Cycle 08 AWS Homework

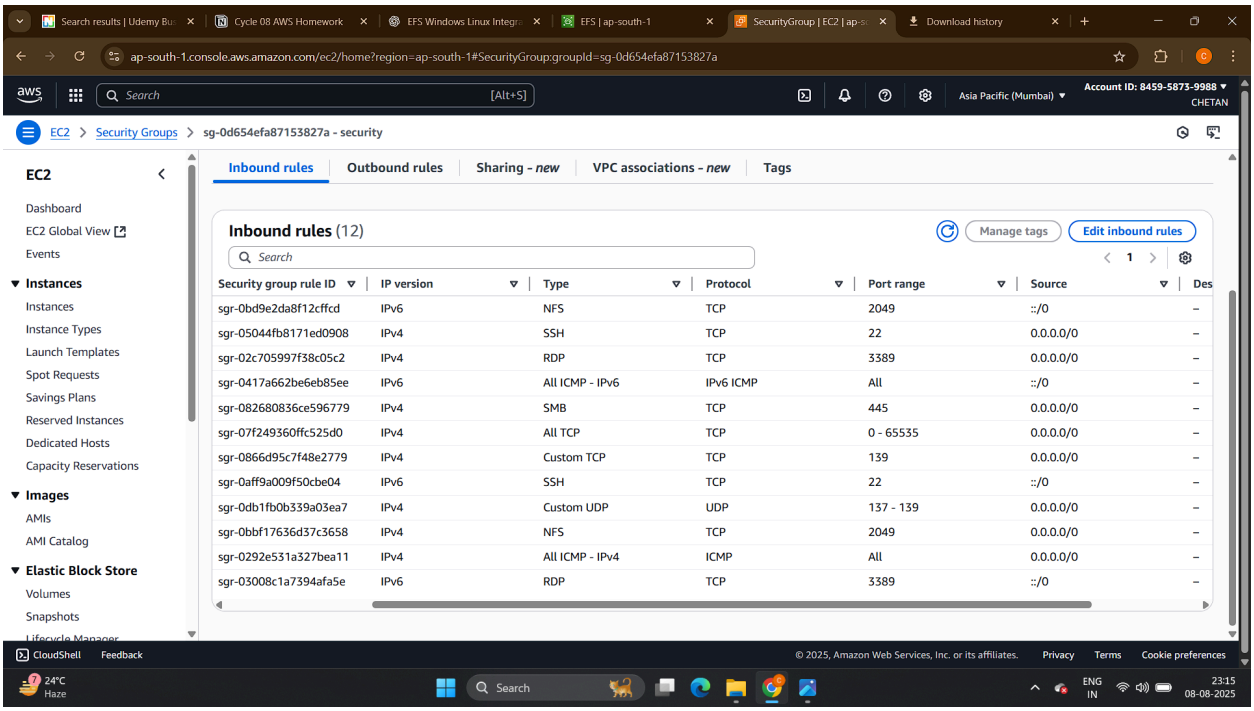
EFS with Windows and Linux Integration - Notes

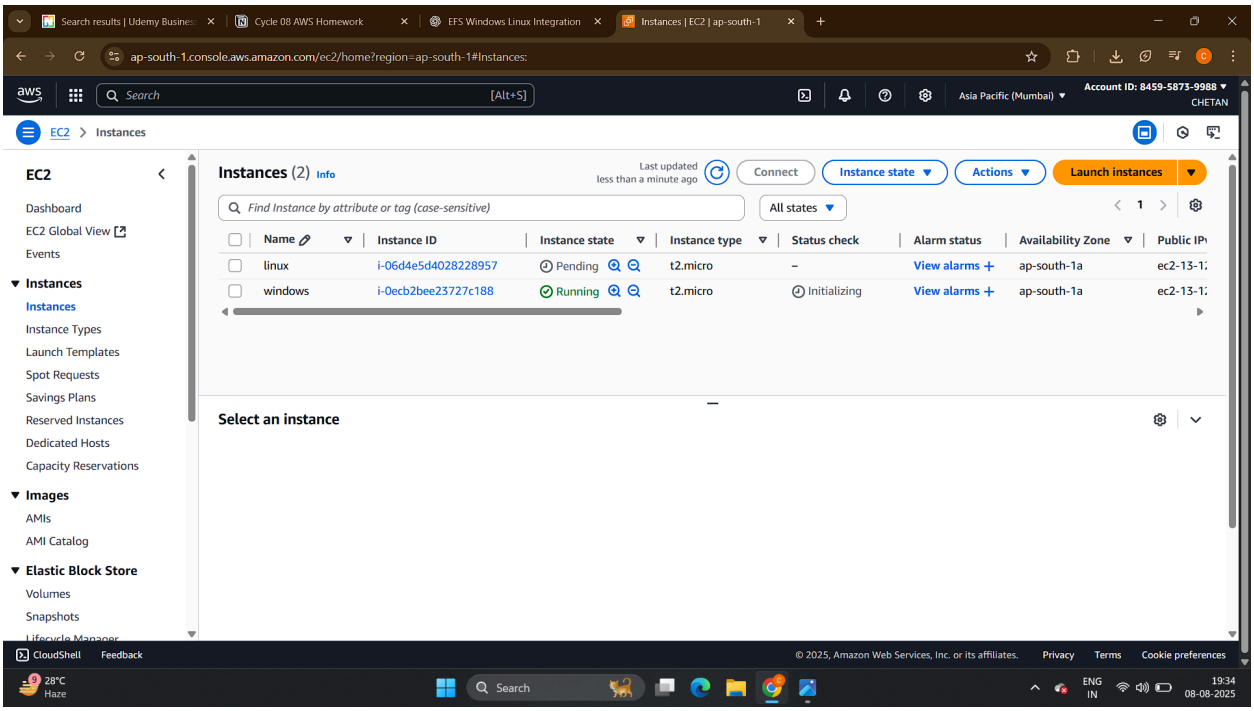
1. Primary Task: EFS + Cross-Platform Integration

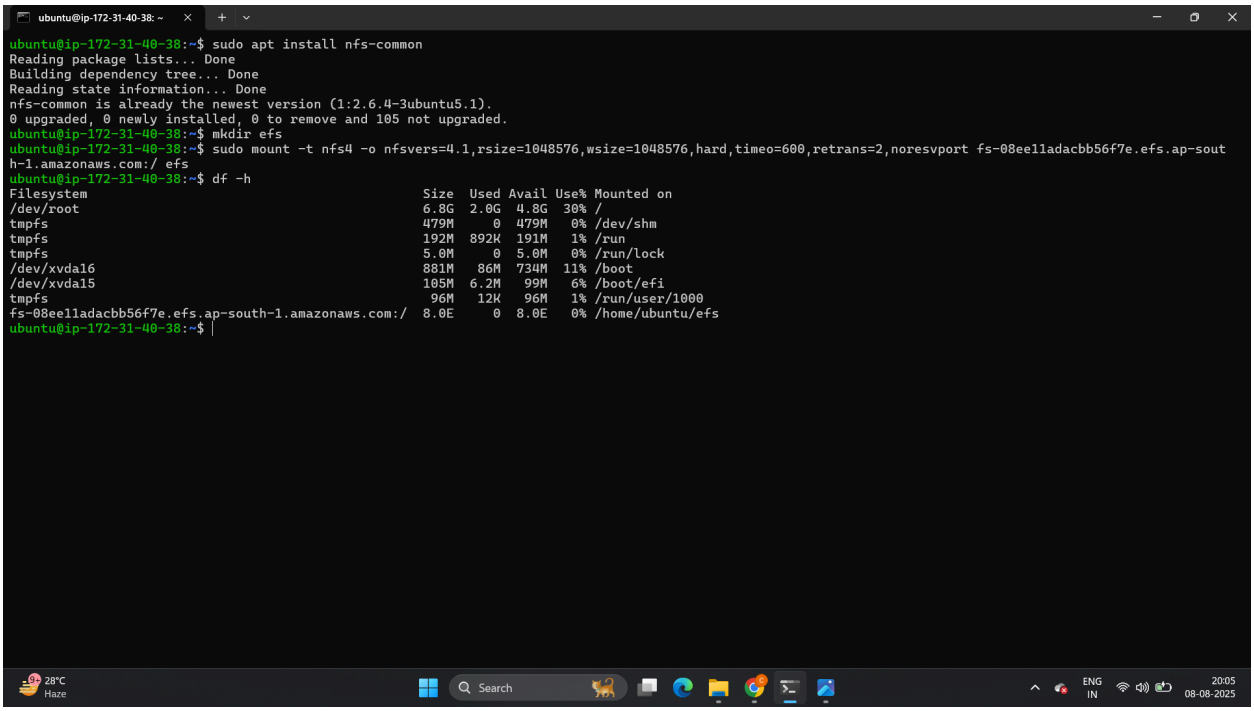
🎯 Objective

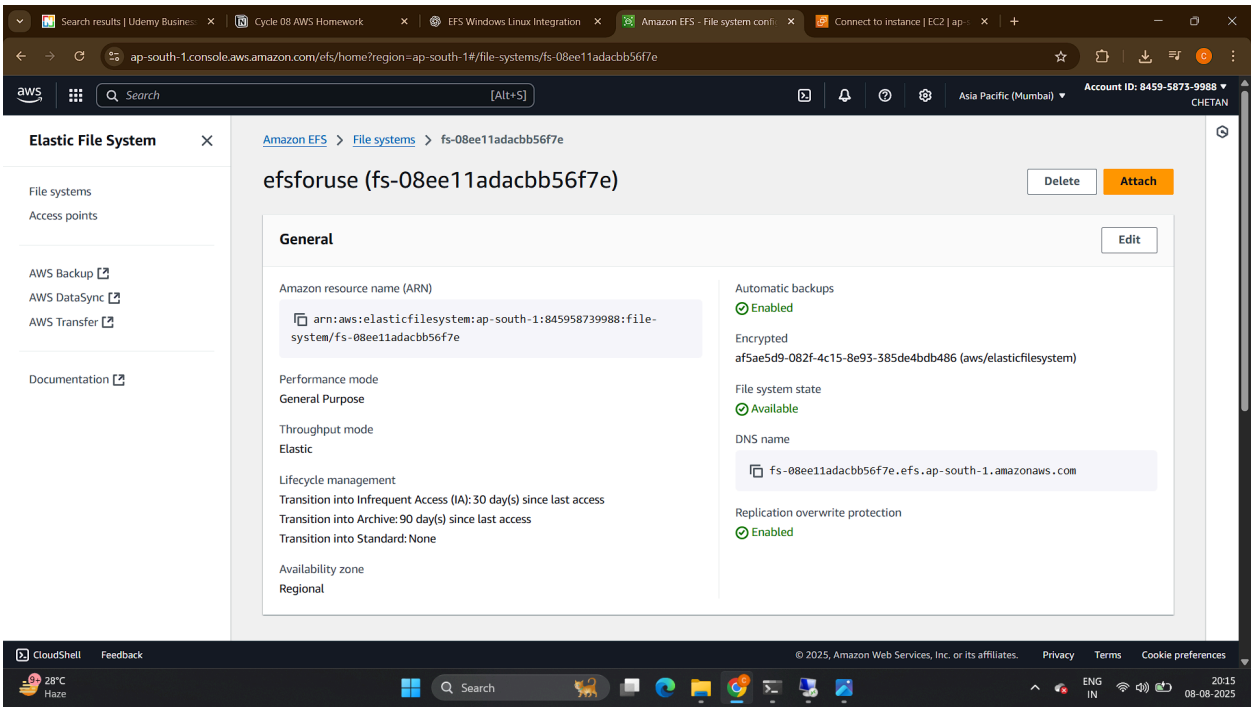
- Launch 3 EC2 instances:
  - **2 Windows Server 2025 (T3.micro)**
  - **1 Ubuntu Linux EC2**
- Deploy and configure **Amazon EFS**
- Allow **NFSv4** traffic only via Security Group
- Mount EFS on all instances:
  - On **Windows**: Install NFS client and mount as `Z:\`
  - On **Linux**: Use `nfs-common` to mount
- Verify shared access across all three instances

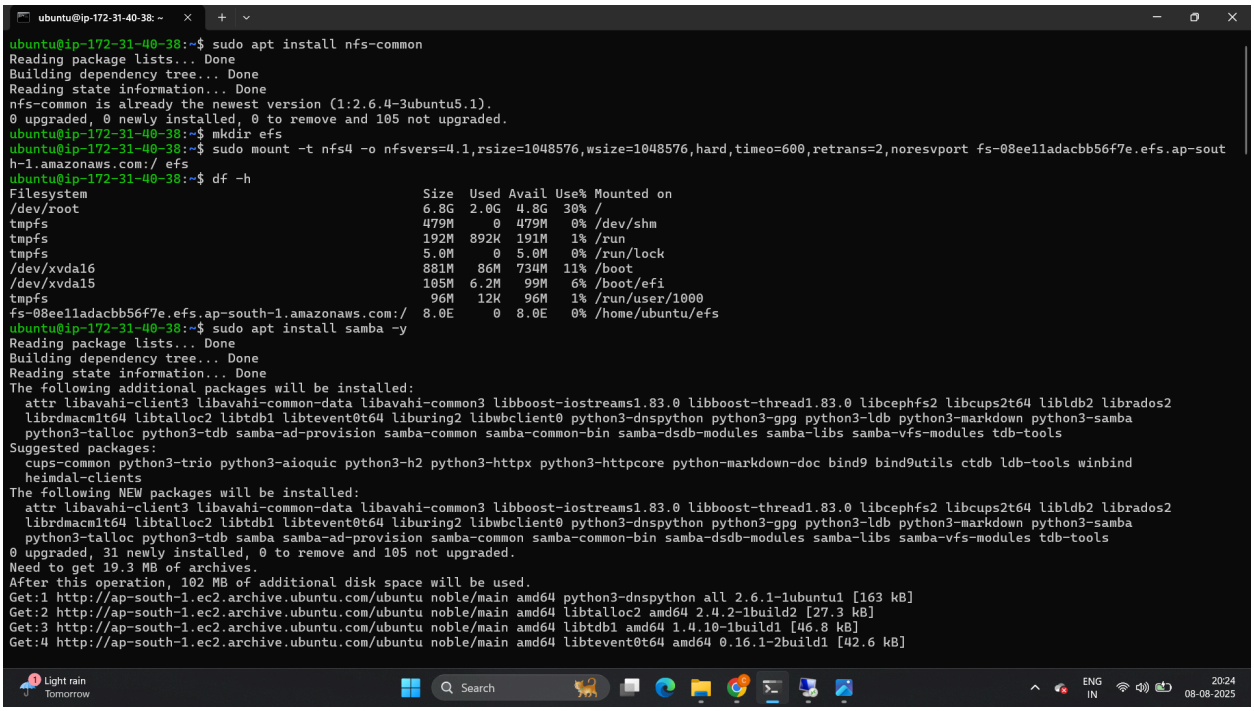
🛠️ Steps Summary


ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#SecurityGroup:groupId=sg-0d654efa87153827a
EC2 > Security Groups > sg-0d654efa87153827a - security
Inbound rules
Outbound rules
Sharing - new
VPC associations - new
Tags
Inbound rules (12)
Manage tags
Edit inbound rules
Security group rule ID | IP version | Type | Protocol | Port range | Source
sgr-0bd9e2da8f12cffcd | IPv6 | NFS | TCP | 2049 | ::/0
sgr-05044fb8171ed0908 | IPv4 | SSH | TCP | 22 | 0.0.0.0/0
sgr-02c705997f38c05c2 | IPv4 | RDP | TCP | 3389 | 0.0.0.0/0
sgr-0417a662be6eb85ee | IPv6 | All ICMP - IPv6 | IPv6 ICMP | All | ::/0
sgr-082680836ce596779 | IPv4 | SMB | TCP | 445 | 0.0.0.0/0
sgr-07f249360ffc525d0 | IPv4 | All TCP | TCP | 0 - 65535 | 0.0.0.0/0
sgr-0866d95c7f48e2779 | IPv4 | Custom TCP | TCP | 139 | 0.0.0.0/0
sgr-0aff9a009f50cbe04 | IPv6 | SSH | TCP | 22 | ::/0
sgr-0db1fb0b339a03ea7 | IPv4 | Custom UDP | UDP | 137 - 139 | 0.0.0.0/0
sgr-0bbf17636d37c3658 | IPv4 | NFS | TCP | 2049 | 0.0.0.0/0
sgr-0292e531a327bea11 | IPv4 | All ICMP - IPv4 | ICMP | All | 0.0.0.0/0
sgr-03008c1a7394afa5e | IPv6 | RDP | TCP | 3389 | ::/0


ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#Instances:
EC2 > Instances
Instances (2) Info
Last updated less than a minute ago
Connect
Instance state
Actions
Launch instances
Name | Instance ID | Instance state | Instance type | Status check | Alarm status | Availability Zone
linux | i-06d4e5d4028228957 | Pending | t2.micro | – | View alarms | ap-south-1a
windows | i-0ecb2bee23727c188 | Running | t2.micro | Initializing | View alarms | ap-south-1a
Select an instance


ubuntu@ip-172-31-40-38: ~
ubuntu@ip-172-31-40-38:~$ sudo apt install nfs-common
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
nfs-common is already the newest version (1:2.6.4-3ubuntu5.1).
0 upgraded, 0 newly installed, 0 to remove and 105 not upgraded.
ubuntu@ip-172-31-40-38:~$ mkdir efs
ubuntu@ip-172-31-40-38:~$ sudo mount -t nfs4 -o nfsvers=4.1,rsize=1048576,wsize=1048576,hard,timeo=600,retrans=2,noresvport fs-08ee11adacbb56f7e.efs.ap-sout
h-1.amazonaws.com:/ efs
ubuntu@ip-172-31-40-38:~$ df -h
Filesystem Size Used Avail Use% Mounted on
/dev/root 6.8G 2.0G 4.8G 30% /
tmpfs 479M 0 479M 0% /dev/shm
tmpfs 192M 892K 191M 1% /run
tmpfs 5.0M 0 5.0M 0% /run/lock
/dev/xvda16 881M 86M 734M 11% /boot
/dev/xvda15 105M 6.2M 99M 6% /boot/efi
tmpfs 96M 12K 96M 1% /run/user/1000
fs-08ee11adacbb56f7e.efs.ap-south-1.amazonaws.com:/ 8.0E 0 8.0E 0% /home/ubuntu/efs
ubuntu@ip-172-31-40-38:~$
28°C
Haze
Search
ENG
IN
20:05
08-08-2025


Search results | Udemy Busines
Cycle 08 AWS Homework
EFS Windows Linux Integration
Amazon EFS - File system confi
Connect to instance | EC2 | ap-s
ap-south-1.console.aws.amazon.com/efs/home?region=ap-south-1#/file-systems/fs-08ee11adacbb56f7e
Search [Alt+S]
Asia Pacific (Mumbai)
Account ID: 8459-5873-9988
CHETAN
Elastic File System
File systems
Access points
AWS Backup
AWS DataSync
AWS Transfer
Documentation
Amazon EFS > File systems > fs-08ee11adacbb56f7e
efsforuse (fs-08ee11adacbb56f7e)
Delete
Attach
General
Edit
Amazon resource name (ARN)
arn:aws:elasticfilesystem:ap-south-1:845958739988:file-system/fs-08ee11adacbb56f7e
Performance mode
General Purpose
Throughput mode
Elastic
Lifecycle management
Transition into Infrequent Access (IA): 30 day(s) since last access
Transition into Archive: 90 day(s) since last access
Transition into Standard: None
Availability zone
Regional
Automatic backups
Enabled
Encrypted
af5ae5d9-082f-4c15-8e93-385de4bdb486 (aws/elasticfilesystem)
File system state
Available
DNS name
fs-08ee11adacbb56f7e.efs.ap-south-1.amazonaws.com
Replication overwrite protection
Enabled
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
28°C
Haze
Search
ENG
IN
20:15
08-08-2025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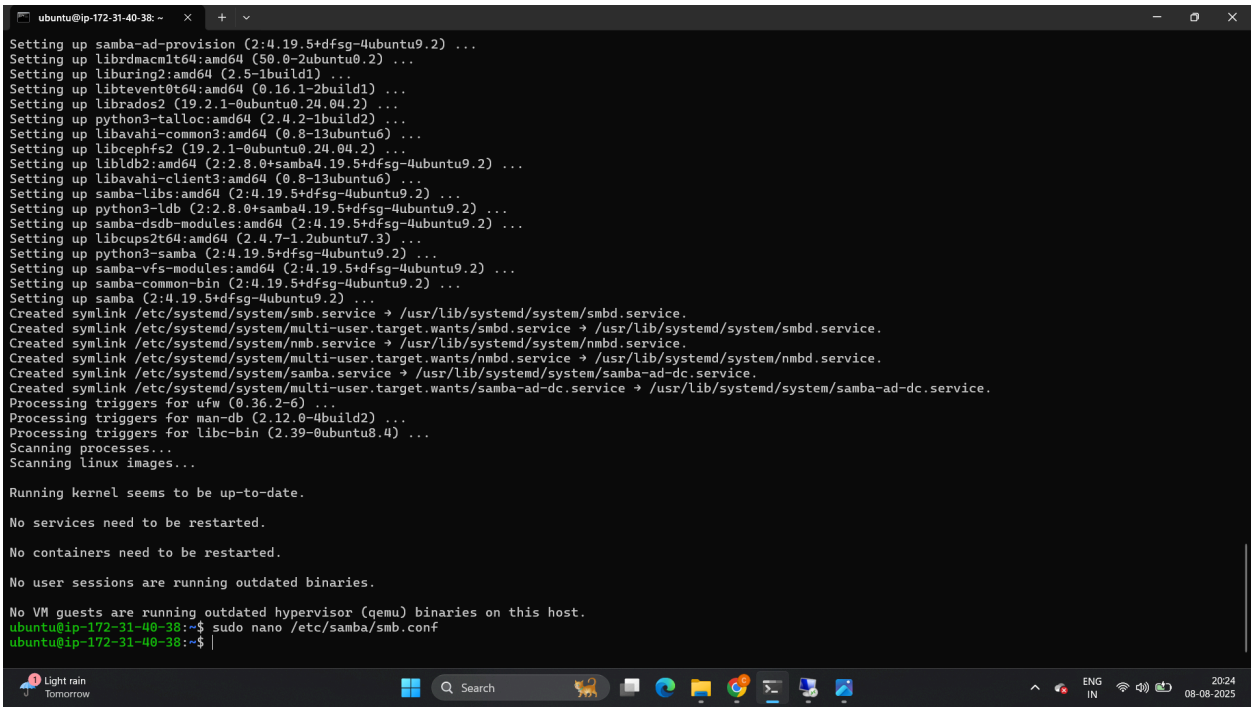
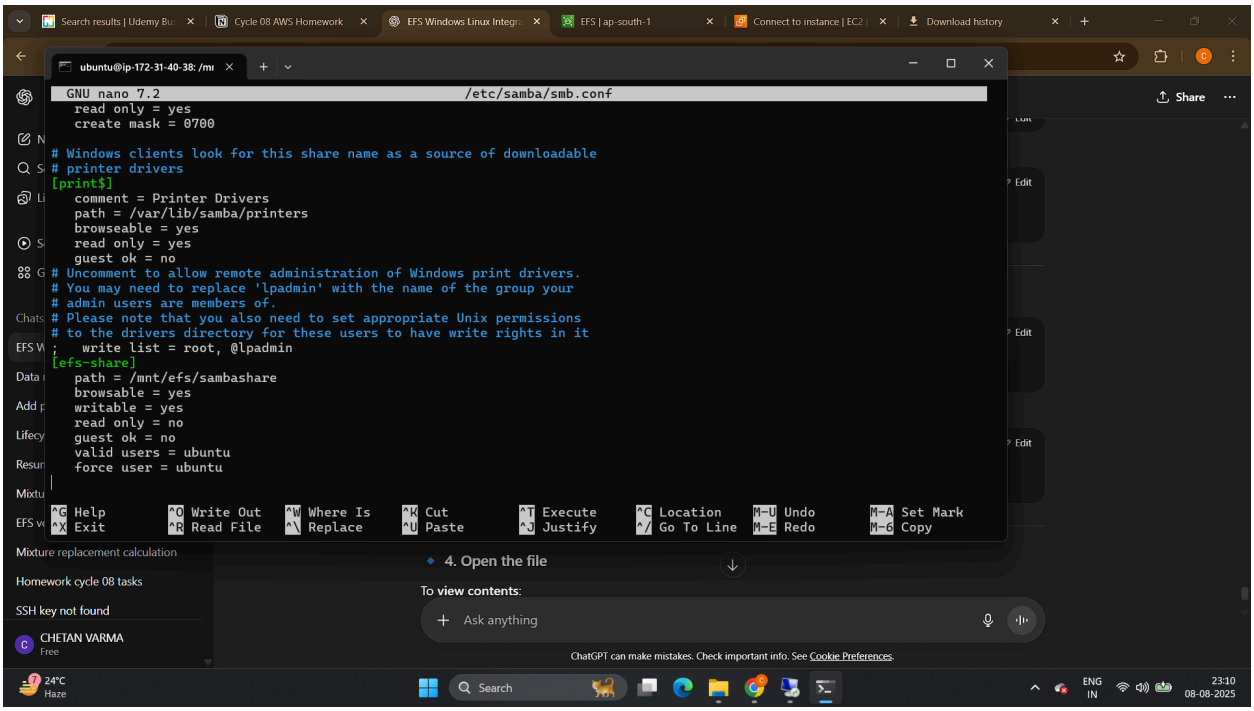
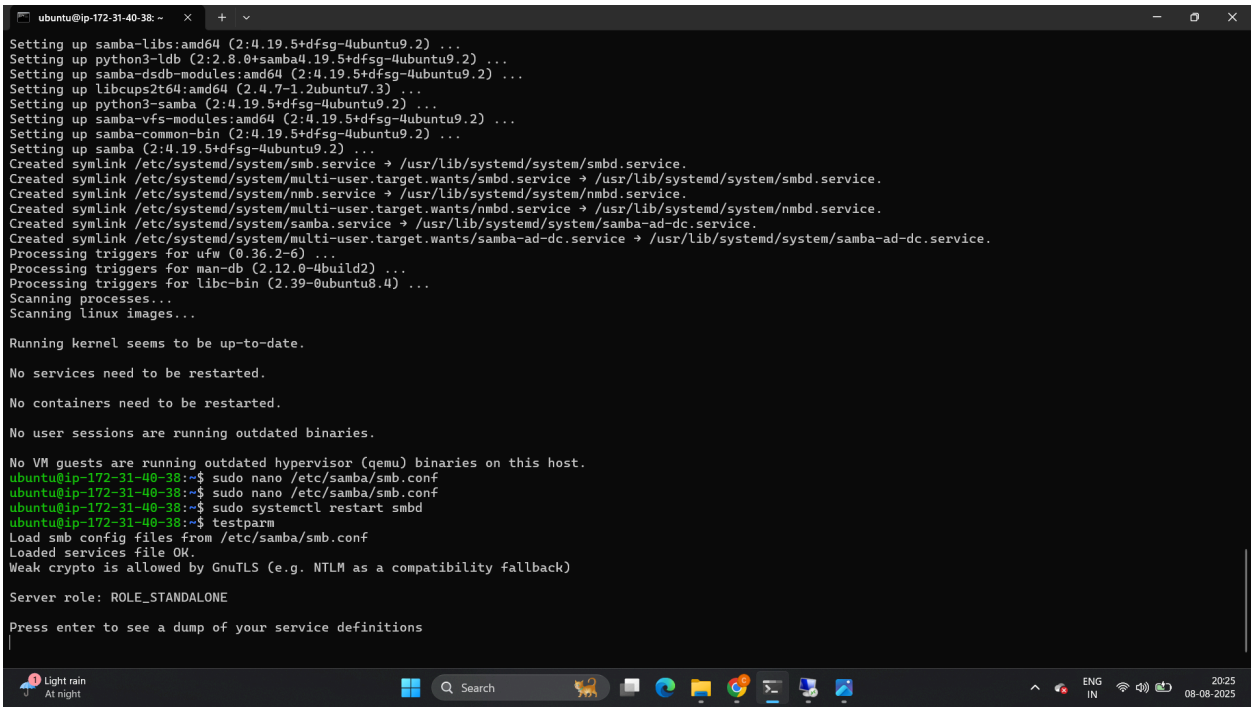
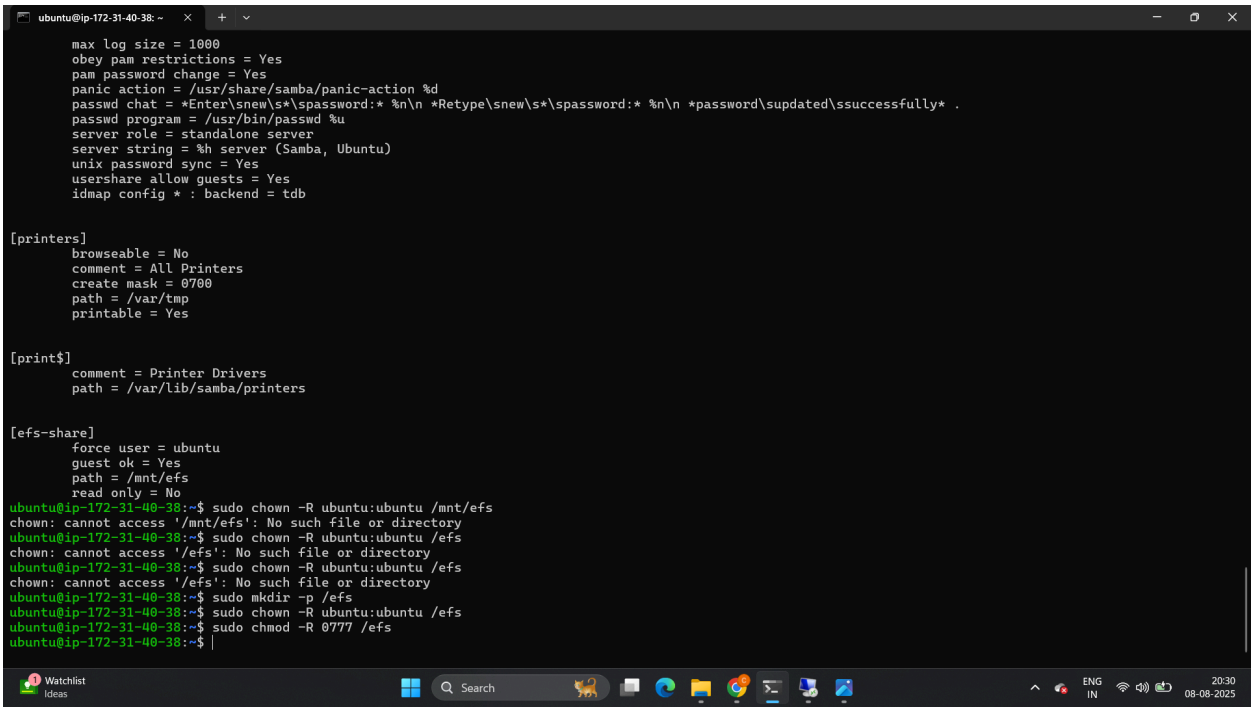
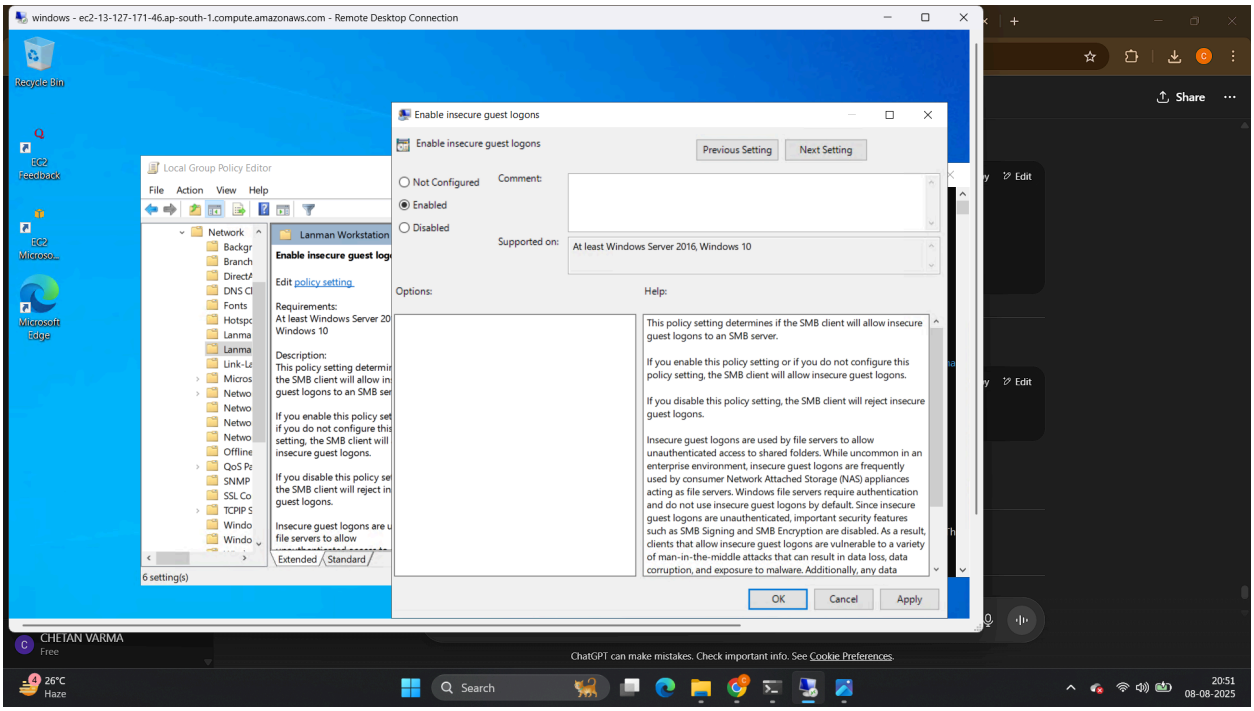
ubuntu@ip-172-31-40-38:~$ df -h
Filesystem Size Used Avail Use% Mounted on
/dev/root 6.8G 2.0G 4.8G 30% /
tmpfs 479M 0 479M 0% /dev/shm
tmpfs 192M 892K 191M 1% /run
tmpfs 5.0M 0 5.0M 0% /run/lock
/dev/xvda16 881M 86M 734M 11% /boot
/dev/xvda15 105M 6.2M 99M 6% /boot/efi
tmpfs 96M 12K 96M 1% /run/user/1000
fs-08ee11adacbb56f7e.efs.ap-south-1.amazonaws.com:/ 8.0E 0 8.0E 0% /home/ubuntu/efs
ubuntu@ip-172-31-40-38:~$ sudo apt install samba -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
attr libavahi-client3 libavahi-common-data libavahi-common3 libboost-iostreams1.83.0 libboost-thread1.83.0 libcephfs2 libcups2t64 libldb2 librados2
librdmacm1t64 libtalloc2 libtdb1 libtevent0t64 liburing2 libwbclient0 python3-dnspython python3-gpg python3-ldb python3-markdown python3-samba
python3-talloc python3-tdb samba-ad-provision samba-common samba-common-bin samba-dsdb-modules samba-libs samba-vfs-modules tdb-tools
Suggested packages:
cups-common python3-trio python3-aioquic python3-h2 python3-httpx python3-httpcore python-markdown-doc bind9 bind9utils ctdb ldb-tools winbind
heimdal-clients
The following NEW packages will be installed:
attr libavahi-client3 libavahi-common-data libavahi-common3 libboost-iostreams1.83.0 libboost-thread1.83.0 libcephfs2 libcups2t64 libldb2 librados2
librdmacm1t64 libtalloc2 libtdb1 libtevent0t64 liburing2 libwbclient0 python3-dnspython python3-gpg python3-ldb python3-markdown python3-samba
python3-talloc python3-tdb samba samba-ad-provision samba-common samba-common-bin samba-dsdb-modules samba-libs samba-vfs-modules tdb-tools
0 upgraded, 31 newly installed, 0 to remove and 105 not upgraded.
Need to get 19.3 MB of archives.
After this operation, 102 MB of additional disk space will be used.
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 python3-dnspython all 2.6.1-1ubuntu1 [163 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libtalloc2 amd64 2.4.2-1build2 [27.3 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libtdb1 amd64 1.4.10-1build1 [46.8 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libtevent0t64 amd64 0.16.1-2build1 [42.6 kB]
Light rain
Tomorrow
Search
ENG
IN
20:24
08-08-2025

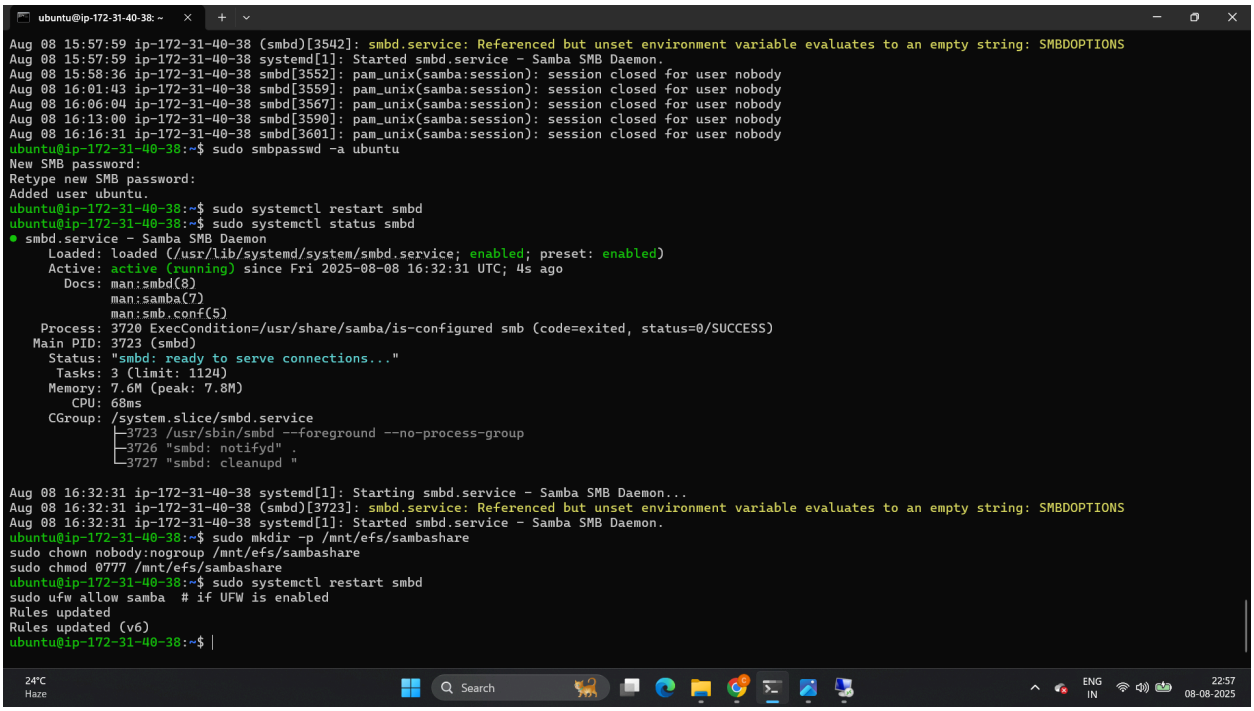

ubuntu@ip-172-31-40-38: ~
Setting up samba-ad-provision (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up librdmacm1t64:amd64 (50.0-2ubuntu0.2) ...
Setting up liburing2:amd64 (2.5-1build1) ...
Setting up libtevent0t64:amd64 (0.16.1-2build1) ...
Setting up librados2 (19.2.1-0ubuntu0.24.04.2) ...
Setting up python3-talloc:amd64 (2.4.2-1build2) ...
Setting up libavahi-common3:amd64 (0.8-13ubuntu6) ...
Setting up libcephfs2 (19.2.1-0ubuntu0.24.04.2) ...
Setting up libldb2:amd64 (2:2.8.0+samba4.19.5+dfsg-4ubuntu9.2) ...
Setting up libavahi-client3:amd64 (0.8-13ubuntu6) ...
Setting up samba-libs:amd64 (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up python3-ldb (2:2.8.0+samba4.19.5+dfsg-4ubuntu9.2) ...
Setting up samba-dsdb-modules:amd64 (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up libcups2t64:amd64 (2.4.7-1.2ubuntu7.3) ...
Setting up python3-samba (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up samba-vfs-modules:amd64 (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up samba-common-bin (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up samba (2:4.19.5+dfsg-4ubuntu9.2) ...
Created symlink /etc/systemd/system/smb.service → /usr/lib/systemd/system/smbd.service.
Created symlink /etc/systemd/system/multi-user.target.wants/smbd.service → /usr/lib/systemd/system/smbd.service.
Created symlink /etc/systemd/system/nmb.service → /usr/lib/systemd/system/nmbd.service.
Created symlink /etc/systemd/system/multi-user.target.wants/nmbd.service → /usr/lib/systemd/system/nmbd.service.
Created symlink /etc/systemd/system/samba.service → /usr/lib/systemd/system/samba-ad-dc.service.
Created symlink /etc/systemd/system/multi-user.target.wants/samba-ad-dc.service → /usr/lib/systemd/system/samba-ad-dc.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.4) ...
Scanning processes...
Scanning linux images...
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-40-38:~$ sudo nano /etc/samba/smb.conf
ubuntu@ip-172-31-40-38:~$
Light rain
Tomorrow
Search
ENG
IN
20:24
08-08-2025

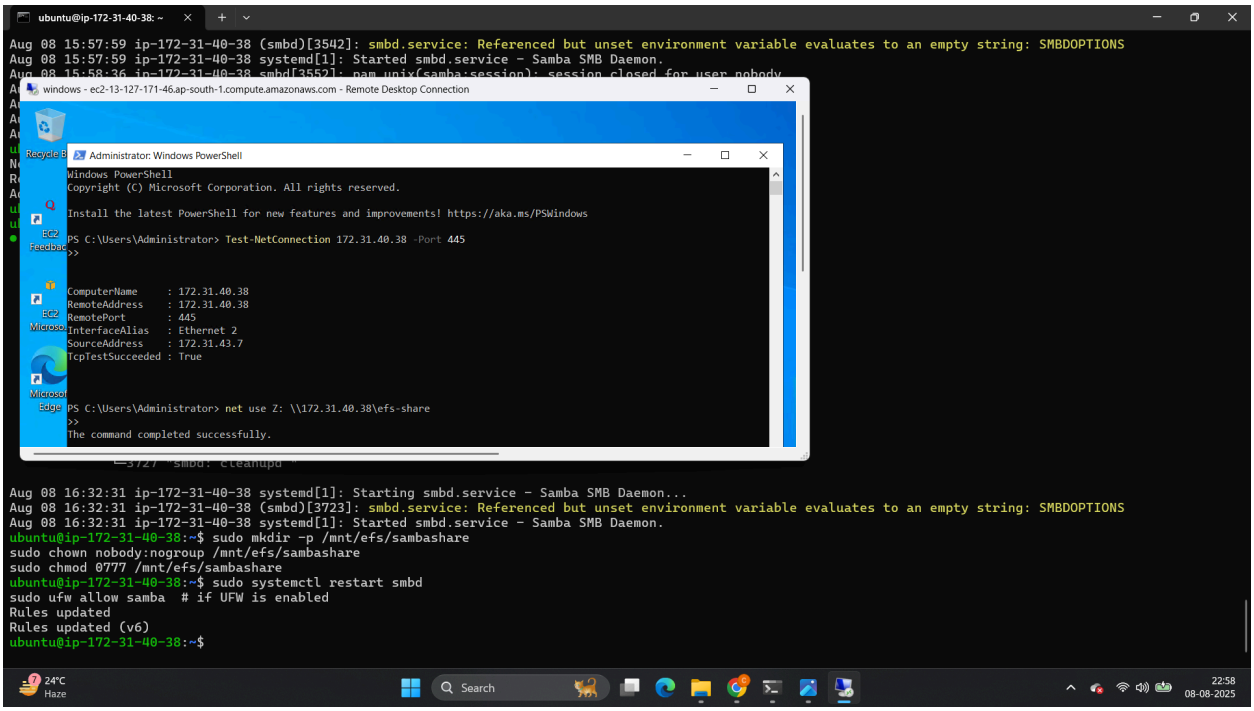

GNU nano 7.2 /etc/samba/smb.conf
read only = yes
create mask = 0700
Windows clients look for this share name as a source of downloadable
printer drivers
[print$]
comment = Printer Drivers
path = /var/lib/samba/printers
browseable = yes
read only = yes
guest ok = no
Uncomment to allow remote administration of Windows print drivers.
You may need to replace 'lpadmin' with the name of the group your
admin users are members of.
Please note that you also need to set appropriate Unix permissions
to the drivers directory for these users to have write rights in it
; write list = root, @lpadmin
[efs-share]
path = /mnt/efs/sambashare
browsable = yes
writable = yes
read only = no
guest ok = no
valid users = ubuntu
force user = ubuntu
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo M-6 Copy
4. Open the file
To view contents:
Ask anything
ChatGPT can make mistakes. Check important info. See Cookie Preferences.

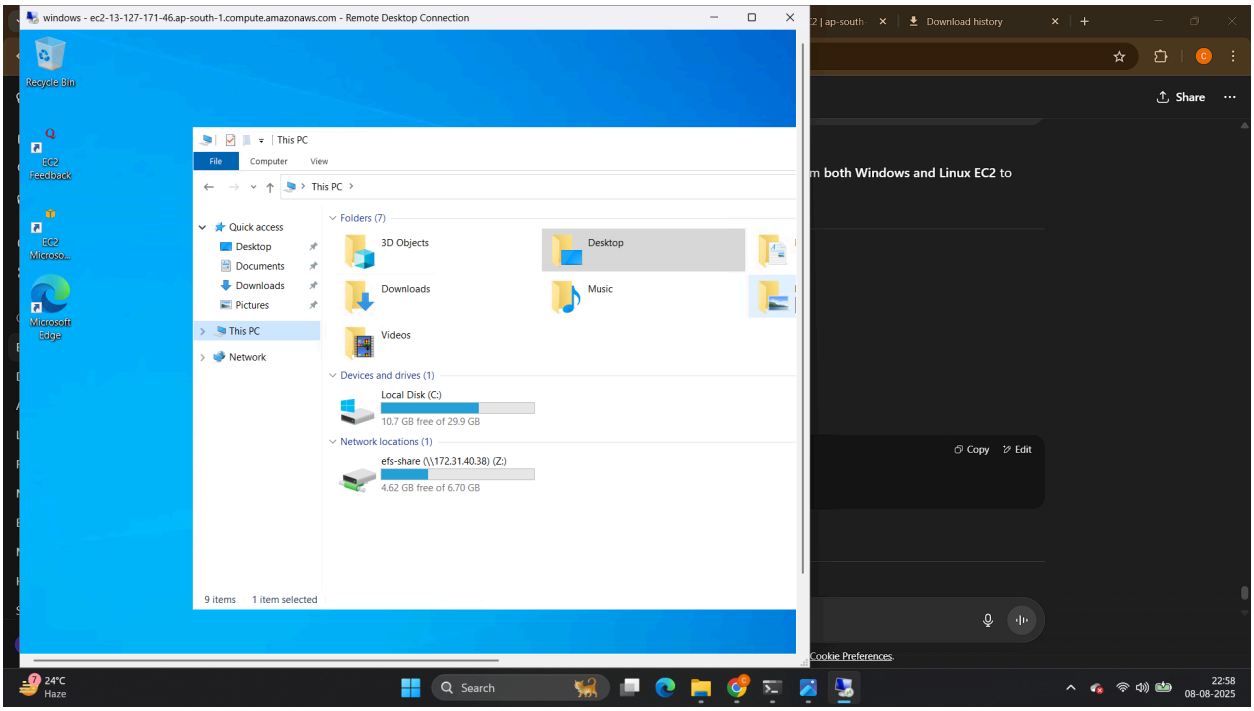

Setting up samba-libs:amd64 (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up python3-ldb (2:2.8.0+samba4.19.5+dfsg-4ubuntu9.2) ...
Setting up samba-dsdb-modules:amd64 (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up libcups2t64:amd64 (2.4.7-1.2ubuntu7.3) ...
Setting up python3-samba (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up samba-vfs-modules:amd64 (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up samba-common-bin (2:4.19.5+dfsg-4ubuntu9.2) ...
Setting up samba (2:4.19.5+dfsg-4ubuntu9.2) ...
Created symlink /etc/systemd/system/smb.service → /usr/lib/systemd/system/smbd.service.
Created symlink /etc/systemd/system/multi-user.target.wants/smbd.service → /usr/lib/systemd/system/smbd.service.
Created symlink /etc/systemd/system/nmb.service → /usr/lib/systemd/system/nmbd.service.
Created symlink /etc/systemd/system/multi-user.target.wants/nmbd.service → /usr/lib/systemd/system/nmbd.service.
Created symlink /etc/systemd/system/samba.service → /usr/lib/systemd/system/samba-ad-dc.service.
Created symlink /etc/systemd/system/multi-user.target.wants/samba-ad-dc.service → /usr/lib/systemd/system/samba-ad-dc.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.4) ...
Scanning processes...
Scanning linux images...
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-40-38:~$ sudo nano /etc/samba/smb.conf
ubuntu@ip-172-31-40-38:~$ sudo nano /etc/samba/smb.conf
ubuntu@ip-172-31-40-38:~$ sudo systemctl restart smbd
ubuntu@ip-172-31-40-38:~$ testparm
Load smb config files from /etc/samba/smb.conf
Loaded services file OK.
Weak crypto is allowed by GnuTLS (e.g. NTLM as a compatibility fallback)
Server role: ROLE_STANDALONE
Press enter to see a dump of your service definitions

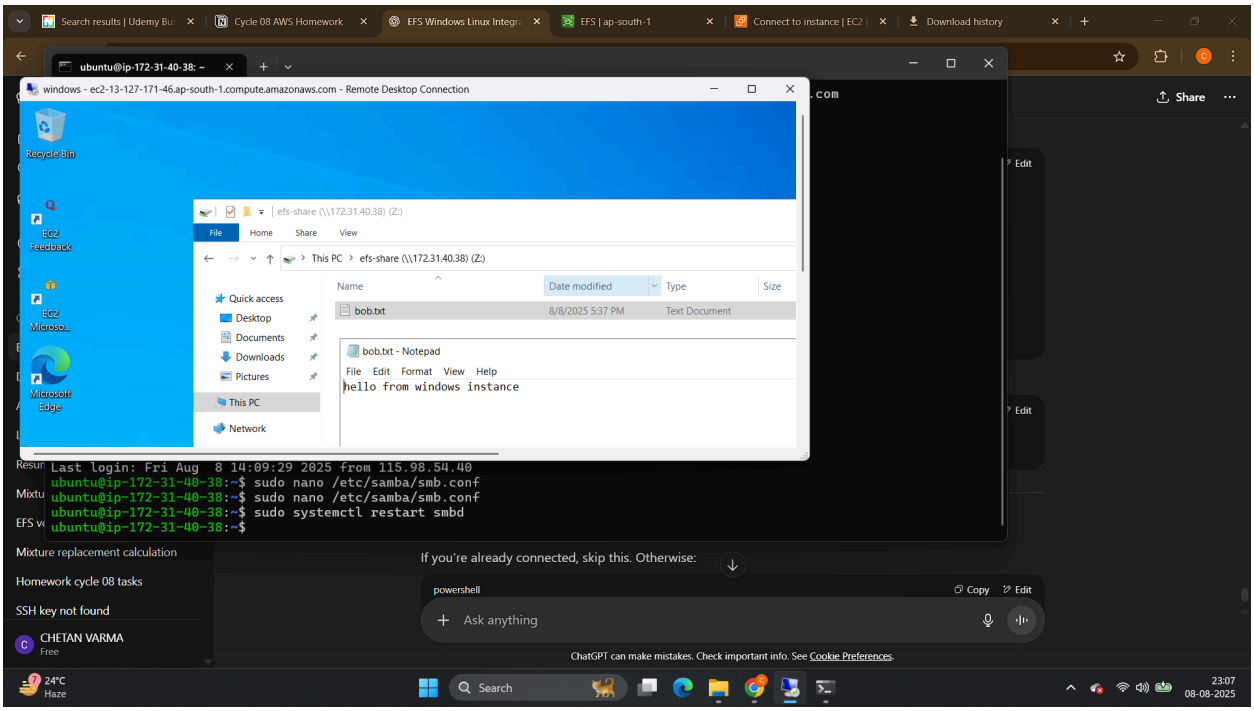

ubuntu@ip-172-31-40-38: ~
max log size = 1000
obey pam restrictions = Yes
pam password change = Yes
panic action = /usr/share/samba/panic-action %d
passwd chat = *Enter\snew\s*\spassword:* %n\n *Retype\snew\s*\spassword:* %n\n *password\supdated\ssuccessfully* .
passwd program = /usr/bin/passwd %u
server role = standalone server
server string = %h server (Samba, Ubuntu)
unix password sync = Yes
usershare allow guests = Yes
idmap config * : backend = tdb
[printers]
browseable = No
comment = All Printers
create mask = 0700
path = /var/tmp
printable = Yes
[print$]
comment = Printer Drivers
path = /var/lib/samba/printers
[efs-share]
force user = ubuntu
guest ok = Yes
path = /mnt/efs
read only = No
ubuntu@ip-172-31-40-38:~$ sudo chown -R ubuntu:ubuntu /mnt/efs
chown: cannot access '/mnt/efs': No such file or directory
ubuntu@ip-172-31-40-38:~$ sudo chown -R ubuntu:ubuntu /efs
chown: cannot access '/efs': No such file or directory
ubuntu@ip-172-31-40-38:~$ sudo chown -R ubuntu:ubuntu /efs
chown: cannot access '/efs': No such file or directory
ubuntu@ip-172-31-40-38:~$ sudo mkdir -p /efs
ubuntu@ip-172-31-40-38:~$ sudo chown -R ubuntu:ubuntu /efs
ubuntu@ip-172-31-40-38:~$ sudo chmod -R 0777 /efs
ubuntu@ip-172-31-40-38:~$
Watchlist
Ideas
Search
ENG
IN
20:30
08-08-2025

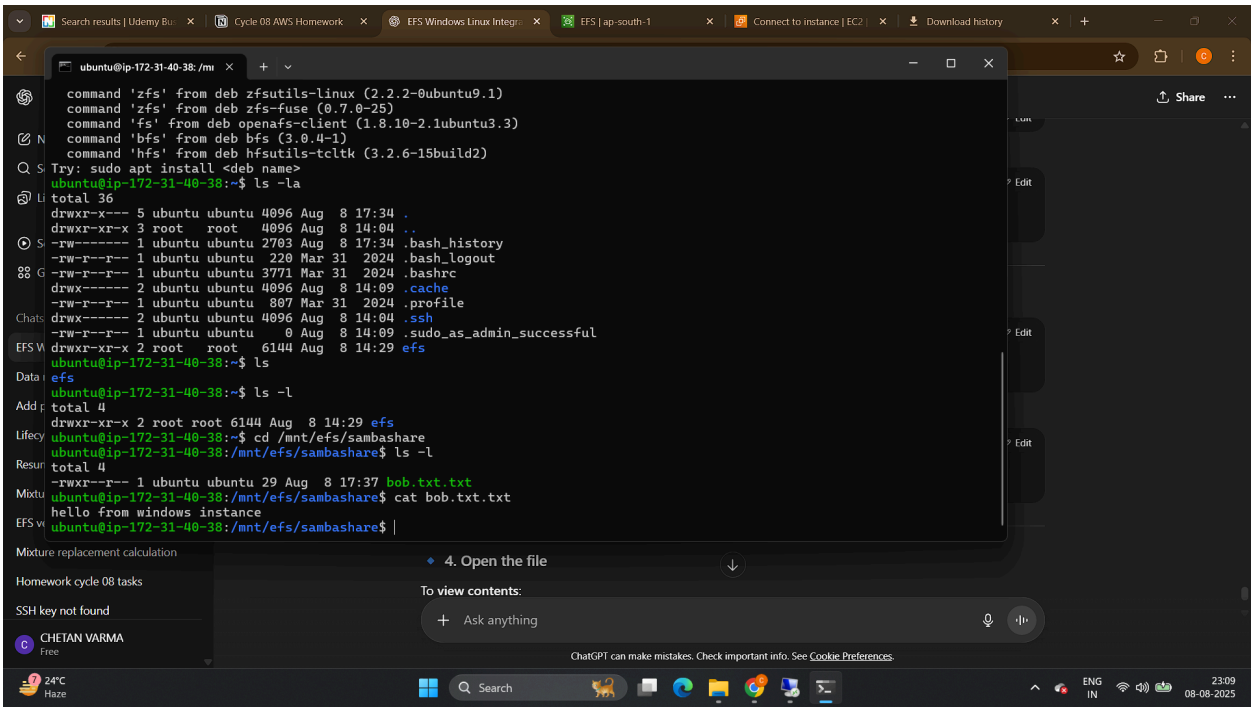

windows - ec2-13-127-171-46.ap-south-1.compute.amazonaws.com - Remote Desktop Connection
Recycle Bin
EC2 Feedback
EC2 Microso...
Microsoft Edge
Local Group Policy Editor
File Action View Help
Network
Lanman Workstation
Enable insecure guest logons
Edit policy setting
Requirements:
At least Windows Server 20
Windows 10
Description:
This policy setting determi
the SMB client will allow in
guest logons to an SMB se
If you enable this policy se
if you do not configure thi
setting, the SMB client will
insecure guest logons.
If you disable this policy se
the SMB client will reject in
guest logons.
Insecure guest logons are u
file servers to allow
Extended Standard
6 setting(s)
Enable insecure guest logons
Enable insecure guest logons
Previous Setting
Next Setting
Not Configured
Enabled
Disabled
Comment:
Supported on:
At least Windows Server 2016, Windows 10
Options:
Help:
This policy setting determines if the SMB client will allow insecure guest logons to an SMB server.
If you enable this policy setting or if you do not configure this policy setting, the SMB client will allow insecure guest logons.
If you disable this policy setting, the SMB client will reject insecure guest logons.
Insecure guest logons are used by file servers to allow unauthenticated access to shared folders. While uncommon in an enterprise environment, insecure guest logons are frequently used by consumer Network Attached Storage (NAS) appliances acting as file servers. Windows file servers require authentication and do not use insecure guest logons by default. Since insecure guest logons are unauthenticated, important security features such as SMB Signing and SMB Encryption are disabled. As a result, clients that allow insecure guest logons are vulnerable to a variety of man-in-the-middle attacks that can result in data loss, data corruption, and exposure to malware. Additionally, any data
OK
Cancel
Apply
Share
Edit
CHETAN VARMA
Free
ChatGPT can make mistakes. Check important info. See Cookie Preferences.
26°C
Haze
Search
20:51
08-08-2025


ubuntu@ip-172-31-40-38: ~
Aug 08 15:57:59 ip-172-31-40-38 (smbd)[3542]: smbd.service: Referenced but unset environment variable evaluates to an empty string: SMBDOPTIONS
Aug 08 15:57:59 ip-172-31-40-38 systemd[1]: Started smbd.service - Samba SMB Daemon.
Aug 08 15:58:36 ip-172-31-40-38 smbd[3552]: pam_unix(samba:session): session closed for user nobody
Aug 08 16:01:43 ip-172-31-40-38 smbd[3559]: pam_unix(samba:session): session closed for user nobody
Aug 08 16:06:04 ip-172-31-40-38 smbd[3567]: pam_unix(samba:session): session closed for user nobody
Aug 08 16:13:00 ip-172-31-40-38 smbd[3590]: pam_unix(samba:session): session closed for user nobody
Aug 08 16:16:31 ip-172-31-40-38 smbd[3601]: pam_unix(samba:session): session closed for user nobody
ubuntu@ip-172-31-40-38:~$ sudo smbpasswd -a ubuntu
New SMB password:
Retype new SMB password:
Added user ubuntu.
ubuntu@ip-172-31-40-38:~$ sudo systemctl restart smbd
ubuntu@ip-172-31-40-38:~$ sudo systemctl status smbd
● smbd.service - Samba SMB Daemon
Loaded: loaded (/usr/lib/systemd/system/smbd.service; enabled; preset: enabled)
Active: active (running) since Fri 2025-08-08 16:32:31 UTC; 4s ago
Docs: man:smbd(8)
man:samba(7)
man:smb.conf(5)
Process: 3720 ExecCondition=/usr/share/samba/is-configured smb (code=exited, status=0/SUCCESS)
Main PID: 3723 (smbd)
Status: "smbd: ready to serve connections..."
Tasks: 3 (limit: 1124)
Memory: 7.6M (peak: 7.8M)
CPU: 68ms
CGroup: /system.slice/smbd.service
├─3723 /usr/sbin/smbd --foreground --no-process-group
├─3726 "smbd: notifyd" .
└─3727 "smbd: cleanupd "
Aug 08 16:32:31 ip-172-31-40-38 systemd[1]: Starting smbd.service - Samba SMB Daemon...
Aug 08 16:32:31 ip-172-31-40-38 (smbd)[3723]: smbd.service: Referenced but unset environment variable evaluates to an empty string: SMBDOPTIONS
Aug 08 16:32:31 ip-172-31-40-38 systemd[1]: Started smbd.service - Samba SMB Daemon.
ubuntu@ip-172-31-40-38:~$ sudo mkdir -p /mnt/efs/sambashare
sudo chown nobody:nogroup /mnt/efs/sambashare
sudo chmod 0777 /mnt/efs/sambashare
ubuntu@ip-172-31-40-38:~$ sudo systemctl restart smbd
sudo ufw allow samba # if UFW is enabled
Rules updated
Rules updated (v6)
ubuntu@ip-172-31-40-38:~$
24°C
Haze
Search
ENG
IN
22:57
08-08-2025


ubuntu@ip-172-31-40-38: ~
Aug 08 15:57:59 ip-172-31-40-38 (smbd)[3542]: smbd.service: Referenced but unset environment variable evaluates to an empty string: SMBDOPTIONS
Aug 08 15:57:59 ip-172-31-40-38 systemd[1]: Started smbd.service - Samba SMB Daemon.
windows - ec2-13-127-171-46.ap-south-1.compute.amazonaws.com - Remote Desktop Connection
Recycle Bin
EC2 Feedback
EC2 Microsoft
Microsoft Edge
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\Users\Administrator> Test-NetConnection 172.31.40.38 -Port 445
ComputerName : 172.31.40.38
RemoteAddress : 172.31.40.38
RemotePort : 445
InterfaceAlias : Ethernet 2
SourceAddress : 172.31.43.7
TcpTestSucceeded : True
PS C:\Users\Administrator> net use Z: \\172.31.40.38\efs-share
The command completed successfully.
Aug 08 16:32:31 ip-172-31-40-38 systemd[1]: Starting smbd.service - Samba SMB Daemon...
Aug 08 16:32:31 ip-172-31-40-38 (smbd)[3723]: smbd.service: Referenced but unset environment variable evaluates to an empty string: SMBDOPTIONS
Aug 08 16:32:31 ip-172-31-40-38 systemd[1]: Started smbd.service - Samba SMB Daemon.
ubuntu@ip-172-31-40-38:~$ sudo mkdir -p /mnt/efs/sambashare
sudo chown nobody:nogroup /mnt/efs/sambashare
sudo chmod 0777 /mnt/efs/sambashare
ubuntu@ip-172-31-40-38:~$ sudo systemctl restart smbd
sudo ufw allow samba # if UFW is enabled
Rules updated
Rules updated (v6)
ubuntu@ip-172-31-40-38:~$
24°C
Haze
Search
22:58
08-08-2025


windows - ec2-13-127-171-46.ap-south-1.compute.amazonaws.com - Remote Desktop Connection
Recycle Bin
EC2 Feedback
EC2 Microso...
Microsoft Edge
This PC
File
Computer
View
Quick access
Desktop
Documents
Downloads
Pictures
This PC
Network
Folders (7)
3D Objects
Desktop
Downloads
Music
Videos
Devices and drives (1)
Local Disk (C:)
10.7 GB free of 29.9 GB
Network locations (1)
efs-share (\\172.31.40.38) (Z:)
4.62 GB free of 6.70 GB
9 items
1 item selected
Download history
Share
both Windows and Linux EC2 to
Copy
Edit
Cookie Preferences.
24°C
Haze
Search
22:58
08-08-2025


Search results | Udemy Bu
Cycle 08 AWS Homework
EFS Windows Linux Integr
EFS | ap-south-1
Connect to instance | EC2
Download history
ubuntu@ip-172-31-40-38: ~
windows - ec2-13-127-171-46.ap-south-1.compute.amazonaws.com - Remote Desktop Connection
efs-share (\\172.31.40.38) (Z:)
File
Home
Share
View
This PC
efs-share (\\172.31.40.38) (Z:)
Name
Date modified
Type
Size
bob.txt
8/8/2025 5:37 PM
Text Document
bob.txt - Notepad
File Edit Format View Help
hello from windows instance
Last login: Fri Aug 8 14:09:29 2025 from 115.98.54.40
ubuntu@ip-172-31-40-38:~$ sudo nano /etc/samba/smb.conf
ubuntu@ip-172-31-40-38:~$ sudo nano /etc/samba/smb.conf
ubuntu@ip-172-31-40-38:~$ sudo systemctl restart smbd
ubuntu@ip-172-31-40-38:~$
Mixture replacement calculation
Homework cycle 08 tasks
SSH key not found
CHETAN VARMA
Free
If you're already connected, skip this. Otherwise:
powershell
Copy
Edit
Ask anything
ChatGPT can make mistakes. Check important info. See Cookie Preferences.
Share
24°C
Haze
Search
23:07
08-08-2025



📌 Step 1: EFS Setup

- Create EFS file system in the same VPC
- Attach mount targets in each availability zone
- Modify EFS **Security Group**:
  - Inbound Rule: **NFS (2049)** from the EC2 instances' security groups

📌 Step 2: Linux EC2 Setup

- Install NFS tools:

```
bash
CopyEdit
sudo apt update
sudo apt install -y nfs-common
```

- Mount EFS:

```
bash
CopyEdit
sudo mkdir -p /mnt/efs
sudo mount -t nfs4 -o nfsvers=4.1 fs-xxxxxx.efs.<region>.amazonaws.co
m:/ /mnt/efs
```

- Verify access:

```
bash
CopyEdit
touch /mnt/efs/test.txt
```

📌 Step 3: Windows EC2 Setup

- Open **PowerShell as Admin**
- Install NFS Client:

```
powershell
CopyEdit
Install-WindowsFeature NFS-Client
```

- Mount EFS using:

```
powershell
CopyEdit
mount -o anon \\<EFS-DNS-Name>\ e:
```

or using `net use`:

```
powershell
CopyEdit
net use Z: \\<EFS-DNS-Name>\ /user:anonymous ""
```

- Validate that files created on Linux show up in `Z:\` on Windows.

✅ Deliverable

- Prove bidirectional access:
  - File created on **Windows** is visible on **Linux**
  - File created on **Linux** is visible on **Windows**
  - Same works between both Windows instances

---

2. Troubleshooting NFS Permissions

🧪 Exercise

- Intentionally create permission issues:
  - Change ownership on Linux (e.g., set to root-only)
  - Attempt access from Windows or other Linux user
- Observe failures like:
  - Access Denied
  - Unable to open file
- Fix with:
  - Correcting `chown`, `chmod`
  - Creating matching UID/GID
  - Using EFS **Access Points** for identity mapping

---

3. Automating EFS Mounts

🔄 Linux User Data (Auto-mount on reboot)

- Add to `/etc/fstab`:

```
bash
CopyEdit
fs-xxxxxx.efs.<region>.amazonaws.com:/ /mnt/efs nfs4 defaults,_netdev
0 0
```

- Or use EC2 user data script:

```
bash
CopyEdit
#!/bin/bash
apt update
apt install -y nfs-common
mkdir -p /mnt/efs
mount -t nfs4 -o nfsvers=4.1 fs-xxxxxx:/ /mnt/efs
```

💻 Windows PowerShell Startup Script

- Use `New-PSDrive` in a startup script:

```
powershell
CopyEdit
New-PSDrive -Name "Z" -PSProvider FileSystem -Root "\\<efs-dns-name
>\" -Persist
```

---

4. Cost Optimization for EFS

💡 Comparison

Feature	Standard	Infrequent Access (IA)
Cost (Storage)	Higher	Lower (~92% cheaper)
Access Frequency	High	Low
Latency	Low	Slightly Higher

📋 Lifecycle Policy

- In EFS console → Lifecycle management
- Create rule: Move files not accessed in **30 days** to **IA**
- Helps reduce costs without sacrificing durability