Task4

Task 4: Monitoring & Logging

Steps to Configure Monitoring/Logging Tools

For this task, I have used **Prometheus** and **Grafana**. To set them up on the web application used for Task 1 and Task 2, I created a `USERDATA` script for the EC2 instance to install Docker.

Prometheus Configuration

1. **Add the Configuration File for Prometheus**

   Create a file named `prometheus-config.yml` with the following content:

   ```yaml
   global:
     scrape_interval: 4s

   scrape_configs:
     - job_name: prometheus
       static_configs:
         - targets: ["10.0.0.36:80"]
   ```

2. **Create a Docker Compose File**

   Create a `docker-compose.yml` file to run Prometheus with the given configurations:

   ```yaml
   version: "3"

   services:
     prom-server:
       image: prom/prometheus
       ports:
   ```

```
      - 9090:9090
    volumes:
      - ./prometheus-
config.yml:/etc/prometheus/prometheus.yml
```

3. **Start Prometheus**

   Run the following command to start Prometheus:

   ```
   docker-compose up
   ```

4. **Verify Prometheus Setup**

   Check if Prometheus is scraping metrics by running:

   ```
   curl http://10.0.0.36:80/metrics
   ```

   You can access Prometheus at `http://<public-ip>:9090`.

Grafana Setup

1. **Run the Grafana Docker Container**

   Execute the following command to run Grafana:

   ```
   docker run -d -p 3000:3000 --name=grafana grafana/grafana-
   oss
   ```

2. **Add Data Source to Prometheus**

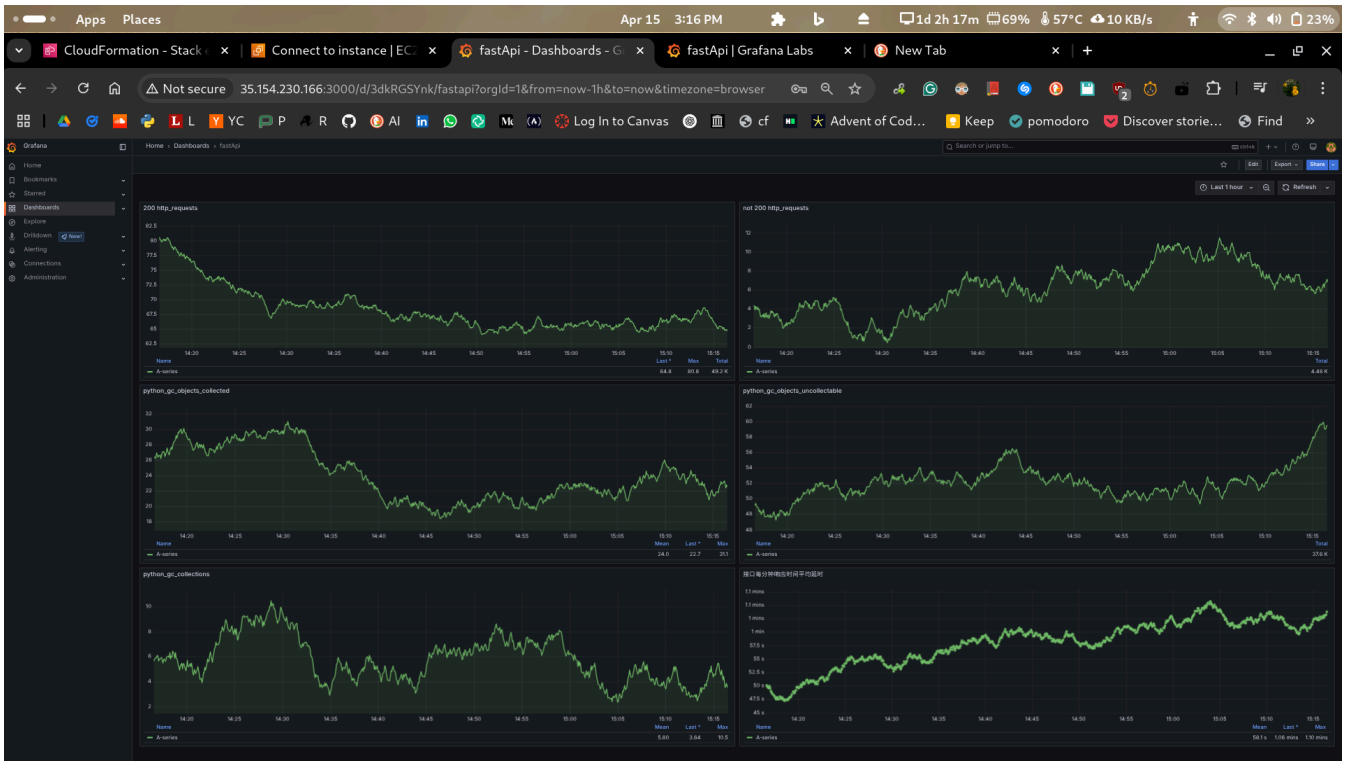
   In Grafana, add a data source by specifying the following URL:

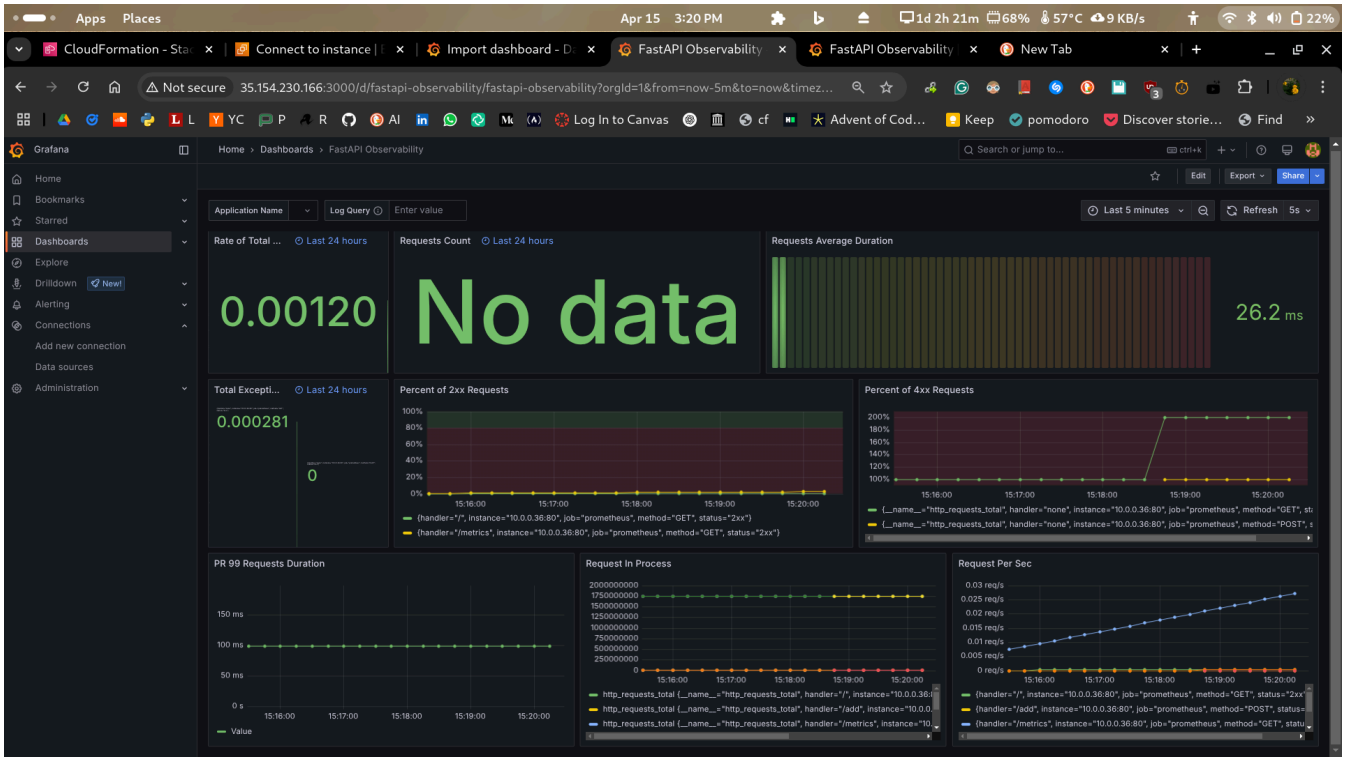
   ```
   http://10.0.0.36:9090
   ```

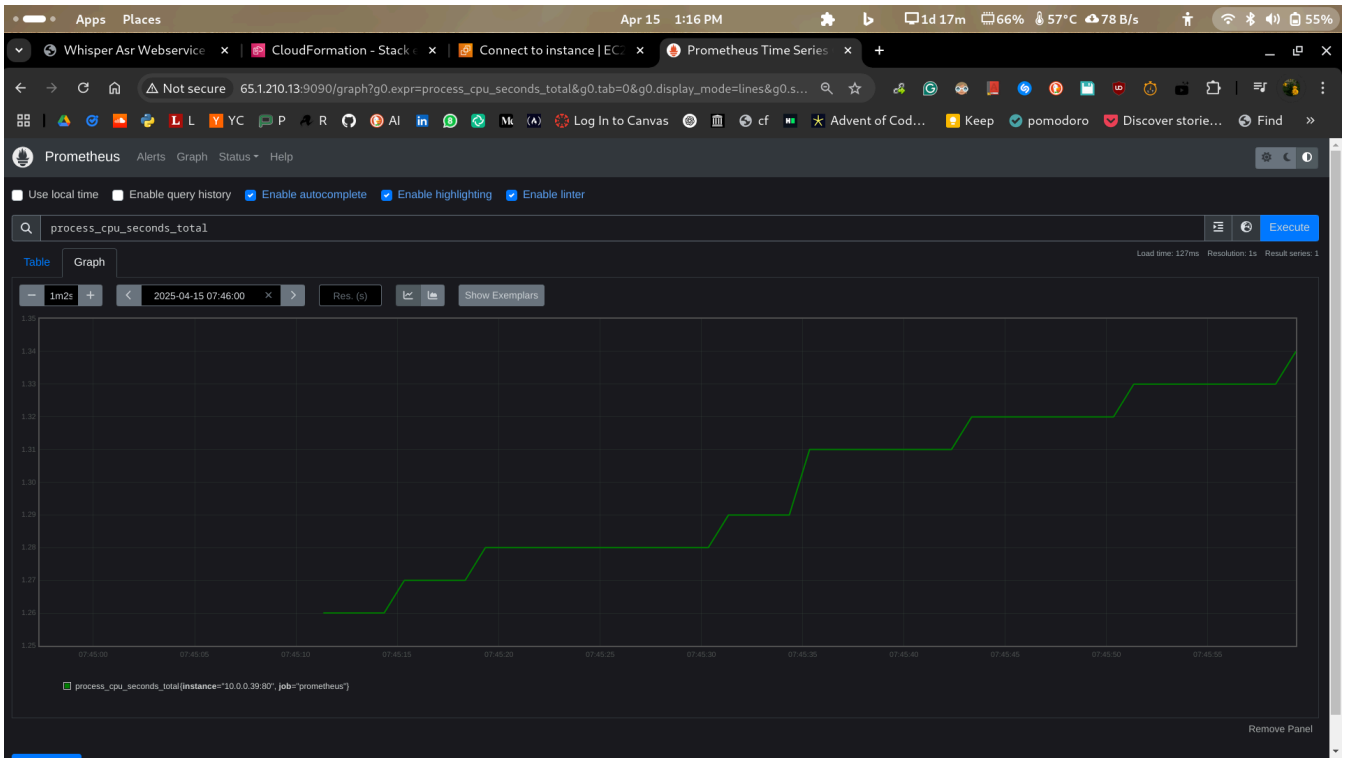
3. **Create a New Dashboard**
   - Log in to Grafana.
   - Navigate to **Dashboard > New Dashboard**.

- Add the panel with ID `15834`.
- You can also add another dashboard with ID `18739`.

Dashboard Screenshots Showing Application Metrics






Apps Places
Apr 15 1:16 PM
1d 17m 66% 57°C 78 B/s
55%
Whisper Asr Webservice
CloudFormation - Stack
Connect to instance | EC2
Prometheus Time Series
Not secure
65.1.210.13:9090/graph?g0.expr=process_cpu_seconds_total&g0.tab=0&g0.display_mode=lines&g0.s...
Log In to Canvas
Advent of Cod...
Keep
pomodoro
Discover storie...
Find
Prometheus
Alerts
Graph
Status
Help
Use local time
Enable query history
Enable autocomplete
Enable highlighting
Enable linter
process_cpu_seconds_total
Execute
Table
Graph
Load time: 127ms
Resolution: 1s
Result series: 1
1m2s
2025-04-15 07:46:00
Res. (s)
Show Exemplars
process_cpu_seconds_total{instance="10.0.0.39:80", job="prometheus"}
Remove Panel