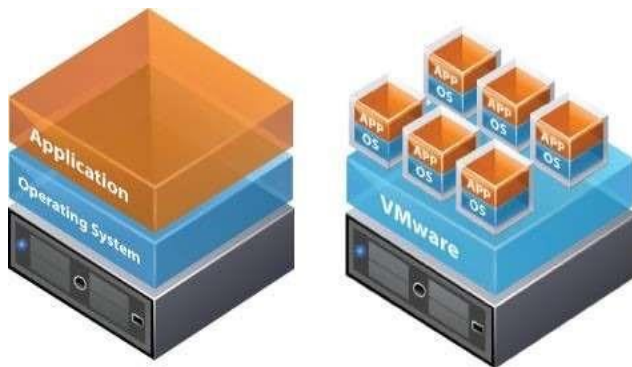


3. What the name of hypervisor mentioned in below picture



Traditional Architecture

Virtual Architecture

A. VMware hypervisor

4. One IT company maintains a Dell Power Edge rack server with below configuration:

- 256 GB RAM
- Intel Xeon processor with 50 cores
- 10 TB SSD

The company requirement is to accommodate 20000 users to the application and system administrator is tasked to create servers to accordingly. The users per server should not be more than 2000 assuming that 10GB of RAM supports 1000 concurrent users.

If you are the system administrator of the company, what will you suggest for following:

1. How many no.of VMs to be created .?
A. 10
2. What would the configuration of VMs that you create .?
A. 20GB
3. Which Operating System do you suggest for servers .?
A. 5 CORES
4. What would you suggest to maintain High Availability of application that runs on this server .?
A. 1TB

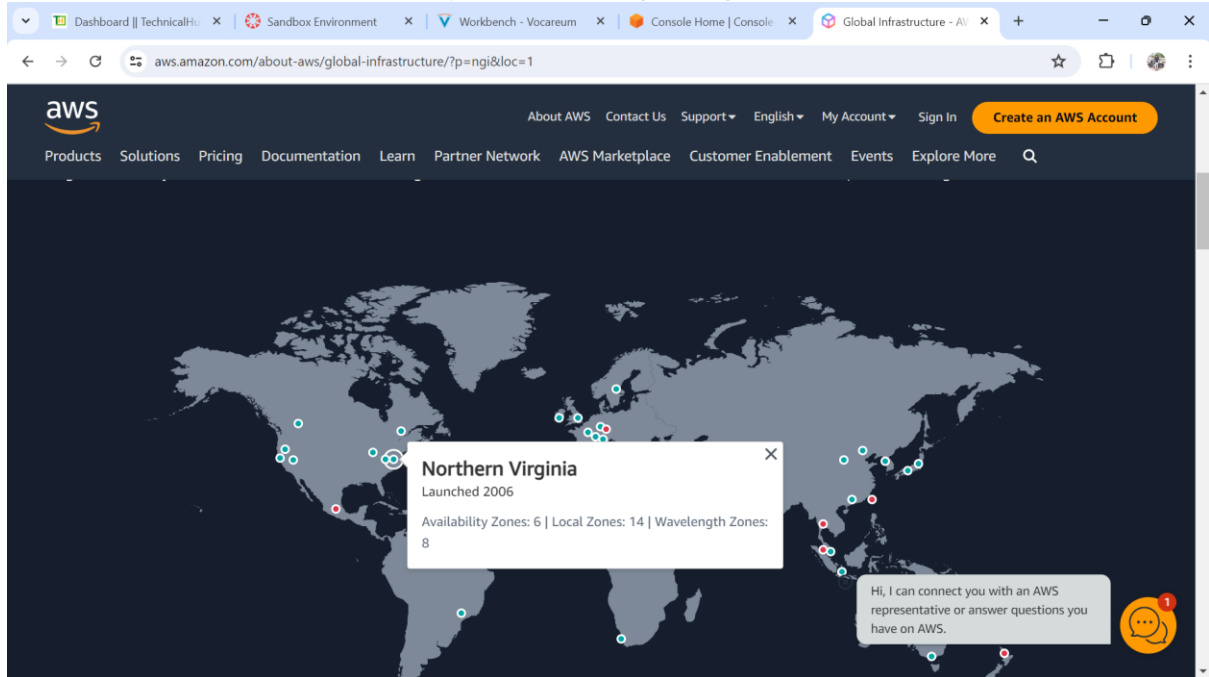
5. Scenario: Setting up a new application infrastructure Imagine you're part of a team tasked with setting up a new web application for a growing e-commerce company. The application is expected to handle a large number of concurrent users and process a significant amount of data for transactions. As a crucial first step, you need to determine the optimal server characteristics to ensure the application runs smoothly and efficiently. Hence, point out server characteristics that are essential to maintain the same.

A. use cloud computing

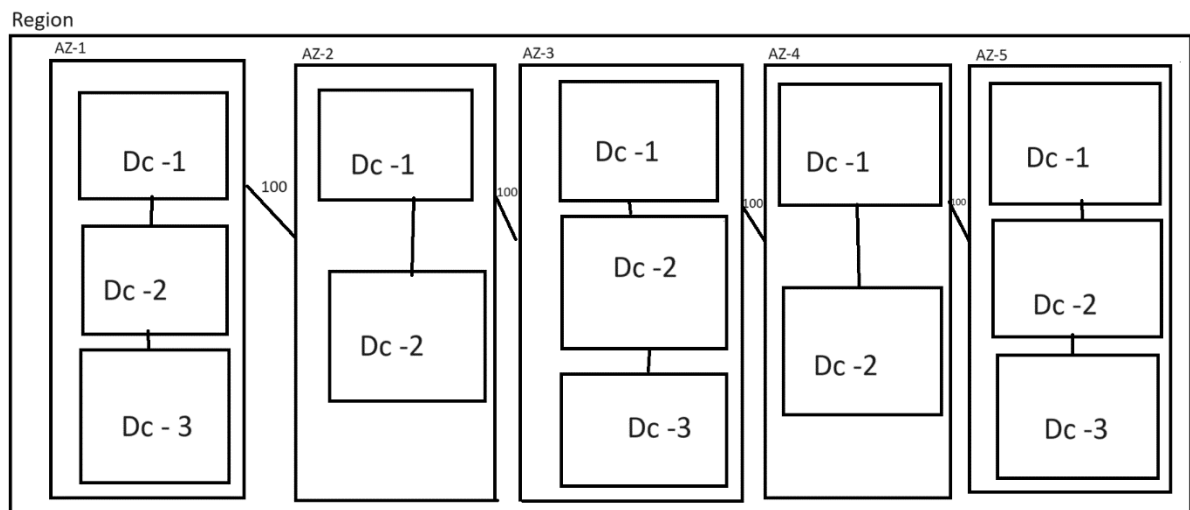
6. Provide the screenshot of no. of AWS regions and Availability Zones as of the day

The screenshot displays the AWS Global Infrastructure page. The header includes the AWS logo and navigation links such as 'About AWS', 'Contact Us', 'Support', 'English', 'My Account', 'Sign In', and 'Create an AWS Account'. The main navigation bar lists 'Global Infrastructure', 'Overview', 'Regions and AZs', 'Local Zones', 'Wavelength Zones', 'AWS Regional Services', 'Sustainability', and 'Community Engagement'. A blue banner at the top of the main content area reads 'AWSome Day Online Conference | 11 July 2024 — Cloud made simple: Master the basics in 3 hours. »'. Below this, the heading 'AWS Global Infrastructure' is followed by the text 'The most secure, extensive, and reliable Global Cloud Infrastructure, for all your applications'. A prominent orange button labeled 'Create an Account' is positioned below the text. The page features three key statistics in white boxes: '33 launched Regions each with multiple Availability Zones', '105 Availability Zones', and '600+ CloudFront POPs and 13 Regional edge caches'. At the bottom, there is a section titled 'AWS Global Infrastructure Map'. A chatbot icon in the bottom right corner offers assistance: 'Hi, I can connect you with an AWS representative or answer questions you have on AWS.'

7. Provide the screen shot of Availability Zones in N.Virginia region



8. Draw the sample region of AWS Global infrastructure hierarchy in MS Paint and provide screenshot here

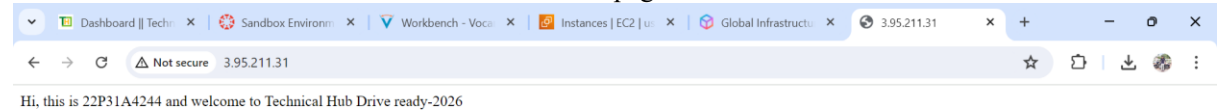


9. Launch the ubuntu VM with following configuration

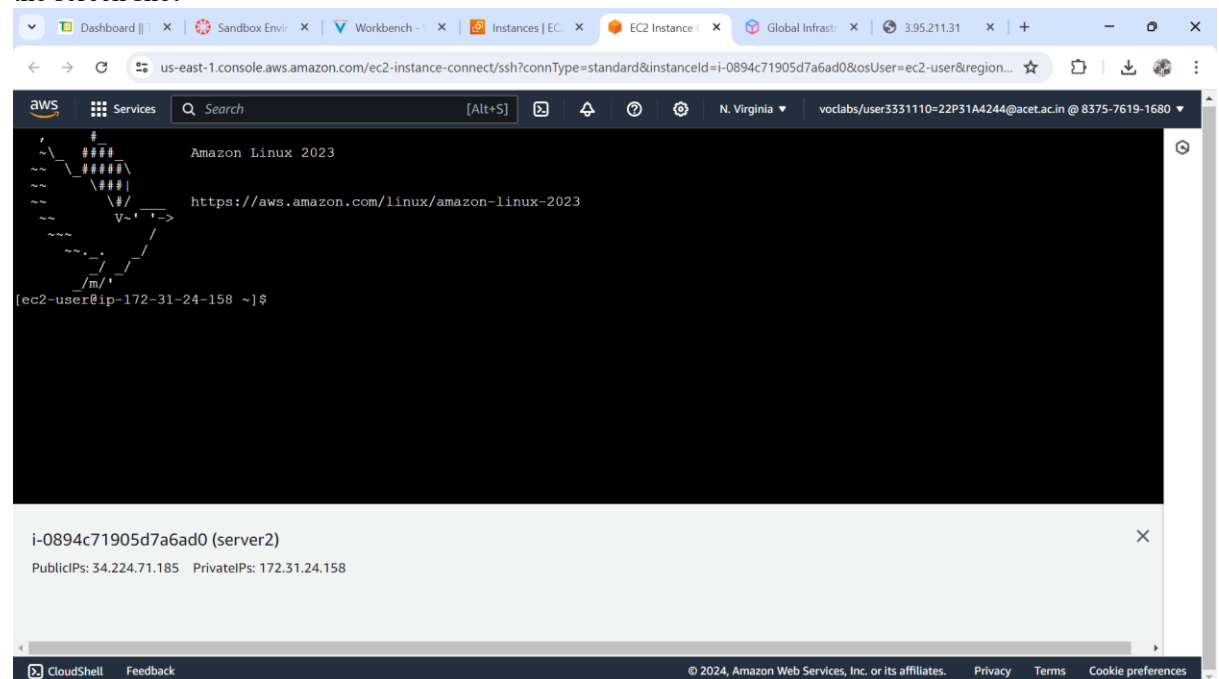
- a. Ubuntu latest version
- b. Free tier t2 type VM
- c. us-east-1f availability zone
- d. download pem format key file
- e. user data should contain following line in webpage

Hi, this is and welcome to Technical Hub Drive ready-2026

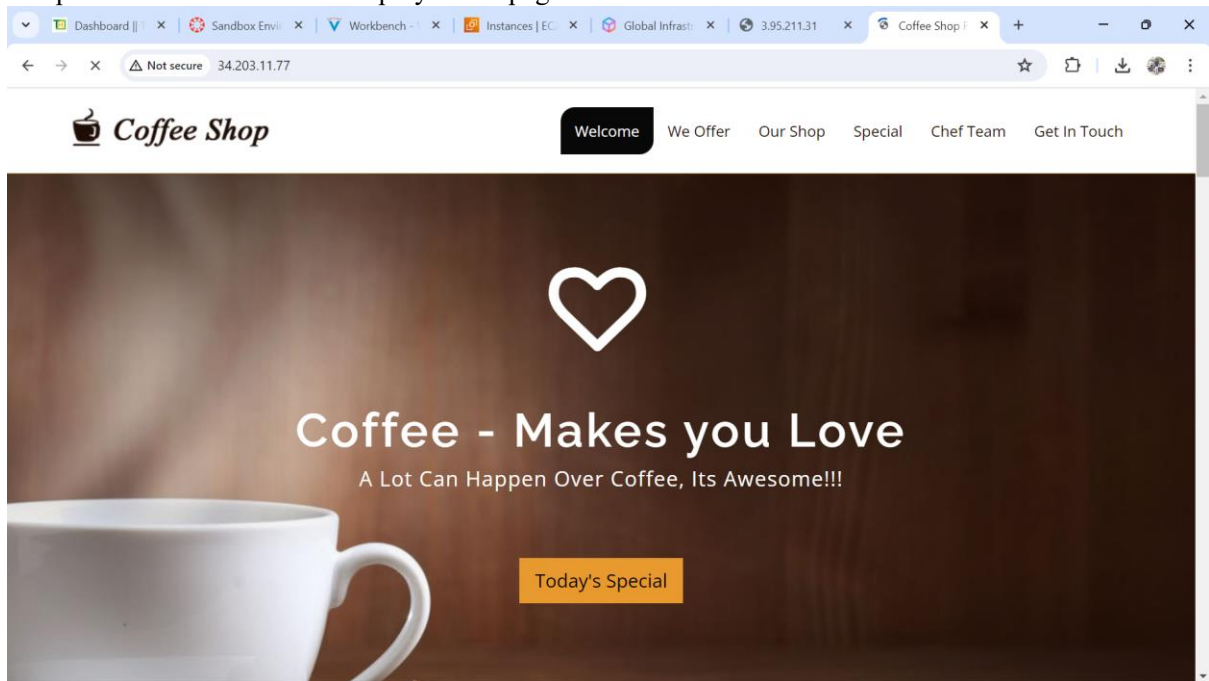
Provide the screenshot of userdata and launched webpage.



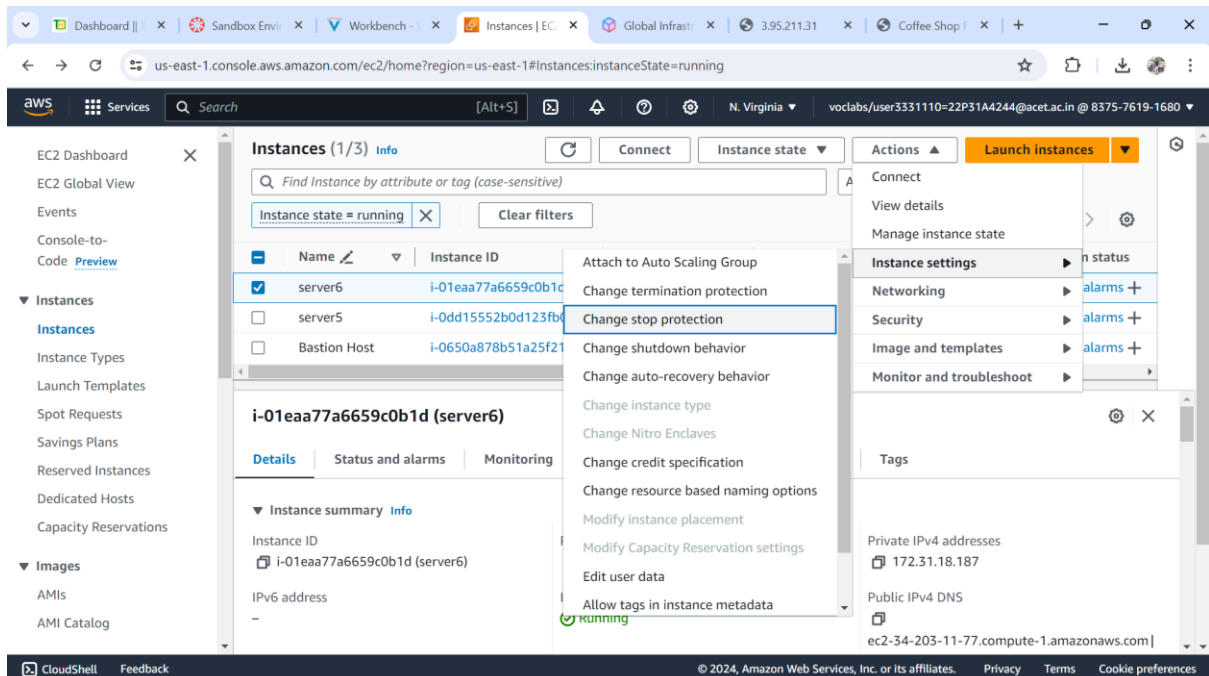
10. Connect to the same linux VM from windows command mode (not from mobaXterm) and provide the screen shot



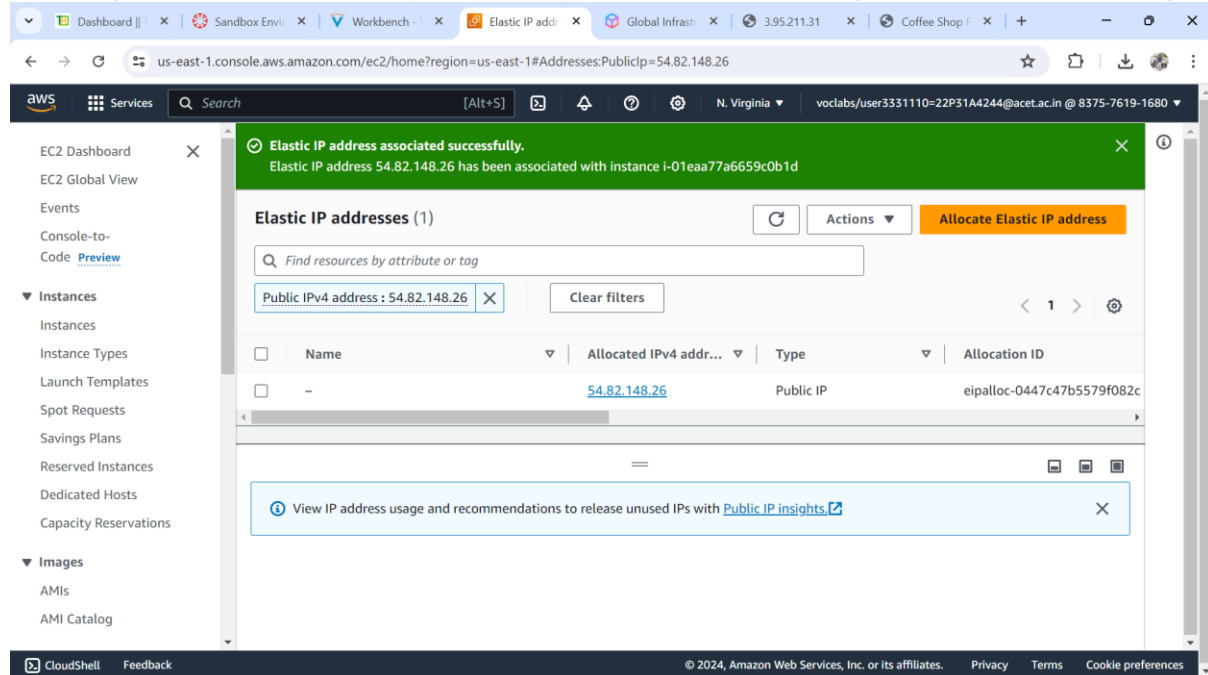
11.Delete the index.html file and transfer a sample web template of your choice to linux VM using SFTP and provide the screen shot of deployed webpage



12.Protect the VMs from accidental shutdown and deletion



13. Configure the webserver in a way that even if you turn off and turn on again, the IP should not change



14. Provide the screen shots of following outputs:

- Calendar of July 2024
- Time and date with one command
- Change the timestamp of a file
- Create 5 empty files with one command
- Edit any one file with vim and write one line of content and save, exit
- Use necessary command to write the second line into same file without replacing existing line
- Change the file permissions using numeric permissions format that users should have read-only permissions, group execute and others no permissions
- Create a user with your name and provide the screenshot of user id from user information file


```
3.90.16.211 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...
/home/ec2-user/
Name
...
.ssh
.bash_history
.bash_logout
.bash_profile
.bashrc

Remote monitoring
Follow terminal folder

Last login: Sat Jun 29 05:57:06 2024 from 117.250.198.87
[ec2-user@ip-172-31-29-83 ~]$ sudo su
[root@ip-172-31-29-83 ec2-user]# cal 07 2024
      July 2024
Su Mo Tu We Th Fr Sa
       1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

[root@ip-172-31-29-83 ec2-user]# timedatectl
Local time: Sat 2024-06-29 06:44:40 UTC
Universal time: Sat 2024-06-29 06:44:40 UTC
RTC time: Sat 2024-06-29 06:44:40
Time zone: n/a (UTC, +0000)
System clock synchronized: yes
NTP service: active
RTC in local TZ: no

[root@ip-172-31-29-83 ec2-user]# cat > file1
hsjsjj~Z
[1]+  Stopped                  cat > file1
[root@ip-172-31-29-83 ec2-user]# touch file1
[root@ip-172-31-29-83 ec2-user]# touch f1 f2 f3 f4 f5
[root@ip-172-31-29-83 ec2-user]# vim f1
[root@ip-172-31-29-83 ec2-user]# cat f1

hi
[root@ip-172-31-29-83 ec2-user]# cat >> f1
jshjsjj~Z
[2]+  Stopped                  cat >> f1
[root@ip-172-31-29-83 ec2-user]#
```

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```
3.90.16.211 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...
/home/ec2-user/
Name
...
.ssh
.bash_history
.bash_logout
.bash_profile
.bashrc

Remote monitoring
Follow terminal folder

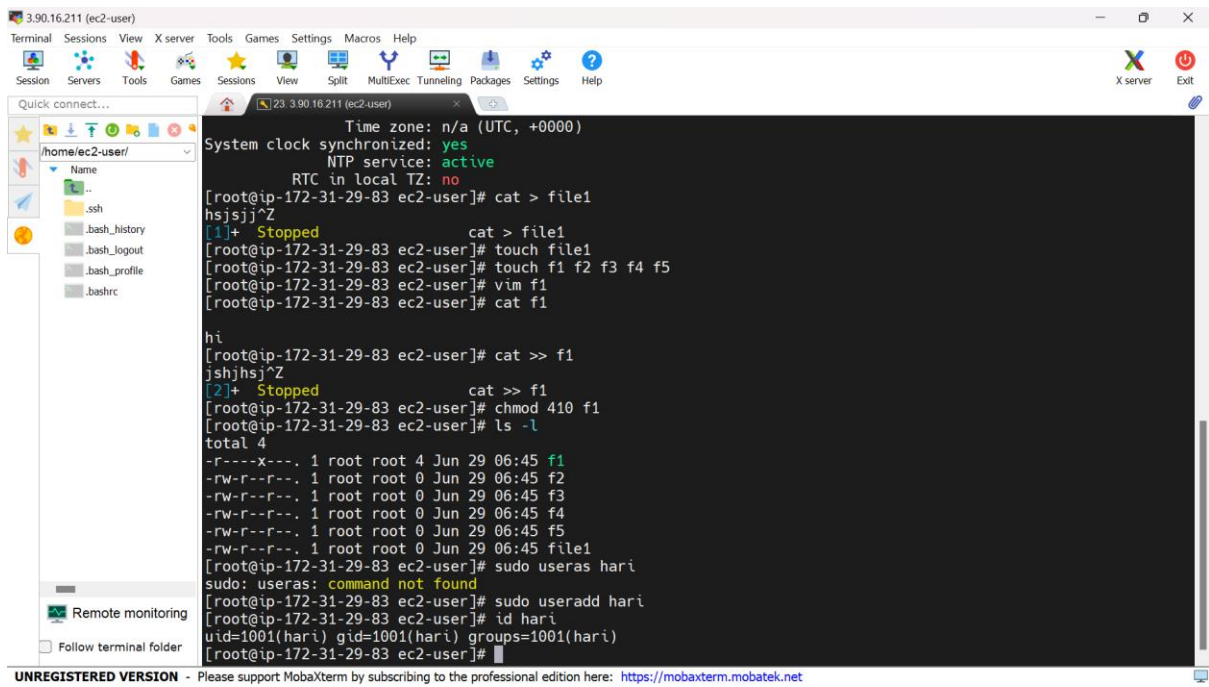
1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

[root@ip-172-31-29-83 ec2-user]# timedatectl
Local time: Sat 2024-06-29 06:44:40 UTC
Universal time: Sat 2024-06-29 06:44:40 UTC
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[root@ip-172-31-29-83 ec2-user]# vim f1
[root@ip-172-31-29-83 ec2-user]# cat f1

hi
[root@ip-172-31-29-83 ec2-user]# cat >> f1
jshjsjj~Z
[2]+  Stopped                  cat >> f1
[root@ip-172-31-29-83 ec2-user]# chmod 410 f1
[root@ip-172-31-29-83 ec2-user]# ls -l
total 4
-r--x---. 1 root root 4 Jun 29 06:45 f1
-rw-r--r--. 1 root root 0 Jun 29 06:45 f2
-rw-r--r--. 1 root root 0 Jun 29 06:45 f3
-rw-r--r--. 1 root root 0 Jun 29 06:45 f4
-rw-r--r--. 1 root root 0 Jun 29 06:45 f5
-rw-r--r--. 1 root root 0 Jun 29 06:45 file1
[root@ip-172-31-29-83 ec2-user]#
```

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The screenshot shows a MobaXterm terminal window with a dark theme. The left sidebar displays a file explorer for the remote host's home directory, listing files like .ssh, .bash_history, .bash_logout, .bash_profile, and .bashrc. The main terminal pane shows the following commands and output:

```
Time zone: n/a (UTC, +0000)
System clock synchronized: yes
NTP service: active
RTC in local TZ: no

[root@ip-172-31-29-83 ec2-user]# cat > file1
hsjsj^Z
[1]+  Stopped                  cat > file1
[root@ip-172-31-29-83 ec2-user]# touch file1
[root@ip-172-31-29-83 ec2-user]# touch f1 f2 f3 f4 f5
[root@ip-172-31-29-83 ec2-user]# vim f1
[root@ip-172-31-29-83 ec2-user]# cat f1

hi
[root@ip-172-31-29-83 ec2-user]# cat >> f1
jshjhsj^Z
[2]+  Stopped                  cat >> f1
[root@ip-172-31-29-83 ec2-user]# chmod 410 f1
[root@ip-172-31-29-83 ec2-user]# ls -l
total 4
-r----- 1 root root 4 Jun 29 06:45 f1
-rw-r--r-- 1 root root 0 Jun 29 06:45 f2
-rw-r--r-- 1 root root 0 Jun 29 06:45 f3
-rw-r--r-- 1 root root 0 Jun 29 06:45 f4
-rw-r--r-- 1 root root 0 Jun 29 06:45 f5
-rw-r--r-- 1 root root 0 Jun 29 06:45 file1
[root@ip-172-31-29-83 ec2-user]# sudo useras hari
sudo: useras: command not found
[root@ip-172-31-29-83 ec2-user]# sudo useradd hari
[root@ip-172-31-29-83 ec2-user]# id hari
uid=1001(hari) gid=1001(hari) groups=1001(hari)
[root@ip-172-31-29-83 ec2-user]#
```

At the bottom of the window, a message reads: "UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>".

15. Launch the Windows server latest version and connect to it that should be able to copy a small sample file from your laptop to windows VM.

