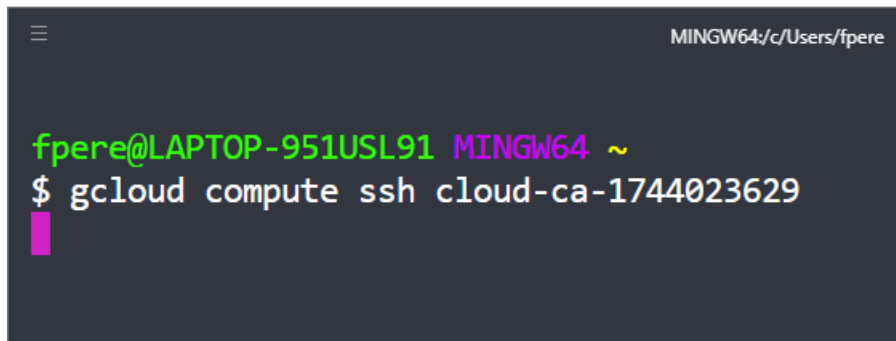


DEPLOYING GOOGLE CLOUD RESOURCES

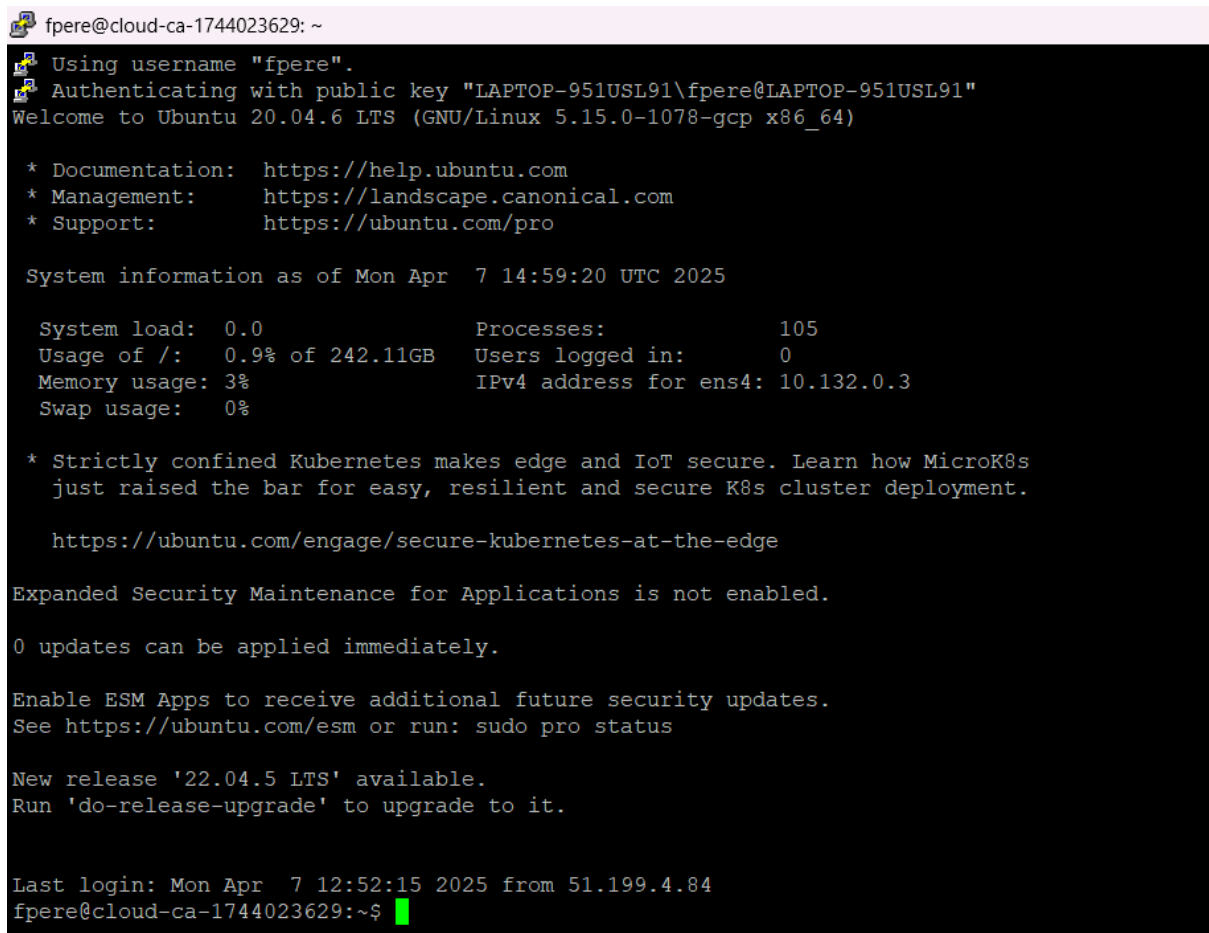
Repository for the script: https://github.com/FbrFonseca/Cloud_CA.git

With the following command you will connect via ssh to the VM

A terminal window with a dark background. The title bar shows a hamburger menu icon and the path 'MINGW64:/c/Users/fpere'. The prompt is 'fpere@LAPTOP-951USL91 MINGW64 ~'. The command entered is '\$ gcloud compute ssh cloud-ca-1744023629'. A red cursor is at the end of the command.

```
fpere@LAPTOP-951USL91 MINGW64 ~  
$ gcloud compute ssh cloud-ca-1744023629
```

The following terminal window will pop-up

A terminal window with a dark background. The title bar shows a laptop icon and the path 'fpere@cloud-ca-1744023629: ~'. The output shows the user 'fpere' authenticating with a public key. It then displays system information for Ubuntu 20.04.6 LTS, including system load, memory usage, and network information. It also shows a message about Kubernetes security and a notification about a new Ubuntu release. The prompt is 'fpere@cloud-ca-1744023629:~\$'.

```
fpere@cloud-ca-1744023629: ~  
Using username "fpere".  
Authenticating with public key "LAPTOP-951USL91\fpere@LAPTOP-951USL91"  
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.15.0-1078-gcp x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/pro  
  
System information as of Mon Apr  7 14:59:20 UTC 2025  
  
System load:  0.0                Processes:            105  
Usage of /:   0.9% of 242.11GB   Users logged in:     0  
Memory usage: 3%                IPv4 address for ens4: 10.132.0.3  
Swap usage:   0%  
  
* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s  
  just raised the bar for easy, resilient and secure K8s cluster deployment.  
  
https://ubuntu.com/engage/secure-kubernetes-at-the-edge  
  
Expanded Security Maintenance for Applications is not enabled.  
  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
New release '22.04.5 LTS' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
Last login: Mon Apr  7 12:52:15 2025 from 51.199.4.84  
fpere@cloud-ca-1744023629:~$
```

With the following command on your physical machine (not on the VM) you will be able to see the HTTP and SSH ports using this command:

gcloud compute firewall-rules list

```
fpere@LAPTOP-951U5L91 MINGW64 ~
$ gcloud compute firewall-rules list
```

| NAME | NETWORK | DIRECTION | PRIORITY | ALLOW | DENY | DISABLED |
|---------------------------|---------|-----------|----------|---------------|------|----------|
| allow-http-ssh | default | INGRESS | 1000 | tcp:22,tcp:80 | | False |
| allow-http-ssh-1744023629 | default | INGRESS | 1000 | tcp:22,tcp:80 | | False |

Nginx

Nginx was installed in the VM to host a “hello world” page.

With the “sudo systemctl status nginx” command you can see it is running.

```
fpere@cloud-ca-1744023629:~$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2025-04-07 11:52:48 UTC; 3h 15min ago
     Docs: man:nginx(8)
  Main PID: 15171 (nginx)
    Tasks: 3 (limit: 9511)
   Memory: 4.2M
   CGroup: /system.slice/nginx.service
           └─15171 nginx: master process /usr/sbin/nginx -g daemon on; master_process on;
             └─15172 nginx: worker process
               └─15173 nginx: worker process

Apr 07 11:52:48 cloud-ca-1744023629 systemd[1]: Starting A high performance web server and a reverse proxy server...
Apr 07 11:52:48 cloud-ca-1744023629 systemd[1]: Started A high performance web server and a reverse proxy server.
fpere@cloud-ca-1744023629:~$
```

Using Vim I created a simple index.html file depict in the screen capture bellow.

```
!DOCTYPE html
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Hello world from the Cloud VM</title>
</head>
<body>
  <h1>Hello, Derek! Welcome to my Google Cloud VM :D</h1>
</body>
</html>
~
~
~
```

Again, on the physical machine you can run the command on the picture bellow with your project id to its external IP, optionally you can use the Google Cloud Console on your browser.

```
fpere@LAPTOP-951U5L91 MINGW64 ~
$ gcloud compute instances list --project=cloud-ca-456020
```

| NAME | ZONE | MACHINE_TYPE | PREEMPTIBLE | INTERNAL_IP | EXTERNAL_IP | STATUS |
|---------------------|----------------|---------------|-------------|-------------|---------------|---------|
| cloud-ca-1744023629 | europe-west1-b | e2-standard-2 | | 10.132.0.3 | 35.205.89.240 | RUNNING |

The external IP of this instance is 35.205.89.240. When accessed from the browser you can see the page previously created on Vim. You can use Curl or Ping from the command line to check the IP.

```
fpere@LAPTOP-951USL91 MINGW64 ~
```

```
$ ping 35.205.89.240
```

```
Pinging 35.205.89.240 with 32 bytes of data:
```

```
Reply from 35.205.89.240: bytes=32 time=27ms TTL=58
```

```
Reply from 35.205.89.240: bytes=32 time=24ms TTL=58
```

```
Reply from 35.205.89.240: bytes=32 time=25ms TTL=58
```

```
Reply from 35.205.89.240: bytes=32 time=24ms TTL=58
```

```
Ping statistics for 35.205.89.240:
```

```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 24ms, Maximum = 27ms, Average = 25ms
```

```
fpere@LAPTOP-951USL91 MINGW64 ~
```

```
$ curl 35.205.89.240
```

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
    <meta charset="UTF-8">
```

```
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
    <title>Hello world from the Cloud VM</title>
```

```
</head>
```

```
<body>
```

```
    <h1>Hello, Derek! Welcome to my Google Cloud VM :D</h1>
```

```
</body>
```

```
</html>
```