

```
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ gcloud services enable pubsub.googleapis.com
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ gcloud pubsub topics create my-project
Created topic (projects/nomadic-girder-452814-a7/topics/my-project).
```

```
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ gcloud pubsub subscriptions create my-subscription35 --topic=my-project
Created subscription [projects/nomadic-girder-452814-a7/subscriptions/my-subscription35].
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ gcloud pubsub topics publish my-project --message="Hello, Pub/Sub!"
messageId:
- '14786580991840226'
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ gcloud pubsub subscriptions pull my-subscription35 --auto-ack
DATA: Hello, Pub/Sub!
MESSAGE_ID: 14786580991840226
ORDERING_KEY:
ATTRIBUTES:
DELIVERY_ATTEMPT:
ACK_STATUS: SUCCESS
```

```
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ nano project.py
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ gcloud functions deploy process_pubsub_event \
--runtime python310 \
--trigger-topic my-project \
--region us-central1
As of this Cloud SDK release, new functions will be deployed as 2nd gen functions by default. This is equivalent to currently deploying new with the --gen2 flag. Existing 1st gen functions will not be impacted and will continue to deploy as 1st gen functions.
You can disable this behavior by explicitly specifying the --no-gen2 flag or by setting the functions/gen2 config property to 'off'.
To learn more about the differences between 1st gen and 2nd gen functions, visit:
https://cloud.google.com/functions/docs/concepts/version-comparison
```

```
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ gcloud pubsub topics list
---
name: projects/nomadic-girder-452814-a7/topics/my-project
---
name: projects/nomadic-girder-452814-a7/topics/my-topic
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ gcloud pubsub subscriptions list
---
ackDeadlineSeconds: 10
expirationPolicy:
  ttl: 2678400s
messageRetentionDuration: 604800s
name: projects/nomadic-girder-452814-a7/subscriptions/my-subscription
pushConfig: {}
state: ACTIVE
topic: projects/nomadic-girder-452814-a7/topics/my-topic
---
ackDeadlineSeconds: 10
expirationPolicy:
  ttl: 2678400s
messageRetentionDuration: 604800s
name: projects/nomadic-girder-452814-a7/subscriptions/my-subscription35
pushConfig: {}
state: ACTIVE
topic: projects/nomadic-girder-452814-a7/topics/my-project
```

```
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ gcloud pubsub topics delete my-project
Deleted topic (projects/nomadic-girder-452814-a7/topics/my-project).
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$ gcloud pubsub subscriptions delete my-subscription35
Deleted subscription (projects/nomadic-girder-452814-a7/subscriptions/my-subscription35).
keertanacloud09@cloudshell:~ (nomadic-girder-452814-a7)$
```

The screenshot shows a Cloud Shell terminal window with a terminal tab titled 'Terminal (my-topic-458918)' and an 'Open Editor' button. The editor displays a Python script named 'project.py' with the following content:

```
#!/usr/bin/env python3
import functions_framework

@functions_framework.cloud_event
def process_pubsub_event(event):
    """Triggered by a Pub/Sub message."""
    message = event.data["message"]
    decoded_message = base64.b64decode(message).decode("utf-8")
    print(f"Received message: {decoded_message}")
```

At the bottom of the terminal, there is a row of icons for various editor actions: Help, Exit, Write Out, Read File, Replace, Where Is, Cut, Paste, Execute, Justify, Location, Go To Line, Undo, Redo, Set Mark, Copy, To Bracket, Where Was, Previous, Next, Back, Forward, Prev Word, and Next Word.

```
cloudshell@ubuntu:~$ gcloud compute networks create vpc-prod --subnet-mode=custom
Creating compute networks create vpc-prod --subnet-mode=custom
Created https://www.googleapis.com/compute/v1/projects/white-device-459017-n4/global/networks/vpc-prod.
NAME: vpc-prod
SUBNET_MODE: CUSTOM
BGP_ROUTING_MODE: REGIONAL
IPV4_RANGE:
GATEWAY_IPV4:
INTERNAL_IPV4_RANGE:

Instances on this network will not be reachable until firewall rules
are created. As an example, you can allow all internal traffic between
instances as well as SSH, RDP, and ICMP by running:

$ gcloud compute firewall-rules create <FIREWALL_NAME> --network vpc-prod --allow tcp,udp,icmp --source-ranges <IP_RANGE>
$ gcloud compute firewall-rules create <FIREWALL_NAME> --network vpc-prod --allow tcp,tcp22,tcp3389,icmp
Created https://www.googleapis.com/compute/v1/projects/white-device-459017-n4/global/networks/vpc-prod.
NAME: vpc-dev
SUBNET_MODE: CUSTOM
BGP_ROUTING_MODE: REGIONAL
IPV4_RANGE:
GATEWAY_IPV4:
INTERNAL_IPV4_RANGE:

Instances on this network will not be reachable until firewall rules
are created. As an example, you can allow all internal traffic between
instances as well as SSH, RDP, and ICMP by running:

$ gcloud compute firewall-rules create <FIREWALL_NAME> --network vpc-dev --allow tcp,udp,icmp --source-ranges <IP_RANGE>
$ gcloud compute firewall-rules create <FIREWALL_NAME> --network vpc-dev --allow tcp,tcp22,tcp3389,icmp
```

```
cloud@cloudkeertan:~$ gcloud compute networks subnets create subnet-prod \
--network=vpc-prod \
--region=us-central1 \
--range=10.0.1.0/24

gcloud compute networks subnets create subnet-dev \
--network=vpc-dev \
--region=us-central1 \
--range=10.0.2.0/24

Created [https://www.googleapis.com/compute/v1/projects/white-device-459017-a4/regions/us-central1/subnetworks/subnet-prod].
NAME: subnet-prod
REGION: us-central1
NETWORK: vpc-prod
RANGE: 10.0.1.0/24
STACK_TYPE: IPV4_ONLY
IPV6_ACCESS_TYPE:
INTERNAL_IPV6_PREFIX:
EXTERNAL_IPV6_PREFIX:
Created [https://www.googleapis.com/compute/v1/projects/white-device-459017-a4/regions/us-central1/subnetworks/subnet-dev].
NAME: subnet-dev
REGION: us-central1
NETWORK: vpc-dev
RANGE: 10.0.2.0/24
STACK_TYPE: IPV4_ONLY
IPV6_ACCESS_TYPE:
INTERNAL_IPV6_PREFIX:
EXTERNAL_IPV6_PREFIX:
```

[illegible]

```
cloudshell@k8ertan:cloudshell~$ (white-device-459017-e4)$ gcloud compute firewall-rules create allow-internal-dev \
--network=vpc-dev \
--allow tcp,udp,icmp \
--source-ranges=10.0.0.0/16
Creating firewall...working...Created [https://www.googleapis.com/compute/v1/projects/white-device-459017-e4/global/firewalls/allow-internal-dev].
Creating firewall...done.
NAME: allow-internal-dev
NETWORK: vpc-dev
DIRECTION: INGRESS
PRIORITY: 1000
ALLOW: tcp,udp,icmp
DENY:
DISABLED: False
```

```
cloudsdkertantias@cloudshell: [white-device-459017-a4] $ gcloud compute instances create vm-prod \
--network=vmc-prod \
--zone=us-central1-a \
--subnet=subnet-prod
gcloud compute instances create vm-dev \
--network=vmc-dev \
--zone=us-central1-a \
--subnet=subnet-dev
Created [https://www.googleapis.com/compute/v1/projects/white-device-459017-a4/zones/us-central1-a/instances/vm-prod].
NAME: vm-prod
ZONE: us-central1-a
MACHINE_TYPE: n1-standard-1
PREEMPTIBLE:
INTERNAL_IP: 10.9.1.2
EXTERNAL_IP: 34.28.142.25
STATUS: RUNNING
Created [https://www.googleapis.com/compute/v1/projects/white-device-459017-a4/zones/us-central1-a/instances/vm-dev].
NAME: vm-dev
ZONE: us-central1-a
MACHINE_TYPE: n1-standard-1
PREEMPTIBLE:
INTERNAL_IP: 10.9.2.2
EXTERNAL_IP: 35.194.54.138
STATUS: RUNNING
cloudsdkertantias@cloudshell: [white-device-459017-a4] $ ping 10.0.2.2
PING 10.0.2.2 (10.0.2.2) 56(84) bytes of data:
```