

# Assignment 10 – Google Deployment Manager

## DS 561 – Cloud Computing

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GitHub Url: <https://github.com/vishwas21/DS561-vishwas-assignments>

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Google Deployment Manager Code:

resources:

- name: ds561-storage-bucket-a10-visb  
type: storage.v1.bucket  
properties:
  - location: us-central1
  
- name: service-account  
type: iam.v1.serviceAccount  
properties:
  - accountId: ds561-visb-aten-sa
  - displayName: ds561-visb-aten-sa
  
- name: service-account-policy  
type: gcp-types/cloudresourcemanager-v1:virtual.projects.iamMemberBinding  
properties:
  - accountId: ds561-visb-aten-sa
- accessControl:
  - gcplamPolicy:
    - bindings:
      - role: roles/cloudsql.admin  
members:
        - serviceAccount:\$(ref.service-account.email)
      - role: roles/cloudsql.client  
members:
        - serviceAccount:\$(ref.service-account.email)
      - role: roles/compute.instanceAdmin.v1  
members:

```
- serviceAccount:$(ref.service-account.email)

- role: roles/compute.networkAdmin
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/compute.securityAdmin
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/dataflow.admin
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/dataflow.worker
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/logging.admin
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/pubsub.publisher
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/pubsub.subscriber
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/pubsub.viewer
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/secretmanager.admin
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/iam.serviceAccountUser
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/storage.admin
  members:
    - serviceAccount:$(ref.service-account.email)

- role: roles/storage.objectAdmin
  members:
    - serviceAccount:$(ref.service-account.email)
```

```
- role: roles/storage.objectViewer
  members:
    - serviceAccount:$(ref.service-account.email)
metadata:
  dependsOn:
    - service-account

# Static IP address
- name: aten-static-ip-address
  type: compute.v1.address
  properties:
    name: aten-static-ip-address
    region: us-central1

# VM with startup script
- name: vm
  type: compute.v1.instance
  properties:
    zone: us-central1-f
    machineType: https://www.googleapis.com/compute/v1/projects/ds561-visb-assignment/zones/us-central1-f/machineTypes/n1-standard-1
  disks:
    - deviceName: boot
      type: PERSISTENT
      boot: true
      autoDelete: true
      initializeParams:
        sourceImage: projects/debian-cloud/global/images/family/debian-10
  networkInterfaces:
    - network: https://www.googleapis.com/compute/v1/projects/ds561-visb-assignment/global/networks/default
      accessConfigs:
        - name: External NAT
          type: ONE_TO_ONE_NAT
          natIP: $(ref.aten-static-ip-address.selfLink)
  serviceAccounts:
    - email: cs561-assignment2-vishwas-sa@ds561-visb-assignment.iam.gserviceaccount.com
  tags:
```

items:

- http-server
- https-server

metadata:

items:

- key: google-logging-enabled  
value: "true"
- key: files-bucket  
value: \$(ref.ds561-storage-bucket-a10-visb.name)
- key: startup-script  
value: |  
#!/bin/bash  
sudo apt update  
sudo apt -y upgrade  
sudo apt-get install python3-pip -y  
sudo apt-get install git -y  
sudo apt-get install python3-venv -y  
cd /home/vishwasb  
rm -r DS561-vishwas-assignments  
rm -r assignment4  
git clone https://github.com/vishwas21/DS561-vishwas-assignments.git  
cd DS561-vishwas-assignments  
pwd  
cp -r /home/vishwasb/DS561-vishwas-assignments/assignment4 /home/vishwasb  
cd /home/vishwasb/assignment4  
pip3 install -r requirements.txt  
python3 -m venv env  
source /home/vishwasb/assignment4/env/bin/activate  
pip3 install -r requirements.txt  
deactivate  
touch assignment4.service  
echo "[Unit]  
Description=Gunicorn instance to serve Assignment 4 app  
After=network.target  
  
[Service]  
User=vishwasb

```
Group=www-data
WorkingDirectory=/home/vishwasb/assignment4
Environment="PATH=/home/vishwasb/assignment4/env/bin"
ExecStart=python3 assignment4.py -d 0.0.0.0 -p 8080
```

[Install]

```
WantedBy=multi-user.target" > assignment4.service
sudo chown root:root assignment4.service
sudo cp assignment4.service /etc/systemd/system/assignment4.service
sudo chown vishwasb:vishwasb /home/vishwasb/assignment4
sudo systemctl stop assignment4
sudo systemctl daemon-reload
sudo systemctl start assignment4
systemctl daemon-reload
sudo systemctl restart assignment4
sudo systemctl enable assignment4
```

dependsOn:

- ds561-storage-bucket-a10-visb
- service-account
- aten-static-ip-address

- name: allow-http

type: compute.v1.firewall

properties:

network: global/networks/default

sourceRanges: ["0.0.0.0/0"]

allowed:

- IPProtocol: TCP

ports: ["8080"]

- name: allow-https

type: compute.v1.firewall

properties:

network: global/networks/default

sourceRanges: ["0.0.0.0/0"]

allowed:

- IPProtocol: TCP

```
ports: ["443"]
```

#### # Pub/Sub resources

```
- name: ds561-assignment10-topic
```

```
type: pubsub.v1.topic
```

```
properties:
```

```
  name: ds561-assignment10-topic
```

```
  topic: ds561-assignment10-topic
```

```
  project: ds561-visb-assignment
```

```
- name: ds561-assignment10-sub
```

```
type: pubsub.v1.subscription
```

```
properties:
```

```
  name: ds561-assignment10-sub
```

```
  topic: $(ref.ds561-assignment10-topic.name)
```

```
  subscription: ds561-assignment10-sub
```

```
  ackDeadlineSeconds: 60
```

```
  project: ds561-visb-assignment
```

#### # Cloud SQL resources

```
- name: sql-instance
```

```
type: sqladmin.v1beta4.instance
```

```
properties:
```

```
  region: us-central1
```

```
  backendType: SECOND_GEN
```

```
  databaseVersion: POSTGRES_13
```

```
  instanceType: CLOUD_SQL_INSTANCE
```

```
  settings:
```

```
    tier: db-f1-micro
```

```
    activationPolicy: ALWAYS
```

```
    dataDiskSizeGb: 10
```

```
    storageAutoResize: true
```

```
    ipConfiguration:
```

```
      ipv4Enabled: true
```

```
- name: my-database-user
```

```
type: sqladmin.v1beta4.user
```

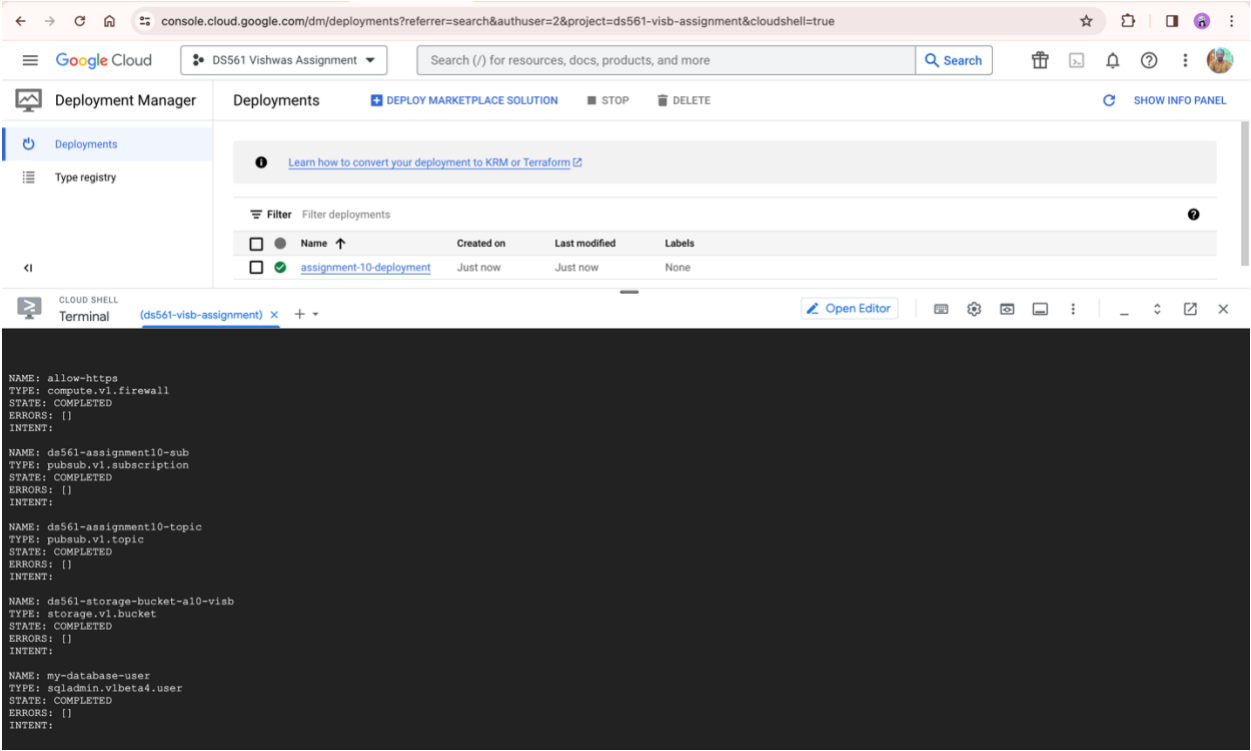
```
properties:
  name: vishwasb
  instance: $(ref.sql-instance.name)
  host: "%"
  password: abcd-10
  dependsOn:
    - sql-instance
    - sql-database
```

#### # # Outputs

```
# - name: aten-static-ip
# type: compute.v1.instance
# properties:
#   zone: us-central1-a
#   name: aten-static-ip-address
#   outputProperties:
#     - networkInterfaces/accessConfigs/0/natIP
```

```
# - name: database-address
# type: sqladmin.v1beta4.instance
# properties:
#   region: us-central1
#   name: sql-database
#   outputProperties:
#     - ipAddresses/0
```

Screenshot:



Created VMs:

DETAILS
OBSERVABILITY
OS INFO
SCREENSHOT

SSH
CONNECT TO SERIAL CONSOLE

Connecting to serial ports is disabled

### Logs

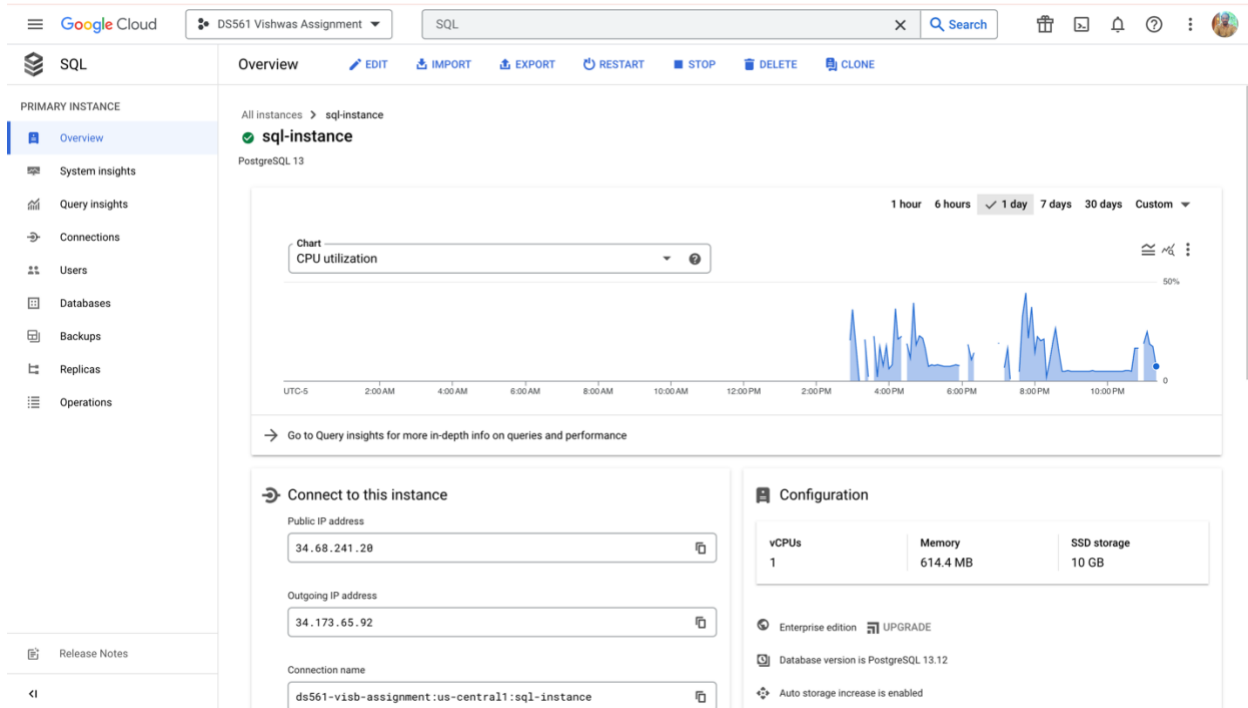
[Logging](#)  
[Serial port 1 \(console\)](#)  
SHOW MORE

### Basic information

Name	vm
Instance Id	942452502343399252
Description	None
Type	Instance
Status	Running
Creation time	Dec 10, 2023, 11:02:04 PM UTC-05:00
Zone	us-central1-f
Instance template	None
In use by	None
Reservations	Automatically choose (default)
Labels	goog-dm: assignment...
Tags	
Deletion protection	Disabled
Confidential VM service	Disabled
Preserved state size	0 GB



## Cloud SQL Server



Curl Commands:

```
curl --location 'http://34.27.2.159:8080/10s6.html' \ --header 'X-Country: India' \ --header 'X-gender: male' \ --header 'X-age: 66' \ --header 'X-client-ip: 8.9.8.9' \ --header 'X-income: 797322'
```

```
→ ~ curl --location 'http://34.27.2.159:8080/10s6.html' \ --header 'X-Country: India' \ --header 'X-gender: male' \ --header 'X-age: 66' \ --header 'X-client-ip: 8.9.8.9' \ --header 'X-income: 797322' [File Not Found%]
```

```
curl --location --request POST 'http://34.27.2.159:8080/10s6.html' \ --header 'X-Country: India' \ --header 'X-gender: male' \ --header 'X-age: 66' \ --header 'X-client-ip: 8.9.8.9' \ --header 'X-income: 797322'
```

```

➔ ~ curl --location --request POST 'http://34.27.2.159:8080/10s6.html' \
--header 'X-Country: India' \
--header 'X-gender: male' \
--header 'X-age: 66' \
--header 'X-client-ip: 8.9.8.9' \
[--header 'X-income: 797322'
[Not Implemented yet%
➔ ~
[➔ ~

```

```

curl --location 'http://34.27.2.159:8080/106.html' \ --header 'X-Country:
India' \ --header 'X-gender: male' \ --header 'X-age: 66' \ --header 'X-
client-ip: 8.9.8.9' \ --header 'X-income: 797322'

```

```

➔ ~ curl --location 'http://34.27.2.159:8080/106.html' \
--header 'X-Country: India' \
--header 'X-gender: male' \
--header 'X-age: 66' \
--header 'X-client-ip: 8.9.8.9' \
--header 'X-income: 797322'
<DOCTYPE html>
<html>
<body>
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad
minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate
cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum
<p>
<a HREF="3413.html"> This is a link </a>
<p>
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad
minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate
cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum
<p>
<a HREF="556.html"> This is a link </a>
<p>
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad
minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate
cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum
<p>
<a HREF="4460.html"> This is a link </a>
<p>
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad
minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate
cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum
<p>
<a HREF="652.html"> This is a link </a>
<p>

```

Database State:

Request Details

```
[ds561-db=> SELECT * FROM request_details;
```

request_id	country	client_ip	gender	age	income	is_banned
2	India	7.7.7.7	male	34	68732	f
3	India	7.7.7.7	male	34	68732	f
4	India	7.7.7.7	male	34	68732	f
5	India	7.7.7.7	male	34	68732	f
6	India	7.7.7.7	male	34	68732	f
7	India	7.7.7.7	male	34	68732	f
8	India	7.7.7.7	male	34	68732	f
9	India	7.7.7.7	male	34	68732	f
10	India	7.7.7.7	male	34	68732	f
11	Iran	8.8.8.8	male	66	797322	t
12	India	8.8.8.8	male	66	797322	f
13	India	8.8.8.8	male	66	797322	f
14	India	8.9.8.9	male	66	797322	f
15	India	8.9.8.9	male	66	797322	f
16	India	8.9.8.9	male	66	797322	f

(15 rows)

Error Details:

```
[ds561-db=> SELECT * FROM error_details;
```

requesterror_id	request_id	error_code
1	11	400
2	12	404
3	13	501
4	14	404
5	15	501

(5 rows)

Pub/Sub Created:

←

ds561-assignment10-topic

EDIT

+ TRIGGER CLOUD FUNCTION

IMPORT

DELETE

SHOW INFO PANEL

Topic name

projects/ds561-visb-assignment/topics/ds561-assignment10-topic

SUBSCRIPTIONS

SNAPSHOTS

METRICS

DETAILS

MESSAGES

Only subscriptions attached to this topic are displayed. A subscription captures the stream of messages published to a given topic. You can also stream messages to BigQuery or Cloud Storage by creating a subscription from a Cloud Dataflow job. [Learn more](#)

CREATE SUBSCRIPTION

EXPORT

Filter

Filter subscriptions

Subscription ID ↑	Subscription name	Project
<a href="#">ds561-assignment10-sub</a>	projects/ds561-visb-assignment/subscriptions/ds561-assignment10-sub	ds561-visb-assignment