

CS-203 Software Tools and Techniques for AI

Assignment - 8

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Github:- https://github.com/zainabkapadia52/Assignment_8

Docker Hub Links:-

Fastapi1:- <https://hub.docker.com/repository/docker/zainabkapadia01/fastapi1/general>

Fastapi2:- <https://hub.docker.com/repository/docker/zainabkapadia01/fastapi2/general>

Elasticsearch:-

<https://hub.docker.com/repository/docker/zainabkapadia01/elasticsearch/general>

Google Drive links:-

Fastapi1:-

https://docs.google.com/document/d/1fS972FNbBdzahaMsgJkoPM0WRuy1-WruA_zCz6Vr47g/edit?usp=sharing

Fastapi2:-

https://docs.google.com/document/d/1UywwwGTEMGd-CDUwLc0t-p13GlzIQmP_NV5zhqu9Zrw/edit?usp=share_link

Elasticsearch:-

https://docs.google.com/document/d/1oh_XsPs8yLIGZkpYR8xu_kA476aphg-L_v0iuqJxEtY/edit?usp=sharing

VM creation:-

Set the region to Montreal for its lower cost. Under OS and storage, select Ubuntu 24.04 LTS x86 and set the storage size to 30 GB. In the Networking section, enable both HTTP and HTTPS traffic. Finally, in the Advanced settings, switch the Provisioning Model from Standard to Spot.

Status	Name ↑	Zone	Recommendations	In use by	Internal IP	External IP	Connect	
<input type="checkbox"/>	<input checked="" type="checkbox"/> backend2	northamerica-northeast1-b			10.162.0.9 (nic0)	35.234.250.2 (nic0)	SSH	▼
<input type="checkbox"/>	<input checked="" type="checkbox"/> frontend	northamerica-northeast1-b			10.162.0.6 (nic0)	34.118.141.1 (nic0)	SSH	▼

Region * ?

Zone * ?

Region is permanent

Google will choose a zone on your behalf, maximizing VM obtainability. Zone is permanent.

General purpose

Compute optimized

Memory optimized

Storage optimized

GPUs

Machine types for common workloads, optimized for cost and flexibility

Series ?	Description	vCPUs ?	Memory ?	CPU Platform
<input type="radio"/> C4	Consistently high performance	2 - 192	4 - 1,488 GB	Intel Emerald
<input type="radio"/> C4A	Arm-based consistently high performance	1 - 72	2 - 576 GB	Google Axion
<input type="radio"/> N4	Flexible & cost-optimized	2 - 80	4 - 640 GB	Intel Emerald
<input type="radio"/> C3	Consistently high performance	4 - 192	8 - 1,536 GB	Intel Sapphire
<input type="radio"/> C3D	Consistently high performance	4 - 360	8 - 2,880 GB	AMD Genoa
<input checked="" type="radio"/> E2	Low cost, day-to-day computing	0.25 - 32	1 - 128 GB	Intel Broadwell
<input type="radio"/> N2	Balanced price & performance	2 - 128	2 - 864 GB	Intel Cascade
<input type="radio"/> N2D	Balanced price & performance	2 - 224	2 - 896 GB	AMD Milan
<input type="radio"/> T2A	Scale-out workloads	1 - 48	4 - 192 GB	Ampere Altra
<input type="radio"/> T2D	Scale-out workloads	1 - 60	4 - 240 GB	AMD Milan
<input type="radio"/> N1	Balanced price & performance	0.25 - 96	0.6 - 624 GB	Intel Haswell

Machine type

Choose a machine type with preset amounts of vCPUs and memory that suit most workloads. Or, you can create a custom machine for your workload's particular needs. [Learn more](#) 

Preset

Custom

e2-highcpu-4 (4 vCPU, 2 core, 4 GB memory)

Operating system

Ubuntu

Version *

Ubuntu 20.04 LTS

x86/64, amd64 focal image built on 2025-03-13

Boot disk type *

Balanced persistent disk

[Compare disk types](#)

Size (GB) *

30

Provision between 10 and 65536 GB

[Show advanced configuration](#)

Select

Cancel

Networking

Firewall [?](#)

Add tags and firewall rules to allow specific network traffic from the Internet

- Allow HTTP traffic
- Allow HTTPS traffic
- Allow Load Balancer Health Checks

Provisioning model

VM provisioning model —

Spot

Determines how long your VMs will run. Choice is permanent

Monthly estimate

\$25.29

That's about \$0.03 hourly

Pay for what you use: no upfront costs and per second billing

Item	Monthly estimate
4 vCPU + 4 GB memory	\$21.99
30 GB balanced persistent disk	\$3.30
Logging	Cost varies ↗
Monitoring	Cost varies ↗
Snapshot schedule	Cost varies ↗
Total	\$25.29

[Compute Engine pricing ↗](#)

[Cloud Operations pricing ↗](#)

[▲ Less](#)

Firewall rule creation:-

VPC firewall rules

Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. [Learn more](#)

Note: App Engine firewalls are managed in the [App Engine Firewall rules section](#).

The screenshot shows the VPC Firewall Rules interface. At the top, there is a message: "SMTP port 25 disallowed in this project. [Learn more](#)". Below this are standard UI elements: Refresh, Configure logs, and Delete. A filter bar allows searching by property name or value. The main table lists a single rule:

<input type="checkbox"/>	Name	Type	Targets	Filters	Protocols / ports	Action	Priority	Network	Logs	
<input type="checkbox"/>	allow-9567	Ingress	Apply to all	IP ranges:	tcp:9567	Allow	1000	default	Off	

Screenshots:-

Frontend

Dockerfile:-

```
g23110373@frontend:~$ cat dockerfile
FROM python:3.9-slim
WORKDIR /app
COPY . .
RUN pip install --no-cache-dir requests fastapi[standard] uvicorn gunicorn
CMD ["uvicorn", "main:app", "--host", "0.0.0.0", "--port", "9567"]
```

Build:

```
g231103738frontend:~$ sudo docker build -t frontend-fastapi:latest .
DEPRECATE: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/
Sending build context to Docker daemon 22.02kB
Step 1/5 : FROM python:3.9-slim
--> bcd3dea87f78
Step 2/5 : WORKDIR /app
--> using cache
--> 3d67833c1494
Step 3/5 : COPY .
--> 4dc6eb217938
Step 4/5 : RUN pip install --no-cache-dir requests fastapi[standard] uvicorn gunicorn
--> Running in 98dceef7de2d3
Collecting requests
  Downloading requests-2.32.3-py3-none-any.whl (64 kB)
Collecting fastapi[standard]
  Downloading fastapi-0.115.12-py3-none-any.whl (95 kB) 95.2/95.2 kB 144.4 MB/s eta 0:00:00
Collecting uvicorn
  Downloading uvicorn-0.34.0-py3-none-any.whl (62 kB) 62.3/62.3 kB 135.1 MB/s eta 0:00:00
Collecting gunicorn
  Downloading gunicorn-23.0.0-py3-none-any.whl (85 kB) 85.0/85.0 kB 107.7 MB/s eta 0:00:00
Collecting certifi>=2017.4.17
  Downloading certifi-2025.1.31-py3-none-any.whl (166 kB) 166.4/166.4 kB 150.2 MB/s eta 0:00:00
Collecting charset-normalizer<4,>=2
  Downloading charset_normalizer-3.4.1-cp39-cp39-manylinux2017_x86_64_manylinux2014_x86_64.whl (146 kB) 146.2/146.2 kB 158.5 MB/s eta 0:00:00
Collecting idna<4,>=2.5
  Downloading idna-3.10-py3-none-any.whl (70 kB) 70.4/70.4 kB 134.8 MB/s eta 0:00:00
Collecting urllib3;>=1.21.1
  Downloading urllib3-2.3.0-py3-none-any.whl (128 kB) 128.4/128.4 kB 167.9 MB/s eta 0:00:00
Collecting typing_extensions>=4.8.0
  Downloading typing_extensions-4.13.0-py3-none-any.whl (45 kB) 45.7/45.7 kB 110.2 MB/s eta 0:00:00
Collecting pydantic!=1.8,!1.8.1,!2.0.0,!2.0.1,!2.1.0,<3.0.0,>=1.7.4
  Downloading pydantic-2.11.0-py3-none-any.whl (442 kB) 442.6/442.6 kB 46.3 MB/s eta 0:00:00
Collecting starlette<0.47.0,>=0.40.0
  Downloading starlette-0.46.1-py3-none-any.whl (71 kB) 72.0/72.0 kB 175.3 MB/s eta 0:00:00
Collecting fastapi-cl[standard]>=0.0.5
  Downloading fastapi_cl-0.0.7-py3-none-any.whl (10 kB)
Collecting httpx>=0.23.0
  Downloading httpx-0.28.1-py3-none-any.whl (73 kB) 73.5/73.5 kB 125.4 MB/s eta 0:00:00
Collecting email-validator>=2.0.0
  Downloading email_validator-2.2.0-py3-none-any.whl (33 kB)
Collecting jinja2>=3.1.5
  Downloading jinja2-3.1.6-py3-none-any.whl (134 kB) 134.9/134.9 kB 191.5 MB/s eta 0:00:00
Collecting python-multipart>=0.0.18
  Downloading python_multipart-0.0.20-py3-none-any.whl (24 kB)
Collecting h11>=0.8
  Downloading h11-0.14.0-py3-none-any.whl (58 kB) 58.3/58.3 kB 150.3 MB/s eta 0:00:00
Collecting click>=7.0
  Downloading click-8.1.8-py3-none-any.whl (98 kB) 98.2/98.2 kB 211.8 MB/s eta 0:00:00
```

```

Collecting click>=7.0
  Downloading click-8.1.8-py3-none-any.whl (98 kB)      98.2/98.2 kB 211.8 MB/s eta 0:00:00
Collecting packaging
  Downloading packaging-24.2-py3-none-any.whl (65 kB)    65.5/65.5 kB 152.0 MB/s eta 0:00:00
Collecting dnspython>=2.0.0
  Downloading dnspython-2.7.0-py3-none-any.whl (313 kB) 313.6/313.6 kB 213.8 MB/s eta 0:00:00
Collecting rich-toolkit>=0.11.1
  Downloading rich_toolkit-0.14.0-py3-none-any.whl (24 kB)
Collecting typer>=0.12.3
  Downloading typer-1.0.15.2-py3-none-any.whl (45 kB)   45.1/45.1 kB 102.1 MB/s eta 0:00:00
Collecting httpcore==1.1
  Downloading httpcore-1.0.7-py3-none-any.whl (78 kB)   78.6/78.6 kB 94.1 MB/s eta 0:00:00
Collecting aiohttp
  Downloading aiohttp-4.9.0-py3-none-any.whl (100 kB)   100.9/100.9 kB 130.0 MB/s eta 0:00:00
Collecting MarkupSafe>=2.0.0
  Downloading MarkupSafe-2.0.0-py39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (20 kB)
Collecting annotated-types>=0.6.0
  Downloading annotated-types-0.7.0-py3-none-any.whl (13 kB)
Collecting typing-inspection>=0.4.0
  Downloading typing_inspection-0.4.0-py3-none-any.whl (14 kB)
Collecting pydantic-core>=2.33.0
  Downloading pydantic_core-2.33.0-py39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (2.0 MB)
Collecting pyyaml>=5.1
  Downloading PyYAML-6.0.2-py39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (737 kB) 737.4/737.4 kB 225.2 MB/s eta 0:00:00
Collecting python-dotenv>=0.13
  Downloading python_dotenv-1.1.0-py3-none-any.whl (20 kB)
Collecting httptools>=0.6.3
  Downloading httptools-0.6.4-py39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (448 kB)
Collecting uvloop>=0.15.0,!=0.15.1,>=0.14.0
  Downloading uvloop-0.21.0-py39-cp39-manylinux_210_x86_64.manylinux2014_x86_64.whl (3.8 MB)
Collecting websockets>=10.4
  Downloading websockets-15.0.1-py39-cp39-manylinux_2_5_x86_64.manylinux1_x86_64.manylinux_2_17_x86_64.manylinux2014_x86_64.whl (181 kB)
Collecting watchfiles>=0.13
  Downloading watchfiles-1.0.4-py39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (452 kB)
Collecting sniffio>=1.1
  Downloading sniffio-1.3.1-py3-none-any.whl (10 kB)
Collecting exceptiongroup>=1.0.2
  Downloading exceptiongroup-1.2.2-py3-none-any.whl (16 kB)
Collecting rich>=13.7.1
  Downloading rich-13.9.4-py3-none-any.whl (242 kB) 242.4/242.4 kB 91.7 MB/s eta 0:00:00
Collecting shellingham>=1.3.0
  Downloading shellingham-1.3.4-py2.py3-none-any.whl (9.8 kB)
Collecting pygments<3.0.0,>=2.13.0
  Downloading pygments-2.19.1-py3-none-any.whl (1.2 MB) 1.2/1.2 MB 128.4 MB/s eta 0:00:00
Collecting markdown<-1.1-py>=2.2.0
  Downloading markdown_1k_py-3.0.0-py3-none-any.whl (87 kB) 87.5/87.5 kB 154.2 MB/s eta 0:00:00
Collecting mdurl>=0.1
  Downloading mdurl-2.0-py3-none-any.whl (10.0 kB)
Installing collected packages: websockets, uvloop, urllib3, typing-extensions, sniffio, shellingham, pyyaml, python-multipart, python-dotenv, pygments, packaging, mdurl, MarkupSafe, idna, http tools, h11, exceptiongroup, dnspython, click, charset-normalizer, certifi, annotated-types, uvicorn, typing-inspection, requests, pydantic-core, markdown-it-py, jinja2, httpcore, unicorn, email-validator, aiohttp, watchfiles, starlette, rich, pydantic, httpx, typer, rich-toolkit, fastapi, fastapi-cl
Successfully installed MarkupSafe-3.0.2 annotated-types-0.7.0 aiohttp-4.9.0 certifi-2025.1.31 charset-normalizer-3.4.1 click-8.1.8 dnspython-2.7.0 email-validator-2.2.0 exceptiongroup-1.2.2 fastapi-0.115.12 fastapi-cl-0.0.7 unicorn-23.0.0 h11-0.14.0 httpcore-1.0.7 http tools-0.6.4 https-0.28.1 idna-3.10 jinja2-3.1.6 markdown-it-py-3.0.0 mdurl-0.1.2 packaging-24.2 pydantic-2.11.0 pydantic-core-2.33.0 pygments-2.19.1 python-dotenv-1.1.0 python-multipart-0.0.20 pyyaml-6.0.2 requests-2.32.3 rich-13.9.4 rich-toolkit-0.14.0 shellingham-1.5.4 sniffio-1.3.1 starlette-0.46.1 typer-0.15.2 typing-extensions-4.13.0 typing-inspection-0.4.0 urllib3-2.3.0 uvicorn-0.34.0 uvloop-0.21.0 watchfiles-1.0.4 websockets-15.0.1
WARNING: running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead: https://pip.pypa.io/warnings
/venv

[notice] A new release of pip is available: 23.0.1 -> 25.0.1
[notice] To update, run:
  [root@localhost ~]# pip install --upgrade pip
-> Removed intermediate container 98dc0ee1de2d3
---- 90e1836ea76
Step 5/5 : CMD ["uvicorn", "main:app", "--host", "0.0.0.0", "--port", "9567"]
--> Removing intermediate container 8109de02abe2
--> 492b3eb05b60
Successfully built 492b3eb05b60
Successfully tagged frontend-fastapi:latest
g23110373@frontend:~$
```

Running docker container:-

```

g23110373@frontend:~$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
4b3f8cd4f744 frontend-fastapi:latest "uvicorn main:app ..." About an hour ago Up About an hour 0.0.0.0:9567->9567/tcp, :::9567->9567/tcp frontend_container

```

Backend:

Dockerfile:-

```

g23110373@backend2:~$ cat dockerfile
FROM python:3.9-slim
WORKDIR /app
COPY .
RUN pip install --no-cache-dir fastapi[standard] elasticsearch requests
CMD ["uvicorn", "main:app", "--host", "0.0.0.0", "--port", "9567"]

```

docker-compose.yml:-

```

g23110373@backend2:~$ cat docker-compose.yml
version: "3.8"
services:
  es:
    image: docker.elastic.co/elasticsearch/elasticsearch:8.10.2
    container_name: es_container
    environment:
      discovery.type: single-node
      xpack.security.enabled: "false"
    ports:
      - "9200:9200"
    networks:
      - custom_net
    healthcheck:
      test: ["CMD-SHELL", "curl -f http://localhost:9200/_cluster/health || exit 1"]
      interval: 3s
      retries: 10

  api:
    build: .
    container_name: fastapi_container
    depends_on:
      es:
        condition: service_healthy
    environment:
      ES_HOST: "http://es:9200"
    ports:
      - "9567:9567"
    networks:
      - custom_net

networks:
  custom_net:
    driver: bridge

```

Running docker-compose.yml:-

```

g23110373@backend2:~$ sudo docker compose up -d --build
[+] Building 0.1s (9/9) FINISHED
   → Copying files to the build context from dockerfile
--> <internal> transferring dockerfile: 221B
--> <internal> load metadata for docker.io/library/python:3.9-slim
--> <internal> load .dockerignore
--> <internal> load index.json
--> [1/4] FROM docker.io/library/python:3.9-slim
--> [internal] load build context
--> <internal> transferring context: 745B
--> [internal] WORKDIR /app
--> [internal] CACHE 0B
--> [4/4] RUN pip install --no-cache-dir fastapi[standard] elasticsearch requests
--> exporting layers
--> creating image sha256:f3a5c70alef89431e29bd72d538de75771c703e2e92420cd1c9fc76bfca34164
--> naming to docker.io/library/g23110373-api
[*] Running 2/2
  Container fastapi_container Started
    Container es_container Healthy
g23110373@backend2:~$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
f2bb085e7e2c g23110373-api "uvicorn main:app --" 55 seconds ago Up 34 seconds 0.0.0.0:9567->9567/tcp, :::9567->9567/tcp fastapi_container
7ca87c77405 docker.elastic.co/elasticsearch/elasticsearch:8.10.2 "/bin/tini -- /usr/l" About a minute ago Up 54 seconds (healthy) 0.0.0.0:9200->9200/tcp, :::9200->9200/tcp, 9300/tcp es_container

```

netstat -antp | grep LISTEN:-

```

g23110373@frontend:~$ netstat -antp | grep LISTEN
(No info could be read for "-p": geteuid()=1001 but you should be root.)
tcp      0      0  0.0.0.0:9567          0.0.0.0:*          LISTEN      -
tcp      0      0  127.0.0.1:34199       0.0.0.0:*          LISTEN      -
tcp      0      0  0.0.0.0:20202         0.0.0.0:*          LISTEN      -
tcp      0      0  127.0.0.54:53         0.0.0.0:*          LISTEN      -
tcp      0      0  127.0.0.53:53         0.0.0.0:*          LISTEN      -
tcp6     0      0  ::::22              ::::*               LISTEN      -
tcp6     0      0  ::::9567            ::::*               LISTEN      -
tcp6     0      0  ::::20201           ::::*               LISTEN      -

```

Web interface:-

Add/insert:-

Document Management

Search Document:

Modern humans arrived on the Indian subcontinent from Africa no later than 55,000 years ago.[28][29][30] Their long occupation, predominantly in isolation as hunter-gatherers, has made the region highly diverse, second only to Africa in human genetic diversity.[31]

Add New Document:

```
{  
  "status": "created",  
  "id": "89c78441-cce0-4d79-8d7b-039eb1a0ce5e"  
}
```

Document Management

Search Document:

Pakistan to the west;[k] China, Nepal, and Bhutan to the north; and Bangladesh and Myanmar to the east. In the Indian Ocean, India is near Sri Lanka and the Maldives; its Andaman and Nicobar Islands share a maritime border with Thailand, Myanmar, and Indonesia.

Add New Document:

```
{  
  "status": "created",  
  "id": "d4c88d75-5043-490f-b6dc-ada231a1a25f"  
}
```

Search:-

Document Management

Search Document: India has been a federal re... Search

Add New Document:
Insert
{
"results": [
{
"index": "docs_collection",
"id": "4db32567-9304-4f84-9d5b-69b9dd7d111b",
"score": 245.33907,
"source": {
"doc_id": "4db32567-9304-4f84-9d5b-69b9dd7d111b",
"content": "India has been a federal republic since 1950, governed through a democratic parliamentary system. It is a pluralistic, multilingual and multi-ethnic society. India's population grew from 361 million in 1951 to over 1.4 billion in 2023.[62] During this time, its nominal per capita income increased from US\$64 annually to US\$2,601, and its literacy rate from 16.6% to 74%. A comparatively destitute country in 1951,[63] India has become a fast-growing major economy and hub for information technology services; it has an expanding middle class.[64] Indian movies and music increasingly influence global culture.[65] India has reduced its poverty rate, though at the cost of increasing economic inequality.[66] It is a nuclear-weapon state that ranks high in military expenditure. It has disputes over Kashmir with its neighbours, Pakistan and China, unresolved since the mid-20th century.[67] Among the socio-economic challenges India faces are gender inequality, child malnutrition,[68] and rising levels of air pollution.[69] India's land is megadiverse with four biodiversity hotspots.[70] India's wildlife, which has traditionally been viewed with tolerance in its culture,[71] is supported in protected habitats.",
},
{
"index": "docs_collection",
"id": "38888659-f3df-48f1-adec-3b2b5e893018",
"score": 53.118088,
"source": {
"doc_id": "38888659-f3df-48f1-adec-3b2b5e893018",
"content": "India, officially the Republic of India,[j][21] is a country in South Asia. It is the seventh-largest country by area; the most populous country from June 2023 onwards:[22][23] and since its independence in 1947, the world's most populous democracy.[24][25][26] Bounded by the Indian Ocean on the south, the Arabian Sea on the southwest, and the Bay of Bengal on the southeast, it shares land borders with Pakistan to the west;[k] China, Nepal, and Bhutan to the north; and Bangladesh and Myanmar to the east. In the Indian Ocean, India is near Sri Lanka and the Maldives; its Andaman and Nicobar Islands share a maritime border with Thailand, Myanmar, and Indonesia.",
},
{
"index": "docs_collection",
"id": "4de88d75-5043-490f-b6dc-ada231a1a25f",
"score": 53.118088,
"source": {
"doc_id": "4de88d75-5043-490f-b6dc-ada231a1a25f",
"content": "India, officially the Republic of India,[j][21] is a country in South Asia. It is the seventh-largest country by area; the most populous country from June 2023 onwards:[22][23] and since its independence in 1947, the world's most populous democracy.[24][25][26] Bounded by the Indian Ocean on the south, the Arabian Sea on the southwest, and the Bay of Bengal on the southeast, it shares land borders with Pakistan to the west;[k] China, Nepal, and Bhutan to the north; and Bangladesh and Myanmar to the east. In the Indian Ocean, India is near Sri Lanka and the Maldives; its Andaman and Nicobar Islands share a maritime border with Thailand, Myanmar, and Indonesia.",
},
{
"index": "docs_collection",
"id": "6e8fe412-584e-4976-89ac-fbd9df51895d",
"score": 38.945805,
"source": {
"doc_id": "6e8fe412-584e-4976-89ac-fbd9df51895d",
"content": "In the early medieval era, Christianity, Islam, Judaism, and Zoroastrianism became established on India's southern and western coasts.[44] Muslim armies from Central Asia intermittently overran India's northern plains.[45] The resulting Delhi Sultanate drew northern India into the cosmopolitan networks of medieval Islam.[46] In south India, the Vijayanagara Empire created a long-lasting composite Hindu culture.[47] In the Punjab, Sikhism emerged, rejecting institutionalised religion.[48] The Mughal Empire, in 1526, ushered in two centuries of relative peace,[49] leaving a legacy of luminous architecture.[m][50] Gradually expanding rule of the British East India Company turned India into a colonial economy but consolidated its sovereignty.[51] British Crown rule began in 1858. The rights promised to Indians were granted slowly,[52][53] but technological changes were introduced, and modern ideas of education and public life took root.[54] A pioneering and influential nationalist movement, noted for nonviolent resistance, became the major factor in ending British rule.[55][56] In 1947, the British Indian Empire was partitioned into two independent dominions,[57][58][59][60] a Hindu-majority dominion of India and a Muslim-majority dominion of Pakistan. A large-scale loss of life and an unprecedented migration accompanied the partition.[61]",
},
{
"index": "docs_collection",
"id": "89c78441-cc00-4d79-8d7b-039eb1a0ce5e",
"score": 10.0204,
"source": {
"doc_id": "89c78441-cc00-4d79-8d7b-039eb1a0ce5e",
"content": "Modern humans arrived on the Indian subcontinent from Africa no later than 55,000 years ago [28][29][30] Their long occupation, predominantly in isolation as hunter-gatherers, has made the region highly diverse, second only to Africa in human genetic diversity.[31] Settled life emerged on the subcontinent in the western margins of the Indus river basin 9,000 years ago, evolving gradually into the Indus Valley Civilisation of the third millennium BCE.[32] By 1200 BCE, an archaic form of Sanskrit, an Indo-European language, had diffused into India from the northwest.[33][34] Its hymns recorded the dawning of Hinduism in India.[35] India's pre-existing Dravidian languages were supplanted in the northern regions.[36] By 400 BCE, caste had emerged within Hinduism,[37] and Buddhism and Jainism had arisen, proclaiming social orders unlinked to heredity.[38] Early political consolidations gave rise to the loose-knit Maurya and Gupta Empires.[39] Widespread creativity suffused this era,[40] but the status of women declined,[41] and untouchability became an organized belief.[l][42] In South India, the Middle kingdoms exported Dravidian language scripts and religious cultures to the kingdoms of Southeast Asia.[43]",
},
]
}

Before deletion of the containers:-

Document Management

Search Document:

```
hello world!
```

Add New Document:

```
{  
  "status": "created",  
  "id": "f5bb31da-1172-4067-8473-e47ec8bd8dbb"  
}
```

Document Management

Search Document:

```
hello world!
```

Add New Document:

```
{  
  "results": [  
    {  
      "_index": "docs_collection",  
      "_id": "f5bb31da-1172-4067-8473-e47ec8bd8dbb",  
      "_score": 0.5753642,  
      "_source": {  
        "doc_id": "f5bb31da-1172-4067-8473-e47ec8bd8dbb",  
        "content": "hello world!"  
      }  
    }  
  ]  
}
```

Deleting the containers:-

```

g23110373@backend2:~$ sudo docker stop fastapi_container
fastapi_container
g23110373@backend2:~$ sudo docker rm fastapi_container
fastapi_container
g23110373@backend2:~$ docker run
"docker run" requires at least 1 argument.
See 'docker run --help'.

Usage: docker run [OPTIONS] IMAGE [COMMAND] [ARG...]

Create and run a new container from an image
g23110373@backend2:~$ sudo docker stop es_container
es_container
g23110373@backend2:~$ sudo docker rm es_container
es_container
g23110373@backend2:~$ sudo docker run -d \
>   --name fastapi_container \
>   -p 9567:9567 \
>   g23110373-api:latest
ccfcfa8faa371a48b70d9a746b3dbfb8e4f1506d82f921314e9a02c18ff7c2a2
g23110373@backend2:~$ sudo docker run -d \
>   --name es_container \
>   -p 9200:9200 -p 9300:9300 \
>   -e "discovery.type=single-node" \
>   -v esdata:/usr/share/elasticsearch/data \
>   docker.elastic.co/elasticsearch/elasticsearch:8.10.2
6e92ad0701866560eb32a4cacbf8420afcc206f1b7f75c70cafb547a20258b6f

```

```

g23110373@frontend:~$ docker stop frontend_container
frontend_container
g23110373@frontend:~$ docker rm frontend_container
frontend_container
g23110373@frontend:~$ docker run -d --name frontend_container -p 9567:9567 frontend-fastapi:latest
4030369bb145171fa8d059006b36a8463592333df1c5a92ef4b4c7ff5e1ad8ff

```

```

g23110373@backend2:~$ sudo docker run -d \
>   --name es_container \
>   --network app-network \
>   -p 9200:9200 -p 9300:9300 \
>   -e "discovery.type=single-node" \
>   -e "cluster.initial_master_nodes.enabled=true" \
>   -e "ELASTIC_PASSWORD=zainab" \
>   -v esdata:/usr/share/elasticsearch/data \
>   docker.elastic.co/elasticsearch/elasticsearch:8.10.2
d17c0d3bbe7 docker.elastic.co/elasticsearch/elasticsearch:8.10.2
d17c0d3bbe7: Pulling from docker.elastic.co/elasticsearch/elasticsearch:8.10.2
Digest: sha256:6cfe17ecb0244ef51e829108e90c176816b7df693e07ce16
g23110373@backend2:~$ sudo docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS               NAMES
d17c0d3bbe7        docker.elastic.co/elasticsearch/elasticsearch:8.10.2   "/bin/tini -- /usr/l..."   7 seconds ago      Up 6 seconds       0.0.0.0:9200->9200/tcp, :::9200->9200/tcp, 0.0.0.0:9300->9300/tcp, :::9300->9300/tcp   es_
container
g23110373@backend2:~$ sudo docker logs fastapi_container
Error response from daemon: No such container: fastapi_container
g23110373@backend2:~$ sudo docker run -d \
>   --name fastapi_container \
>   --network app-network \
>   -p 9567:9567 \
>   g23110373-api:latest
docker: permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Head "http://<2>var<2>Frn<2>Fdocker.sock/_ping": dial unix /var/run/docker.sock: connect: permission denied
See 'docker run --help'.
g23110373@backend2:~$ sudo docker run -d \
>   --name fastapi_container \
>   --network app-network \
>   -p 9567:9567 \
>   g23110373-api:latest
2041cb48b833cfc3c33d3d547d3dc9e7bc216ce6ab5c1619eacb7a1752
g23110373@backend2:~$ sudo docker logs fastapi_container
INFO:     Started server process [1]
INFO:     Waiting for application startup.
INFO:     Application startup complete.
INFO:     Listening on http://0.0.0.0:9567 (Press CTRL+C to quit)
g23110373@backend2:~$ sudo docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS               NAMES
2041cb48b833cfc3  g23110373-api:latest          "uvicorn main:app --"   About a minute ago   Up About a minute   0.0.0.0:9567->9567/tcp, :::9567->9567/tcp
d17c0d3bbe7        docker.elastic.co/elasticsearch/elasticsearch:8.10.2   "/bin/tini -- /usr/l..."   2 minutes ago     Up 2 minutes       0.0.0.0:9200->9200/tcp, :::9200->9200/tcp, 0.0.0.0:9300->9300/tcp, :::9300->9300
tcp es_container

```

Again querying:-

Document Management

Search Document:

Type your document content here

Add New Document:

```
{  
"results": [  
{  
"_index": "docs_collection",  
"_id": "f5bb31da-1172-4067-8473-e47ec8bd8dbb",  
"_score": 1.2199391,  
"_source": {  
"doc_id": "f5bb31da-1172-4067-8473-e47ec8bd8dbb",  
"content": "hello world!"  
}  
}  
]  
}
```

Again inserting the same phrase and then querying:-

Document Management

Search Document:

Add New Document:

```
{  
"status": "created",  
"id": "84bc2f86-f75e-4654-b6f4-5b4b524ac345"  
}
```

Document Management

Search Document:

Type your document content here

Add New Document:

```
{  
"results": [  
{  
"_index": "docs_collection",  
"_id": "f5bb31da-1172-4067-8473-e47ec8bd8dbb",  
"_score": 0.86891425,  
"_source": {  
"doc_id": "f5bb31da-1172-4067-8473-e47ec8bd8dbb",  
"content": "hello world!"  
}  
},  
,  
{  
"_index": "docs_collection",  
"_id": "84bc2f86-f75e-4654-b6f4-5b4b524ac345",  
"_score": 0.86891425,  
"_source": {  
"doc_id": "84bc2f86-f75e-4654-b6f4-5b4b524ac345",  
"content": "hello world!"  
}  
}  
]  
}
```

It can be seen that the get/search query output is different i.e., the image which we inserted before deleting the containers, is still there along with the newly added image.

```
g23110373@backend2:~$ sudo docker volume ls  
DRIVER      VOLUME NAME  
local        elasticdata  
local        esdata  
g23110373@backend2:~$ sudo docker volume inspect elasticdata  
[  
  {  
    "CreatedAt": "2025-03-28T00:00:44Z",  
    "Driver": "local",  
    "Labels": null,  
    "Mountpoint": "/var/lib/docker/volumes/elasticdata/_data",  
    "Name": "elasticdata",  
    "Options": null,  
    "Scope": "local"  
  }  
]
```

Docker Hub push:-

```
#231103739[backed2]-:~ sudo docker login
Log in with your Docker ID or email address to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com/ to create one.
You can log in with your password or a Personal Access Token (PAT). Using a limited-scope PAT grants better security and is required for organizations using SSO. Learn more at https://docs.docker.com/go/access-tokens

Username: zainabkapadia01
Auth: successful
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
#231103739[backed2]-:~ sudo docker tag j23110373-api:latest zainabkapadia01/fastapi2
#231103739[backed2]-:~ sudo docker push zainabkapadia01/fastapi2
Using default tag: latest
The push refers to repository [docker.io/zainabkapadia01/fastapi2]
38a8fe971c06: Pushed
94345ceda71: Pushed
452077617b40: Pushed
452077617b40: Mounted from library/python
04ffeadfc28e: Mounted from library/python
140ec0aa8af8: Mounted from library/python
1287fdec0fc: Mounted from library/python
#231103739[backed2]-:~ sudo docker tag docker.elastic.co/elasticsearch/elasticsearch:8.10.2 zainabkapadia01/elasticsearch
#231103739[backed2]-:~ sudo docker push zainabkapadia01/elasticsearch
Using default tag: latest
The push refers to repository [docker.io/zainabkapadia01/elasticsearch]
2f5957218729: Pushed
Sed3b623b357: Pushed
2be7620e15d: Pushed
ba1c98239d8: Pushed
ba1c98239d8: Pushed
S5770bf1a086: Pushed
27b69f979d28: Pushed
200d0949046d: Pushed
934c252594ef: Pushed
latest: digest: sha256:7a8e8ab0a532acdddf9781476e0233cb0a304cdce87264ce2e7f881c70ffdd42 size: 2410
```

```
g2311037@hackend:~$ sudo docker ps
CONTAINER ID        IMAGE                               COMMAND             CREATED            STATUS              PORTS               NAMES
30cf2941b1ba      g2311037-apiservice                "uvicorn main:app ..."   3 hours ago       Up 3 hours          0.0.0.0:9567->9567/tcp, ::1:9567->9567/tcp   fastapi_container
g2311037@hackend:~$ sudo docker images
REPOSITORY          TAG      IMAGE ID      CREATED         SIZE
fastapi             latest   bca1979d408  3 hours ago    189MB
fastapi             latest   fe75a794ed0  3 hours ago    189MB
fastapi             latest   6c05a0f6623  3 months ago   190MB
pytorch              3.9-slim  bca3d9a87178  3 months ago   12MB
docker.elastic.co/elasticsearch/elasticsearch   8.10.2   bb2015f1390  18 months ago  1.34GB
elasticsearch        7.17.6   5fad10241ff0  2 years ago   606MB
```

```
g231103738frontend:~$ docker login
Log in with your Docker ID or email address to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com/ to create one.
You can log in with your password or a Personal Access Token (PAT). Using a limited-scope PAT grants better security and is required for organizations using SSO. Learn more at https://docs.docker.com/go/access-tokens

Username: zainabkapadia01
Password:
WARNING! Your password will be stored unencrypted in /home/g23110373/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
g231103738frontend:~$ docker images
REPOSITORY          TAG      IMAGE ID      CREATED        SIZE
fastapi             latest   baa391c6c8473  16 minutes ago  82MB
fastapi-elasticsearch-connector  latest   aeefaf5a50549c  2 hours ago   182MB
frontend-fastapi    1       aeefaf5a50549c  2 hours ago   182MB
fastapi-frontends   latest   a5f06ce9e40f   4 hours ago   182MB
fastapi-frontends   3.9-slim  beada3ea87178  3 months ago  126MB
```

```
g23110373@frontend:~$ docker tag frontend-fastapi:latest zainabkapadia01/fastapi1
g23110373@frontend:~$ docker push zainabkapadia01/fastapi1
Using default tag: latest
The push refers to repository [docker.io/zainabkapadia01/fastapi1]
50d9af56bf5c: Mounted from zainabkapadia01/fastapi
362b3c12da5c: Mounted from zainabkapadia01/fastapi
a99b54dfc9cf: Mounted from zainabkapadia01/fastapi
0796a33961ef: Mounted from zainabkapadia01/fastapi
04f6e4fcfc28e: Mounted from zainabkapadia01/fastapi
140ec0aa8af0: Mounted from zainabkapadia01/fastapi
1287fbecdffcc: Mounted from zainabkapadia01/fastapi
latest: digest: sha256:955439d0c8b7247868730115cf7d06815efa991b3a22257a08aa241d69ac3449 size: 1785
```

VM Logs for insert(add):-

VM log for search(get):-

Docker inspect:-

Frontend:-

Container:-

```
g23110373@frontend:~$ docker inspect 4b3f8cd4f744
{
  {
    "Id": "4b3f8cd4f7440a36f1dd907ac6aca749c0fee05f5c152004b8b832170f651ael",
    "Created": "2025-03-27T22:04:22.006375085Z",
    "Path": "uvicorn",
    "Args": [
      "--name:app",
      "--host",
      "0.0.0.0",
      "--port",
      "9567"
    ],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 11438,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2025-03-27T22:04:22.403097989Z",
      "FinishedAt": "2001-01-01T00:00:00Z"
    },
    "Image": "sha256:9e19416e947347ab90ed49eae226a971356481d91693de99a8ae3f50d4961c49",
    "ResolvConfPath": "/var/lib/docker/containers/4b3f8cd4f7440a36f1dd907ac6aca749c0fee05f5c152004b8b832170f651ael/resolv.conf",
    "HostnamePath": "/var/lib/docker/containers/4b3f8cd4f7440a36f1dd907ac6aca749c0fee05f5c152004b8b832170f651ael/hostname",
    "HostsPath": "/var/lib/docker/containers/4b3f8cd4f7440a36f1dd907ac6aca749c0fee05f5c152004b8b832170f651ael/hosts",
    "LogPath": "/var/lib/docker/containers/4b3f8cd4f7440a36f1dd907ac6aca749c0fee05f5c152004b8b832170f651ael/json.log",
    "Name": "frankenstein_container",
    "RestartCount": 0,
    "Driver": "overlay2",
    "Platform": "linux",
    "MountLabel": "",
    "ProcessLabel": "",
    "AppArmorProfile": "docker-default",
    "ExecID": null,
    "HostConfig": {
      "Binds": null,
      "ContainerIDFile": "",
      "LogConfig": {
        "Type": "json-file",
        "Config": {}
      },
      "NetworkMode": "bridge",
      "PortBindings": {
        "5567/tcp": [
          {
            "HostIp": "",
            "HostPort": "9567"
          }
        ]
      },
      "RestartPolicy": {
        "Name": "no",
        "MaximumRetryCount": 0
      },
      "AutoRemove": false,
      "VolumeDriver": "",
      "VolumesFrom": null,
      "ConsoleSize": [
        512,
        216
      ]
    }
  }
}
```

```
},
"AutoRemove": false,
"VolumeDriver": "",
"VolumesFrom": null,
"ConsoleSize": [
    67,
    216
],
"CapAdd": null,
"CapDrop": null,
"CgroupsMode": "private",
"Dns": [],
"DnsOptions": [],
"DnsSearch": [],
"ExtraHosts": null,
"GroupAdd": null,
"IpcMode": "private",
"Cgroup": "",
"Links": null,
"OomScoreAdj": 0,
"PidMode": "",
"Privileged": false,
"PublishAllPorts": false,
"ReadonlyRootfs": false,
"SecurityOpt": null,
"UTSMode": "",
"UsernsMode": "",
"ShmSize": 67108864,
"Runtime": "runc",
"Isolation": "",
"CpuShares": 0,
"Memory": 0,
"NanoCpus": 0,
"CgroupParent": "",
"BlkioWeight": 0,
"BlkioWeightDevice": [],
"BlkioDeviceReadBps": [],
"BlkioDeviceWriteBps": [],
"BlkioDeviceReadIOps": [],
"BlkioDeviceWriteIOps": [],
"CpuPeriod": 0,
"CpuQuota": 0,
"CpuRealtimePeriod": 0,
"CpuRealtimeRuntime": 0,
"CPusetCpus": "",
"CPusetMems": "",
"Devices": [],
"DeviceCgroupRules": null,
"DeviceRequests": null,
"MemoryReservation": 0,
"MemorySwap": 0,
"MemorySwappiness": null,
"OomKillDisable": null,
"PidsLimit": null,
"Ulimits": [],
"CpuCount": 0,
"CpuPercent": 0,
"IOMaximumIOps": 0,
"IOMaximumBandwidth": 0,
"MaskedPaths": [
    "/proc/asound",
    "/proc/acpi",
    "/proc/kcore",
    "/proc/keys",
    "/proc/latency_stats",
    "/proc/timer_list",
    "/proc/timer_stats",
    "/proc/vmalloc"
]
```

```

        "/proc/sched_debug",
        "/proc/scsi",
        "/sys/firmware",
        "/sys/devices/virtual/powercap"
    ],
    "ReadonlyPaths": [
        "/proc/bus",
        "/proc/clock",
        "/proc/cpu",
        "/proc/driver",
        "/proc/sys",
        "/proc/sysrq-trigger"
    ],
    "GraphDriver": {
        "Data": {
            "Overlay": "/var/lib/docker/overlay2/60395a0763f676934e97c0a38123047cfa303106c6c67a3946c6c11v/diff:/var/lib/docker/overlay2/8474b8902aaada4ff130b2cb8e573bb24a7b3ab0039aca568a2fb52a7c1
f1/diff:/var/lib/docker/overlay2/5d10252efcd047c54d7c2a7389a0222a1ec0d1c972d13d00915e17145a/diff:/var/lib/docker/overlay2/4f573d44451319791dd1bf5fcfa3f822401571862d1a8ba134f0872d8f12/diff:/var/lib/docker/ov
erlay2/fe59eb342caecae5108d3b59853bd72eaef3fb7fd9b03e6099099b28de8e/diff:/var/lib/docker/overlay2/74c988a1e42a8363232debf51f6000fd28e23f94fb8ce4277947eac0bc40e957c0d8a97fc2ef1dea7d0817/diff:/var/lib/docker/overlay2/6cf5a8e6f7263edeb0c
fb8a7c86bd3a3f997d5e2691703d6ea983363e6ab0/diff:/var/lib/docker/overlay2/62357ad9796384759934e427c7b398123047af5931d2381064c5e74a7b464/merged",
            "MergeDir": "/var/lib/docker/overlay2/62357ad9796384759934e427c7b398123047af5931d2381064c5e74a7b464/merged",
            "UpperDir": "/var/lib/docker/overlay2/62357ad9796384759934e427c7b398123047af5931d2381064c5e74a7b464/diff",
            "WorkDir": "/var/lib/docker/overlay2/62357ad9796384759934e427c7b398123047af5931d2381064c5e74a7b464/wrk"
        },
        "Name": "overlay2"
    },
    "Mounts": [],
    "Config": {
        "Hostname": "4b3f8cd4f744",
        "Domainname": "",
        "User": "",
        "AttachStdin": false,
        "AttachStdout": false,
        "AttachStderr": false,
        "ExposedPorts": {
            "9567/tcp": {}
        },
        "Tty": false,
        "OpenStdin": false,
        "StdinOnce": false,
        "Env": [
            "PATH=/usr/local/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin",
            "LANG=C.UTF-8",
            "GPG_KEY=E5FF2819C54AB5C084DE5E9B26995E310250568",
            "PYTHONUNBUFFERED=3.9.21",
            "PYTHONUNWINDHANDLER=1",
            "PYTHON__SHA256=3126f59592c9b0d98584755f2bf7b081fcala35cefa6fea980108d752a05bb1"
        ],
        "Cmd": [
            "uvicorn",
            "main:app",
            "--host",
            "0.0.0.0",
            "--port",
            "9567"
        ],
        "Image": "frontend-fastapi:latest",
        "Volumes": null,
        "WorkingDir": "/app",
        "Entrypoint": null,
        "OnBuild": null,
        "Labels": {}
    },
    "NetworkSettings": {
        "Bridge": "",
        "SandboxID": "536bd8479add376fc6a584a7ee70668607135ce90b5f2b367488b70d5d2f64c",
        "SandboxKey": "/var/run/docker/netns/536bd8479add",
        "Port": {
            "9567": {
                "HostIp": "0.0.0.0",
                "HostPort": "9567"
            }
        }
    }
},
"NetworkSettings": {
    "Bridge": "",
    "SandboxID": "536bd8479add376fc6a584a7ee70668607135ce90b5f2b367488b70d5d2f64c",
    "SandboxKey": "/var/run/docker/netns/536bd8479add",
    "Port": {
        "9567/tcp": [
            {
                "HostIp": "0.0.0.0",
                "HostPort": "9567"
            },
            {
                "HostIp": "::",
                "HostPort": "9567"
            }
        ]
    },
    "HairpinMode": false,
    "LinkLocalIPv6PrefixLen": 0,
    "LinkLocalIPv6Address": "",
    "SecondaryIPv6Addresses": null,
    "SecondaryIPv6AddressesList": null,
    "PrivateIPv4": "172.17.0.1",
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "IPAddress": "172.17.0.2",
    "IPPrefixLen": 16,
    "IPv6Gateway": "172.17.0.1",
    "MacAddress": "02:42:ac:11:00:02",
    "Networks": [
        {
            "Bridge": {
                "IPAMConfig": null,
                "Links": null,
                "Aliases": null,
                "MacAddress": "02:42:ac:11:00:02",
                "NetworkID": "75f600152724859b72afef691fae4b7fd644fd1041ba9b022a8953090f61518",
                "Gateway": "172.17.0.1",
                "IPPrefixLen": 16,
                "IPv6Gateway": "172.17.0.1",
                "GlobalIPv6Address": "",
                "GlobalIPv6PrefixLen": 0,
                "DriverOpts": null,
                "DNSNames": null
            }
        }
    ]
}
]

```

Image:-

```

g231103738frontend:~$ docker inspect 9e19416e8473
[{"Id": "sha256:9e19416e8473a74b90ed49eaec226a971356481d91693de99a8ae3f50d4961c49",
 "RepoTags": [
   "zainabkapadia01/fastapi:latest",
   "zainabkapadia01/fastapi1:latest",
   "zainabkapadia01/fastapi2:latest",
   "zainabkapadia01/fastapi1:",
   "zainabkapadia01/frontend-fastapi:latest"
 ],
 "RepoDigests": [
   "zainabkapadia01/fastapi1@sha256:955439d0c8b7247868730115cf7d06815efa991b3a22257a08aa241d69ac3449",
   "zainabkapadia01/frontend-fastapi1@sha256:955439d0c8b7247868730115cf7d06815efa991b3a22257a08aa241d69ac3449"
 ],
 "Parent": "sha256:93106253581a5d06465f7fb6c4el29760d973b048dc851273da62cbf7245a52",
 "Comment": "",
 "Created": "2025-03-27T22:04:07.3038291Z",
 "ContainerVersion": "26.1.3",
 "Author": "",
 "Config": {
   "Hostname": "",
   "Domainname": "",
   "User": "",
   "AttachStdin": false,
   "AttachStdout": false,
   "AttachStderr": false,
   "entrypoint": null,
   "openStdin": false,
   "stdinOnce": false,
   "Env": [
     "PATH=/usr/local/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin",
     "LANG=C.UTF-8",
     "GPG_KEY=E3FF2839C048B25C084DEBE9826995B31025056",
     "PYTHON_VERSION=3.9.21",
     "PYTHON_SHA256=3126f59592c9b0d798584755f2bf7b081fa1ca35ce7a6fea980108d752a5bb1"
   ],
   "Cmd": [
     "uvicorn",
     "main:app",
     "--reload",
     "-0.0.0.0",
     "--port",
     "9567"
   ],
   "Image": "sha256:93106253581a5d06465f7fb6c4el29760d973b048dc851273da62cbf7245a52",
   "Volumes": null,
   "WorkingDir": "/app",
   "Entrypoint": null,
   "OnBuild": null,
   "Labels": null
 },
 "Architecture": "amd64",
 "VirtualSize": 182189402,
 "Size": 182189402,
 "GraphDriver": {
   "Data": {
     "RootFs": {
       "Type": "layers",
       "Layers": [
         "sha256:1287fbecdfcce6ee8cf2436e5b9e9d86a44648db2d91080377d499737f1b307f3",
         "sha256:140ec0aa8af03880fb53bce492a8630996d0f734c6cc329dc2d1e8ca1256dea9",
         "sha256:04f6e4fcfc28e74355ff17edb23937c7c385a8435406994499ee3f657745a2f1a",
         "sha256:0796a33961efbdc069b7e0ba8533463c67e639c1134253fe29ed70f04b74b2c",
         "sha256:a99b54dfc9cf0581cc9126365d467cba7c0404509a0809d1e24fac6ba8bc1e15",
         "sha256:362b3c12da5c954432613248dc5a5192d05ac26757e24479c3b20fc53f9230e",
         "sha256:50d9af56bf5c3944b18e563861f9e1d8e7e2c3fb03e73dfec840d6d54afba0a9"
       ]
     },
     "Metadata": {
       "LastTagTime": "2025-03-27T22:59:48.272516899Z"
     }
   }
 }
]

```

Backend:-
Container:-

```
g23110373@backend2:~$ sudo docker inspect 30cf2941b1ba
[{"Id": "30cf2941b1ba697aad726cb18f8706d2202873c52aea679d0fdb064b09b4241f",
 "Created": "2025-03-27T19:35:49.987536876Z",
 "Path": "uvicorn",
 "Args": [
   "--main:app",
   "--host",
   "0.0.0.0",
   "--port",
   "9567"
 ],
 "State": {
   "Status": "running",
   "Running": true,
   "Paused": false,
   "Restarting": false,
   "OOMKilled": false,
   "Dead": false,
   "Pid": 8487,
   "ExitCode": 0,
   "Error": null,
   "StartedAt": "2025-03-27T19:36:16.523066607Z",
   "FinishedAt": "0001-01-01T00:00:00Z"
 },
 "Image": "sha256:fe75a7b94d08ed460e57075dac61e10fd99cd2c9b85045f7e3f21d45e9ee8bc",
 "ResolvConfPath": "/var/lib/docker/containers/30cf2941b1ba697aad726cb18f8706d2202873c52aea679d0fdb064b09b4241f/resolv.conf",
 "HostnamePath": "/var/lib/docker/containers/30cf2941b1ba697aad726cb18f8706d2202873c52aea679d0fdb064b09b4241f/hostname",
 "HostsPath": "/var/lib/docker/containers/30cf2941b1ba697aad726cb18f8706d2202873c52aea679d0fdb064b09b4241f/hosts",
 "LogPath": "/var/lib/docker/containers/30cf2941b1ba697aad726cb18f8706d2202873c52aea679d0fdb064b09b4241f/30cf2941b1ba697aad726cb18f8706d2202873c52aea679d0fdb064b09b4241f-json.log",
 "Name": "/fastapi_container",
 "NetworkSettings": {
   "Bridge": "bridge",
   "ContainerID": "30cf2941b1ba697aad726cb18f8706d2202873c52aea679d0fdb064b09b4241f",
   "EndpointID": "30cf2941b1ba697aad726cb18f8706d2202873c52aea679d0fdb064b09b4241f",
   "Gateway": "172.17.0.1",
   "GlobalIPv6Address": null,
   "GlobalIPv6PrefixLen": null,
   "IPAddress": "172.17.0.2",
   "IPPrefixLen": 16,
   "Links": null,
   "MacAddress": "00:0e:33:90:00:02",
   "NetworkMode": "g23110373_custom_net",
   "PortBindings": {
     "9567/tcp": [
       {
         "HostIp": "",
         "HostPort": "9567"
       }
     ]
   },
   "RestartPolicy": {
     "Name": "no",
     "MaximumRetryCount": 0
   },
   "AutoRemove": false,
   "VolumeDriver": "",
   "VolumesFrom": null,
   "ConsoleSize": [
     0,
     0
   ],
   "SecondaryConsoles": []
 }
```

```
"AutoRemove": false,
"VolumeDriver": "",
"VolumesFrom": null,
"ConsoleSize": [
    0,
    0
],
"CapAdd": null,
"CapDrop": null,
"CgroupnsMode": "host",
"Dns": null,
"DnsOptions": null,
"DnsSearch": null,
"ExtraHosts": [],
"GroupAdd": null,
"IpcMode": "private",
"Cgroup": "",
"Links": null,
"OomScoreAdj": 0,
"PidMode": "",
"Privileged": false,
"PublishAllPorts": false,
"ReadonlyRootfs": false,
"SecurityOpt": null,
"UTSMode": "",
"UsernsMode": "",
"ShmSize": 67108864,
"Runtime": "runc",
"Isolation": "",
"CpuShares": 0,
"Memory": 0,
"NanoCpus": 0,
"CgroupParent": "",
"BlkioWeight": 0,
"BlkioWeightDevice": null,
"BlkioDeviceReadBps": null,
"BlkioDeviceWriteBps": null,
"BlkioDeviceReadIOps": null,
"BlkioDeviceWriteIOps": null,
"CpuPeriod": 0,
"CpuQuota": 0,
"CpuRealtimePeriod": 0,
"CpuRealtimeRuntime": 0,
"CPusetCpus": "",
"CPusetMems": "",
"Devices": null,
"DeviceCgroupRules": null,
"DeviceRequests": null,
"MemoryReservation": 0,
"MemorySwap": 0,
"MemorySwappiness": null,
"OomKillDisable": false,
"PidsLimit": null,
"Ulimits": null,
"CpuCount": 0,
"CpuPercent": 0,
"IOMaximumIOps": 0,
"IOMaximumBandwidth": 0,
"MaskedPaths": [
    "/proc/asound",
    "/proc/acpi",
    "/proc/kcore",
    "/proc/keys",
    "/proc/latency_stats",
    "/proc/timer_list",
    "/proc/timer_stats",
    "/proc/sched_debug",
```

```

    "/proc/cpus",
    "/sys/firmware",
    "/sys/devices/virtual/powercap"
  ],
  "ReadonlyPaths": [
    "/proc/bus",
    "/proc/fs",
    "/proc/irq",
    "/proc/sys",
    "/proc/sysrq-trigger"
  ],
  "GraphDriver": {
    "Data": {
      "Device": "var/lib/docker/overlay2/c086871436bd78954ac28ae5fb/c467644b36c81c94aec1e4a7767c32efad07d-init/diff:/var/lib/docker/overlay2/iqrto0ckyn2imquuce56vepf4/diff:/var/lib/docker/overlay2/pa7bt5k3dux6gnrliaa9od7qc/diff:/var/lib/docker/overlay2/pumz8aupd67hd1qpx6y2qr/diff:/var/lib/docker/overlay2/47d44ba873a6ea4dddec742de4410c78493acd6fae56c29e2e1d5084b0ab/diff:/var/lib/docker/overlay2/7a50eacte2cbe47fd5f979fe3ba478d615f534dc5d7dacfb9e9c5cd44967/diff:/var/lib/docker/overlay2/77c1d362af62cf1e423ed05bb636c413acee90876e2977ec60e25e1024c8/diff:/var/lib/docker/overlay2/6d75a75dec9be8a5e62eac940dda380825e5b2fb2fecf264c73aaafcfcfb6/diff",
      "Mount": "var/lib/docker/overlay2/c086871436bd78954ac28ae5fb/c467644b36c81c94aec1e4a7767c32efad07d/mount",
      "WorkDir": "var/lib/docker/overlay2/c086871436bd78954ac28ae5fb/c467644b36c81c94aec1e4a7767c32efad07d/work"
    },
    "Name": "overlay2"
  },
  "Mounts": [],
  "Config": {
    "HostConfig": {
      "PortBindings": {},
      "Dnsdomainname": "",
      "User": "",
      "AttachStdin": false,
      "AttachStdout": true,
      "AttachStderr": true,
      "ExposedPorts": {
        "9567/tcp": {}
      },
      "Tty": false,
      "OpenStdin": false,
      "StdinOnce": false,
      "Env": [
        "ES_HOST=http://es:9200",
        "ES_PATH_TYPE=auto",
        "PATH=/usr/local/bin:/bin:/usr/local/sbin:/usr/sbin:/usr/bin:/sbin:/bin",
        "LANG=C.UTF-8",
        "GPG_KEY=E53FF2839C04B825C084DE89B26995E310250568",
        "PYTHON_VERSION=3.9.21",
        "PYTHON_SHA256=3126f59592c9b0d798584755f2bf7b081fa1ca35ce4a6fea980108d752a05bb1"
      ],
      "Cmd": [
        "unicorn",
        "main.py",
        "--host",
        "0.0.0.0",
        "--port",
        "9567"
      ],
      "Image": "g23110373-api",
      "Volumes": null,
      "WorkingDir": "/app",
      "Entrypoint": null,
      "OnBuild": null,
      "Labels": {
        "com.docker.compose.config-hash": "63e973710567fe7aae031a957346c898714f37f306c90ffbd209ded633bd0ed",
        "com.docker.compose.container-number": "1",
        "com.docker.compose.depends_on": "service healthy",
        "com.docker.compose.environment": "sha56:fe7587b94308ed60e57075dac61e10fdd99cd2c9b85045f7e3f21d45e9ee8bc",
        "com.docker.compose.onoff": "False",
        "com.docker.compose.project": "g23110373",
        "com.docker.compose.project.config_files": "/home/g23110373/docker-compose.yml"
      }
    }
  }
}

```

```
        "com.docker.compose.project.config_files": "/home/g23110373/docker-compose.yml",
        "com.docker.compose.project.working_dir": "/home/g23110373",
        "com.docker.compose.service": "api",
        "com.docker.compose.version": "2.16.0"
    },
    "NetworkSettings": {
        "Bridge": "",
        "SandboxID": "ca135622b83e4aaa6d788116ddd0442d55dd8d09c5985e9c69ec2d1385c3d1cd",
        "SandboxKey": "/var/run/docker/netns/ca135622b83e",
        "Ports": [
            "9567/tcp": [
                {
                    "HostIp": "0.0.0.0",
                    "HostPort": "9567"
                },
                {
                    "HostIp": "::",
                    "HostPort": "9567"
                }
            ]
        ],
        "HairpinMode": false,
        "LinkLocalIPv6Address": "",
        "LinkLocalIPv6PrefixLen": 0,
        "SecondaryIPv6Addresses": null,
        "SecondaryIPv6Prefixes": null,
        "EndpointID": "",
        "Gateway": "",
        "GlobalIPv6Address": "",
        "GlobalIPv6PrefixLen": 0,
        "IPAddress": "",
        "IPPrefixLen": 0,
        "IPv6Gateway": "",
        "MacAddress": "",
        "Networks": {
            "g23110373_custom_net": {
                "IPAMConfig": null,
                "Links": null,
                "Aliases": [
                    "api"
                ],
                "MacAddress": "02:42:ac:14:00:03",
                "NetworkID": "d18ff0c75051f3fe393f29232bf6261e27b7271dee7e56bcd8576f2d01e5d7e0",
                "EndpointID": "3bb639c2e438cf21ab526b315a88a11fa7f0557218447da3da259d51614788db",
                "Gateway": "172.20.0.1",
                "IPAddress": "172.20.0.3",
                "IPPrefixLen": 16,
                "IPv6Gateway": "",
                "GlobalIPv6Address": "",
                "GlobalIPv6PrefixLen": 0,
                "DriverOpts": null,
                "DNSNames": [
                    "fastapi_container",
                    "api",
                    "30cf2941b1ba"
                ]
            }
        }
    }
]
```

Image:-

```

g23110373@backend2:~$ sudo docker inspect fe75a7b94d08
[
  {
    "Id": "sha256:fe75a7b94d08ed460e57075dac61e10fdd99cd2c9b85045f7e3f21d45e9ee8bc",
    "RepoTags": [
      "g23110373-apilatest",
      "zainabkapadia01/fastapi12:latest"
    ],
    "RepoDigests": [
      "zainabkapadia01/fastapi12@sha256:70024167ce9727d437e5a6ab0f33deb8e9e5ac95817a2fa698956a97acfabc"
    ],
    "Parent": "",
    "Comment": "buildkit.dockerfile.v0",
    "Created": "2025-03-27T19:32:54.107255193Z",
    "DockerVersion": "",
    "Author": "",
    "Config": {
      "Hostname": "",
      "Domainname": "",
      "User": "root",
      "AttachStdin": false,
      "AttachStdout": false,
      "AttachStderr": false,
      "Tty": false,
      "OpenStdin": false,
      "StdinOnce": false,
      "Env": [
        "PATH=/usr/local/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin",
        "HTTP_PROXY=http://127.0.0.1:10000",
        "https://keybase.io/28130040825084DEBE9826995E310250568",
        "PYTHON VERSION=3.9.21",
        "PYTHON SHA256=d3126f59592c9b0d798584755f2bf7b081falca35ce7a6fea980108d752a05bb1"
      ],
      "Cmd": [
        "uvicorn",
        "main:app",
        "--host",
        "0.0.0.0",
        "--port",
        "9567"
      ],
      "ArgsEscaped": true,
      "Image": "",
      "Volumes": null,
      "WorkingDir": "/app",
      "Entrypoint": null,
      "OnBuild": null,
      "Labels": {
        "com.docker.compose.project": "g23110373",
        "com.docker.compose.service": "api",
        "com.docker.compose.version": "2.16.0"
      }
    },
    "Architecture": "amd64",
    "Os": "linux",
    "Size": 18899950,
    "GraphDriver": {
      "Data": {
        "LowerDir": "/var/lib/docker/overlay2/pa7bt5k3dux6gbnfiaa9qd7qc/diff:/var/lib/docker/overlay2/puzmc8aupde7hd1gppx6y2qrj:/var/lib/docker/overlay2/d7d44ba873a6ea4ddecc742fd64410c78493acd6fae562c2",
        "UpperDir": "/var/lib/docker/overlay2/edf15a68ec39eb52a3394380825852a2f264e738aefccfcfb6/diff",
        "MergedDir": "/var/lib/docker/overlay2/l/qrt10kyzn1mguuce56vepf/d/merged",
        "UpperDir": "/var/lib/docker/overlay2/l/qrt10kyzn1mguuce56vepf/d/upper",
        "WorkDir": "/var/lib/docker/overlay2/l/qrt10kyzn1mguuce56vepf/d/work"
      },
      "Name": "overlay2"
    }
  }
]

```

```

    },
    "Name": "overlay2"
  },
  "RootFS": {
    "Type": "layers",
    "Layers": [
      "sha256:1287fbecdfcce6ee8cf2436e5b9e9d86a4648db2d91080377d499737f1b307f3",
      "sha256:140ec0aa8af03880fb53bce492a8630996d0f734c6cc329dc2die8ca1256dea9",
      "sha256:04f6e4fcf28e74355ff17edb23937c7c385a843540694499ee3f657745a2f1a",
      "sha256:0796a33961efbdc069b7e0ba8533463c67e639c1134253f0e29ed70f04b74b2c",
      "sha256:45f077617b40a39102cb613fe059450d67941e3bb69a3c4d9a127d5b8cbde5",
      "sha256:943456ceda71365b7ded24a5b54daea90a14d9b464cf78621bcfd67fe555f8a3",
      "sha256:38a85e971c06dacef33e206893b81e4ee8783a1c52132dc981233e21d57149f9"
    ]
  },
  "Metadata": {
    "LastTagTime": "2025-03-27T23:03:07.725324798Z"
  }
}
]

```

Elastic search:-
Container:-


```

    "DiskMode": "",
    "UsersnsMode": "",
    "ShmSize": 67108864,
    "Runtime": "runc",
    "Isolation": "",
    "CpuShares": 0,
    "Memory": 0,
    "NanoCpus": 0,
    "CgroupPaths": "",
    "BlinkoWeight": 0,
    "BlinkoWeightDevice": null,
    "BlinkoDeviceReadbps": null,
    "BlinkoDeviceWritebps": null,
    "BlinkoDeviceReadIOPS": null,
    "BlinkoDeviceWriteIOPS": null,
    "CpuPeriod": 0,
    "CpuQuota": 0,
    "CpuRealtimePeriod": 0,
    "CpuRealtimeRuntime": 0,
    "CpusetCpus": "",
    "CpusetMems": "",
    "Device": null,
    "DeviceRatelimit": null,
    "DeviceResearware": null,
    "MemoryReservation": 0,
    "MemorySwap": 0,
    "MemoryTiers": null,
    "MemoryAppArmor": null,
    "MemoryLockable": false,
    "PidsLimit": null,
    "Ulimits": null,
    "CpuCount": 0,
    "CpuPercent": 0,
    "IOMaximumIOPS": 0,
    "IOMaximumBandwidth": 0,
    "MaskedPaths": [
        "/proc/acpi",
        "/proc/cpufreq",
        "/proc/core",
        "/proc/keys",
        "/proc/latency_stats",
        "/proc/timer_list",
        "/proc/timer_stats",
        "/proc/sched_debug",
        "/proc/scsi",
        "/sys/firmware",
        "/sys/devices/virtual/powercap"
    ],
    " ReadonlyPaths": [
        "/proc/bus",
        "/proc/cpufreq",
        "/proc/clock",
        "/proc/irq",
        "/proc/sys",
        "/proc/sysrq-trigger"
    ],
    "GraphDriver": {
        "Data": "dce9e0c1-72f2-484a-9143-359bb6da2002aceed7d78b614fc1b3d50e9099b74a9fc/diff;/var/lib/docker/overlay2/fa15df2ca3e90170c94912b5e2bd2a1c3907650829db7e69cd3add431ad7/diff;/var/lib/docker/overlay2/3560bb7e592adfbcb330483d51a5d46744e08cfac1e148e758e2d49fc31/diff;/var/lib/docker/overlay2/4855f945428c21bf36ac5b512c47e6bc1ae3fd3b275c295986a0dd3f0095/diff;/var/lib/docker/overlay2/7d28a1e19318207c3b3d2c4cffc2039b34ac71280f24c918a80d3bea799f/diff;/var/lib/docker/overlay2/338e9a92c58edc7f731398d7873bcb08718bac/diff;/var/lib/docker/overlay2/97b75eaef1dbd1ac69eb8525fb37acde213b3e3ce3f85baec2b5b7d7fb4ba78b/diff",
        "UpperDir": "/var/lib/docker/overlay2/a9c99bbad9a5766d3fb0b9e05fa/c403958c08c8a9c91d9e93601042945a9/diff",
        "WorkDir": "/var/lib/docker/overlay2/a9c99bbad9a5766d3fb0b9e05fa/c403958c08c8a9c91d9e93601042945a9/diff"
    ],
    "Name": "overlay2"
}

```

```

},
"Mounts": [],
"Config": {
    "Hostname": "9acc8931fa5a",
    "Domainname": "",
    "User": "1000:0",
    "AttachStdin": false,
    "AttachStdout": true,
    "AttachStderr": true,
    "ExposedPorts": {
        "9200/tcp": {},
        "9300/tcp": {}
    },
    "Tty": false,
    "OpenStdin": false,
    "StdinOnce": false,
    "Env": [
        "XPACK_SECURITY_ENABLED=false",
        "DISCOVERY_TYPE=single-node",
        "PATH=/usr/share/elasticsearch/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/bin",
        "ELASTIC_CONTAINER=true"
    ],
    "Cmd": [
        "eswrapper"
    ],
    "Healthcheck": {
        "Test": [
            "CMD-SHELL",
            "curl -f http://localhost:9200/_cluster/health || exit 1"
        ],
        "Interval": 3000000000,
        "Retries": 10
    },
    "Image": "docker.elastic.co/elasticsearch/elasticsearch:8.10.2",
    "Volume": null,
    "WorkingDir": "/usr/share/elasticsearch",
    "Entrypoint": [
        "/bin/tini",
        "--",
        "/usr/local/bin/docker-entrypoint.sh"
    ],
    "OnBuild": null,
    "Labels": {
        "com.docker.compose.config-hash": "059a34b284fdna4a0b5e196430a727bd28a80faad8539c47652812abb9c9161c8",
        "com.docker.compose.container-number": "1",
        "com.docker.compose.depends_on": "elasticsearch",
        "com.docker.compose.image": "elasticsearch:8.10.2",
        "com.docker.compose.project": "elasticsearch",
        "com.docker.compose.project.config_file": "Value",
        "com.docker.compose.project.dir": "/home/g23110373/docker-compose.yml",
        "com.docker.compose.project.override": "false",
        "com.docker.compose.version": "2.16.0",
        "org.label-schema.build-date": "2023-09-19T08:16:24.564900370Z",
        "org.label-schema.license": "Elastic License 2.0",
        "org.label-schema.schema-version": "1.0",
        "org.label-schema.schema.url": "https://www.elastic.co/products/elasticsearch",
        "org.label-schema.usage": "https://www.elastic.co/guide/en/elasticsearch/reference/index.html",
        "org.label-schema.vendor": "Elasticsearch",
        "org.label-schema.vendor-url": "https://github.com/elastic/elasticsearch",
        "org.label-schema.vendor-name": "Elastic"
    },
    "org.opencontainers.image.created": "2023-09-19T08:16:24.564900370Z",
    "org.opencontainers.image.licenses": "Elastic License 2.0",
    "org.opencontainers.image.ref.name": "ubuntu"
}

```

```

        "org.opencontainers.image.ref.name": "ubuntu",
        "org.opencontainers.image.revision": "6d20dd8ce62365be9bla96427de4622e970e9e",
        "org.opencontainers.image.source": "https://github.com/elastic/elasticsearch",
        "org.opencontainers.image.title": "Elasticsearch",
        "org.opencontainers.image.url": "https://www.elastic.co/products/elasticsearch",
        "org.opencontainers.image.vendor": "Elastic",
        "org.opencontainers.image.version": "8.10.2"
    }
},
"NetworkSettings": {
    "Bridge": "",
    "SandboxID": "cl410bf9488fe00cc856ed0779eddf107c425f3b68d6a921ab3749c529adaa",
    "SandboxKey": "/var/run/docker/netns/cl410bf9488",
    "Ports": {
        "9200/tcp": [
            {
                "HostIp": "0.0.0.0",
                "HostPort": "9200"
            },
            {
                "HostIp": ":",
                "HostPort": "9200"
            }
        ],
        "9300/tcp": null
    },
    "HairpinMode": false,
    "LinkLocalIPv6Address": "",
    "LinkLocalIPv6PrefixLen": 0,
    "SecondaryIPv6Addresses": null,
    "SecondaryIPv6Addresses": null,
    "EndpointID": "",
    "MacAddress": "",
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "IPAddrs": "",
    "IPPrefixLen": 0,
    "IPGateway": "",
    "MacAddress": "",
    "Networks": {
        "g23110373_custom_net": {
            "IPAMConfig": null,
            "Links": null,
            "Aliases": [
                "es"
            ],
            "MacAddress": "02:42:ac:14:00:02",
            "NetworkID": "d18ff0c75051f3fe393f29232bf6261e27b7271dee7e56bcd8576f2d01e5d7e0",
            "EndpointID": "7effae84aaa420c45fb3ec17d80df1679accda72345fe663d29bc356885f6599",
            "Gateway": "172.20.0.1",
            "IPAddress": "172.20.0.2",
            "IPPrefixLen": 16,
            "IPGateway": "",
            "GlobalIPv6Address": "",
            "GlobalIPv6PrefixLen": 0,
            "DriverOpts": null,
            "DNSNames": [
                "es_container",
                "es",
                "9aec8931fa5a"
            ]
        }
    }
}
]

```

Image:-

```

g23110373@backend2:~$ sudo docker inspect bb20157f1390
[{"Id": "sha256:bb20157f1390e5b7c638973436fbe1f7ea995106b445aac3630de0839d112ecb",
 "RepoTags": [
   "docker.elastic.co/elasticsearch/elasticsearch:8.10.2",
   "zainabkapadia01/elasticsearch:latest"
 ],
 "RepoDigests": [
   "docker.elastic.co/elasticsearch/elasticsearch@sha256:d118fc05cf714a4577731384ec8b08fe7e70c203a6949b0581e0f6be54b0af",
   "zainabkapadia01/elasticsearch@sha256:7aae8ab0a532acddfd9781476e0233c0a304cdce87264ce2e7f881c70ffdd42"
 ],
 "Parent": "",
 "Comment": "buildkit.dockerfile.v0",
 "Created": "2023-09-19T08:23:13.553811426Z",
 "DockerVersion": "",
 "Author": "",
 "Config": {
   "Hostname": "",
   "Domainname": "",
   "User": "1000:0",
   "AttachStdin": false,
   "AttachStdout": false,
   "AttachStderr": false,
   "ExposedPorts": {
     "9200/tcp": {},
     "9300/tcp": {}
   },
   "Tty": false,
   "OpenStdin": false,
   "StdinOnce": false,
   "Env": [
     "PATH=/usr/share/elasticsearch/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin",
     "ELASTIC_CONTAINER=true"
   ],
   "Cmd": [
     "eswrapper"
   ],
   "ArgsEscaped": true,
   "Image": "",
   "Volumes": null,
   "WorkingDir": "/usr/share/elasticsearch",
   "Entrypoint": [
     "/bin/tini",
     "--",
     "/usr/local/bin/docker-entrypoint.sh"
   ],
   "OnBuild": null,
   "Labels": {
     "org.label-schema.build-date": "2023-09-19T08:16:24.564900370Z",
     "org.label-schema.license": "Elastic-License-2.0",
     "org.label-schema.name": "Elasticsearch",
     "org.label-schema.schema-version": "1.0",
     "org.label-schema.url": "https://www.elastic.co/products/elasticsearch",
     "org.label-schema.usage": "https://www.elastic.co/guide/en/elasticsearch/reference/index.html",
     "org.label-schema.vcs-ref": "6d20dd8ce62365be9bla96427de4622e970e9e",
     "org.label-schema.vcs-url": "https://github.com/elastic/elasticsearch",
     "org.label-schema.vendor": "Elastic",
     "org.label-schema.version": "8.10.2",
     "org.opencontainers.image.created": "2023-09-19T08:16:24.564900370Z",
     "org.opencontainers.image.documentation": "https://www.elastic.co/guide/en/elasticsearch/reference/index.html",
     "org.opencontainers.image.licenses": "Elastic-License-2.0",
     "org.opencontainers.image.ref.name": "ubuntu",
     "org.opencontainers.image.revision": "6d20dd8ce62365be9bla96427de4622e970e9e",
     "org.opencontainers.image.source": "https://github.com/elastic/elasticsearch",
     "org.opencontainers.image.title": "Elasticsearch"
   }
 }
]

```

```

"org.opencontainers.image.source": "https://github.com/elastic/elasticsearch",
"org.opencontainers.image.title": "Elasticsearch",
"org.opencontainers.image.url": "https://www.elastic.co/products/elasticsearch",
"org.opencontainers.image.vendor": "Elastic",
"org.opencontainers.image.version": "8.10.2"
},
"Architecture": "amd64",
"Os": "linux",
"Size": 13M2d8025,
"GraphDriver": {
  "Data": {
    "RootFs": {
      "Type": "layers",
      "Layers": [
        "sha256:3954d2babb5fc8d00431733fa345cb0926fff64f874257d15c95b41345bb4d",
        "sha256:d1fc02069ac7a12961653b8c22f5a57ff57ba8c4d00d26ea9bfa51ee2c995",
        "sha256:27b69f979d2809d94d919790f62121ea5370e919a20e15d9898a756923b6a",
        "sha256:5770bf1a08607010e94b04ae3b82103a36e4175b5fcdfaf10ace3c6ef",
        "sha256:bac3658238db8b5087e421334cf78601dc811894ef13887fa200c0207475b810",
        "sha256:32368a06666952a1445358a030416a0302938583595055a2e55d0bf858",
        "sha256:2ba7e204e5d2e6184fc4b232e9b878a02c9fcnd59e59a52e5d5d0bf858",
        "sha256:5ed32623b37feefc37fd1dc2424497fe4ecc15a79712e931ddded1d2d217",
        "sha256:2f957218729864219f17adea0142756bae10ceda125ae61fd255221e8c",
        "sha256:95f4b01a04d9ba8f16928e4c21485d49acf5ad1f769e79668daeaeb7fb3287"
      ]
    },
    "Metadata": {
      "LastTagTime": "2025-03-27T23:07:26.68408:665Z"
    }
  }
}

```

Architectural Diagram:-

