

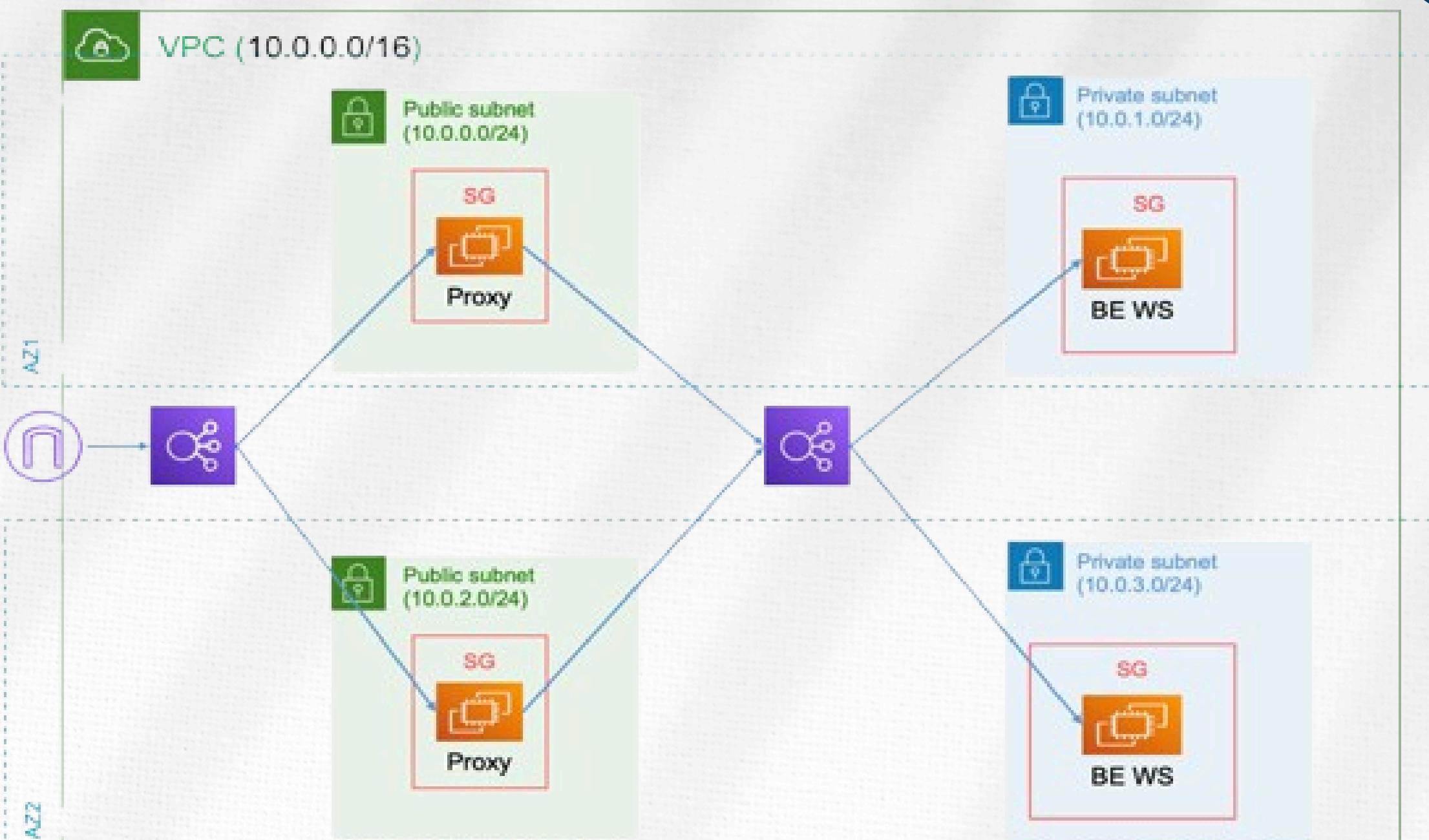
Terraform Project

Prepared by :

Samuel Wageh Labib

Supervisor:
Eng. Aya Nabil

GitHub : <https://github.com/SamWL/ITI-Terraform-Project.git>



1) Screenshot from creating and working on workspace dev

- [Samuel17@localhost ITI-Terraform-Project]\$ terraform workspace new dev
Created and switched to workspace "dev"!
- You're now on a new, empty workspace. Workspaces isolate their state, so if you run "terraform plan" Terraform will not see any existing state for this configuration.
- [Samuel17@localhost ITI-Terraform-Project]\$ terraform workspace show dev
- [Samuel17@localhost ITI-Terraform-Project]\$

2) Screenshot from the configuration of the proxy :

```
 51   resource "aws_instance" "nginx" {
 52     provisioner "local-exec" {
 53       command = "echo ${each.value.instance_name} Public IP ${self.public_ip}"
 54     }
 55
 56     provisioner "remote-exec" {
 57       inline = [
 58         "sudo dnf update -y",
 59         "sudo dnf install nginx -y",
 60         "sudo systemctl enable nginx",
 61         "sudo systemctl start nginx",
 62         "<<EOF"
 63         echo 'server {
 64           listen 80;
 65           location / {
 66             proxy_pass http://${var.alb_private_dns};
 67           }
 68         }' | sudo tee /etc/nginx/conf.d/reverse-proxy.conf
 69         EOF
 70       , "sudo systemctl restart nginx"
 71     ]
 72   }
 73
 74   connection {
 75     type      = "ssh"
 76     user      = "ec2-user"
 77     private_key = file("/home/Samuel17/Samuel.pem")
 78     host      = self.public_ip
 79   }
 80 }
```

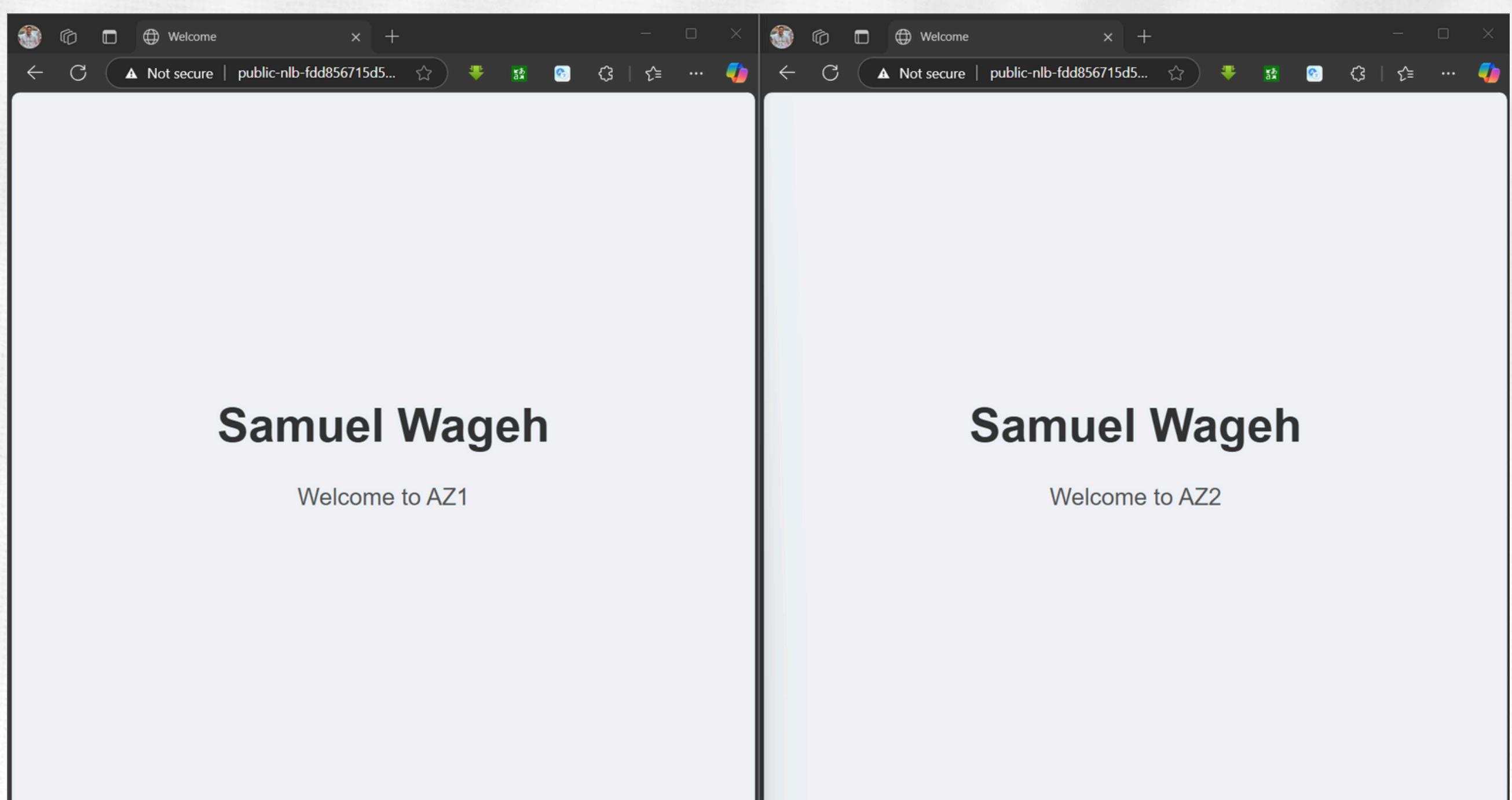
3) Screenshot from the public dns of the load balancer when you send a traffic to it :

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS bash + ↻ ⌂ … ⌃ ⌄ x
module.instance.aws_instance.nginx["proxy_1"] (remote-exec): 
module.instance.aws_instance.nginx["proxy_1"] (remote-exec): 
module.loadbalancer.aws_lb_target_group_attachment.nginx2_attachment: Creation complete after 1s [id=arn:aws:elasticloadbalancing:us-east-1:396553623212:targetgroup/public-nlb-tg/fdd5ddd10ffe4c65-2025040813495341880000000d]
module.instance.aws_instance.nginx["proxy_1"]: Creation complete after 1m6s [id=i-0d0a14e834d3d4c38]
module.loadbalancer.aws_lb_target_group_attachment.nginx1_attachment: Creating...
module.loadbalancer.aws_lb_target_group_attachment.nginx1_attachment: Creation complete after 0s [id=arn:aws:elasticloadbalancing:us-east-1:396553623212:targetgroup/public-nlb-tg/fdd5ddd10ffe4c65-202504081349541240000000e]

Apply complete! Resources: 31 added, 0 changed, 0 destroyed.

Outputs:
DNS = "public-nlb-fdd856715d5a4285.elb.us-east-1.amazonaws.com"
○ [Samuel17@localhost ITI-Terraform-Project]$
```

4) from a browser and it returns the content of the private ec2s :



5) Screenshot from the s3 that contain the state file :

A screenshot of the AWS S3 console. The URL in the address bar is https://us-east-1.console.aws.amazon.com/s3/buckets/sam17-buck?region=us-east-1&bucketType=general&prefix=env%3A/dev/&showversions=false. The page shows a single object named "tfstate.sam" in the "dev" folder. The object details are: Name: tfstate.sam, Type: sam, Last modified: April 8, 2025, 16:08:37 (UTC+02:00), Size: 76.1 KB, Storage class: Standard. There are buttons for Copy S3 URI, Actions, Create folder, and Upload.