Homework_Lesson38_Report

Задание:
1. Написать terraform config для создания виртуальный машины на AWS/GCP.
2. Добавить использование initial script для установки Docker/NGINX/APACHE. Машина должна быть доступна для подключения с вашего терминала с использованием вашего ключа ssh.
3. Реализовать генерацию для пользователя (для вас) connection string для подключения к вашей виртуальной машине по ssh.
4. Напишисать модуль, с помощью которого будет создаваться сеть, интерфейс, прописываться правила для входящих подключений для портов: 22, 443, 80, 8080.
5.* Опубликовать ваш модуль в terraform registry.

Запустим нашу конфигурацию в терраформе.

```
PS D:\Terraform\gsp\terraform_3> terraform apply -auto-approve

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the fo
  + create

Terraform will perform the following actions:

  # google_compute_instance.ubuntu_ce will be created
  + resource "google_compute_instance" "ubuntu_ce" {
      + can_ip_forward       = false
      + cpu_platform         = (known after apply)
      + creation_timestamp   = (known after apply)
      + current_status       = (known after apply)
      + deletion_protection  = false
      + effective_labels     = {
          + "goog-terraform-provisioned" = "true"
        }
      + id                   = (known after apply)
      + instance_id          = (known after apply)
      + label_fingerprint    = (known after apply)
      + machine_type         = "e2-micro"
      + metadata             = {
          + "ssh-keys"       = <<-EOT
                alex5482671al:ssh-rsa AAAAB3NzaC1yc2EAAAABJQAAAQEAgNAGBfwRwHpvbKeeYqakwbJnz7nXyV3hM8JfoRDuotrlSmmsYpmipIWr
HXOKLfbVoAxXo5Ka1RAmTwEzK1QH38hj2R6gvljr7ScnLbME7c1VeumGK7EPZf+p05aM8SVAGEo0OJ3nEzV5y9eI3XYJP+hjdOpi6zhCMwEYhZKY53HZxc9OR8
            EOT
          + "startup-script" = <<-EOT
                #!/bin/bash
                apt update -y
                apt install -y nginx net-tools
                systemctl start nginx
                systemctl enable nginx
            EOT
        }
      + metadata_fingerprint = (known after apply)
      + min_cpu_platform     = (known after apply)
      + name                 = "ubuntu24-ce"
      + project              = "glossy-precinct-450612-g6"
      + self_link            = (known after apply)
      + tags                 = [
          + "ssh",
          + "web-server",
        ]
      + tags_fingerprint     = (known after apply)
      + terraform_labels     = {
          + "goog-terraform-provisioned" = "true"
        }
      + zone                 = "europe-north1-b"
```

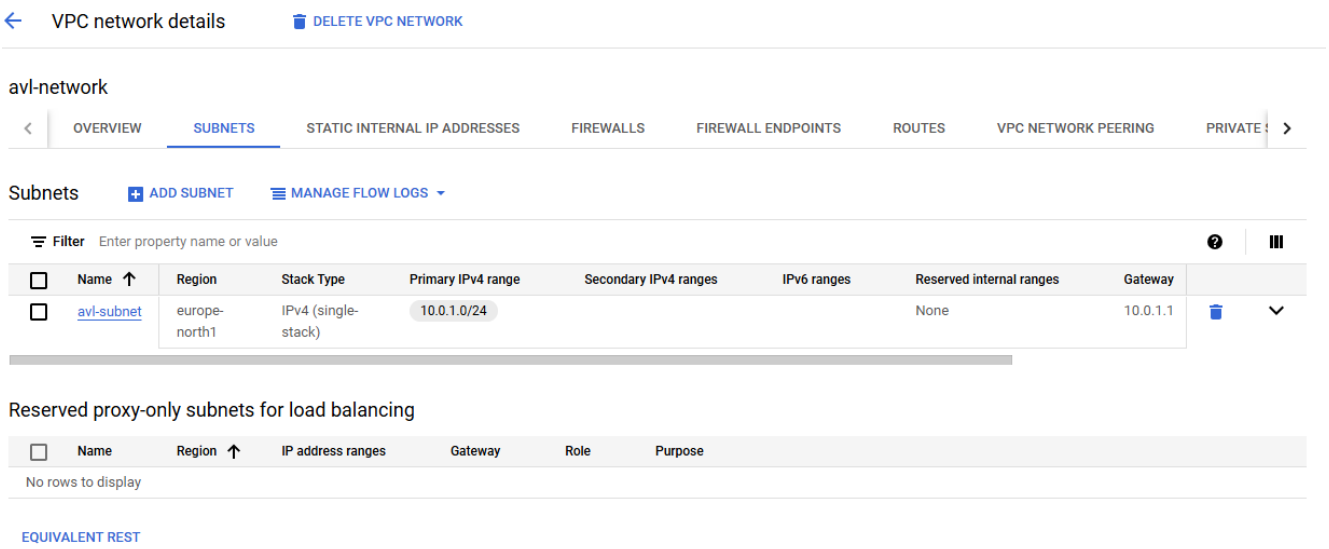
В оутпутах выводится IP и имя пользователя для подключения к созданной машине. Сделано так потому что подключаюсь я на windows с помощью программы MobaXterm и подключение нужно настраивать вручную.

```
Outputs:

External-IP = "34.88.236.148"
User = "alex5482671a1"
PS D:\Terraform\gsp\terraform_3>
```

Подключаемся к машине по ssh.

```
                • MobaXterm Personal Edition v24.3 •
              (SSH client, X server and network tools)

 ► SSH session to alex5482671al@34.88.236.148
   • Direct SSH      :  ✔
   • SSH compression :  ✔
   • SSH-browser     :  ✔
   • X11-forwarding  :  ✔  (remote display is forwarded through SSH)

 ► For more info, ctrl+click on help or visit our website.


Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1025-gcp x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 System information as of Thu Mar 27 07:39:38 UTC 2025

  System load:  0.0               Processes:             114
  Usage of /:   26.5% of 8.65GB   Users logged in:       0
  Memory usage: 27%               IPv4 address for ens4: 10.0.1.2
  Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

30 updates can be applied immediately.
15 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status



The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
```

Созданная vpc и subnet.



Правило для портов.

avl-network-allow-web-ssh

Logs
Off
view in Logs Explorer

Network
avl-network

Priority
1000

Direction
Ingress

Action on match
Allow

Tags
–

Targets

Target tags	ssh
	web-server

Source filters

IP ranges	0.0.0.0/0

Protocols and ports
tcp:22, 80, 443, 8080