

## BDL Assignment 7:

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### Task 1 :

- We utilize the digit recognition code using FastAPI from Assignment 6
- We downloaded Prometheus and grafana
- We use the Prometheus fast API instrumentator to track the metrics from fast API module
- We configure the Prometheus YAML file to the port of interest

```
global:
  scrape_interval: 5s
  evaluation_interval: 5s

alerting:
  alertmanagers:
    - static_configs:
        - targets: []

rule_files: []

scrape_configs:
  - job_name: "prometheus"
    static_configs:
      - targets: ["localhost:9090"]

  - job_name: "fastapi"
    static_configs:
      - targets: ["127.0.0.1:8000"]
```

- We configure Grafana to Prometheus's port to visualize monitored metrics.

## Task 2 :

We create a docker image using the Docker File

```
# use python runtime as parent image
FROM python:3.10-slim

# set working dir
WORKDIR /app

# copy current dir
COPY . /app

# Install dependencies
RUN pip install --no-cache-dir -r requirements.txt

# For fastapi
EXPOSE 8000

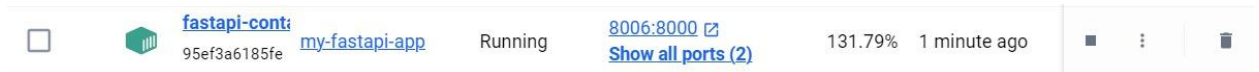
# For prometheus
EXPOSE 8001

# Run fastapi
CMD ["uvicorn", "task1:app", "--host", "0.0.0.0", "--port", "8000"]
```

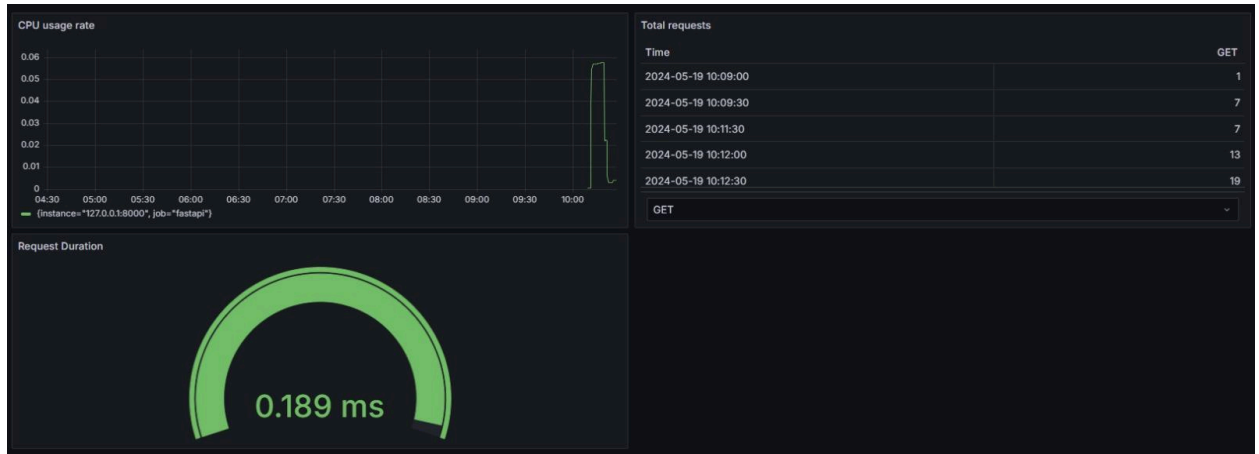
We create a requirements file for Docker, where the dependencies are installed

```
fastapi
uvicorn
numpy
pillow
prometheus-fastapi-instrumentator
argparse
scipy
tensorflow
```

We now create our docker container.



We set up multiple instances using different ports and monitored using Grafana and Prometheus.



Repository link: [https://github.com/Rajagopal1543/BDL\\_Assignment\\_7.git](https://github.com/Rajagopal1543/BDL_Assignment_7.git)