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ASSIGNMENT NO : 4.5

Import os , redis and add environment

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

Add env to the docker file

```
Dockerfile > ...
You, 4 hours ago | 2 authors (Usama Ejaz and others)
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 Usama Ejaz, last week • Added day 1 and 2 for Microservices
11
12 RUN pip install -r requirements.txt
13
14 EXPOSE 5000
15
16 COPY . .
17
18 CMD ["flask", "run"]
```

```
maviaalamkhan@all-MS-7D35:~$ cd ~/.docker
maviaalamkhan@all-MS-7D35:~/.docker$ ls
buildx contexts daemon.json desktop devenvironments scan scout
maviaalamkhan@all-MS-7D35:~/.docker$ cd ~/.docker/credentials
bash: cd: /home/maviaalamkhan/.docker/credentials: No such file or directory
maviaalamkhan@all-MS-7D35:~/.docker$ cd ~/.aws
maviaalamkhan@all-MS-7D35:~/.aws$ ls
config credentials
maviaalamkhan@all-MS-7D35:~/.aws$ rm config
maviaalamkhan@all-MS-7D35:~/.aws$ ls
credentials
```

```
Default region name [None]: eu-north-1
Default output format [None]:
➤ mavialamkhan@all-MS-7035:~$ aws ecr get-login-password --region eu-north-1 | docker login --username AWS --password-stdin 017696188619.dkr.ecr.eu-north-1.amazonaws.com
WARNING! Your password will be stored unencrypted in /home/mavialamkhan/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded

➤ mavialamkhan@all-MS-7035:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_1_microservices/integrating_flask_redis$ docker build -t flask .
[+] Building 33.4s (11/11) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 327B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/python:3.7-alpine
=> [1/6] FROM docker.io/library/python:3.7-alpine@sha256:f48c5f6a8a22a72558ea93eb26d2c7928d23f2acb2bb9270be9a88adc2bfa63d
=> => resolve docker.io/library/python:3.7-alpine@sha256:f48c5f6a8a22a72558ea93eb26d2c7928d23f2acb2bb9270be9a88adc2bfa63d
=> => sha256:f48c5f6a8a22a72558ea93eb26d2c7928d23f2acb2bb9270be9a88adc2bfa63d 1.65kB / 1.65kB
=> => sha256:d237f759e7cf20d85625f9c8344d230eefea9765b43c1414b2438508e07c6689 1.37kB / 1.37kB
=> => sha256:e4fbc12a85a91da694251a8f361d2f03cc0436652f8fccbba3787d14d641c3 6.87kB / 6.87kB
=> => sha256:8a49fdb3ba3ff12b08e6a86c03b222a0f7454579ec07837e94df1d063906 3.40MB / 3.40MB
=> => sha256:0357922e53aa8671e175f58d46bfd245908047b81e66378f634863785fe0c70e 622.30kB / 622.30kB
=> => sha256:d547a433dc2bd277de2f9a4880b524fe5b8e2cd6b56fd86e2dc78a75c8506b1 11.01MB / 11.01MB
=> => sha256:62dd399032632898094cf3f49425eb9365e91802b723b2a684f1c013c985f55 240B / 240B
=> => extracting sha256:8a49fdb3ba3ff12b08e6a86c03b222a0f7454579ec07837e94df1d063906 3.40MB / 3.40MB
=> => extracting sha256:0357922e53aa8671e175f58d46bfd245908047b81e66378f634863785fe0c70e 622.30kB / 622.30kB
=> => extracting sha256:d547a433dc2bd277de2f9a4880b524fe5b8e2cd6b56fd86e2dc78a75c8506b1 11.01MB / 11.01MB
=> => extracting sha256:62dd399032632898094cf3f49425eb9365e91802b723b2a684f1c013c985f55 240B / 240B
=> => extracting sha256:eb2b7f6b2a1e1a7e140bf09e1ac1210211a0e5f3464fc46346d39060e 0.75kB / 0.75kB
=> => naming to docker.io/library/flask
=> => sha256:b519525e18024f20a5d90a2181eab7e416c1f6d80c2913eb7aac077494bffa size: 2417
➤ mavialamkhan@all-MS-7035:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_1_microservices/integrating_flask_redis$ docker tag flask:latest 017696188619.dkr.ecr.eu-north-1.amazonaws.com/flask:latest
The push refers to repository [017696188619.dkr.ecr.eu-north-1.amazonaws.com/flask]
79ebc0940e7f: Pushing [----->] 224.9MB/252.9MB
79ebc0940e7f: Pushed
61d78afd48a8: Pushed
301767afd403: Pushed
aaf0a997fe9: Pushed
dc6a6af8c818: Pushed
faf320a00dfc: Pushed
37411a7a419e: Pushed
208977a631d7: Pushed
bb01bd7e32b5: Pushed

latest: digest: sha256:b519525e18024f20a5d90a2181eab7e416c1f6d80c2913eb7aac077494bffa size: 2417
➤ mavialamkhan@all-MS-7035:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_1_microservices/integrating_flask_redis$ aws ecr get-login-password --region eu-north-1 | docker login --username AWS --password-stdin 017696188619.dkr.ecr.eu-north-1.amazonaws.com
WARNING! Your password will be stored unencrypted in /home/mavialamkhan/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded

➤ mavialamkhan@all-MS-7035:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_1_microservices/integrating_flask_redis$ docker pull redis
Using default tag: latest
latest: Pulling from library/redis
9e3ea8728c6d: Pull complete
70b0a593ef8e: Pull complete
1563ab48b627: Pull complete
e71aa54519a0: Pull complete
e43bffb29bfd: Pull complete
a8fbae3ba1b: Pull complete
Digest: sha256:ea30bef6a1424d032295b90db20a869fc8db76331091543b7a80175cede7d887
Status: Downloaded newer image for redis:latest
docker.io/library/redis:latest
➤ mavialamkhan@all-MS-7035:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_1_microservices/integrating_flask_redis$ docker tag redis:latest 017696188619.dkr.ecr.eu-north-1.amazonaws.com/redis:latest
➤ mavialamkhan@all-MS-7035:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_1_microservices/integrating_flask_redis$ docker push 017696188619.dkr.ecr.eu-north-1.amazonaws.com/redis:latest
The push refers to repository [017696188619.dkr.ecr.eu-north-1.amazonaws.com/redis]
47998e530469: Pushed
c4fa995e3ec: Pushed
df132c87bdb2: Pushed
bee08ae43a83: Pushed
a29f3c080730: Pushed
8553b91047da: Pushed
latest: digest: sha256:9ca9747b233100676a48cc7806131586213fa5dab86dd1972d6a8732e3a84a4d size: 1573
➤ mavialamkhan@all-MS-7035:~/Documents/usama_git_repo/data_engineering_bootcamp_2303/tasks/4_microservices_development/day_1_microservices/integrating_flask_redis$
```

CloudWatch monitoring

Default Monitoring

FARGATE

2 Services

2 Running tasks

0 Pending tasks

EC2

0 Services

0 Running tasks

0 Pending tasks

0.00% CPU Utilization

0.00% Memory Utilization

1 EC2 container instances

EXTERNAL

0 Services

0 Running tasks

0 Pending tasks

0 ECS container instances

Containers

Last updated on May 17, 2023 11:53:11 AM (more than 1 hour ago)

Name	Container Runtime I...	Status	Image	Image Digest	CPU Units	Hard/Soft memo...	Essential	Resource ID
flask	64d3f3bc97c8495087...	RUNNING	017696188619.dkr.ecr.eu-north-1.a...	sha256:b519525e18024f20a5d90...	--	--/--	true	d7c36173-428e-4...

Creating namespace and services

Namespaces (3) Info

Find namespace

Domain name

redis

Description

-

Instance discovery

API calls and DNS queries in VPCs

Namespace ID

ns-ao57algnjg6w2lod

View details

Delete

Create namespace

Services (2) Info

Filter services by value

All launch types

All service types

Manage tags

Update

Delete service

Create

Service name	Status	ARN	Service t...	Deployments and tasks	Last deploy...	Task defi...	Revision
flask	Active	arn:aws:ecs...	REPLICA	1/1 Tasks ru...	Completed	flask-task	1
redis	Active	arn:aws:ecs...	REPLICA	1/1 Tasks ru...	Completed	redis-task	1

Copying the public ip

Network interface summary for eni-08baeda030551d821

Delete network interface

Actions

Network interface details

Network interface ID

eni-08baeda030551d821

Network interface status

In-use

VPC ID

vpc-0261a8b50098016ee

Owner

017696188619

Source/dest. check

True

IP addresses

Private IPv4 address

10.0.1.73

Public IPv4 address

13.51.199.188

Secondary private IPv4 addresses

-

Name

-

Interface type

Elastic network interface

Subnet ID

subnet-04b47e90d76e4f3fa

Requester ID

34772326666

Description

arn:aws:ecs:eu-north-1:017696188619:attachment/dbbe02e4-001a-4026-b9e0-cf487b789731

Security groups

sg-006e545bad89eab7e (flask-1114)

Availability Zone

eu-north-1b

Requester-managed

True

Elastic Fabric Adapter

False

IPv6 addresses

-

Elastic IP address owner

amazon

Service instances (1)

Find instance

View details

Deregister

Register service instance

ID	Health
1b6e6fdb273497bbc63fde28c219f91	Unknown

Pushing flask and redis images

Elastic
er Registry

istry
stry
es

rted
ation
ry

Amazon ECR > Repositories

PrivatePublic

Private repositories (2)

Find repositories

View push commandsDeleteActionsCreate repository

	Repository name	URI	Created at	Tag immutability	Scan frequency	Encryption type	Pull through cache
	flask	017696188619.dkr.ecr.eu-north-1.amazonaws.com/flask	May 17, 2023, 09:14:31 (UTC+05)	Disabled	Manual	AES-256	Inactive
	redis	017696188619.dkr.ecr.eu-north-1.amazonaws.com/redis	May 17, 2023, 09:25:27 (UTC+05)	Disabled	Manual	AES-256	Inactive

flask

View push commandsEdit

Images (1)

Search artifacts

1

	Image tag	Artifact type	Pushed at	Size (MB)	Image URI	Digest	Scan status	Vulnerabilities
	latest	Image	May 17, 2023, 09:24:30 (UTC+05)	191.45	Copy URI	sha256:b5195252e18024f20a5d90a2181ea...	-	-

redis

View push commandsEdit

Images (1)

Search artifacts

1

	Image tag	Artifact type	Pushed at	Size (MB)	Image URI	Digest	Scan status	Vulnerabilities
	latest	Image	May 17, 2023, 09:27:06 (UTC+05)	42.47	Copy URI	sha256:9ca9747b233100676a48cc7806131...	-	-

Output the result and checking deployment of 5000 port number

← → ↺ Not secure | ec2-13-51-199-188.eu-north-1.compute.amazonaws.com:5000

Gmail YouTube Maps Creately Launch Meeti... Top 47 Machin... New Tab Breast Cancer...

Hello World! I have been seen 5 times.