Using GCP Deployment Manager to deploy resources

Requirement: Deploy VM instances along with firewall rules, to servers in US and EU using Google Cloud Shell

Environment: GCP Console, GCP Shell, Deployment Manager, YAML and JINJA files

Key results: Login using your GCP subscription, create or reuse earlier VM instances and follow the below

From Shell, create a folder **dminfra** using mkdir command**,** change dir to dminfra and open Shell Editor. Using the editor create 2 new files in the dminfra directory called config.yaml and instance-template.jinja

Copy the file contents as below (see that your Editor does not show YAML syntax errors):

CONFIG.YAML

```
imports:
- path: instance-template.jinja

resources:
# Create the auto-mode network
- name: mynetwork
  type: compute.v1.network
  properties:
    autoCreateSubnetworks: true

# Create the firewall rule
- name: mynetwork-allow-http-ssh-rdp-icmp
  type: compute.v1.firewall
  properties:
      network: $(ref.mynetwork.selfLink)
      sourceRanges: ["0.0.0.0/0"]
```

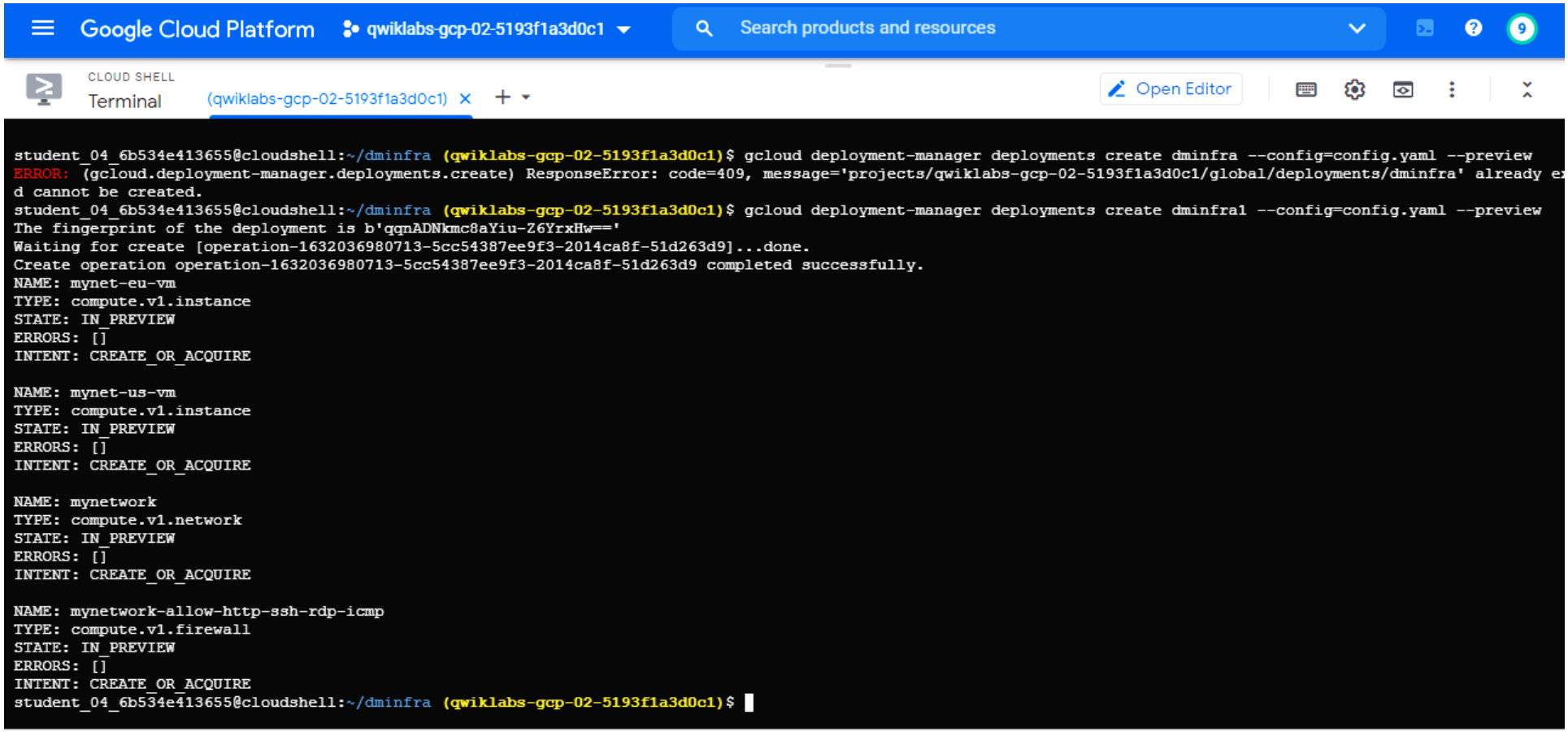
```
    allowed:
    - IPProtocol: TCP
      ports: [22, 80, 3389]
    - IPProtocol: ICMP

# Create the mynet-us-vm instance
- name: mynet-us-vm
  type: instance-template.jinja
  properties:
    zone: us-central1-a
    machineType: n1-standard-1
    network: $(ref.mynetwork.selfLink)
    subnetwork: regions/us-central1/subnetworks/mynetwork

# Create the mynet-eu-vm instance
- name: mynet-eu-vm
  type: instance-template.jinja
  properties:
    zone: europe-west1-d
    machineType: n1-standard-1
    network: $(ref.mynetwork.selfLink)
    subnetwork: regions/europe-west1/subnetworks/mynetwork

//
```

INSTANCE-TEMPLATE.JINJA

```
resources:
- name: {{ env["name"] }}
  type: compute.v1.instance
  properties:
    machineType: zones/{{ properties["zone"] }}/machineTypes/{{ properties["machineType"] }}
    zone: {{ properties["zone"] }}
    networkInterfaces:
     - network: {{ properties["network"] }}
       subnetwork: {{ properties["subnetwork"] }}
       accessConfigs:
       - name: External NAT
         type: ONE_TO_ONE_NAT
    disks:
     - deviceName: {{ env["name"] }}
       type: PERSISTENT
       boot: true
       autoDelete: true
       initializeParams:
         sourceImage: https://www.googleapis.com/compute/v1/projects/debian-cloud/global/images/family/debian-9
//
```

Exit Shell Editor and from the Shell prompt enter the command

```
gcloud deployment-manager deployments create dminfra --config=config.yaml --preview
```

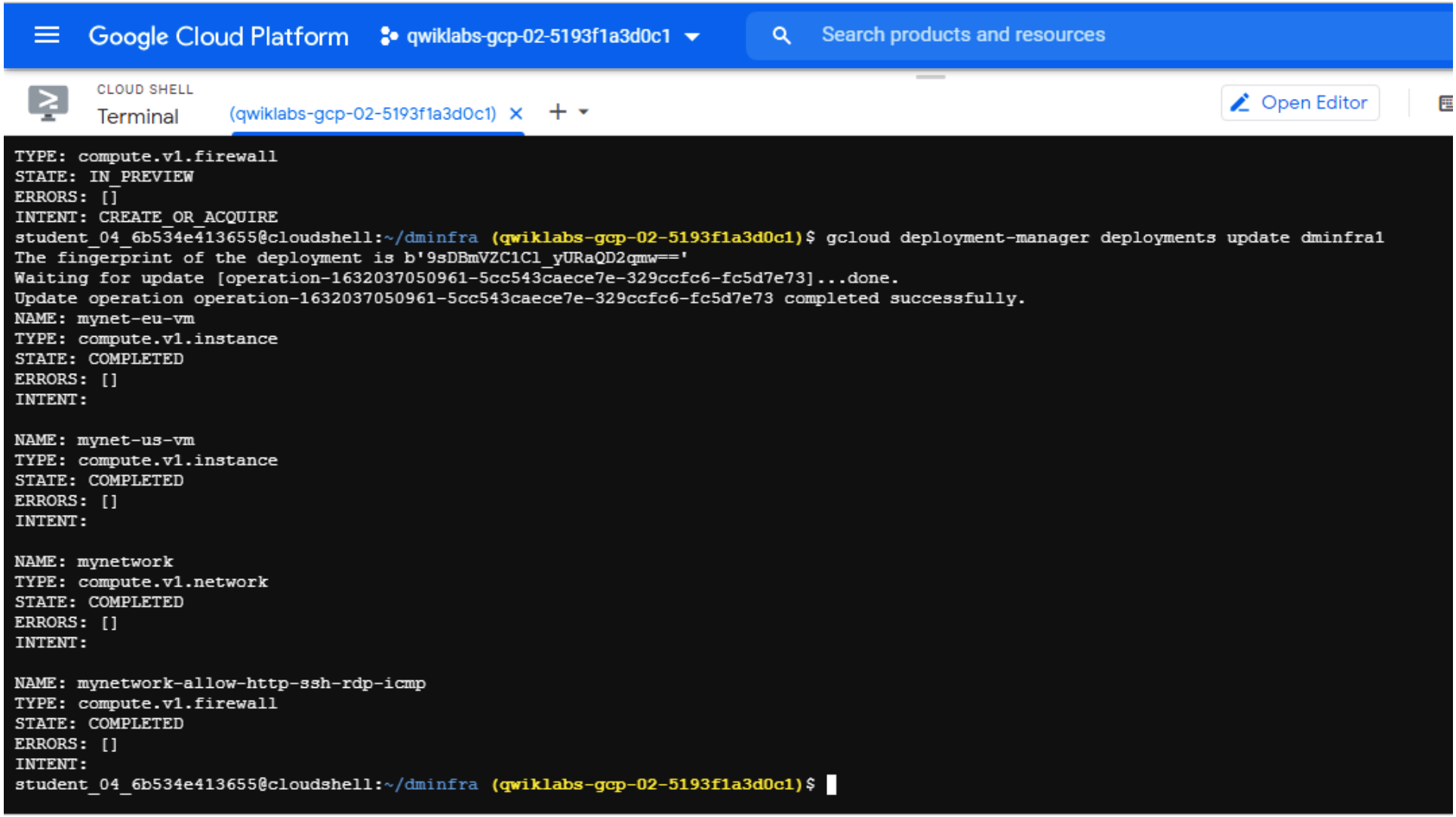


If all is well, you should get the above results, if not there might be issue in syntax or some properties/ resources is missing; use below command to delete any earlier deployment and redeploy. Correct syntax errors in any like TAB SPACES in YAML file

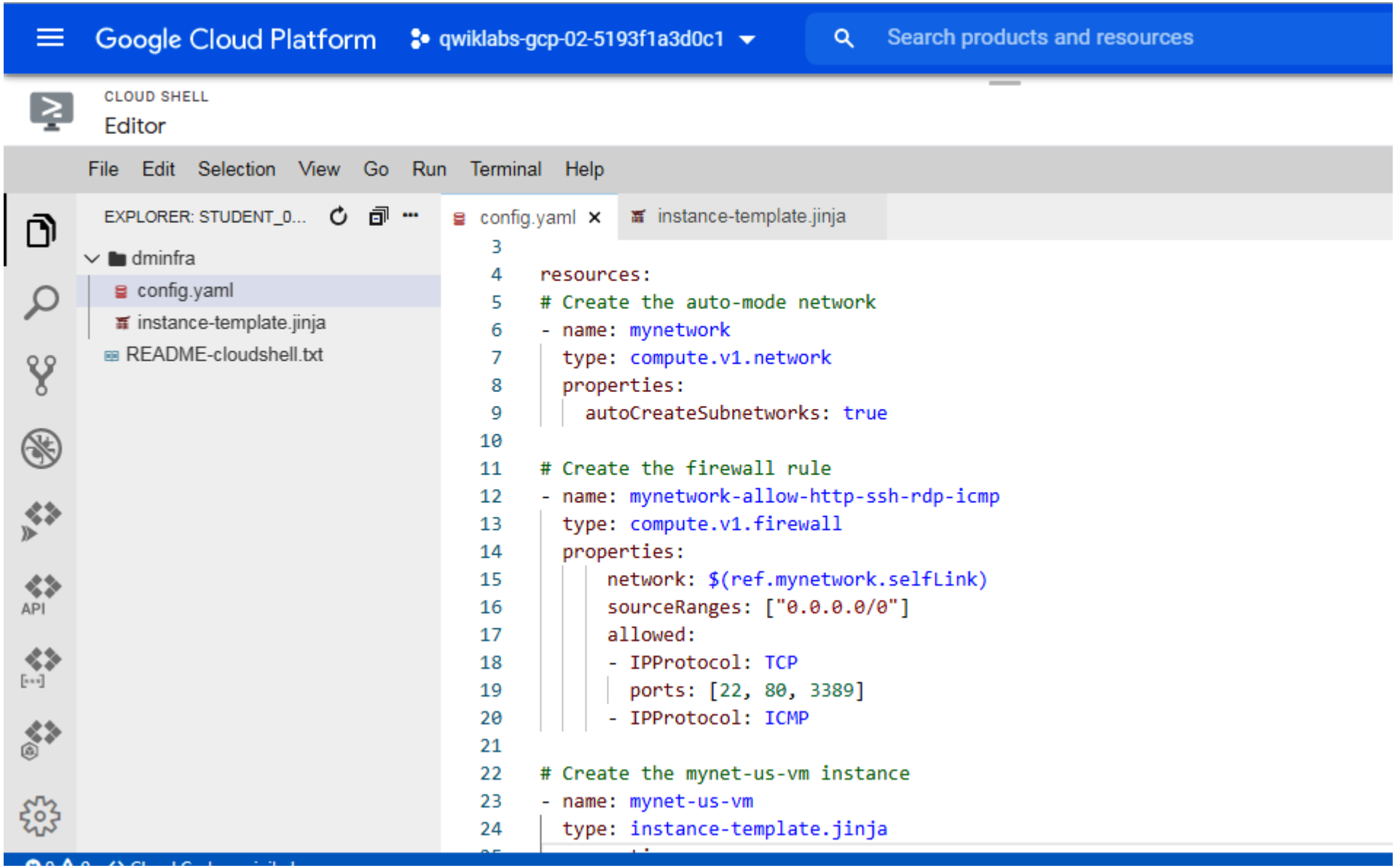
gcloud deployment-manager deployments delete dminfra - Please delete earlier failed deployment for new deployment

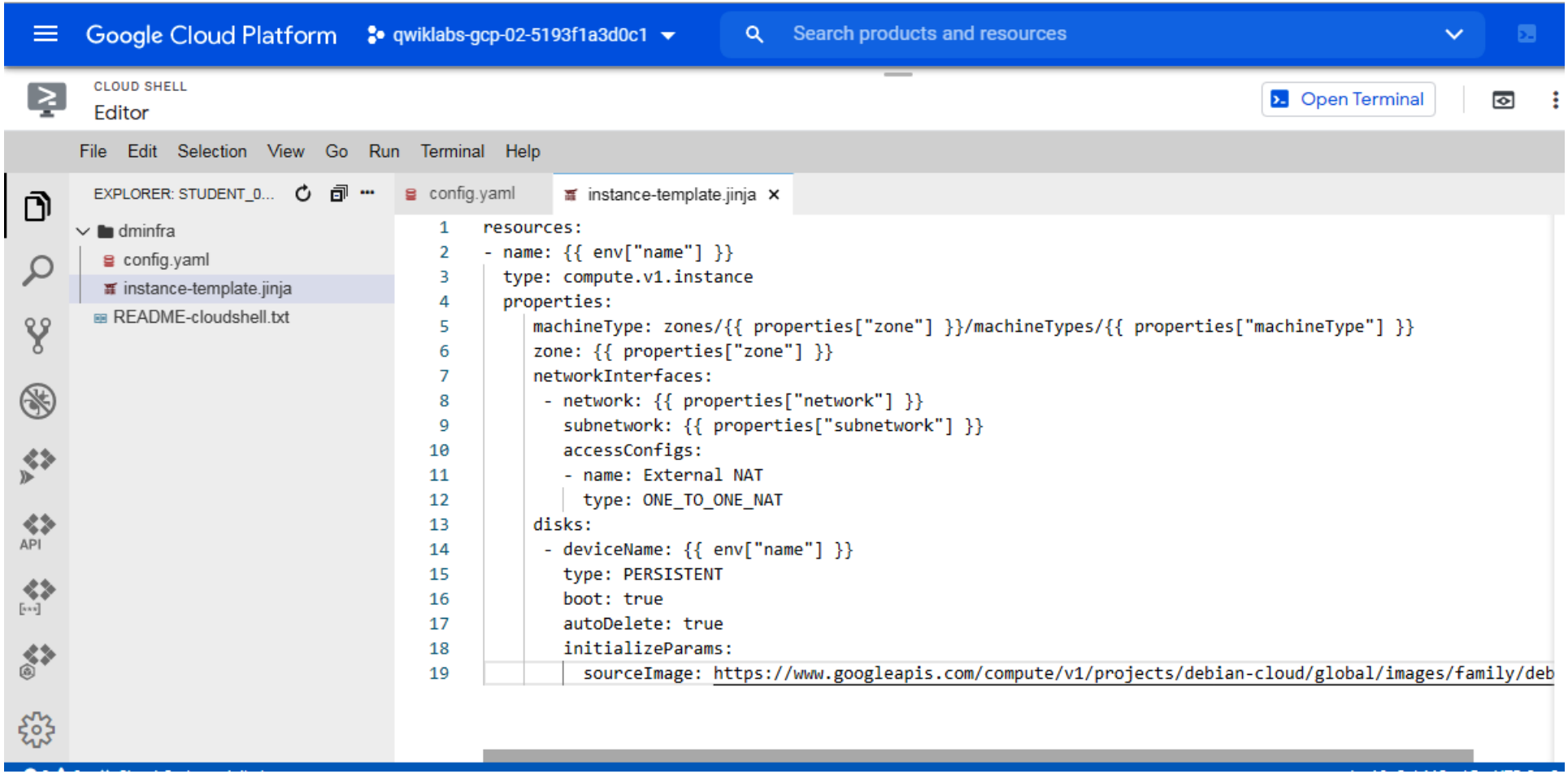
Once errors are gone in PREVIEW, now do actual deployment using update command:

```
gcloud deployment-manager deployments update dminfra
```



For your reference below are the screenshots of the two files:


Google Cloud Platform
qwiklabs-gcp-02-5193f1a3d0c1
Search products and resources
CLOUD SHELL
Editor
File Edit Selection View Go Run Terminal Help
EXPLORER: STUDENT_0...
dminfra
config.yaml
instance-template.jinja
README-cloudshell.txt
config.yaml
instance-template.jinja
resources:
Create the auto-mode network
- name: mynetwork
type: compute.v1.network
properties:
autoCreateSubnetworks: true
Create the firewall rule
- name: mynetwork-allow-http-ssh-rdp-icmp
type: compute.v1.firewall
properties:
network: $(ref.mynetwork.selfLink)
sourceRanges: ["0.0.0.0/0"]
allowed:
- IPProtocol: TCP
ports: [22, 80, 3389]
- IPProtocol: ICMP
Create the mynet-us-vm instance
- name: mynet-us-vm
type: instance-template.jinja
API



Hope you will be able to launch various resources using templates, instead of manually creating them from Google Console GUI.

Disclaimer: All the above content is part of the Google Cloud Platform and used here for study and demonstration purpose only. Prepared and executed by Bhadale IT Pvt Ltd in GCP