

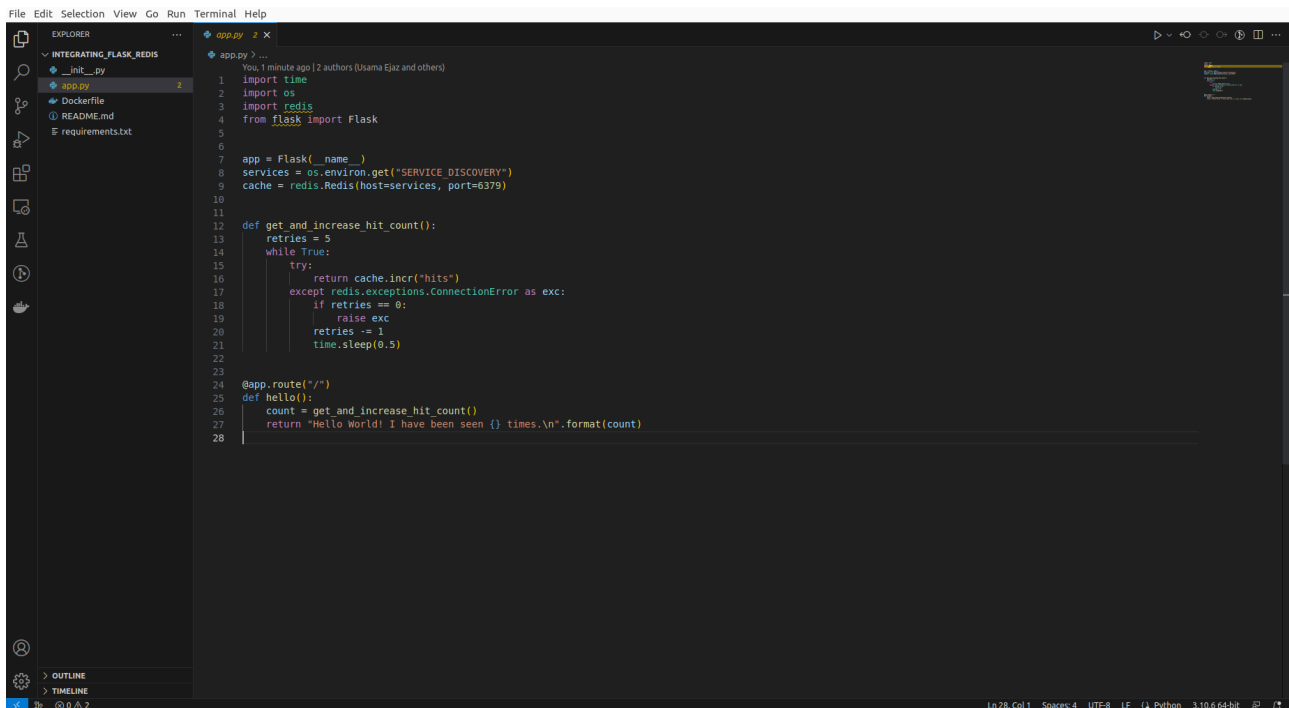
# Group Member's Name:-

**Muhammad Arsalan (2303.KHI.DEG.025)**

**Abdul Rehman (2303.KHI.DEG.035)**

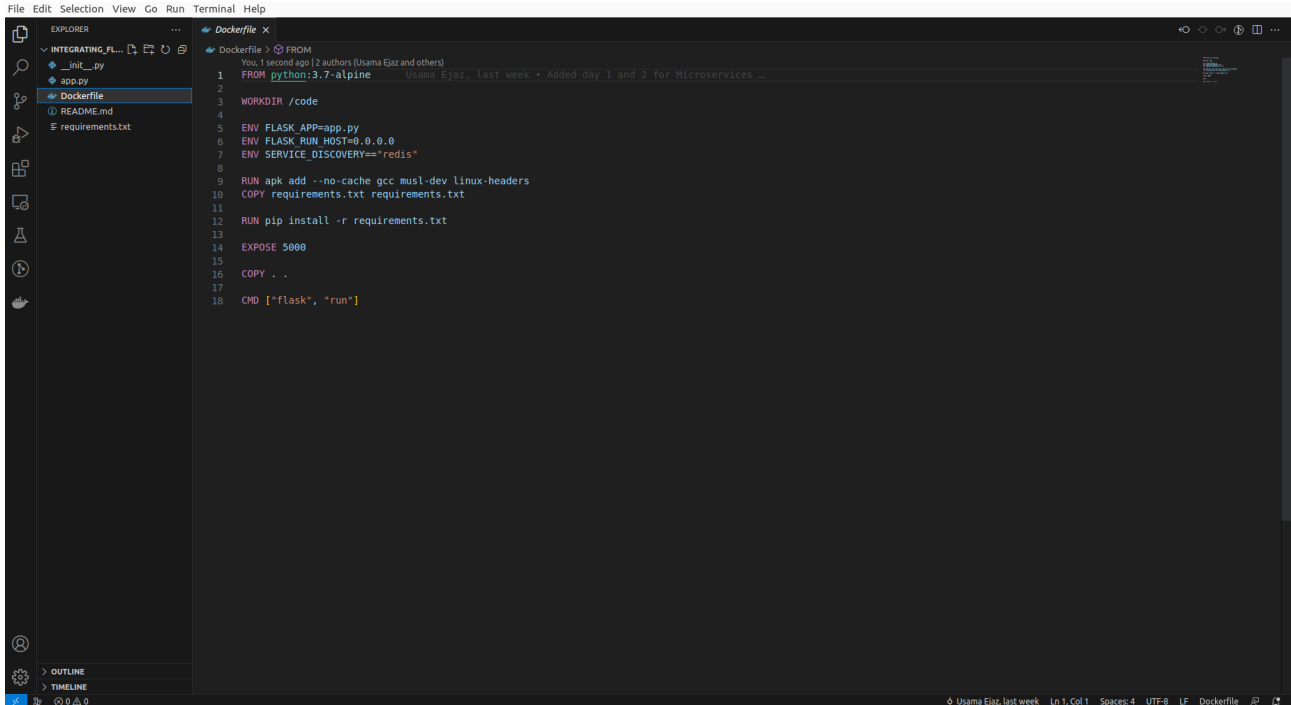
**Arshad Shiwani (2303.KHI.DEG.026)**

In the **app.py** file, the connection to Redis is established by utilizing the **SERVICE\_DISCOVERY** environment variable.



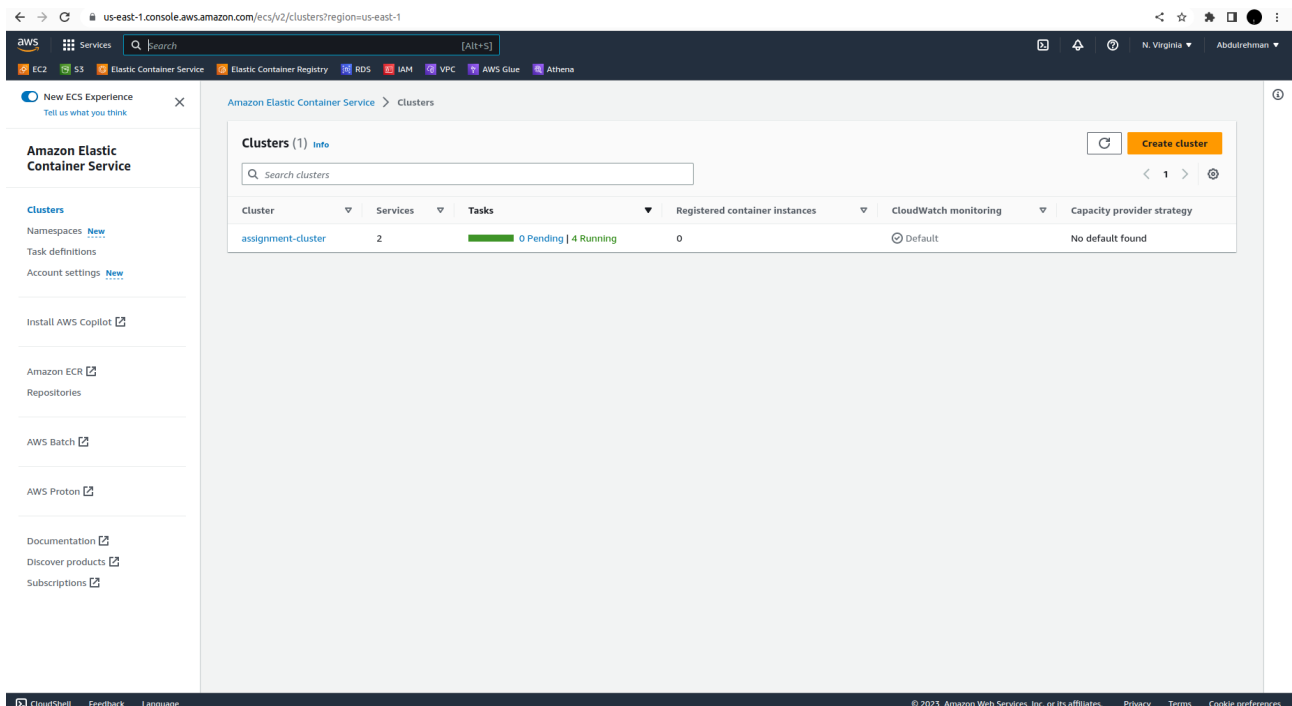
```
1 import time
2 import os
3 import redis
4 from flask import Flask
5
6
7 app = Flask(__name__)
8 services = os.environ.get("SERVICE_DISCOVERY")
9 cache = redis.Redis(host=services, port=6379)
10
11
12 def get_and_incr_hit_count():
13     retries = 5
14     while True:
15         try:
16             return cache.incr("hits")
17         except redis.exceptions.ConnectionError as exc:
18             if retries == 0:
19                 raise exc
20             retries -= 1
21             time.sleep(0.5)
22
23
24 @app.route("/")
25 def hello():
26     count = get_and_incr_hit_count()
27     return "Hello World! I have been seen {} times.\n".format(count)
28
```

In the **Dockerfile**, the hostname of the Redis instance is specified by setting the environment variable `SERVICE_DISCOVERY` to **"redis"**.



```
1 FROM python:3.7-alpine
2
3 WORKDIR /code
4
5 ENV FLASK_APP=app.py
6 ENV FLASK_RUN_HOST=0.0.0.0
7 ENV SERVICE_DISCOVERY="redis"
8
9 RUN apk add --no-cache gcc musl-dev linux-headers
10 COPY requirements.txt requirements.txt
11
12 RUN pip install -r requirements.txt
13
14 EXPOSE 5000
15
16 COPY . .
17
18 CMD ["flask", "run"]
```

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us-east-1.console.aws.amazon.com/ecs/v2/clusters/assignment-cluster/services?region=us-east-1

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assignment-cluster

Update cluster

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Create

Filter services by value

All launch types

All service types

< 1 >

	Service name	Status	ARN	Service t...	Deployments and tasks	Last deploy...	Task defi...	Revision
<input type="checkbox"/>	flask_app	Active	arnaws:ecs...	REPLICA	2/2 Tasks ru...	Completed	flask	1
<input type="checkbox"/>	redis	Active	arnaws:ecs...	REPLICA	2/2 Tasks ru...	Completed	redis	1

CloudShell

Feedback

Language

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This is the cluster configuration.

The screenshot displays the Amazon Elastic Container Service (ECS) console. The breadcrumb navigation shows the path: Amazon Elastic Container Service > Clusters > assignment-cluster > Tasks > 05713d6a05f4415782caa3b1dcba0341 > Configuration. The main heading is '05713d6a05f4415782caa3b1dcba0341'. Below this, there are tabs for Configuration, Logs, Networking, and Tags. The 'Configuration' tab is active, showing a 'Task overview' section with the following details:

ARN	Last status	Desired status	Started/Created at
05713d6a05f4415782caa3b1dcba0341	Running	Running	5/17/2023, 17:03:34 UTC

Below the task overview is the 'Configuration' section, which includes a table with the following details:

Operating system/Architecture	Capacity provider	ENI ID	Public IP
Linux/X86_64	-	eni-05d0e6b18f5c43d5c	44.199.234.0   open address

Below the configuration section is the 'Container details for redis' modal, which has tabs for Details, Log configuration, Network bindings, Docker labels and hosts, Environment variables and files, and Volume configuration. The 'Details' tab is active, showing the following information:

Image URI	Essential	Command
806413649470.dkr.ecr.us-east-1.amazonaws.com/redis	Yes	-

This is the Network Interface.

The screenshot displays the Amazon EC2 console. The breadcrumb navigation shows the path: us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#NICsearch=eni-05d0e6b18f5c43d5c. The main heading is 'Network interfaces (1) Info'. Below this, there is a table with the following details:

Name	Network interface ID	Subnet ID	VPC ID	Availability Zone	Security group n...	Security group IDs	Interface Type
-	eni-05d0e6b18f5c43d5c	subnet-01d1b21d7bf155baa	vpc-09357c0948d2fe501	us-east-1a	redis-3322	sg-0c5d3ea41dc88e...	Elastic network interface

Below the table is a 'Select a network interface' modal, which is currently empty.

This is the configuration of Network Interface.

The screenshot displays the AWS Management Console for the Network Interfaces section. The breadcrumb navigation shows 'EC2 > Network interfaces > eni-05d0e6b18f5c43d5c'. The main content area is titled 'Network interface summary for eni-05d0e6b18f5c43d5c' and includes buttons for 'Delete network interface' and 'Actions'. The configuration is organized into several sections:

- Network interface details:**
  - Network interface ID: eni-05d0e6b18f5c43d5c
  - Network interface status: In-use
  - VPC ID: vpc-09357c0948d2fe501
  - Owner: 806413649470
  - Source/dest. check: True
- IP addresses:**
  - Private IPv4 address: 10.0.0.76
  - Public IPv4 address: 44.199.234.0
  - Secondary private IPv4 addresses: -
  - MAC address: 02:66:bf:c2:67:05
- Instance details:**
  - Instance ID: -
  - Instance owner: -
- Other details:**
  - Name: -
  - Interface type: Elastic network interface
  - Subnet ID: subnet-01d1b21d7bf155baa
  - Requester ID: 578734482556
  - Description: amaws:ec2:us-east-1:806413649470:attachment/f8da51e1-b590-4969-84de-737c025efbcb
  - Security groups: sg-0c5d3ea41dc8eddd (redis-3322)
  - Availability Zone: us-east-1a
  - Requester-managed: True
  - Private IPv4 DNS: ec2.internal
  - Elastic Fabric Adapter: False
  - IPv6 addresses: -
  - Elastic IP address owner: amazon
  - IPv6 Prefix Delegation: -

This is the result where Increments in number of hits on every hit

The screenshot shows a web browser window with the address bar displaying 'ec2-44-204-156-40.compute-1.amazonaws.com:5000'. The page content is 'Hello World! I have been seen 1 times.' The browser's status bar at the bottom indicates '© 2023, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.