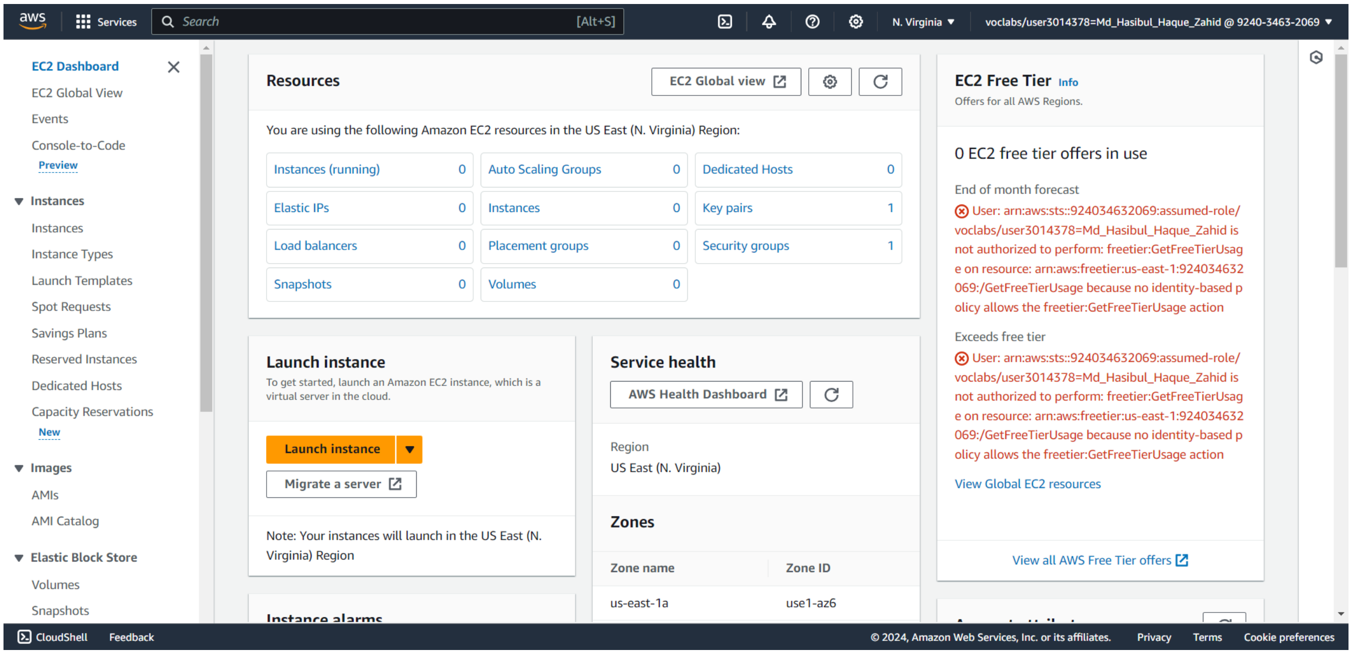
Cloud 1st Assignment

Name: Md Hasibul Haque Zahid

ID : 2302302

***After successfully logged in:**



Resources

You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:

Instances (running)	0	Auto Scaling Groups	0	Dedicated Hosts	0
Elastic IPs	0	Instances	0	Key pairs	1
Load balancers	0	Placement groups	0	Security groups	1
Snapshots	0	Volumes	0		

Launch instance

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

Note: Your instances will launch in the US East (N. Virginia) Region

Service health

Region
US East (N. Virginia)

Zones

Zone name	Zone ID
us-east-1a	use1-az6

EC2 Free Tier Info

Offers for all AWS Regions.

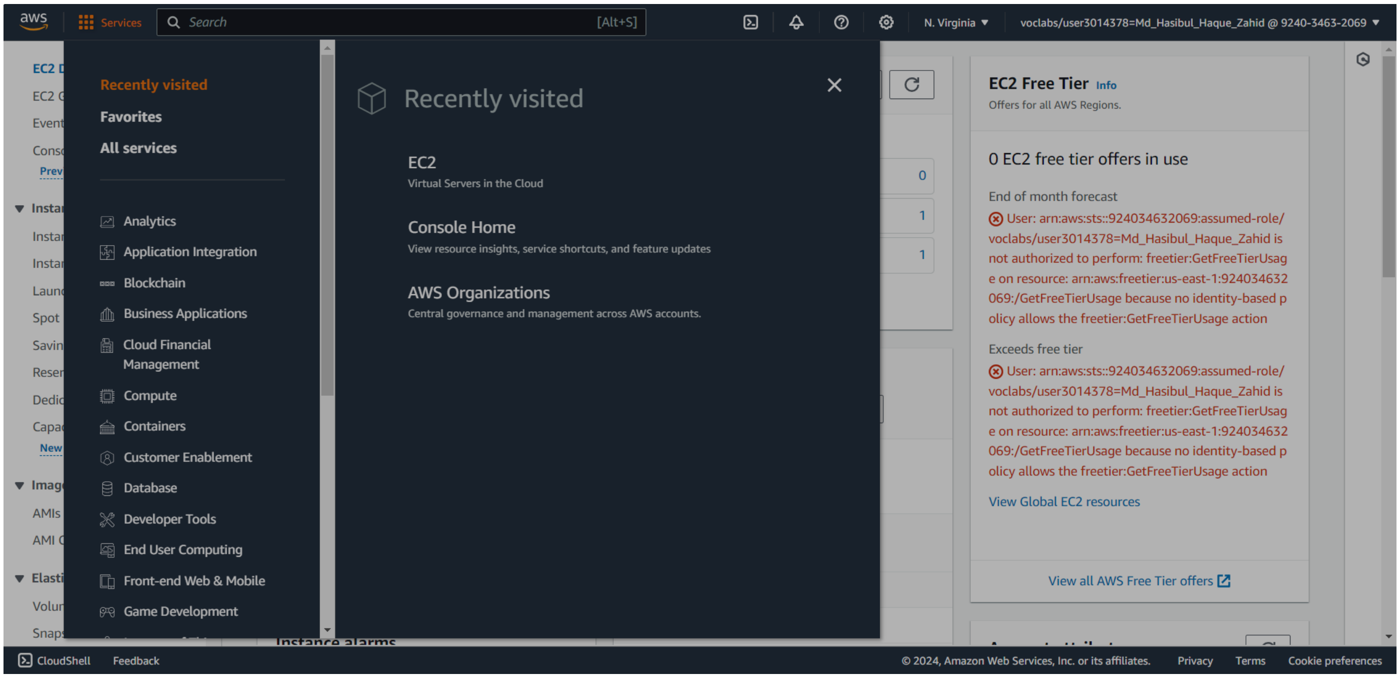
0 EC2 free tier offers in use

End of month forecast

User: arn:aws:sts::924034632069:assumed-role/voclabs/user3014378=Md_Hasibul_Haque_Zahid is not authorized to perform: freetier:GetFreeTierUsage on resource: arn:aws:freetier:us-east-1:924034632069:/GetFreeTierUsage because no identity-based policy allows the freetier:GetFreeTierUsage action

Exceeds free tier

User: arn:aws:sts::924034632069:assumed-role/voclabs/user3014378=Md_Hasibul_Haque_Zahid is not authorized to perform: freetier:GetFreeTierUsage on resource: arn:aws:freetier:us-east-1:924034632069:/GetFreeTierUsage because no identity-based policy allows the freetier:GetFreeTierUsage action



Recently visited

EC2
Virtual Servers in the Cloud

Console Home
View resource insights, service shortcuts, and feature updates

AWS Organizations
Central governance and management across AWS accounts.

EC2 Free Tier Info

Offers for all AWS Regions.

0 EC2 free tier offers in use

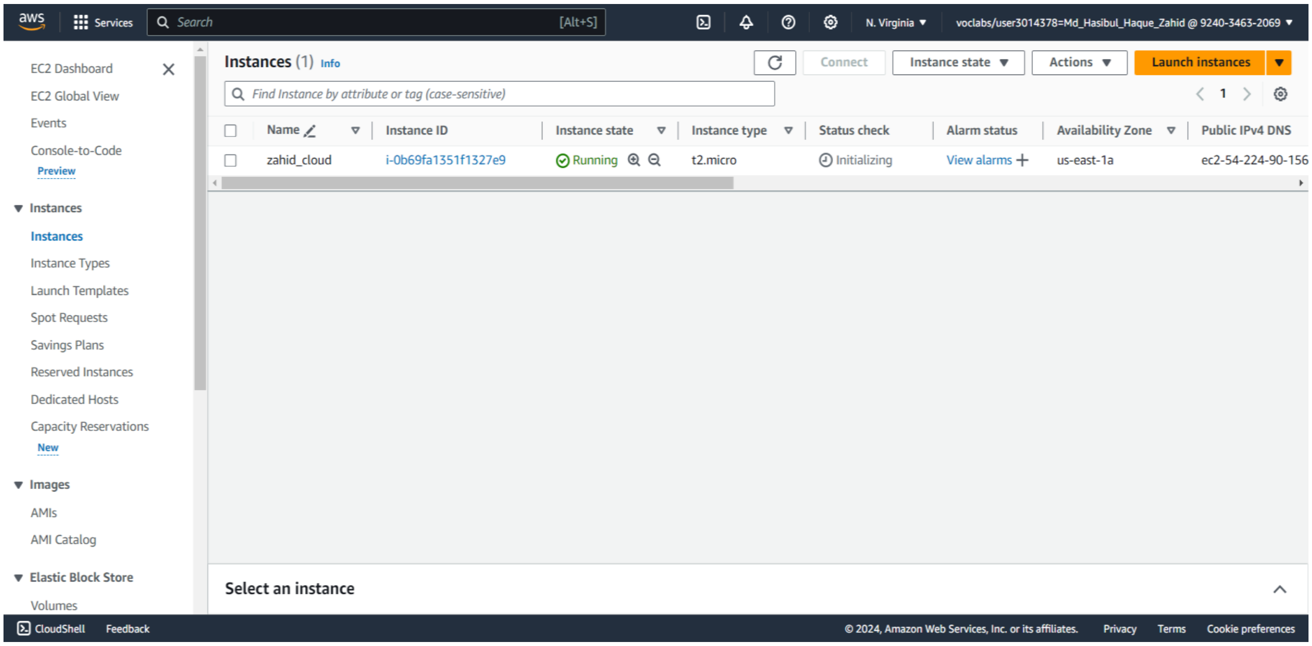
End of month forecast

User: arn:aws:sts::924034632069:assumed-role/voclabs/user3014378=Md_Hasibul_Haque_Zahid is not authorized to perform: freetier:GetFreeTierUsage on resource: arn:aws:freetier:us-east-1:924034632069:/GetFreeTierUsage because no identity-based policy allows the freetier:GetFreeTierUsage action

Exceeds free tier

User: arn:aws:sts::924034632069:assumed-role/voclabs/user3014378=Md_Hasibul_Haque_Zahid is not authorized to perform: freetier:GetFreeTierUsage on resource: arn:aws:freetier:us-east-1:924034632069:/GetFreeTierUsage because no identity-based policy allows the freetier:GetFreeTierUsage action

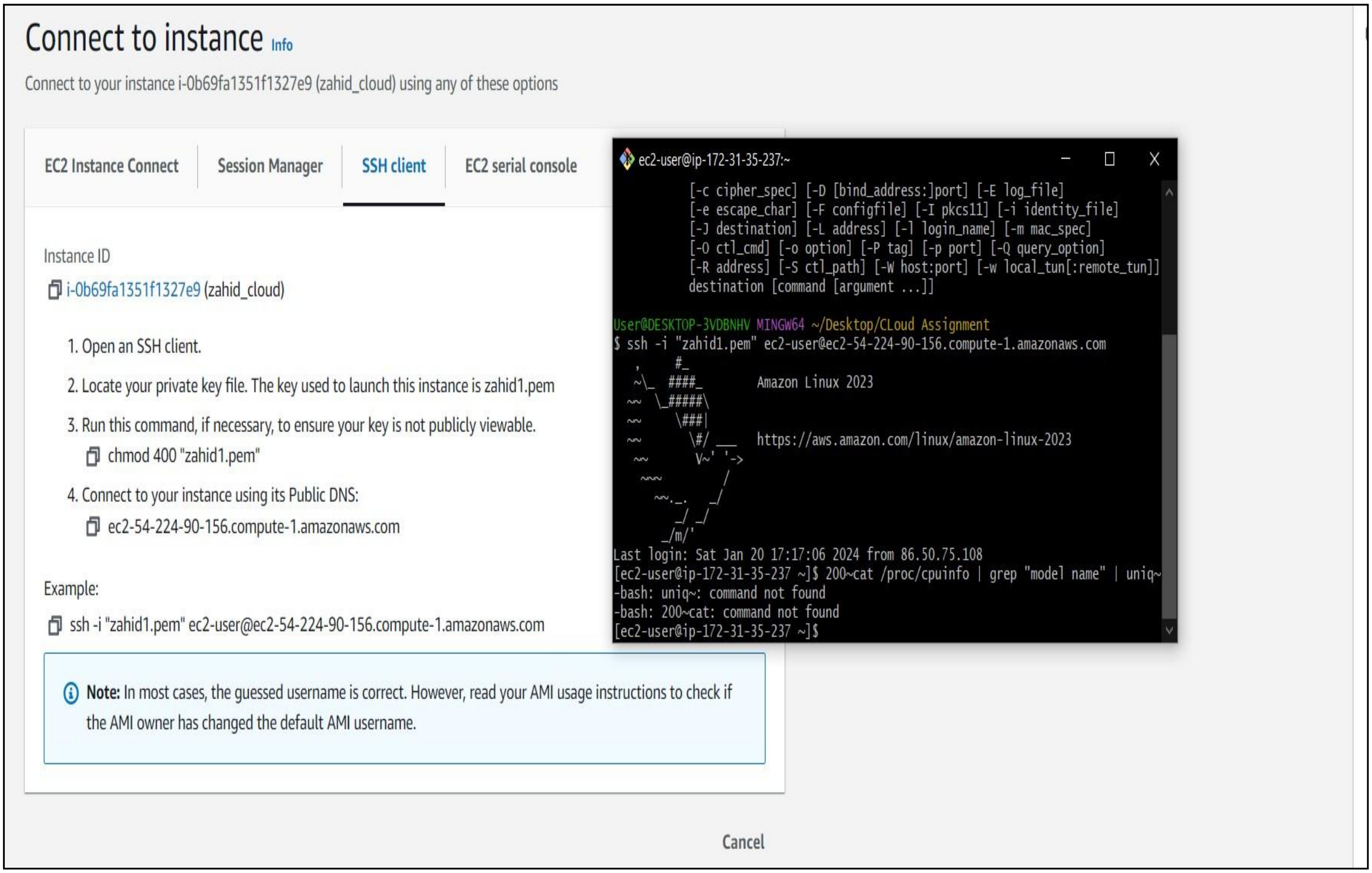
**Launching Instance



Instances (1) Info

Find Instance by attribute or tag (case-sensitive)

□	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
□	zahid_cloud	i-0b69fa1351f1327e9	Running	t2.micro	Initializing	View alarms +	us-east-1a	ec2-54-224-90-156



Connect to instance Info

Connect to your instance i-0b69fa1351f1327e9 (zahid_cloud) using any of these options

Instance ID

i-0b69fa1351f1327e9 (zahid_cloud)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is zahid1.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.
   `chmod 400 "zahid1.pem"`
4. Connect to your instance using its Public DNS:
   `ec2-54-224-90-156.compute-1.amazonaws.com`

Example:

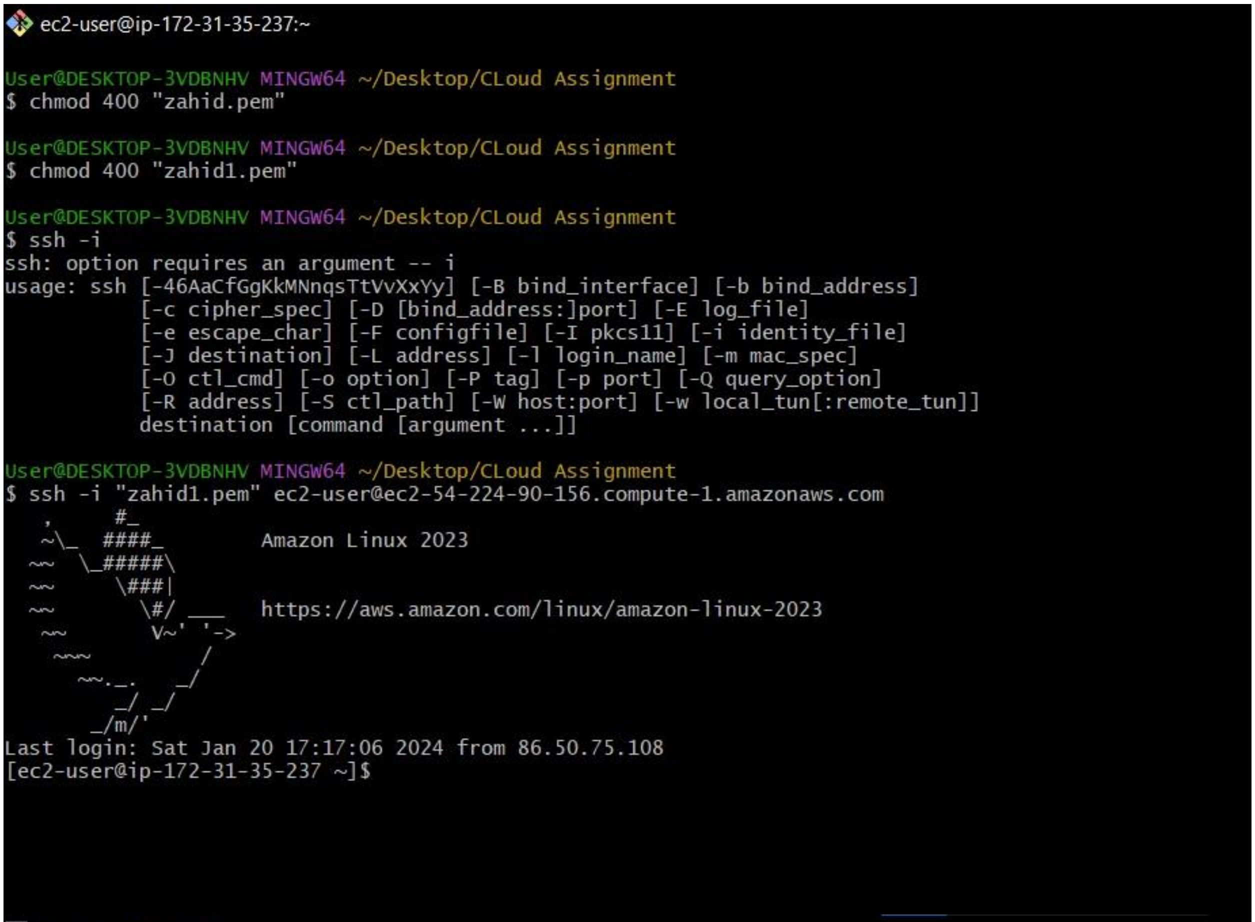
```
ssh -i "zahid1.pem" ec2-user@ec2-54-224-90-156.compute-1.amazonaws.com
```

Note: In most cases, the guessed username is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

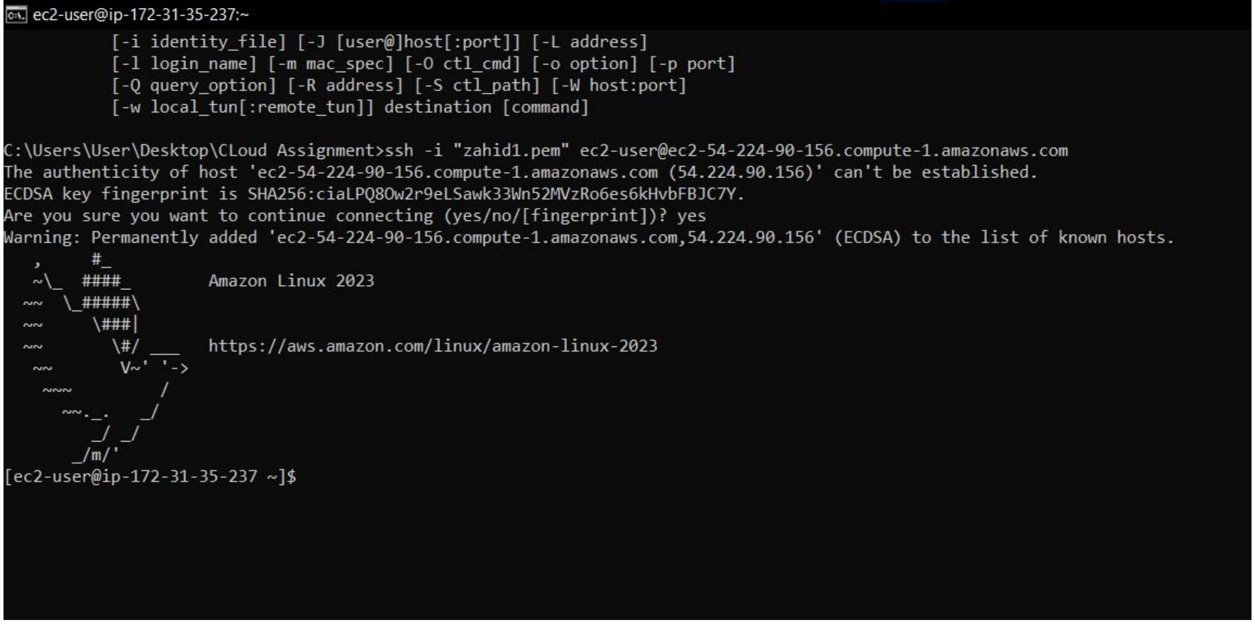
ec2-user@ip-172-31-35-237:~

```
           [-c cipher_spec] [-D [bind_address:]port] [-E log_file]
           [-e escape_char] [-F configfile] [-I pkcs11] [-i identity_file]
           [-J destination] [-L address] [-l login_name] [-m mac_spec]
           [-O ctl_cmd] [-o option] [-P tag] [-p port] [-Q query_option]
           [-R address] [-S ctl_path] [-W host:port] [-w local_tun[:remote_tun]]
           destination [command [argument ...]]

User@DESKTOP-3VDBNHV MINGW64 ~/Desktop/CLoud Assignment
$ ssh -i "zahid1.pem" ec2-user@ec2-54-224-90-156.compute-1.amazonaws.com
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
Last login: Sat Jan 20 17:17:06 2024 from 86.50.75.108
[ec2-user@ip-172-31-35-237 ~]$ 200~cat /proc/cpuinfo | grep "model name" | uniq~
-bash: uniq~: command not found
-bash: 200~cat: command not found
[ec2-user@ip-172-31-35-237 ~]$
```

**Connecting through Terminal (SSH & Gitbash)

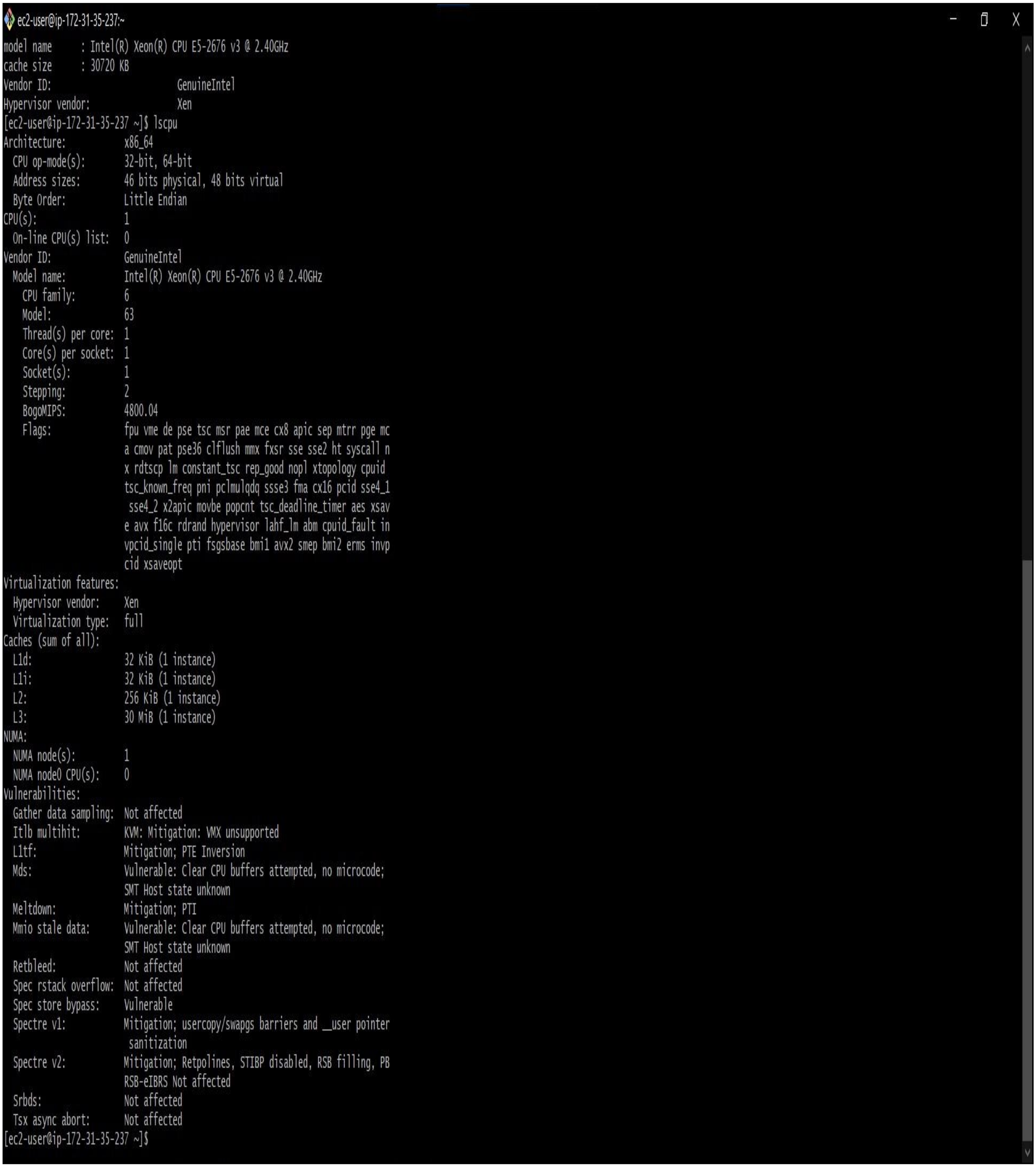


```
User@DESKTOP-3VDBNHV MINGW64 ~/Desktop/CLoud Assignment
$ chmod 400 "zahid.pem"

User@DESKTOP-3VDBNHV MINGW64 ~/Desktop/CLoud Assignment
$ chmod 400 "zahid1.pem"

User@DESKTOP-3VDBNHV MINGW64 ~/Desktop/CLoud Assignment
$ ssh -i
ssh: option requires an argument -- i
usage: ssh [-46AaCfGgKkMNnqsTtVvXxYy] [-B bind_interface] [-b bind_address]
           [-c cipher_spec] [-D [bind_address:]port] [-E log_file]
           [-e escape_char] [-F configfile] [-I pkcs11] [-i identity_file]
           [-J destination] [-L address] [-l login_name] [-m mac_spec]
           [-O ctl_cmd] [-o option] [-P tag] [-p port] [-Q query_option]
           [-R address] [-S ctl_path] [-W host:port] [-w local_tun[:remote_tun]]
           destination [command [argument ...]]

User@DESKTOP-3VDBNHV MINGW64 ~/Desktop/CLoud Assignment
$ ssh -i "zahid1.pem" ec2-user@ec2-54-224-90-156.compute-1.amazonaws.com
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
Last login: Sat Jan 20 17:17:06 2024 from 86.50.75.108
[ec2-user@ip-172-31-35-237 ~]$
```



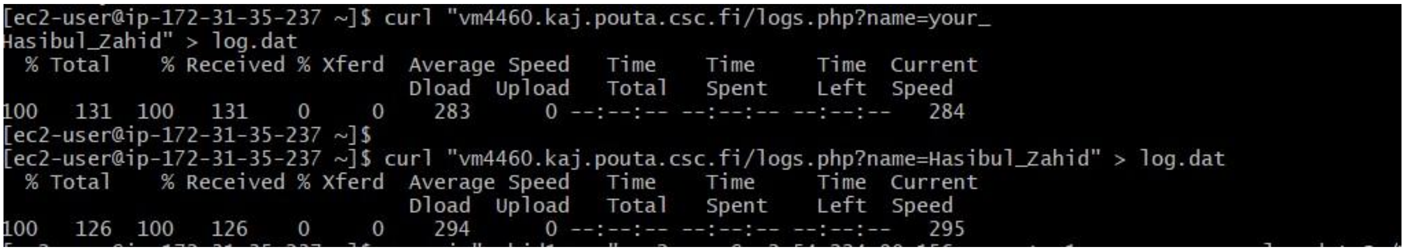
```
           [-i identity_file] [-J [user@]host[:port]] [-L address]
           [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]
           [-Q query_option] [-R address] [-S ctl_path] [-W host:port]
           [-w local_tun[:remote_tun]] destination [command]

C:\Users\User\Desktop\CLoud Assignment>ssh -i "zahid1.pem" ec2-user@ec2-54-224-90-156.compute-1.amazonaws.com
The authenticity of host 'ec2-54-224-90-156.compute-1.amazonaws.com (54.224.90.156)' can't be established.
ECDSA key fingerprint is SHA256:ciaLPQ8Ow2r9eLSawk33Wn52MVzRo6es6kHvbFBJC7Y.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-54-224-90-156.compute-1.amazonaws.com,54.224.90.156' (ECDSA) to the list of known hosts.
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
[ec2-user@ip-172-31-35-237 ~]$
```

**CPU Information



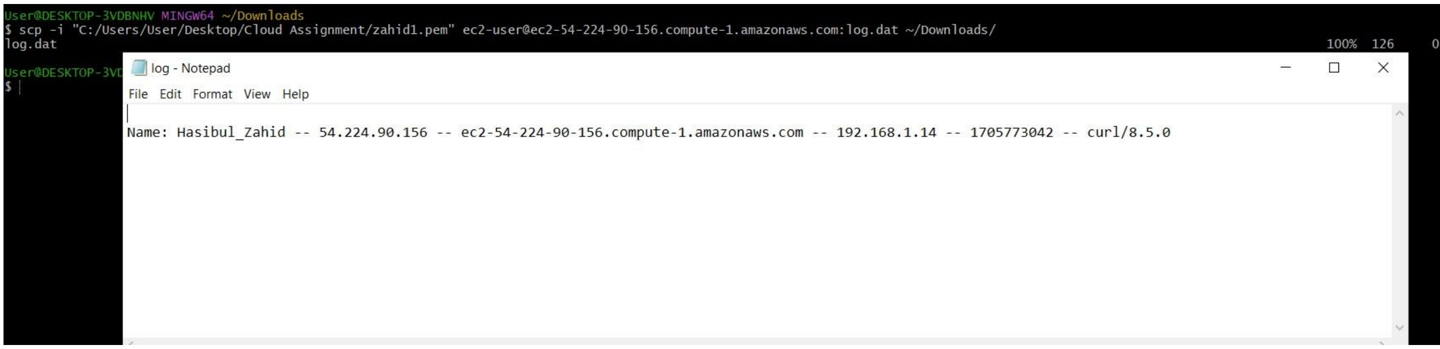
```
model name      : Intel(R) Xeon(R) CPU E5-2676 v3 @ 2.40GHz
cache size      : 30720 KB
Vendor ID:                           GenuineIntel
Hypervisor vendor:                   Xen
[ec2-user@ip-172-31-35-237 ~]$ lscpu
Architecture:            x86_64
  CPU op-mode(s):        32-bit, 64-bit
  Address sizes:         46 bits physical, 48 bits virtual
  Byte Order:            Little Endian
CPU(s):                  1
  On-line CPU(s) list:   0
Vendor ID:               GenuineIntel
  Model name:            Intel(R) Xeon(R) CPU E5-2676 v3 @ 2.40GHz
    CPU family:          6
    Model:               63
    Thread(s) per core:  1
    Core(s) per socket:  1
    Socket(s):           1
    Stepping:            2
    BogoMIPS:            4800.04
    Flags:               fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mc
                         a cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall n
                         x rdtscp lm constant_tsc rep_good nopl xtopology cpuid
                         tsc_known_freq pni pclmulqdq ssse3 fma cx16 pcid sse4_1
                          sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsav
                         e avx f16c rdrand hypervisor lahf_lm abm cpuid_fault in
                         vpcid_single pti fsgsbase bmi1 avx2 smep bmi2 erms invp
                         cid xsaveopt
Virtualization features:
  Hypervisor vendor:     Xen
  Virtualization type:   full
Caches (sum of all):
  L1d:                   32 KiB (1 instance)
  L1i:                   32 KiB (1 instance)
  L2:                    256 KiB (1 instance)
  L3:                    30 MiB (1 instance)
NUMA:
  NUMA node(s):          1
  NUMA node0 CPU(s):     0
Vulnerabilities:
  Gather data sampling:  Not affected
  Itlb multihit:         KVM: Mitigation: VMX unsupported
  L1tf:                  Mitigation; PTE Inversion
  Mds:                   Vulnerable: Clear CPU buffers attempted, no microcode;
                         SMT Host state unknown
  Meltdown:              Mitigation; PTI
  Mmio stale data:       Vulnerable: Clear CPU buffers attempted, no microcode;
                         SMT Host state unknown
  Retbleed:              Not affected
  Spec rstack overflow:  Not affected
  Spec store bypass:     Vulnerable
  Spectre v1:            Mitigation; usercopy/swapgs barriers and __user pointer
                          sanitization
  Spectre v2:            Mitigation; Retpolines, STIBP disabled, RSB filling, PB
                         RSB-eIBRS Not affected
  Srbds:                 Not affected
  Tsx async abort:       Not affected
[ec2-user@ip-172-31-35-237 ~]$
```

****Creating Log Data File**



```
[ec2-user@ip-172-31-35-237 ~]$ curl "vm4460.kaj.pouta.csc.fi/logs.php?name=your_
Hasibul_Zahid" > log.dat
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100   131  100   131    0     0    283      0 --:--:-- --:--:-- --:--:--   284
[ec2-user@ip-172-31-35-237 ~]$
[ec2-user@ip-172-31-35-237 ~]$ curl "vm4460.kaj.pouta.csc.fi/logs.php?name=Hasibul_Zahid" > log.dat
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100   126  100   126    0     0    294      0 --:--:-- --:--:-- --:--:--   295
```

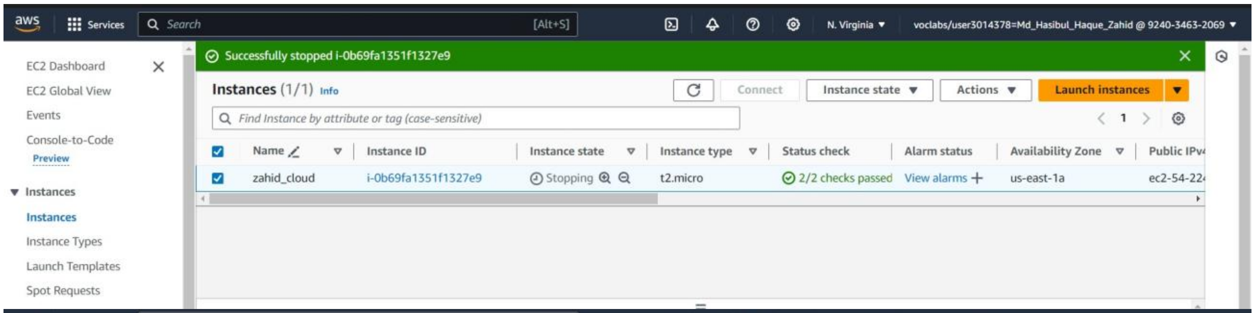
** Downloading log data File



```
User@DESKTOP-3VDBNHV MINGW64 ~/Downloads
$ scp -i "C:/Users/User/Desktop/Cloud Assignment/zahid1.pem" ec2-user@ec2-54-224-90-156.compute-1.amazonaws.com:log.dat ~/Downloads/
log.dat                                                                                                                   100%  126     0

User@DESKTOP-3VD
$ 
```

```
Name: Hasibul_Zahid -- 54.224.90.156 -- ec2-54-224-90-156.compute-1.amazonaws.com -- 192.168.1.14 -- 1705773042 -- curl/8.5.0
```

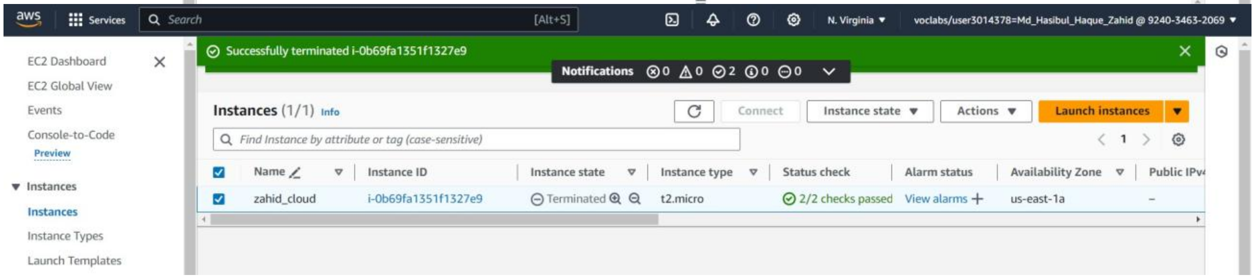
**Terminating VM



Successfully stopped i-0b69fa1351f1327e9

Instances (1/1) Info

☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv
☑	zahid_cloud	i-0b69fa1351f1327e9	Stopping	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-54-22



Successfully terminated i-0b69fa1351f1327e9

Instances (1/1) Info

☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv
☑	zahid_cloud	i-0b69fa1351f1327e9	Terminated	t2.micro	2/2 checks passed	View alarms +	us-east-1a	–

Last few days I tried several ways to run VM in my windows then somehow I manage to run in both SSH & Git Bash. Before connecting to virtual machine & my PC the picture are given on Page 1-3

What would happen if you lost the private key provided when you instantiated your VM?

If you lose the private key used to launch your VM, you won't be able to authenticate and access the VM through SSH. The private key is used for secure communication between your local machine and the VM. If the private key is lost, I might need to either create a new key pair and associate it with your existing VM or use other means to regain access. It's a good practice to securely store and back up your private keys.

Do you have any idea where was the physical server on which your VM was running?

It only took around 1 minute from requesting to have the VM up and running.

Things I Learned:

1. This activity helped me get hands-on experience with AWS services, making me better understand virtualization and cloud computing.

2. **Surprises:**

   At first I tried several methods including Virtual box and Linux OS but Somehow I managed it SSH & Git Bash. Before starting this assignment I don’t believe that it will be so easy to complete

3. **Challenges:**

   1. Figuring out and using Linux commands to collect CPU information was a bit tricky. I managed to overcome it by doing some research online.

4. **Satisfactions:**
   I felt great satisfaction in successfully setting up, configuring, and interacting with a VM on AWS. It reinforced the practical side of using cloud services.

Warm Regards
Md Hasibul Haque Zahid
ID : 2302302