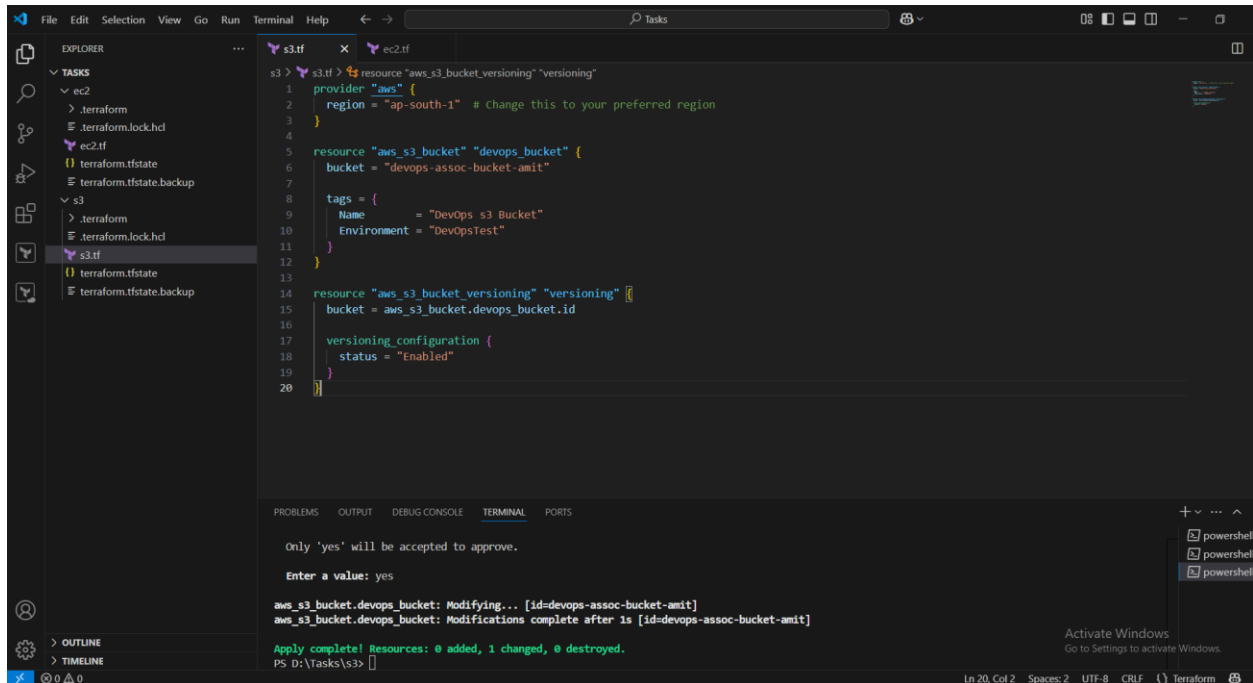


# Task 1: Terraform S3 Bucket



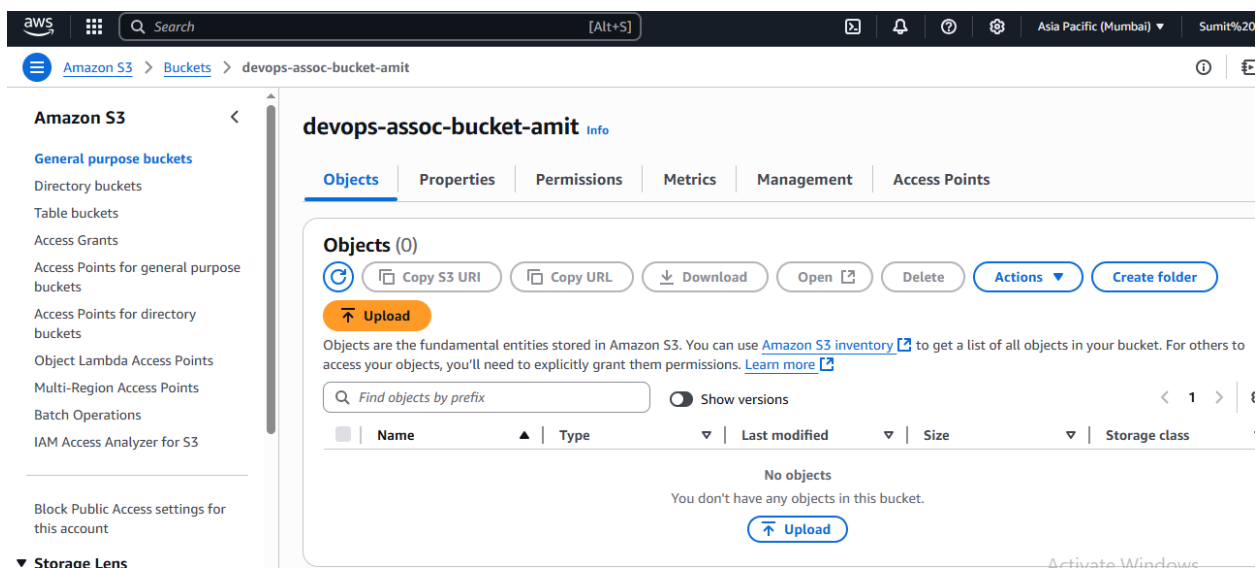
The screenshot shows the Visual Studio Code editor with a Terraform configuration file named `s3.tf` open. The file contains the following HCL code:

```
1 provider "aws" {  
2   region = "ap-south-1" # Change this to your preferred region  
3 }  
4  
5 resource "aws_s3_bucket" "devops_bucket" {  
6   bucket = "devops-assoc-bucket-amit"  
7  
8   tags = {  
9     Name       = "DevOps s3 Bucket"  
10    Environment = "DevOpsTest"  
11  }  
12 }  
13  
14 resource "aws_s3_bucket_versioning" "versioning" {  
15   bucket = aws_s3_bucket.devops_bucket.id  
16  
17   versioning_configuration {  
18     status = "Enabled"  
19   }  
20 }
```

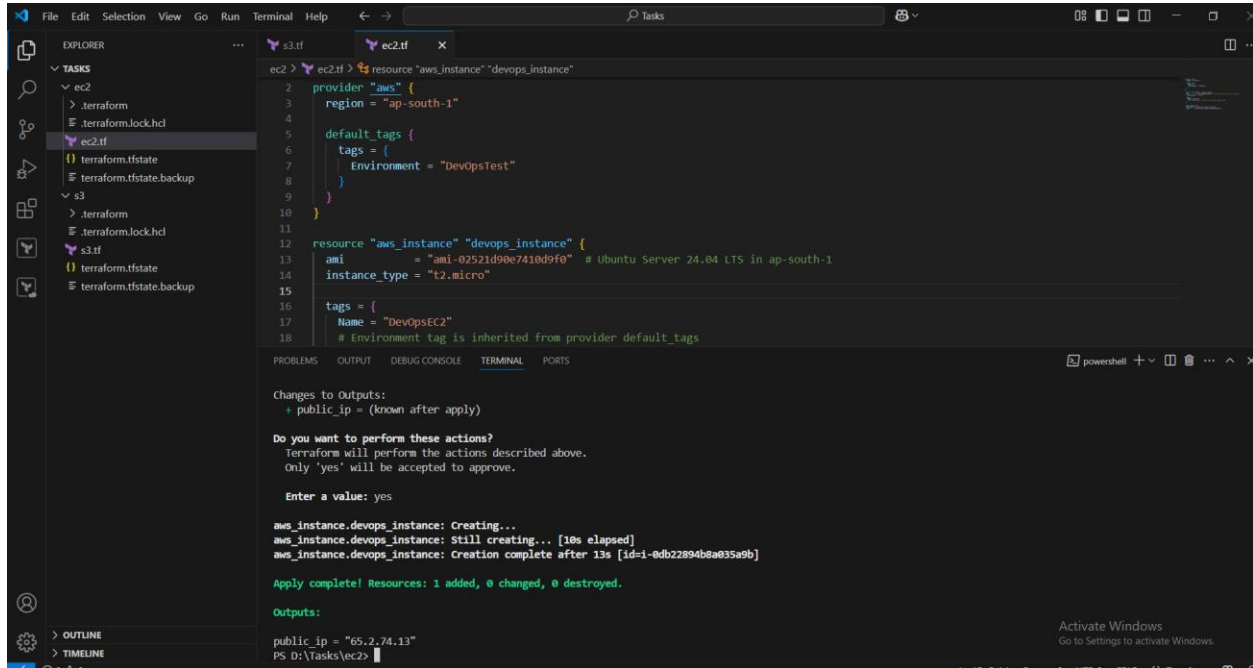
The terminal at the bottom shows the output of the `terraform apply` command:

```
Only 'yes' will be accepted to approve.  
Enter a value: yes  
aws_s3_bucket.devops_bucket: Modifying... [id=devops-assoc-bucket-amit]  
aws_s3_bucket.devops_bucket: Modifications complete after 1s [id=devops-assoc-bucket-amit]  
Apply complete! Resources: 0 added, 1 changed, 0 destroyed.  
PS D:\Tasks\s3>
```

- terraform init
- terraform plan
- terraform apply



## Task 2: EC2 Instance Provisioning



```
ec2 > terraform init
ec2 > terraform plan
ec2 > terraform apply

Changes to Outputs:
+ public_ip = (known after apply)

Do you want to perform these actions?
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.

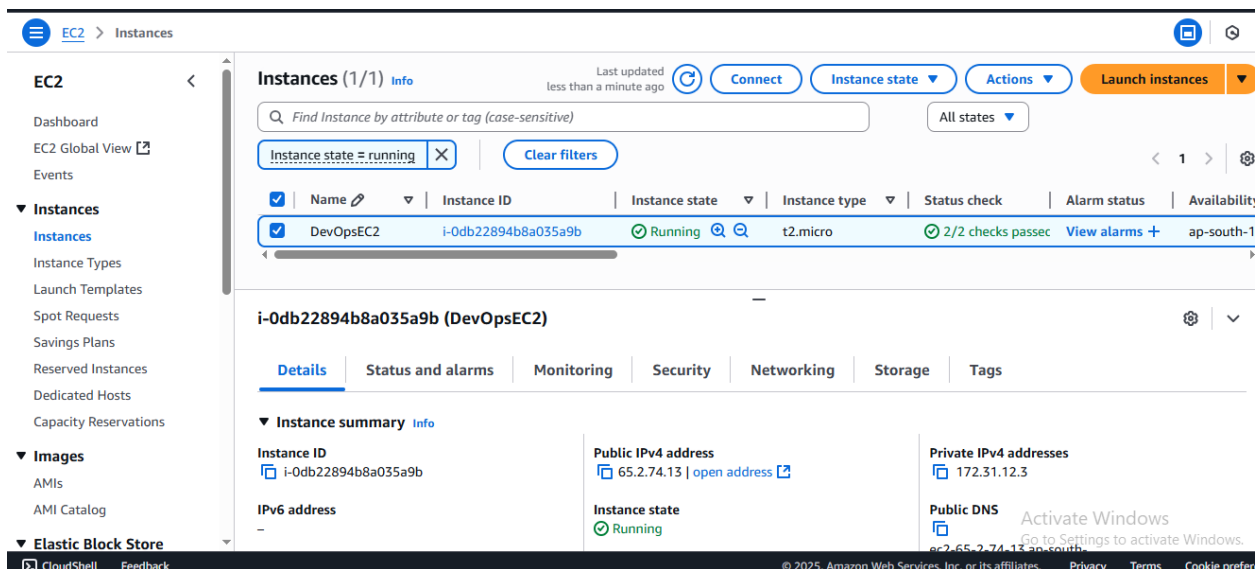
Enter a value: yes

aws_instance.devops_instance: Creating...
aws_instance.devops_instance: Still creating... [10s elapsed]
aws_instance.devops_instance: Creation complete after 13s [id=i-0db22894b8a035a9b]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.

Outputs:
public_ip = "65.2.74.13"
PS D:\Tasks\ec2>
```

- terraform init
- terraform plan
- terraform apply



**Instances (1/1) Info** Last updated less than a minute ago

Find Instance by attribute or tag (case-sensitive) All states

Instance state = running Clear filters

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
DevOpsEC2	i-0db22894b8a035a9b	Running	t2.micro	2/2 checks passed	View alarms	ap-south-1

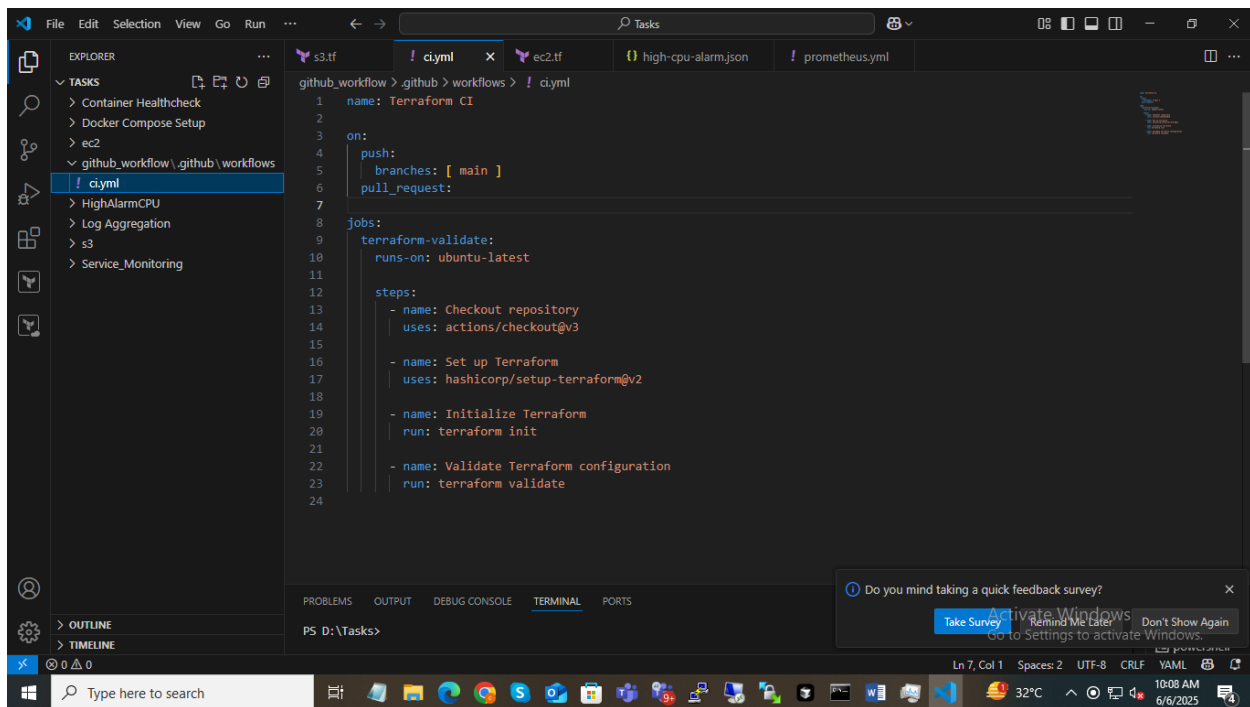
**i-0db22894b8a035a9b (DevOpsEC2)**

Details Status and alarms Monitoring Security Networking Storage Tags

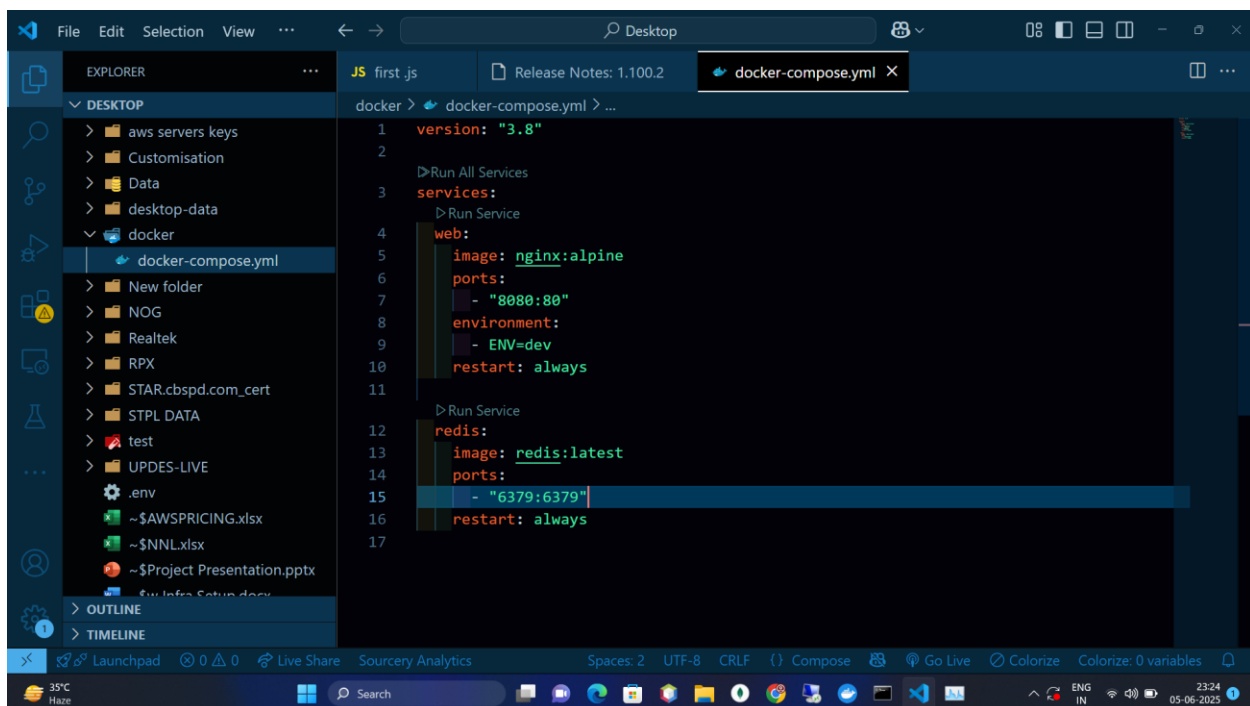
**Instance summary Info**

Instance ID i-0db22894b8a035a9b	Public IPv4 address 65.2.74.13   open address	Private IPv4 addresses 172.31.12.3
IPv6 address -	Instance state Running	Public DNS ec2-65-2-74-13.ap-south-

## Task 3: CI Pipeline Snippet



## Task 4: Docker Compose Setup



- docker-compose up -d
- docker ps

```
C:\Windows\System32\cmd.exe
ion"
[+] Running 8/8
  ✓redis Pulled                                57.1s
  ✓7cd6cf8be223 Download complete              1.0s
  ✓2eadfe3f8ccb Download complete              1.0s
  ✓85952d2db39a Download complete              1.0s
  ✓4f4fb700ef54 Already exists                  0.0s
  ✓b99b5a4f322e Download complete             18.5s
  ✓61320b01ae5e Download complete             20.6s
  ✓1db54fb7bf48 Download complete              1.0s
[+] Running 2/3
  ✓Network docker_default Created              0.8s
  - Container docker-web-1 Starting             12.2s
  ✓Container docker-redis-1 Started            12.7s
Error response from daemon: Ports are not available: exposing port TCP 0.0.0.0:8080 -> 0.0.0.0:0: listen tcp 0.0.0.0:8080: bind: Only one usage of each socket address (protocol/network address/port) is normally permitted.

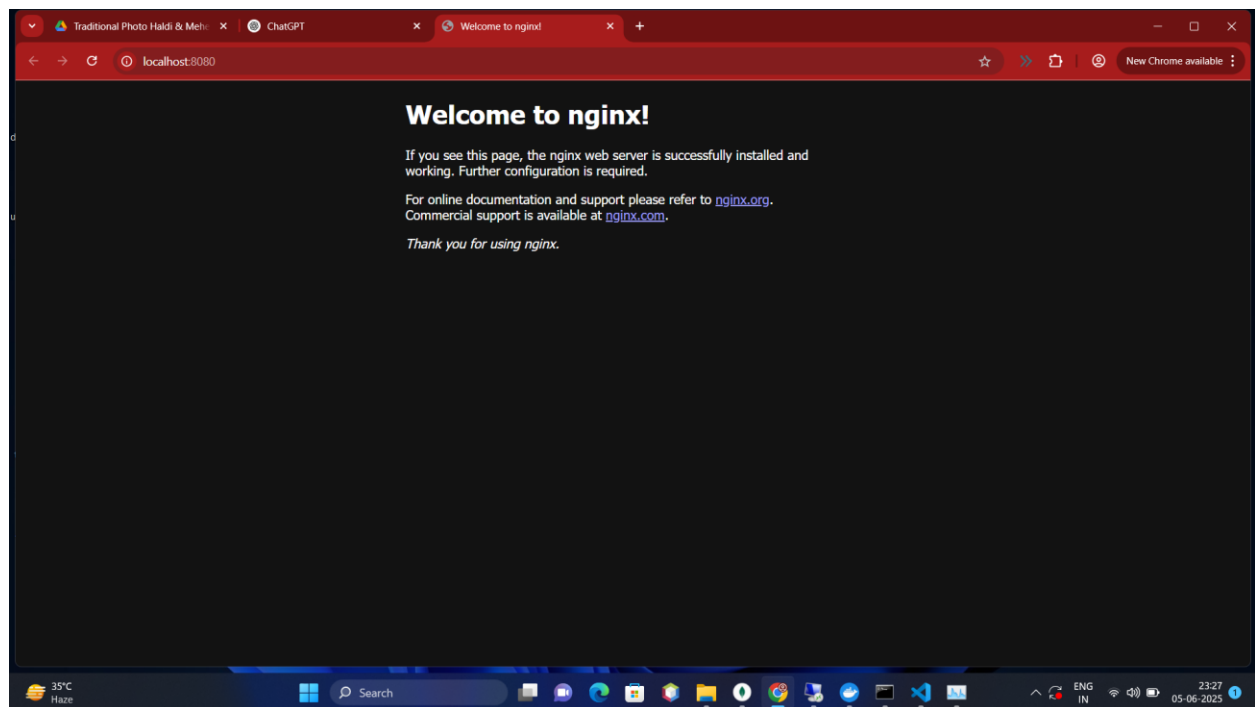
C:\Users\Amit Singh\Desktop\docker>docker-compose up -d
time="2025-06-05T23:23:13+05:30" level=warning msg="C:\Users\Amit Singh\Desktop\docker\docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid potential confusion"
[+] Running 2/2
  ✓Container docker-redis-1 Running             0.0s
  ✓Container docker-web-1 Started              0.7s

C:\Users\Amit Singh\Desktop\docker>docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
c99299a07678   nginx:alpine "/docker-entrypoint..." About a minute ago Up 5 seconds   0.0.0.0:8080->80/tcp   docker-web-1f92f153c4ac0   redis:latest "docker-entrypoint.s..." About a minute ago Up 49 seconds 0.0.0.0:6379->6379/tcp   docker-redis-1

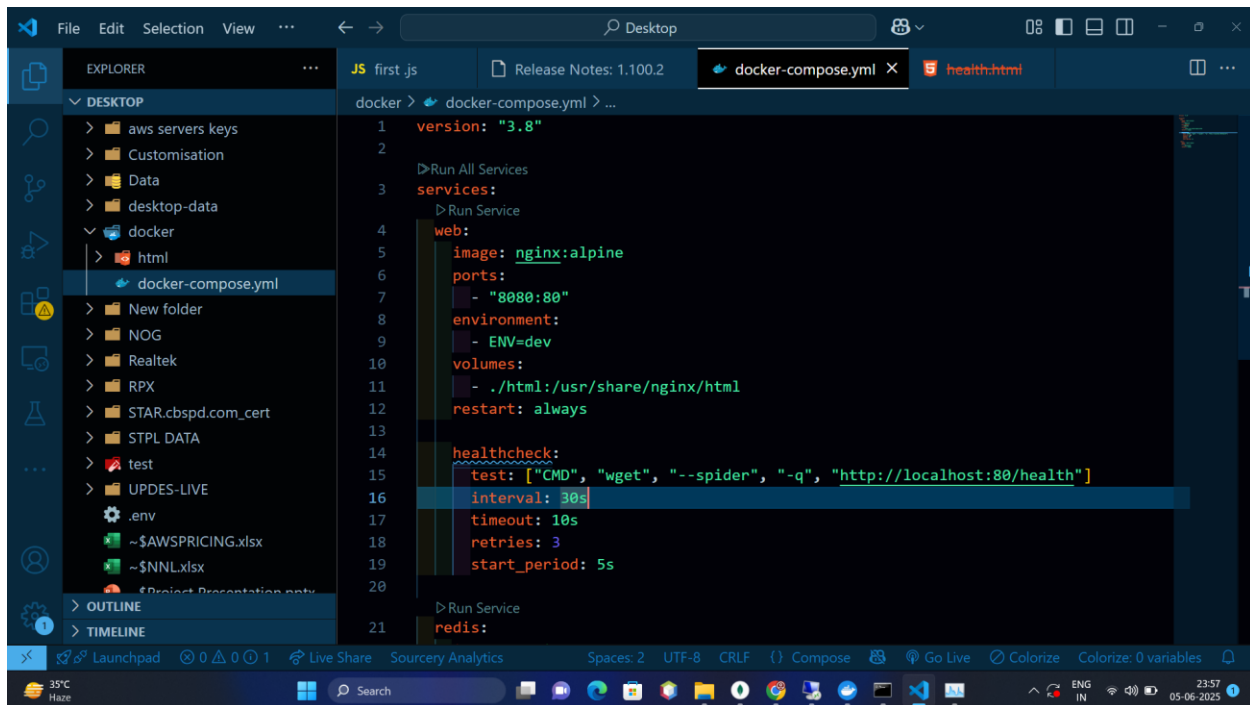
C:\Users\Amit Singh\Desktop\docker>docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
c99299a07678   nginx:alpine "/docker-entrypoint..." About a minute ago Up 16 seconds   0.0.0.0:8080->80/tcp   docker-web-1
f92f153c4ac0   redis:latest "docker-entrypoint.s..." About a minute ago Up 59 seconds   0.0.0.0:6379->6379/tcp   docker-redis-1

C:\Users\Amit Singh\Desktop\docker>
```

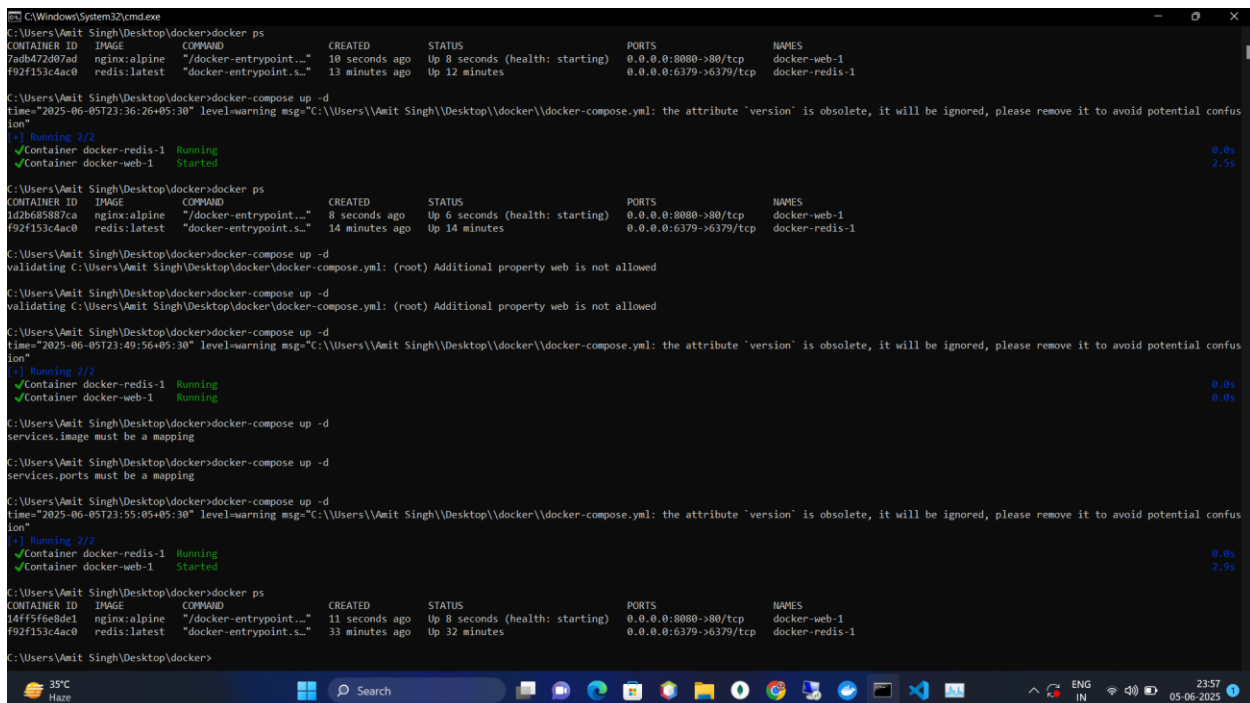
➤ <https://localhost:8080>



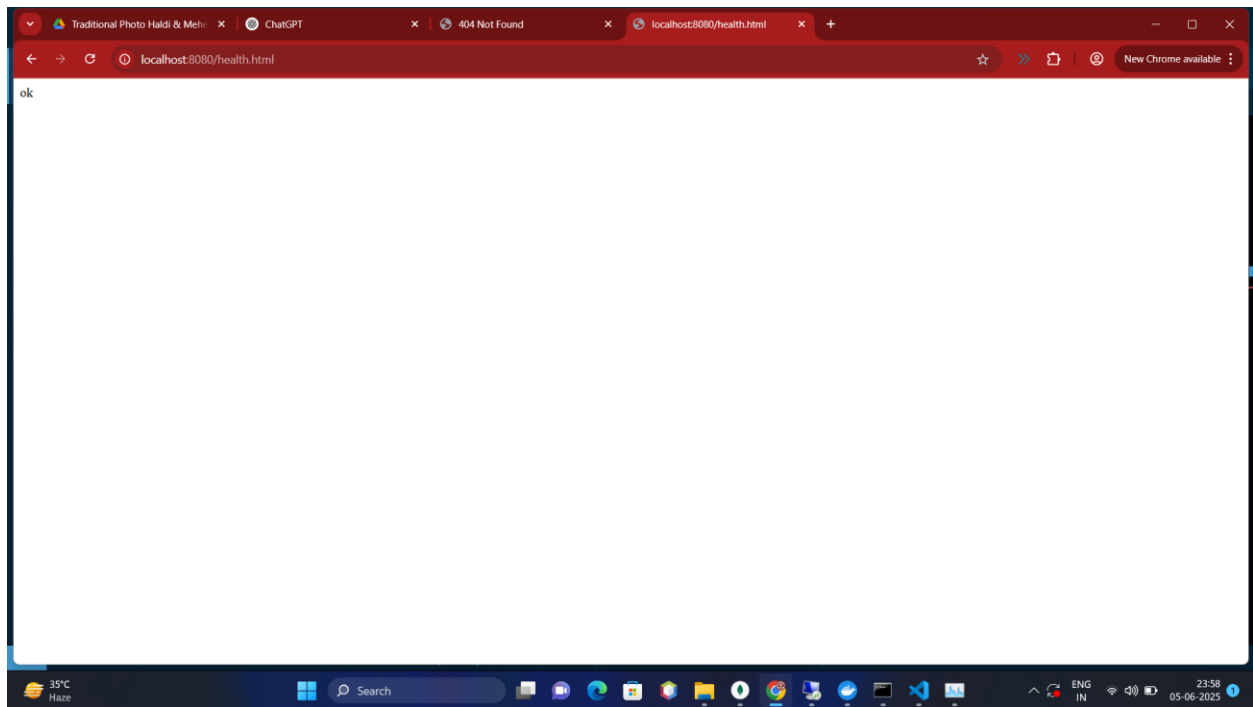
## Task 5: Container Healthcheck



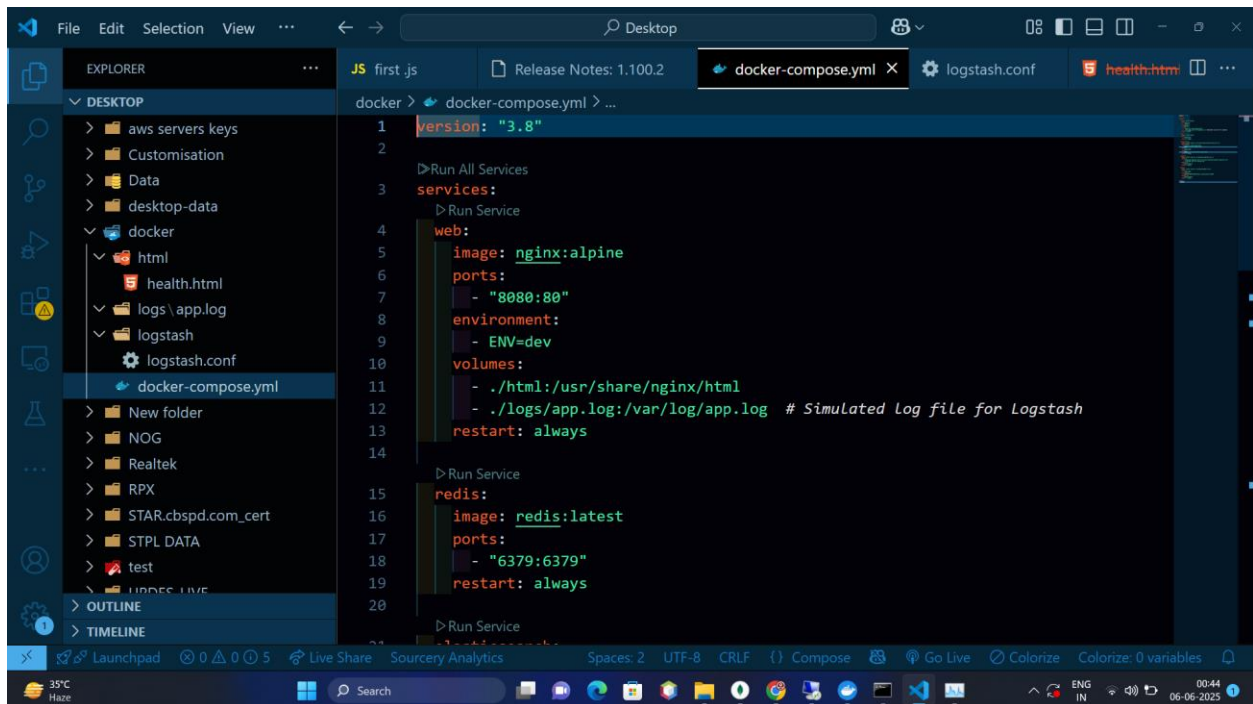
- `docker-compose up -d`
- `docker ps`

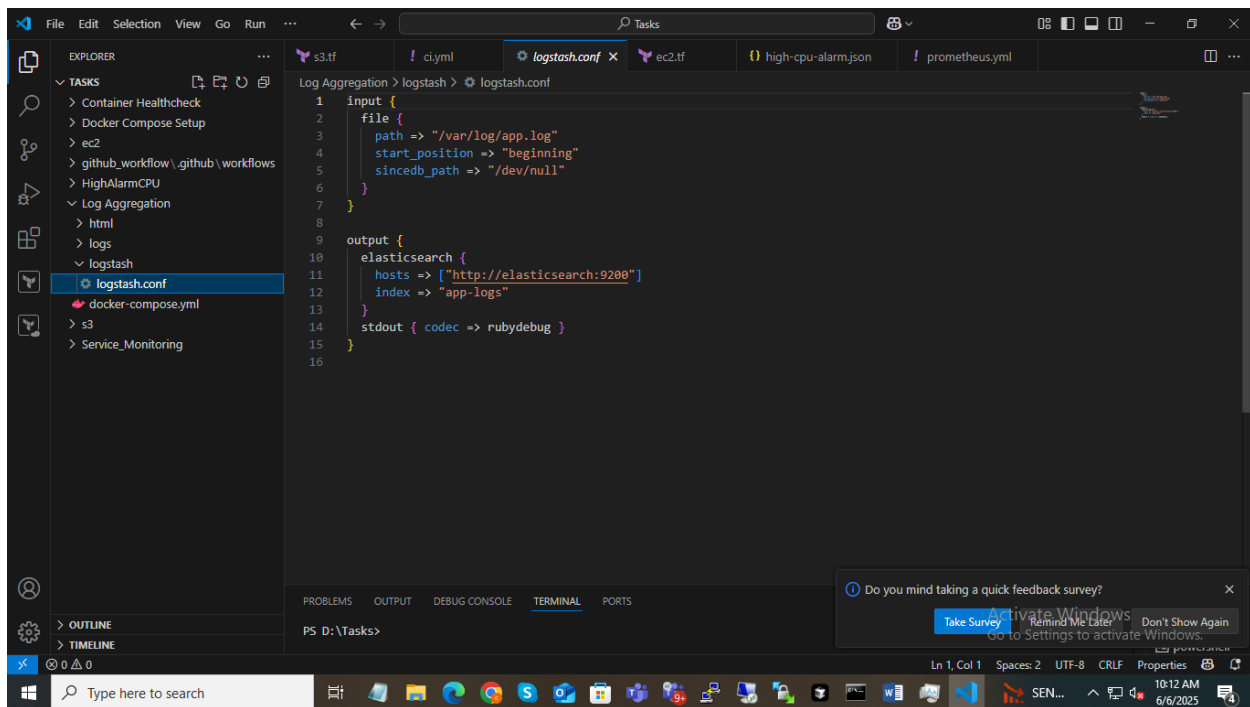


Checks HTTP 200 on <http://localhost:8080/health>

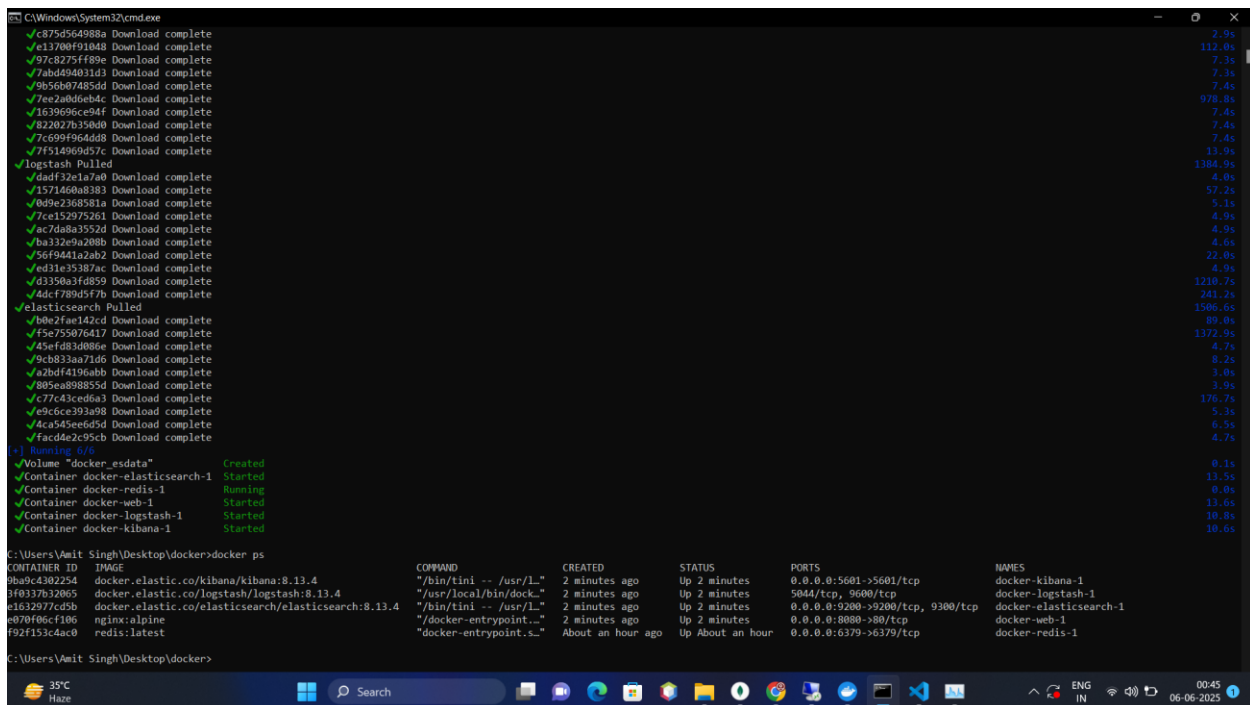


## Task 6: Log Aggregation

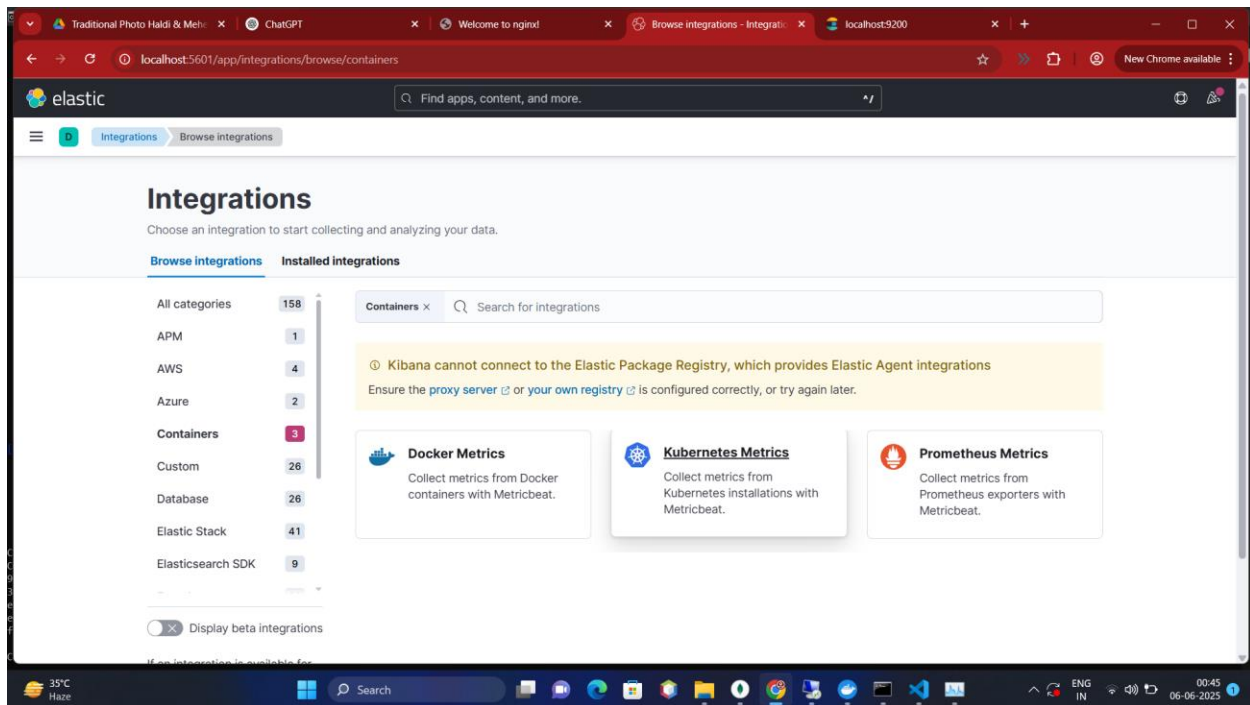




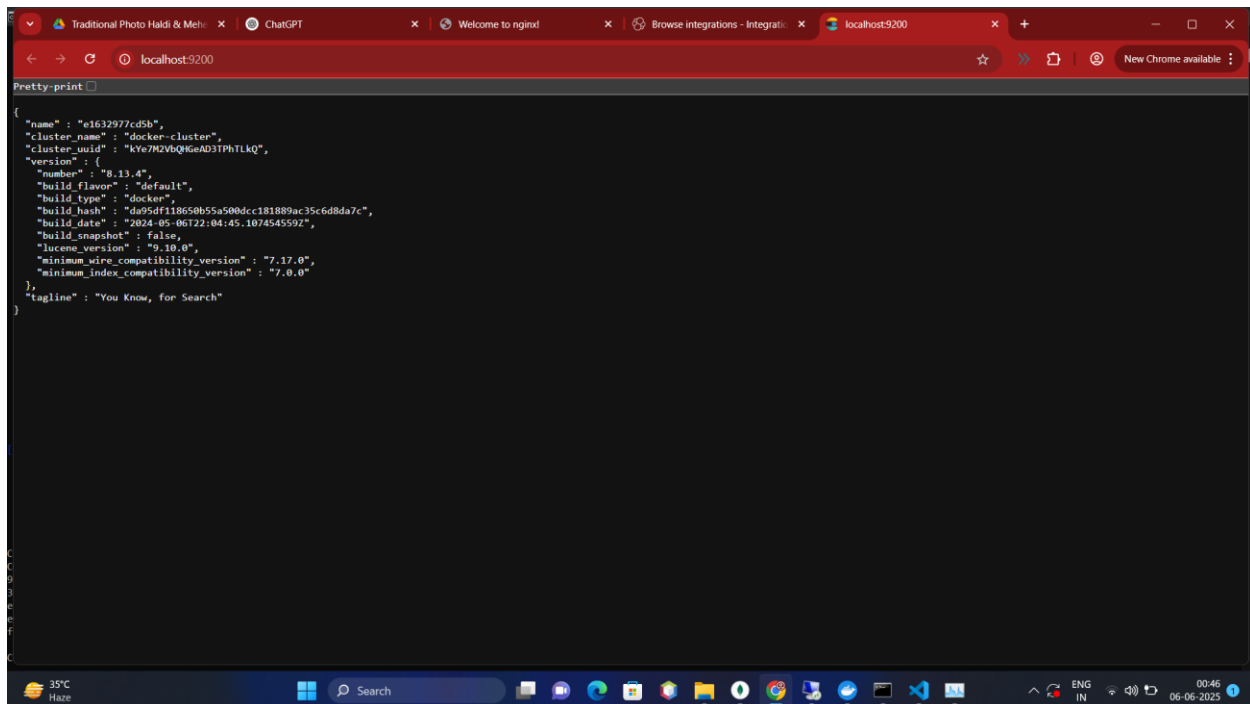
- docker-compose up -d
- docker ps



- Kibana: <https://localhost:5601>

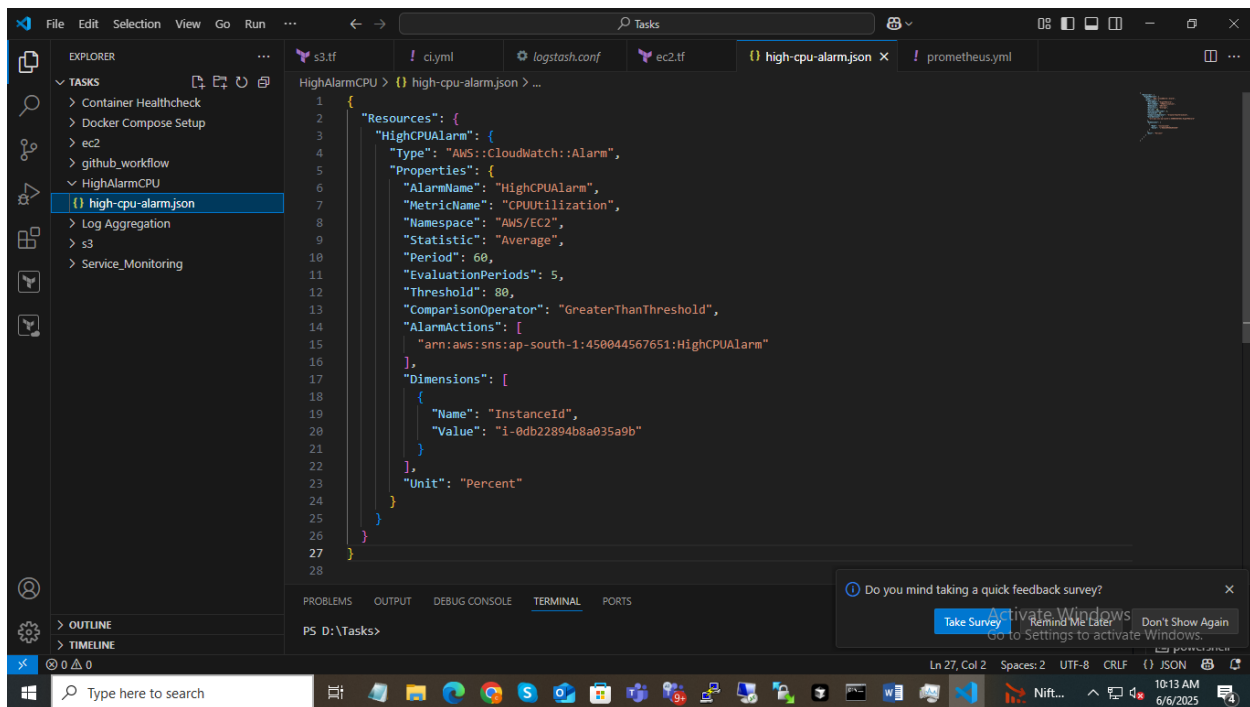


➤ Elasticsearch: <http://localhost:9200>



## Task 7: CloudWatch Alert





## Task 8: Service Monitoring

