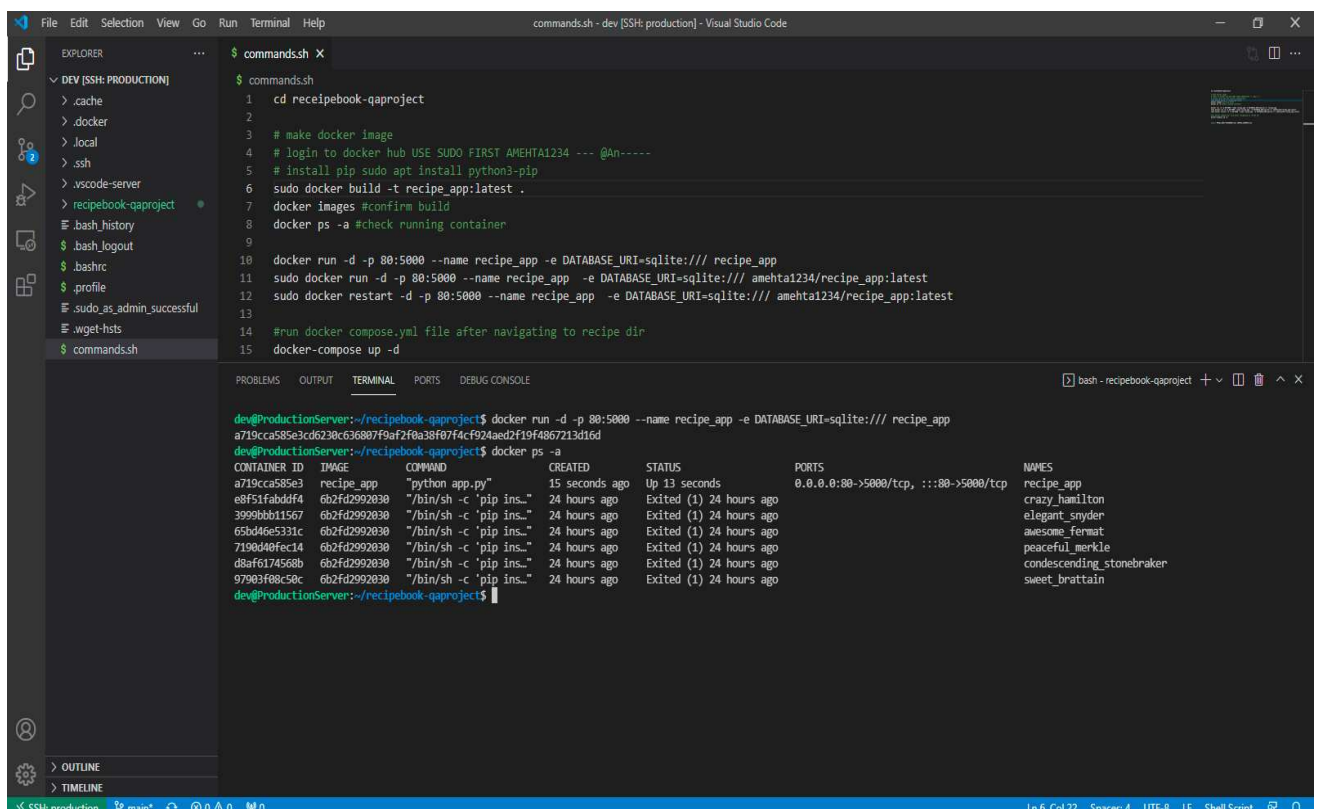


```
File Edit Selection View Go Run Terminal Help
commands.sh - dev [SSH: production] - Visual Studio Code

EXPLORER
DEV [SSH: PRODUCTION]
  .cache
  .docker
  .local
  .ssh
  .vscode-server
  recipebook-qaproject
  .bash_history
  .bash_logout
  .bashrc
  .profile
  sudo_as_admin_successful
  .wget-hsts
  commands.sh

commands.sh
1 cd recipebook-qaproject
2
3 # make docker image
4 # login to docker hub USE SUDO FIRST AMEHTA1234 --- @An-----
5 # install pip sudo apt install python3-pip
6 sudo docker build -t reciperecipe_app:latest .
7 docker images #confirm build
8 docker ps -a #check running container
9
10 docker run -d -p 80:5000 --name recipe_app -e DATABASE_URI=sqlite:/// recipe_app
11
12 #run docker compose.yml file after navigating to recipe dir
13 docker-compose up -d
14
15

TERMINAL
dev@ProductionServer:~$ sudo docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
amehta1234/recipe_app latest      b92597109508 23 hours ago  943MB
recipe_app           latest      b92597109508 23 hours ago  943MB
python              3.8        ce9555db0df5 13 days ago   909MB
dev@ProductionServer:~$
```



```
File Edit Selection View Go Run Terminal Help
commands.sh - dev [SSH: production] - Visual Studio Code

EXPLORER
DEV [SSH: PRODUCTION]
  .cache
  .docker
  .local
  .ssh
  .vscode-server
  recipebook-qaproject
  .bash_history
  .bash_logout
  .bashrc
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  .wget-hsts
  commands.sh

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6 sudo docker build -t reciperecipe_app:latest .
7 docker images #confirm build
8 docker ps -a #check running container
9
10 docker run -d -p 80:5000 --name recipe_app -e DATABASE_URI=sqlite:/// recipe_app
11 sudo docker run -d -p 80:5000 --name recipe_app -e DATABASE_URI=sqlite:/// amehta1234/recipe_app:latest
12 sudo docker restart -d -p 80:5000 --name recipe_app -e DATABASE_URI=sqlite:/// amehta1234/recipe_app:latest
13
14 #run docker compose.yml file after navigating to recipe dir
15 docker-compose up -d

TERMINAL
dev@ProductionServer:~/recipebook-qaproject$ docker run -d -p 80:5000 --name recipe_app -e DATABASE_URI=sqlite:/// recipe_app
a719cca585e3cd6238c636807f9af2f8a38f07f4cf924aed2f19f4867213d16d
dev@ProductionServer:~/recipebook-qaproject$ docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
a719cca585e3   recipe_app     "python app.py"          15 seconds ago Up 13 seconds  0.0.0.0:80->5000/tcp, :::80->5000/tcp recipe_app
e8f51fabddfd   6b2fd2992030  "/bin/sh -c 'pip ins..." 24 hours ago   Exited (1) 24 hours ago          crazy_hamilton
3999bbb11567   6b2fd2992030  "/bin/sh -c 'pip ins..." 24 hours ago   Exited (1) 24 hours ago          elegant_snyder
65bd46e5331c   6b2fd2992030  "/bin/sh -c 'pip ins..." 24 hours ago   Exited (1) 24 hours ago          awesome_ferwat
7198d48fec14   6b2fd2992030  "/bin/sh -c 'pip ins..." 24 hours ago   Exited (1) 24 hours ago          peaceful_merkle
d8af6174568b   6b2fd2992030  "/bin/sh -c 'pip ins..." 24 hours ago   Exited (1) 24 hours ago          condensing_stonebraker
97983f88c50c   6b2fd2992030  "/bin/sh -c 'pip ins..." 24 hours ago   Exited (1) 24 hours ago          sweet_brattain
dev@ProductionServer:~/recipebook-qaproject$
```

## **Conclusion / Future Improvements**

Due to lack of time I like to do further development using docker compose and linking test with jenkins web-hook and further more linking production server to jenkins pipeline.

## **Risk Assessment**

Because this project was the learning assignment its not secured using https protocol plus no data is collected during its runtime, which by the law of data protection act doesn't need approval like cookie saving or user login info.