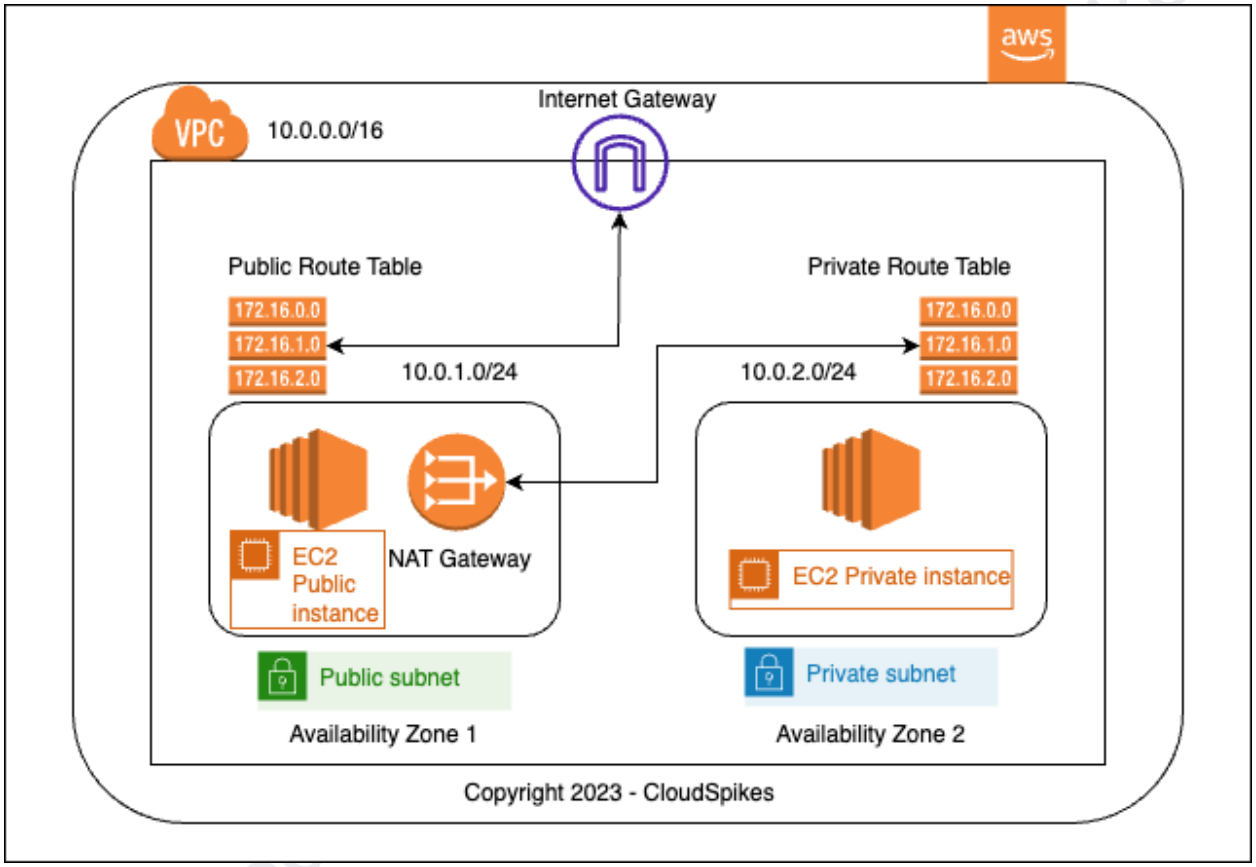
#5 Task: Create Set up AWS EC2 Instances in Pub & Private Subnets. Expose Website hosted on Private EC2 instance via Public EC2 instance via Nginx or Apache Web Server.



1. Testing the EC2 Instances in the recently created VPC Network configurations.

Public Instance:

- right click on box next to name of instance and click connect

ssh steps to connecting to public instance

```
The authenticity of host '13.57.26.125 (13.57.26.125)' can't be established.
ECDSA key fingerprint is SHA256:2xIX63IFcwyXC62HpATCYhUim/duOvISzaGXo5PuP7E.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '13.57.26.125' (ECDSA) to the list of known hosts.
Last login: Sun May  9 06:44:18 2021 from c-73-241-240-172.hsd1.ca.comcast.net

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https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-1-233 ~]$
```
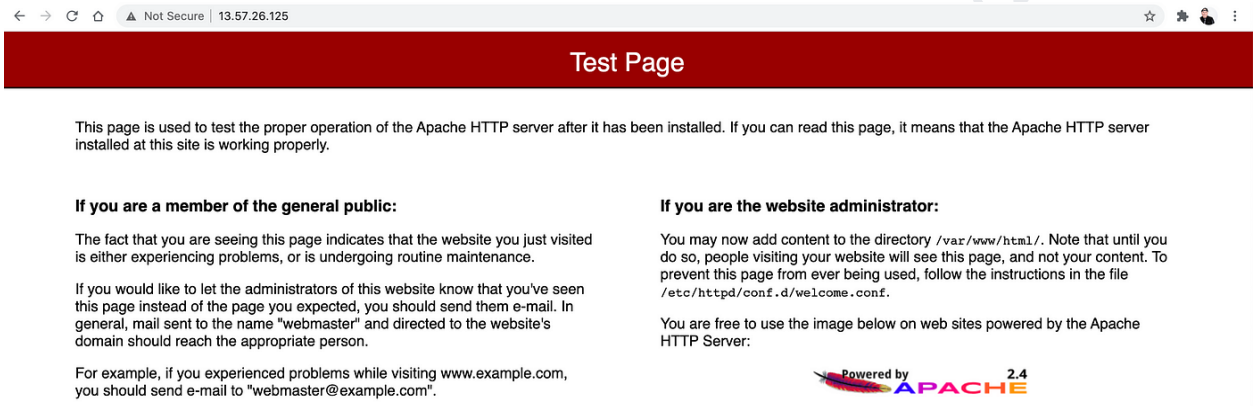

terminal of successfully connecting public instance



apache test page from our public instance IP address

Private Instance:

- We'll now connect to our private instance through our public instance.
- Inside you public instance create a file for your keypair.
- create a file for your keypair.

yum install vim
vim keypair.pem
:wq

- Copy and paste contents of keypair inside your newly created keypair.pem file, your keypair file will look like the following below.

chmod 400 keypair.pem

ssh -i keypair.pem ec2-user@private-ip-address

2. Conclusion.

- In conclusion, the machines on a private subnet can access the Internet because the default route on a private subnet is not the VPC “Internet Gateway” object — it is an EC2 instance configured as a NAT instance. A NAT instance is an instance on a public subnet with a public IP, and specific configuration.

Steps to setup Apache Web Server HTTPd on Ubuntu 22.04:

$ sudo apt update
$ sudo apt install apache2 -y
$ sudo systemctl status apache2

Steps to setup Nginx Web Server on Ubuntu 22.04:

$ sudo apt update
$ sudo apt install nginx -y
$ systemctl status nginx

Once Nginx/Apache is setup, you can replace default index.html with your website specific index file.

To do so, first you need to SCP the website template folder to the EC2 server and then replace the default Nginx/Apache index.html with the index file of your website along with it’s supporting files/folders such as CSS, JavaScript, Media files, etc.