

# **ASSIGNMENT FOR Coding INTERVIEW**

## **Cloud Engineering (Option 1)**

Mahmoud Ali

## Table of Contents

1	<b>Solution Explanation</b> .....	Error! Bookmark not defined.
2	<b>Logical Topology</b> .....	Error! Bookmark not defined.
3	<b>Standard Deployment &amp; Infra HLD</b> .....	Error! Bookmark not defined.
4	<b>Output</b> .....	Error! Bookmark not defined.
5	<b>Reference Documents</b> .....	Error! Bookmark not defined.

# 1 Solution Explanation

This solution is based on Container (Docker Compose) technology. It is a tool for defining and running multi-container Docker applications.

It builds the Django application on ubuntu image that have all the dependencies and the requirements. It runs 3 containers

- PostgreSQL DB container
- Django App container via HTTP (port 80)
- Django App container via HTTPS (port 443)

## 2 Deployment plan

Pre-requisites:

- docker-compose to be installed

Here below are the steps to run the Django app using the Docker files:

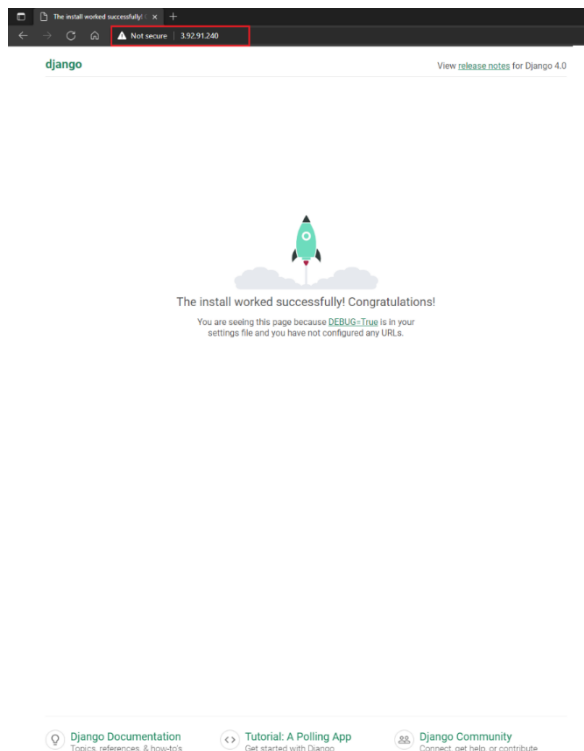
1. Clone the repository
  - git clone <https://github.com/mahmod-ali29/Bayer.git>
2. Go inside the repository
  - cd Bayer/option1
3. Run the containers
  - docker-compose up

It may take up to 5-8 minutes to be ready.

```
ubuntu@ip-172-16-0-54:~/Bayer/option1$ sudo docker-compose up
Starting option1_db_1 ... done
Starting option1_web80_1 ... done
Starting option1_web443_1 ... done
Attaching to option1_db_1, option1_web80_1, option1_web443_1
db_1 |
db_1 | PostgreSQL Database directory appears to contain a database; Skipping initialization
db_1 |
db_1 | 2022-05-20 15:26:30.882 UTC [1] LOG: starting PostgreSQL 14.3 (Debian 14.3-1.pgdg110+1) on x86_64-pc-linux-gnu, c
db_1 | 2022-05-20 15:26:30.885 UTC [1] LOG: listening on IPv4 address "0.0.0.0", port 5432
db_1 | 2022-05-20 15:26:30.885 UTC [1] LOG: listening on IPv6 address ":::", port 5432
db_1 | 2022-05-20 15:26:30.890 UTC [1] LOG: listening on Unix socket "/var/run/postgresql/.s.PGSQL.5432"
db_1 | 2022-05-20 15:26:30.903 UTC [25] LOG: database system was shut down at 2022-05-20 15:26:27 UTC
db_1 | 2022-05-20 15:26:30.908 UTC [1] LOG: database system is ready to accept connections
web80_1 | Watching for file changes with StatReloader
web443_1 | * Running on https://0:443 (Press CTRL+C to quit)
web443_1 | * Restarting with stat
web443_1 | * Debugger is active!
web443_1 | * Debugger PIN: 773-440-599
web80_1 | [20/May/2022 15:26:41] "GET / HTTP/1.1" 200 10697
web80_1 | [20/May/2022 15:26:41] "GET /static/admin/css/fonts.css HTTP/1.1" 200 423
web80_1 | [20/May/2022 15:26:41] "GET /static/admin/fonts/Roboto-Bold-webfont.woff HTTP/1.1" 200 86184
web80_1 | [20/May/2022 15:26:41] "GET /static/admin/fonts/Roboto-Regular-webfont.woff HTTP/1.1" 200 85876
web80_1 | Not Found: /favicon.ico
web80_1 | [20/May/2022 15:26:42] "GET /favicon.ico HTTP/1.1" 404 2107
web80_1 | [20/May/2022 15:26:42] "GET /static/admin/fonts/Roboto-Light-webfont.woff HTTP/1.1" 200 85692
web443_1 | 213.196.211.34 - - [20/May/2022 15:27:50] "GET / HTTP/1.1" 200 -
web443_1 | 213.196.211.34 - - [20/May/2022 15:27:51] "GET /static/admin/css/fonts.css HTTP/1.1" 200 -
web443_1 | 213.196.211.34 - - [20/May/2022 15:27:52] "GET /static/admin/fonts/Roboto-Bold-webfont.woff HTTP/1.1" 200 -
web443_1 | 213.196.211.34 - - [20/May/2022 15:27:52] "GET /static/admin/fonts/Roboto-Regular-webfont.woff HTTP/1.1" 200 -
web443_1 | 213.196.211.34 - - [20/May/2022 15:27:52] "GET /static/admin/fonts/Roboto-Light-webfont.woff HTTP/1.1" 200 -
```

### 3 Output

Access the application via HTTP (port 80)



Access the application via HTTPS (port 443)

