

My Repo: <https://github.com/dearjay22/advanced-containers.git>

Introduction

- I have built an end-to-end data web app.
- Chunked ETL → MySQL → Flask UI (filters + pagination + aggregate) → automated Selenium tests

Screenshot

```
PS D:\Canada - Study\Conestoga\Sem - 2\Database Automation\Submissions\Assignment-3\Big-Data-Web-Application> docker compose up -d --build
=> => transferring dockerfile: 304B
=> [internal] load metadata for docker.io/library/python:3.11-slim
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/5] FROM docker.io/library/python:3.11-slim@sha256:ff8533f48e12b705fc20d339fde2ec61d0b234dd9366bab3bc84d7b70a45c8c0
=> => resolve docker.io/library/python:3.11-slim@sha256:ff8533f48e12b705fc20d339fde2ec61d0b234dd9366bab3bc84d7b70a45c8c0
=> [internal] load build context
=> => transferring context: 3.38kB
=> CACHED [2/5] WORKDIR /app
=> CACHED [3/5] COPY requirements.txt .
=> CACHED [4/5] RUN pip install --no-cache-dir -r requirements.txt
=> [5/5] COPY . .
=> => exporting to image
=> => exporting layers
=> => exporting manifest sha256:84dffa950d9e8356613a603ea7e9dfcd7a2b55b626d32045b3aa433cfe388ce
=> => exporting config sha256:34362868b14ddc72f88016af96a1076c57554d5988e2d7b3636c94af6248f670
=> => exporting attestation manifest sha256:9672b86c722273086ccc64bbac5252fcd7b2f6c5fb13fc1c61046e99a0a6a1
=> => exporting manifest list sha256:2698efa5e5a187088211bba00732b08bf5ea1fb3f99d5c78c04ee151027fc61d
=> => naming to docker.io/library/big-data-web-application-web:latest
=> => unpacking to docker.io/library/big-data-web-application-web:latest
=> => resolving provenance for metadata file
[+] Running 4/4
 ✓ web Built
 ✓ Network big-data-web-application_default Created
 ✓ Container big-data-web-application-db-1 Started
 ✓ Container big-data-web-application-web-1 Started
```

```
PS D:\Canada - Study\Conestoga\Sem - 2\Database Automation\Submissions\Assignment-3\Big-Data-Web-Application> docker compose ps
time="2025-10-16T18:15:29-04:00" level=warning msg="D:\Canada - Study\Conestoga\Sem - 2\Database Automation\Submissions\Assignment-3\Big-Data-Web-Application\docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid potential confusion"
NAME                                IMAGE                                COMMAND                                SERVICE    CREATED      STATUS      PORTS
big-data-web-application-db-1       mysql:8.0                           "docker-entrypoint.s..."           db         4 minutes ago Up 4 minutes 0.0.0.0:3307->3306/tcp, [::]:3307->3306/tcp
big-data-web-application-web-1     big-data-web-application-web         "flask run --host=0.0.0.0"           web        4 minutes ago Up 4 minutes 0.0.0.0:5000->5000/tcp, [::]:5000->5000/tcp
```

```

TERMINAL  PORTS  PROBLEMS  OUTPUT  DEBUG CONSOLE
docker + - [ ] [ ] ... [ ] [ ]

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> SHOW TABLES;
+-----+
| Tables_in_nyc311 |
+-----+
| service_requests |
+-----+
1 row in set (0.00 sec)

mysql> 
```

```
mysql> select count(*) from service_requests;
+-----+
| count(*) |
+-----+
|      32606 |
+-----+
1 row in set (2.11 sec)
```

Web Application

