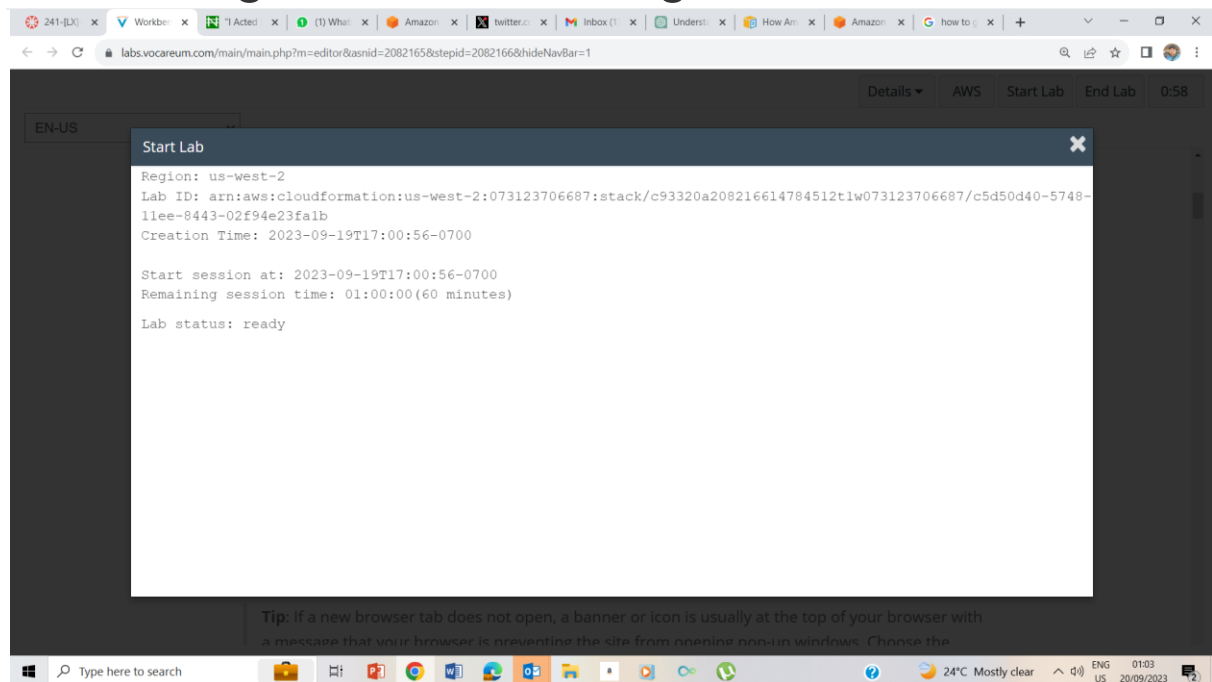
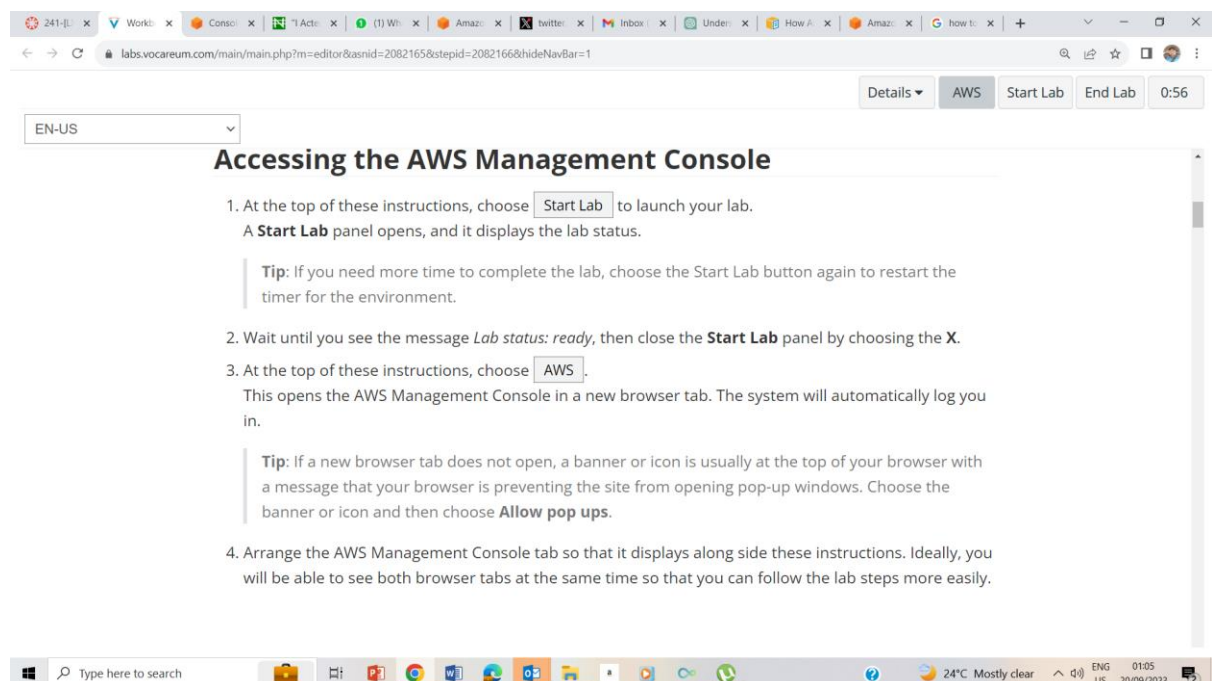


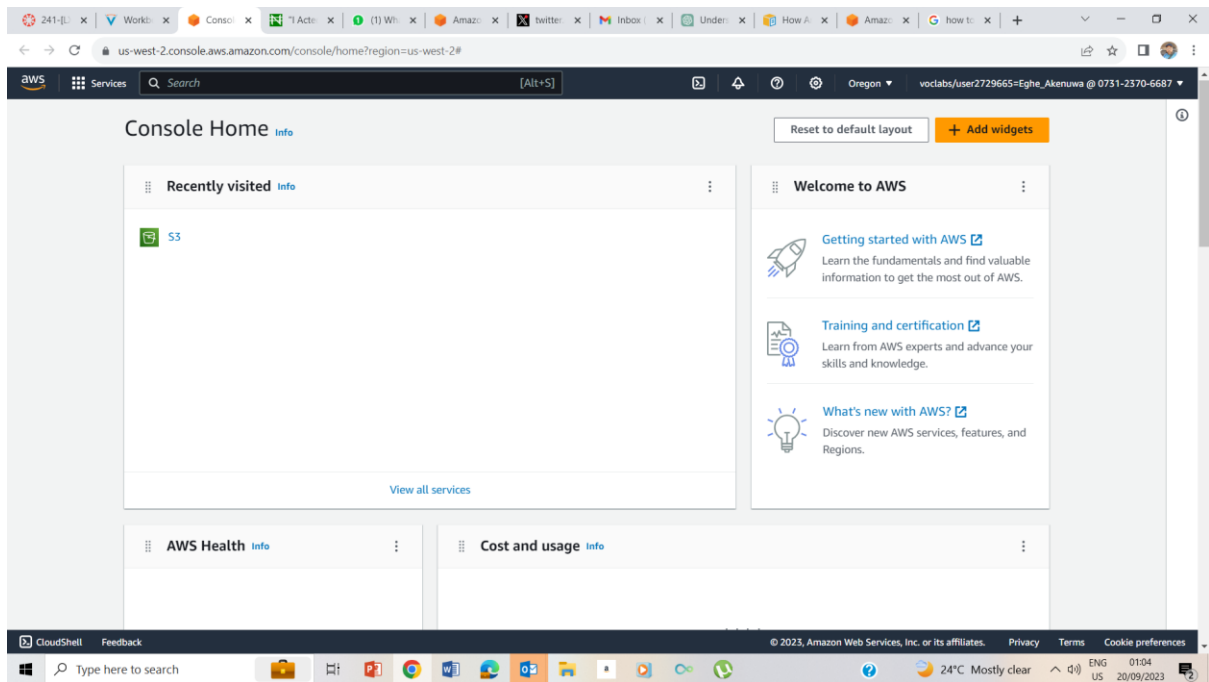
Managing Services – Monitoring Lab

Accessing the AWS Management Console



1-2 Starting the lab

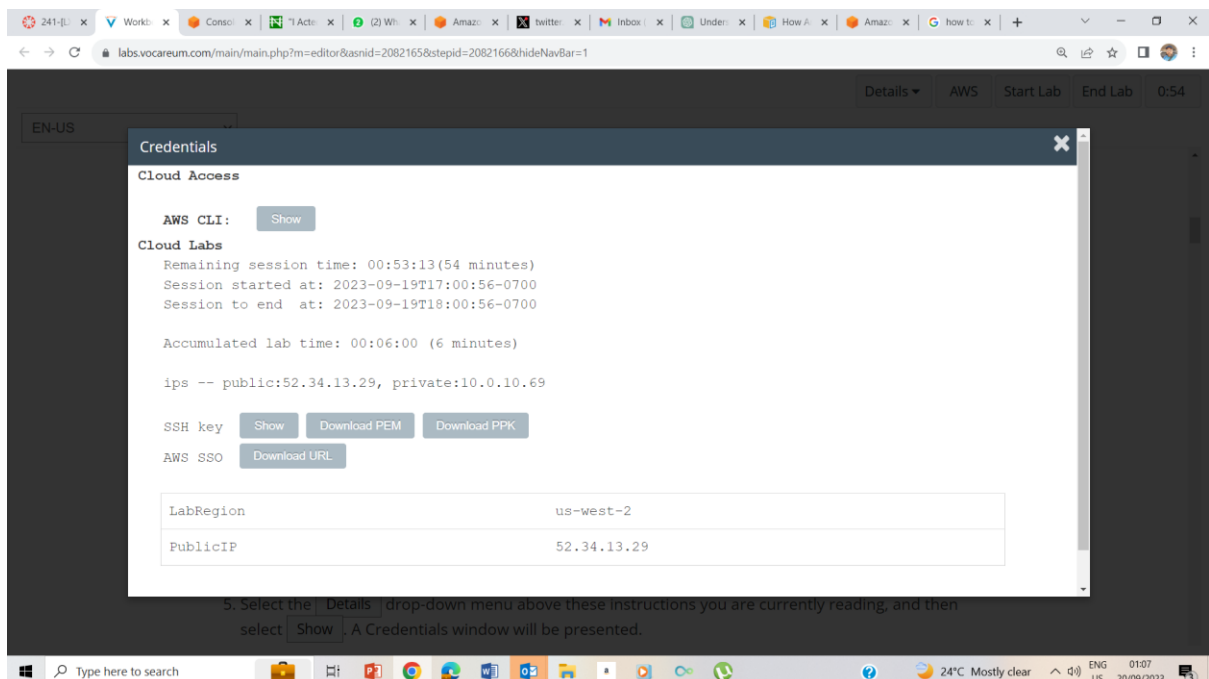




3-4. I clicked on AWS on the instruction page to take me to the AWS Management page

Task 1: Use SSH to connect to an Amazon Linux EC2 instance

Windows Users: Using SSH to Connect

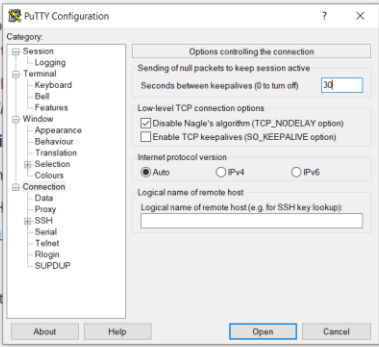


5-8. I clicked on the Details drop down box at the top of the Instruction page, and selected show. It brought out the credentials page, when I now clicked on Download PPK, and also made a note of the public IP address which is 52.34.13.29

EN-US

section.

5. Select the **Details** drop-down menu.
6. Select the **Download PuTTY** button. Typically your browser will download the file to your Downloads folder.
7. Make a note of the **Public DNS or IPv4 address** of the instance you made a note of earlier.
8. Then exit the Details panel by selecting the **X**.
9. Download **PuTTY** to SSH computer, [download it here](#).
10. Open **putty.exe**.
11. Configure PuTTY timeout options:
 - o Select **Connection**.
 - o Set **Seconds between keepalives** to **30**.
12. Configure your PuTTY session:
 - o Select **Session**.
 - o **Host Name (or IP address)**: Paste the **Public DNS or IPv4 address** of the instance you made a note of earlier.



Details ▾ AWS Start Lab End Lab 0:51

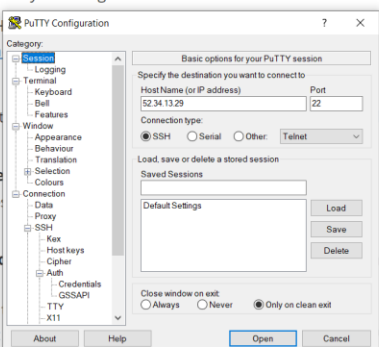
Type here to search

24°C Mostly clear 01:11 20/09/2023

9-11 Opened Putty file, from my downloads, ran the putty.exe file, and on the putty page, I clicked on connection and set the seconds between keepalives to be 30.

EN-US

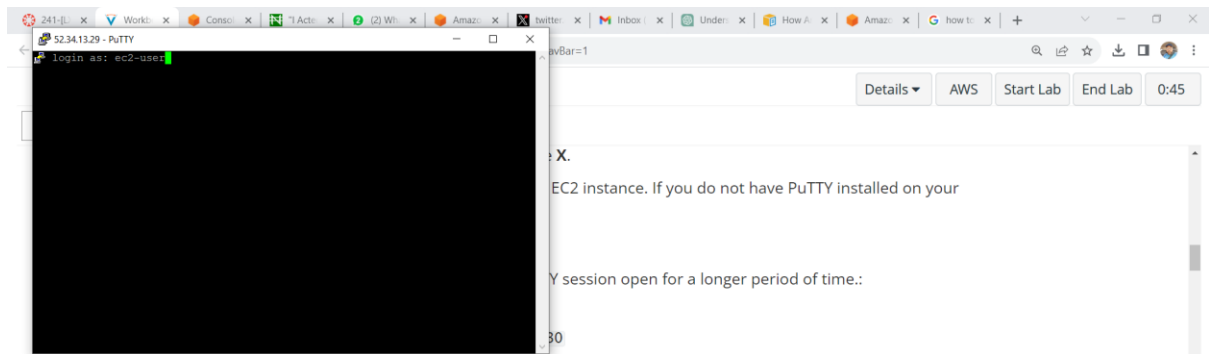
8. Then exit the Details panel by selecting the **X**.
9. Download **PuTTY** to SSH computer, [download it here](#).
10. Open **putty.exe**.
11. Configure PuTTY timeout options:
 - o Select **Connection**.
 - o Set **Seconds between keepalives** to **30**.
12. Configure your PuTTY session:
 - o Select **Session**.
 - o **Host Name (or IP address)**: Paste the **Public DNS or IPv4 address** of the instance you made a note of earlier.
 - o Alternatively, return to the **Connection** category and select **SSH**.
 - o Select **Auth** (don't expand it).
 - o Select **Browse**.
 - o Browse to and select the lab#.ppk file that you downloaded.
 - o Select **Open** to select it.



Details ▾ AWS Start Lab End Lab 0:47

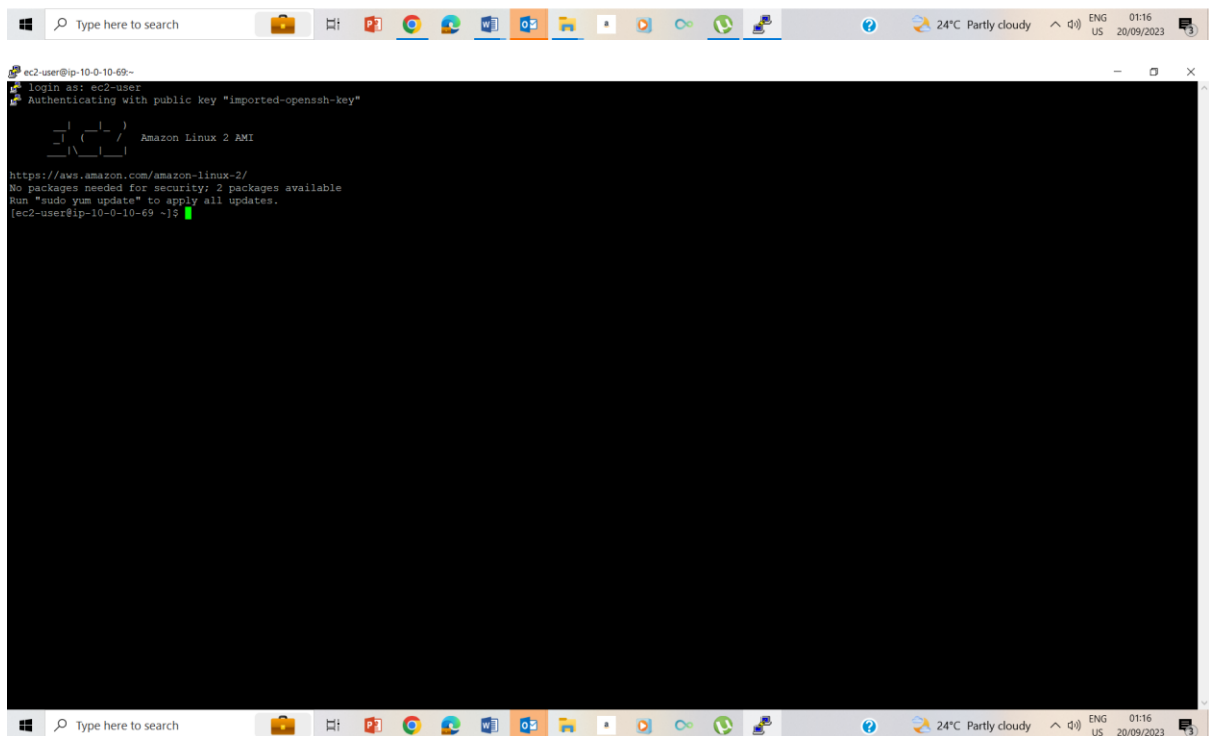
Type here to search

Record high 01:14 20/09/2023



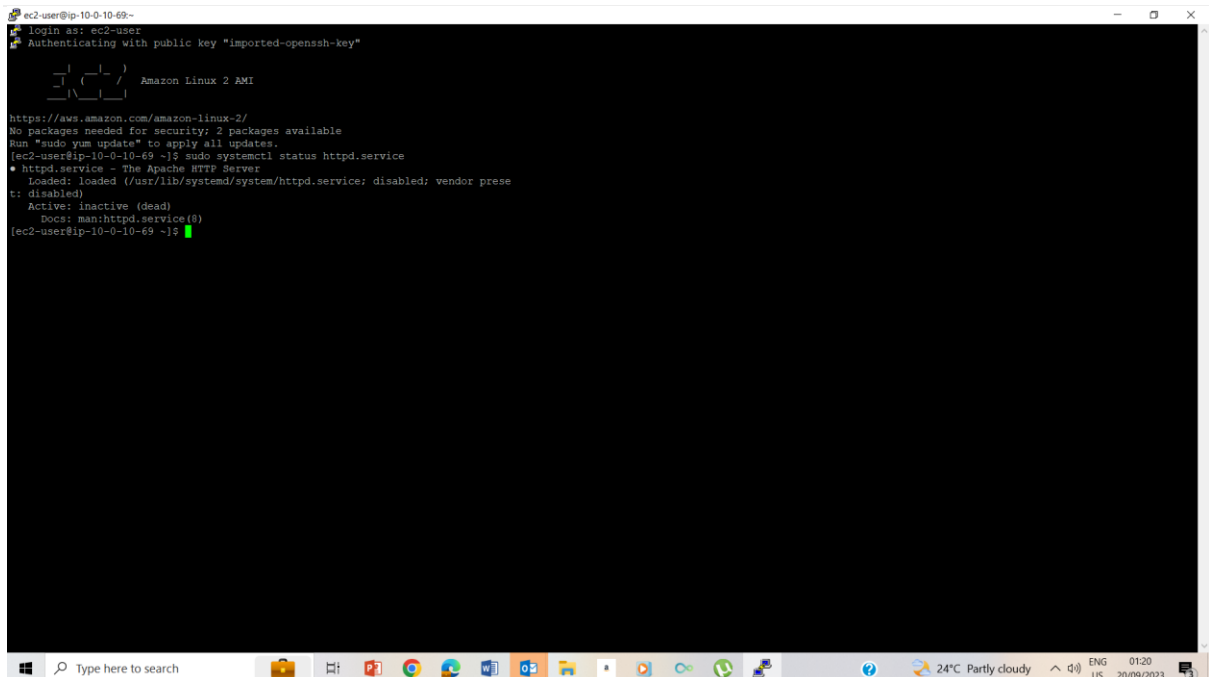
12. Configure your PuTTY session:

- Select **Session**
- **Host Name (or IP address):** Paste the **Public DNS or IPv4 address** of the instance you made a note of earlier.
Alternatively, return to the EC2 Console and select **Instances**. Check the box next to the instance you want to connect to and in the *Description* tab copy the **IPv4 Public IP** value.
- Back in PuTTY, in the **Connection** list, expand **SSH**
- Select **Auth** (*don't expand it*)
- Select **Browse**
- Browse to and select the lab#.ppk file that you downloaded
- Select **Open** to select it



12-15 I configured my putty file.

Task 2: Check the Status of the httpd Service



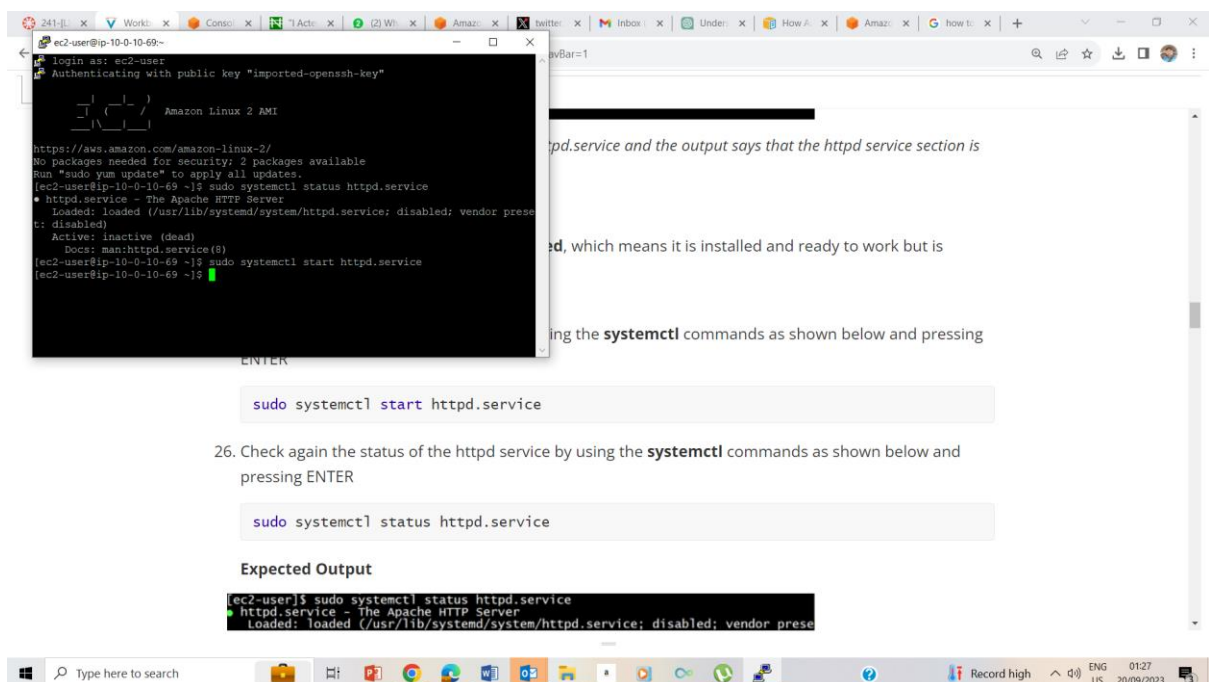
```
ec2-user@ip-10-0-10-69:~$ login as: ec2-user
Authenticating with public key "imported-openssh-key"

      _ _ _
     _/ _/ _/
    _/_/_/_/_/

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
No packages needed for security; 2 packages available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-10-0-10-69 ~]$ sudo systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
   Active: inactive (dead)
         Docs: man:httpd.service(8)
[ec2-user@ip-10-0-10-69 ~]$
```

24. Checked the status of the system using systemctl command



```
ec2-user@ip-10-0-10-69:~$ login as: ec2-user
Authenticating with public key "imported-openssh-key"

      _ _ _
     _/ _/ _/
    _/_/_/_/_/

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
No packages needed for security; 2 packages available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-10-0-10-69 ~]$ sudo systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
   Active: inactive (dead)
         Docs: man:httpd.service(8)
[ec2-user@ip-10-0-10-69 ~]$ sudo systemctl start httpd.service
[ec2-user@ip-10-0-10-69 ~]$
```

`sudo systemctl start httpd.service`

26. Check again the status of the httpd service by using the **systemctl** commands as shown below and pressing ENTER

`sudo systemctl status httpd.service`

Expected Output

```
[ec2-user]$ sudo systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
```

25, Starting the systemctl service using the start command

```
ec2-user@ip-10-0-10-69:~$ login as: ec2-user
* Authenticating with public key "imported-openssh-key"

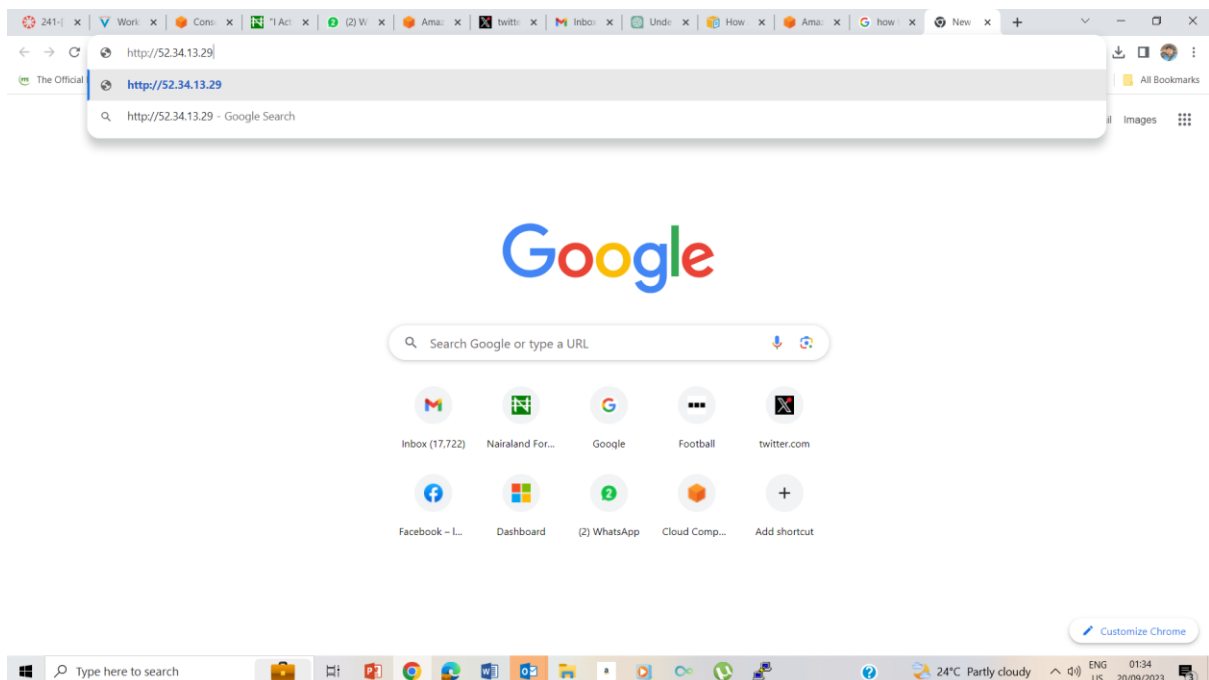
      _ _ _
     _(_)_/
    _(_)_/

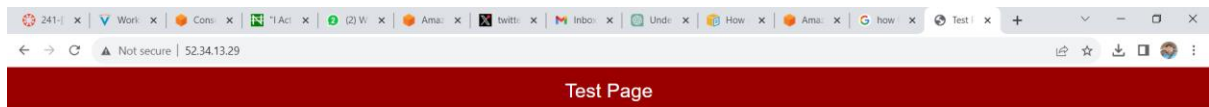
Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
No packages needed for security; 2 packages available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-10-0-10-69 ~]$ sudo systemctl status httpd.service
* httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
t: disabled)
   Active: inactive (dead)
     Docs: man:httpd.service(8)
[ec2-user@ip-10-0-10-69 ~]$ sudo systemctl start httpd.service
[ec2-user@ip-10-0-10-69 ~]$ sudo systemctl status httpd.service
* httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
t: disabled)
   Active: active (running) since Wed 2023-09-20 00:27:51 UTC; 2min 42s ago
     Docs: man:httpd.service(8)
   Main PID: 2605 (httpd)
   Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes se
rved/sec: 0 B/sec"
   CGroup: /system.slice/httpd.service
           └─2605 /usr/sbin/httpd -DFOREGROUND
             └─2606 /usr/sbin/httpd -DFOREGROUND
               └─2608 /usr/sbin/httpd -DFOREGROUND
                 └─2612 /usr/sbin/httpd -DFOREGROUND
                   └─2615 /usr/sbin/httpd -DFOREGROUND
                     └─2620 /usr/sbin/httpd -DFOREGROUND

Sep 20 00:27:51 ip-10-0-10-69.us-west-2.compute.internal systemd[1]: Starting...
Sep 20 00:27:51 ip-10-0-10-69.us-west-2.compute.internal systemd[1]: Started ...
Hint: Some lines were ellipsized, use -l to show in full.
[ec2-user@ip-10-0-10-69 ~]$
```

26. Checking the status of the system using the status command. i.e. `sudo systemctl status httpd.service`





This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting www.example.com, you should send e-mail to "webmaster@example.com".

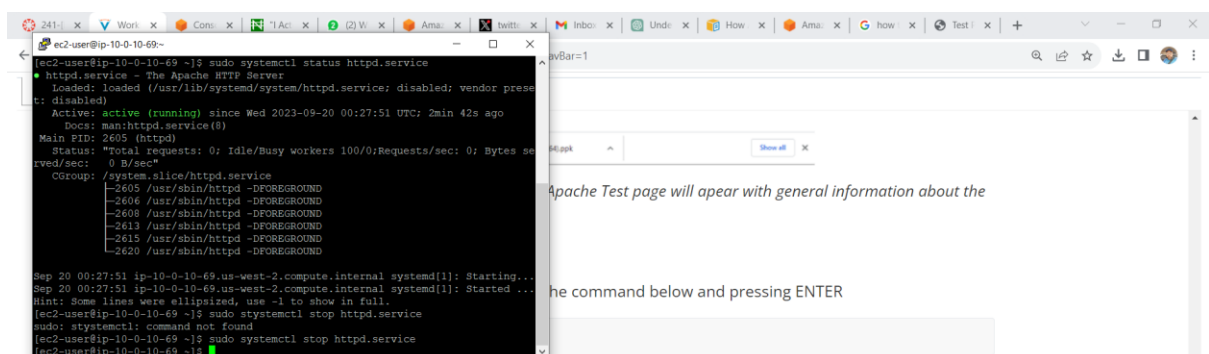
If you are the website administrator:

You may now add content to the directory `/var/www/html/`. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file `/etc/httpd/conf.d/welcome.conf`.

You are free to use the image below on web sites powered by the Apache HTTP Server:



27. Tested the functionality of the `httpd` command ie working correctly by opening a new tab on my browser and running the public ip address that I noted earlier.



Task 3: Monitoring a Linux EC2 instance

In this exercise you will use Linux commands to monitor the Amazon Linux2 EC2 instance. You will also open the AWS Console and log into CloudWatch to see how this service can provide you with data to monitor your instance.

Helpful Hint

You may have to use `sudo` to complete this exercise if you are not root.



28. Stopped running the `httpd` service by using the stop command. Ie `sudo systemctl stop httpd.service`

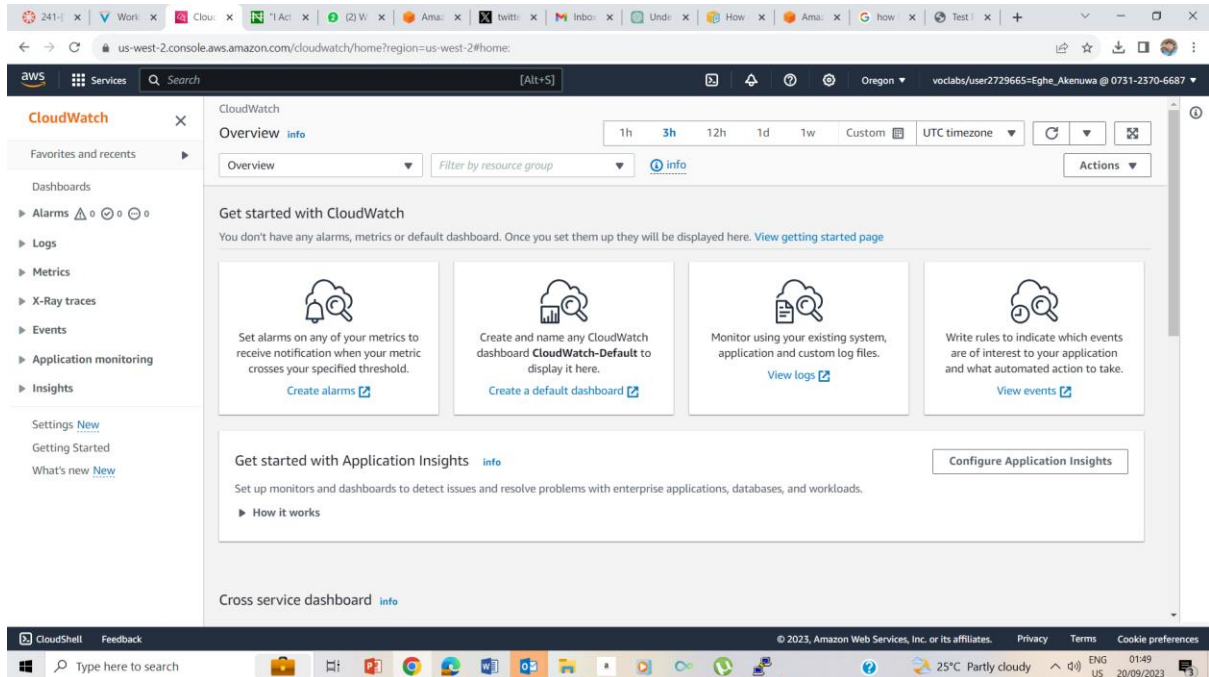
Task 3: Monitoring a Linux EC2 instance


```
ec2-user@ip-10-0-10-69~  
top - 00:40:33 up 38 min, 1 user, load average: 0.00, 0.01, 0.00  
Tasks: 87 total, 1 running, 47 sleeping, 0 stopped, 0 zombie  
%cpu(s): 0.0 us, 0.2 sy, 0.0 ni, 99.7 id, 0.0 wa, 0.0 hi, 0.0 si, 0.2 st  
KiB Mem : 966816 total, 425208 free, 76492 used, 465116 buff/cache  
KiB Swap: 0 total, 0 free, 0 used, 748020 avail Mem  
  
PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND  
200 root 20 0 212048 5292 3748 S 0.3 0.5 0:00.21 rsyslogd  
2231 root 20 0 717092 17260 9680 S 0.3 1.8 0:00.42 amazon-ssm+  
1 root 20 0 123616 5484 3872 S 0.0 0.6 0:01.35 systemd  
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd  
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:++  
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_percpu_wq  
7 root 20 0 0 0 0 S 0.0 0.0 0:00.02 ksoftirqd/0  
8 root 20 0 0 0 0 I 0.0 0.0 0:00.08 rcu_sched  
9 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_bh  
10 root rt 0 0 0 S 0.0 0.0 0:00.00 migration/0  
11 root rt 0 0 0 S 0.0 0.0 0:00.00 watchdog/0  
12 root 20 0 0 0 0 S 0.0 0.0 0:00.00 cpuhp/0  
13 root 20 0 0 0 0 S 0.0 0.0 0:00.01 cpuhp/1  
14 root rt 0 0 0 S 0.0 0.0 0:00.00 watchdog/1  
15 root rt 0 0 0 S 0.0 0.0 0:00.21 migration/1  
16 root 20 0 0 0 0 S 0.0 0.0 0:00.02 ksoftirqd/1  
18 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/1:+
```

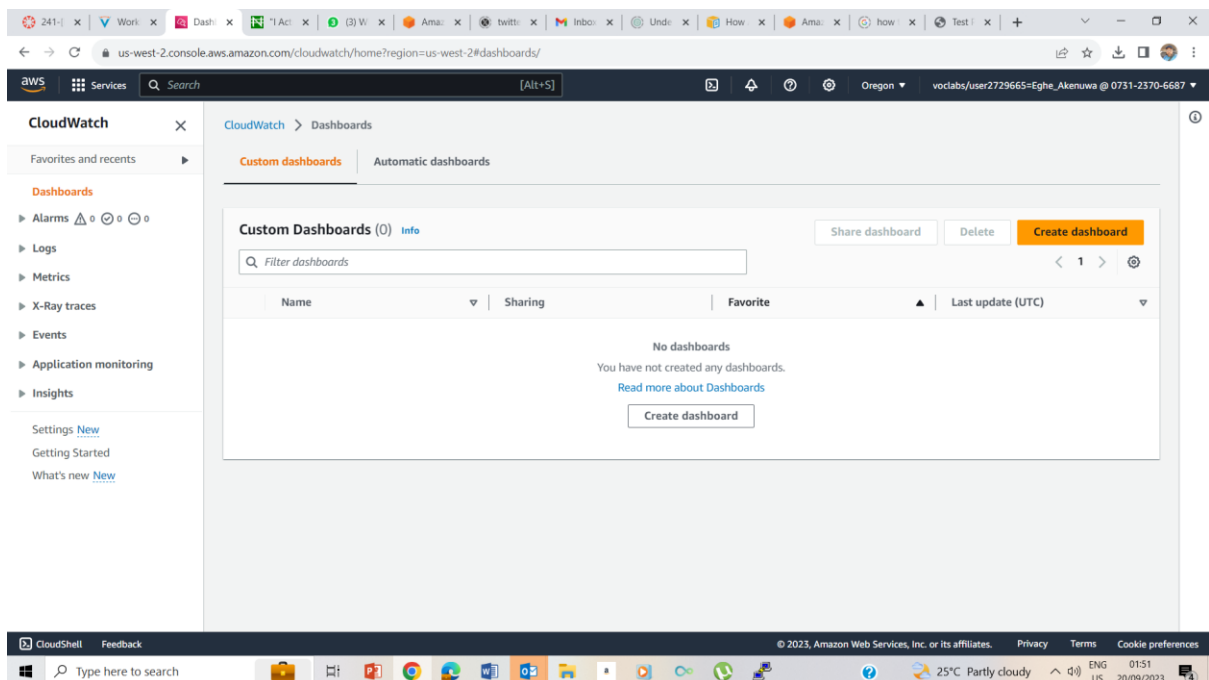
29. list the processes running using the top command. I later hit q to exit

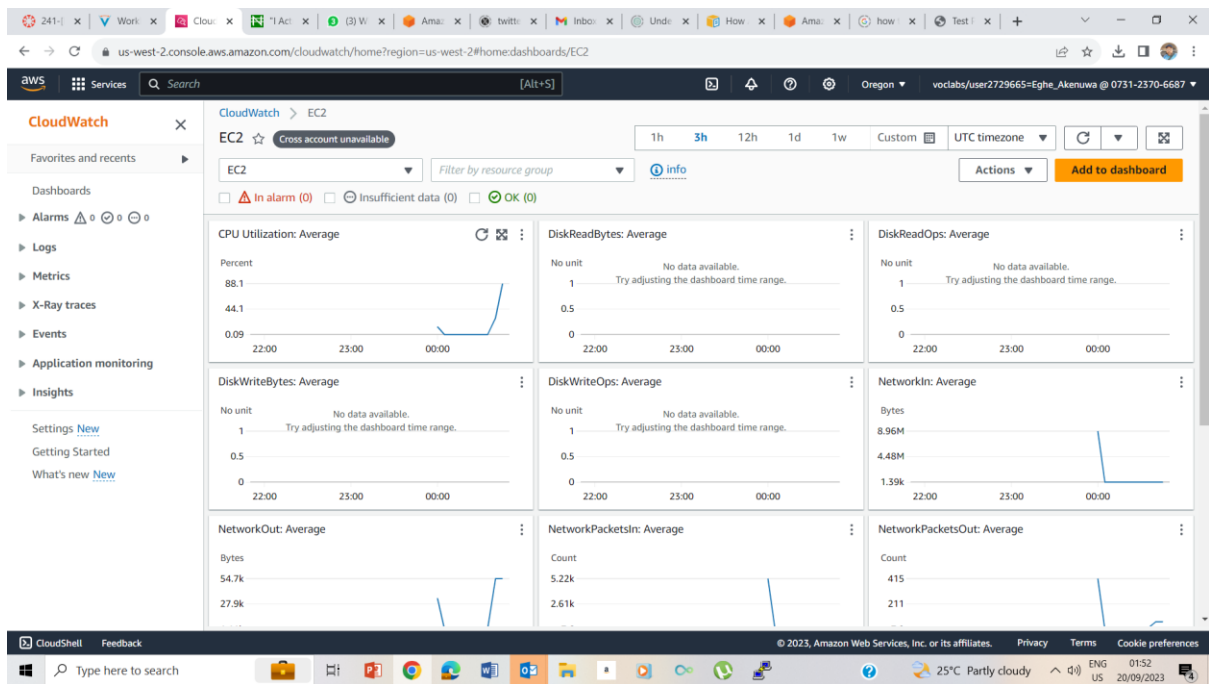
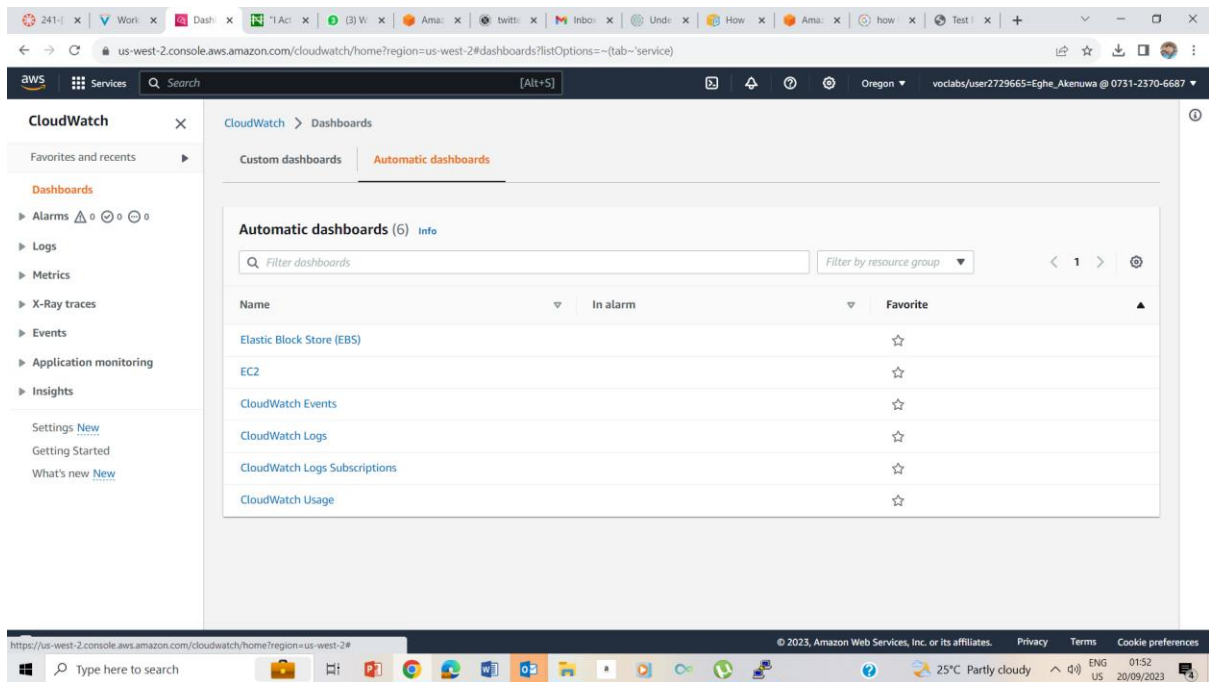
```
ec2-user@ip-10-0-10-69~  
top - 00:42:51 up 40 min, 1 user, load average: 2.15, 0.46, 0.15  
Tasks: 104 total, 16 running, 48 sleeping, 0 stopped, 0 zombie  
%cpu(s): 56.7 us, 35.1 sy, 0.0 ni, 0.0 id, 0.0 wa, 0.0 hi, 0.0 si, 8.2 st  
KiB Mem : 966816 total, 375708 free, 125984 used, 465124 buff/cache  
KiB Swap: 0 total, 0 free, 0 used, 698536 avail Mem  
  
PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND  
2747 ec2-user 20 0 138656 22012 272 R 13.6 2.3 0:00.80 stress  
2748 ec2-user 20 0 7580 96 R 13.3 0.0 0:00.80 stress  
2750 ec2-user 20 0 138656 25444 272 R 13.3 2.6 0:00.80 stress  
2753 ec2-user 20 0 7580 96 R 13.3 0.0 0:00.80 stress  
2756 ec2-user 20 0 7580 96 R 13.3 0.0 0:00.80 stress  
2757 ec2-user 20 0 7580 96 R 13.3 0.0 0:00.80 stress  
2758 ec2-user 20 0 7580 96 R 13.3 0.0 0:00.80 stress  
2745 ec2-user 20 0 7580 96 R 13.0 0.0 0:00.79 stress  
2746 ec2-user 20 0 7580 96 R 13.0 0.0 0:00.79 stress  
2749 ec2-user 20 0 7580 96 R 13.0 0.0 0:00.79 stress  
2751 ec2-user 20 0 7580 96 R 13.0 0.0 0:00.79 stress  
2754 ec2-user 20 0 7580 96 R 13.0 0.0 0:00.79 stress  
2755 ec2-user 20 0 7580 96 R 13.0 0.0 0:00.79 stress  
2752 ec2-user 20 0 7580 96 R 12.6 0.0 0:00.79 stress  
2743 ec2-user 20 0 168912 4396 3756 R 0.3 0.5 0:00.01 top  
1 root 20 0 123616 5484 3872 S 0.0 0.6 0:01.35 systemd  
2 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kthreadd  
4 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0H  
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_percpu_wq  
7 root 20 0 0 0 0 S 0.0 0.0 0:00.02 ksoftirqd/0  
8 root 20 0 0 0 0 I 0.0 0.0 0:00.08 rcu_sched  
9 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_bh  
10 root rt 0 0 0 S 0.0 0.0 0:00.00 migration/0  
11 root rt 0 0 0 S 0.0 0.0 0:00.00 watchdog/0  
12 root 20 0 0 0 0 S 0.0 0.0 0:00.00 cpuhp/0  
13 root 20 0 0 0 0 S 0.0 0.0 0:00.01 cpuhp/1  
14 root rt 0 0 0 S 0.0 0.0 0:00.00 watchdog/1  
15 root rt 0 0 0 S 0.0 0.0 0:00.21 migration/1  
16 root 20 0 0 0 0 S 0.0 0.0 0:00.02 ksoftirqd/1  
18 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/1:0H  
20 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kdevtmpfs  
21 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 netns  
22 root 20 0 0 0 0 I 0.0 0.0 0:00.10 kworker/u4:1  
123 root 20 0 0 0 0 S 0.0 0.0 0:00.00 khungtaskd  
158 root 20 0 0 0 0 S 0.0 0.0 0:00.00 oom_reaper  
203 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 writaback  
205 root 20 0 0 0 0 S 0.0 0.0 0:00.00 kcompactd0  
206 root 25 5 0 0 0 S 0.0 0.0 0:00.00 ksmd  
207 root 39 19 0 0 0 S 0.0 0.0 0:00.00 khugepaged  
208 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 crngd  
209 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kintegrityd  
210 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kblockd  
317 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 md
```

30. ran the ./stress.sh & top command

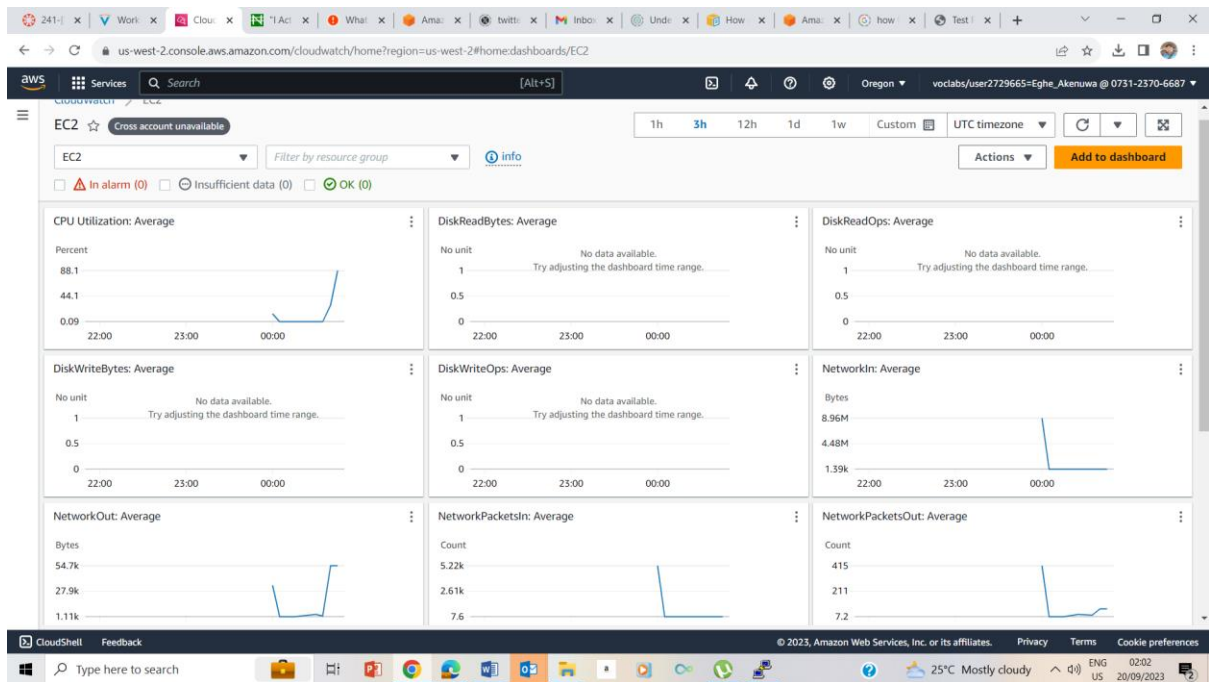


31-33 Clicked on the AWS console at the top of the instruction page to open a new AWS management console. I now searched for the CloudWatch to take me to CloudWatch page.





34. At the top of the CloudWatch page, I selected Dashboard, the Automatic Dashboard, and finally EC2



35 Average CPU Utilization page

Lab Complete

Are you sure you want to end the lab?

Yes No

Lab Complete 🎓

🎉 Congratulations! You have completed the lab.

36. Select **End Lab** at the top of this page and then select **Yes** to confirm that you want to end the lab. A panel will appear, indicating that "DELETE has been initiated... You may close this message box now."

37. Select the **X** in the top right corner to close the panel.

About the AWS component:

Amazon EC2 provides a wide selection of *instance types* optimized to fit different use cases. Instance types comprise varying combinations of CPU, memory, storage, and networking capacity and give you the flexibility to choose the appropriate mix of resources for your applications. Each instance type includes one or more *instance sizes*, allowing you to scale your resources to the requirements of your target workload.

