SACRED HEART COLLEGE
THEVARA

SERVER OPERATING SYSTEM

19U5VCBCA04

BCA (Mobile Applications and Cloud Technology)

PRACTICAL RECORD

By

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22UBCA7342

Department of Computer Science

SACRED HEART COLLEGE, THEVARA

Certificate

This is to certify that it is a bonafied record of practical work done by Sri ***Ganga GR*** *bearing the Roll No.* ***22UBCA7342*** *of* 5th *Semester BCA(Mobile Applications and Cloud Technology) in the Server Operating System laboratory during the academic under our supervisor.*

Signature of Internal Examiner

Signature of External Examiner

Date: //2024

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BASIC COMMANDS

Experiment: 1

Aim: Understand basic commands

- **IPCONFIG COMMAND**

  To see the IP address

  Syntax: ipconfig

- **PING COMMAND**

  To see the existing the IP

  Syntax: ping 192.168.87.1

- **TO UPDATE**

  Sudo apt update

- **TO INSTALL**

  Sudo apt install openSSH.server

- **TO PRINT THE SSH SERVER STATUS**

  Sudo systemctl status ssh

- **TO EDIT SETTINGS**

  Sudo nano /etc/ssh/sshd-config

- **TO RESTART**

  Suso service ssh restart

- **TO TEST**

  ssh localhost

- **UPTIME COMMAND**

  In Linux uptime command shows since how long your system is running and the number of users are currently logged in and also displays load average for 1,5- and 15-minutes intervals.

  Syntax: uptime

- **W COMMAND**

  It will display users currently logged in and their process along-with shows load averages. Also shows the login name, tty name, remote host, login time, idle time, JCPU, PCPU, command and processes.

  Syntax: w

- **USERS COMMAND**

  Users command displays currently logged in users. This command don't have other parameters other than help and version.

  Syntax: users

- **WHO COMMAND**

  who command simply return user name, date, time and host information who command is similar to w command. Unlike w command who doesn't print what users are doing. Let's illustrate and see the different between who and w commands.

  Syntax: who

- **WHOAMI COMMAND**

  whoami command print the name of current user. You can also use "who am i" command to display the current user. If you are logged in as a root using sudo command "whoami" command return root as current user. Use "who am i" command if you want to know the exact user logged in.

  Syntax: whoami

- **LS COMMAND**

  ls command display list of files in human readable format.

  Syntax: ls -l

- **CRONTAB COMMAND**

  List schedule jobs for current user with crontab command and -l option.

  Syntax: crontab -l

- **LESS COMMAND**

  less command allows quickly view file. You can page up and down. Press 'q' to quit from less window.

  Syntax: less install.log

- **MORE COMMAND**

  more command allows quickly view file and shows details in percentage. You can page up and down. Press ‘q ‘to quit out from more window.

  Syntax: more install.log

- **CP COMMAND**

  Copy file from source to destination preserving same mode.

  Syntax: cp -p fileA fileB

- **MV COMMAND**

  Rename fileA to fileB. -i options prompt before overwrite. Ask for confirmation if exist already.

  Syntax: mv -i fileA fileB

- **CAT COMMAND**

  cat command used to view multiple file at the same time.

  Syntax: cat fileA fileB

- **CD COMMAND (CHANGE DIRECTORY)**

  with cd command (change directory) it will goes to fileA directory.

  Syntax: cd /fileA

Result:

All the commands have been executed and the output has been obtained successfully.

SAMBA SHARE

Experiment: 2

Aim: Installation and configuration of Samba share.

Description:

SAMBA

One of the most common ways to network Ubuntu and Windows computers is to configure Samba as a File Server. This section covers setting up a Samba server to share files with Windows clients.
The server will be configured to share files with any client on the network without prompting for a password. If your environment requires stricter Access Controls see Share Access Control
Port No: 139
Package name: samba
Configuration file: /etc/samba/smb.conf.

Procedure:

1. To install Samba, we can run:
$sudo apt update
$sudo apt install samba
2. We can check if the installation was successful by running:
$whereis samba
3.Now that Samba is installed, we need to create a directory for it to share:
$mkdir /home/<username>/sambashare/
The command above creates a new folder samba share in our home directory which we will share later.The configuration file for Samba is located at /etc/samba/smb.conf. To add the new directory as a share,we edit the file by running:
$sudo nano /etc/samba/smb.conf
At the bottom of the file, add the following lines:

[sambashare]
comment = Samba on Ubuntu
path = /home/username/sambashareread only
= no
browsable = yes
4. Then press Ctrl-O to save and Ctrl-X to exit from the nano text editor.
5. Now that we have our new share configured, save it and restart Samba for it to take effect:
$sudo service smbd restart
6.Update the firewall rules to allow Samba traffic:
$sudo ufw allow samba

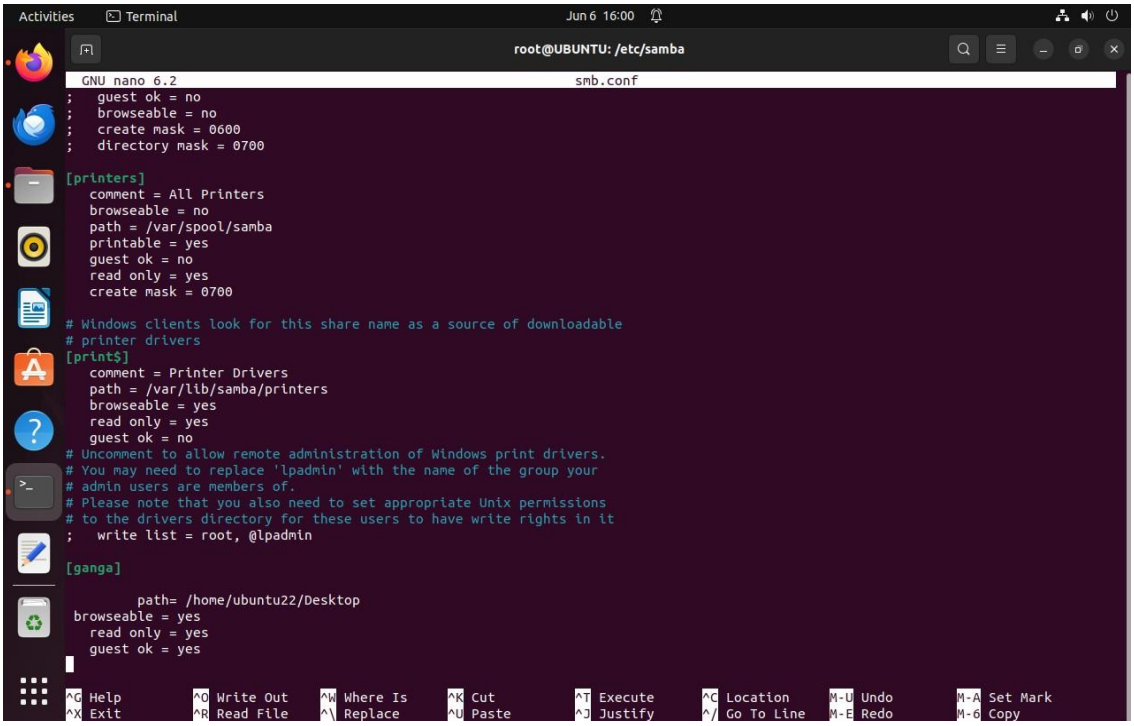
SETTING UP USER ACCOUNTS AND CONNECTING TO SHARE

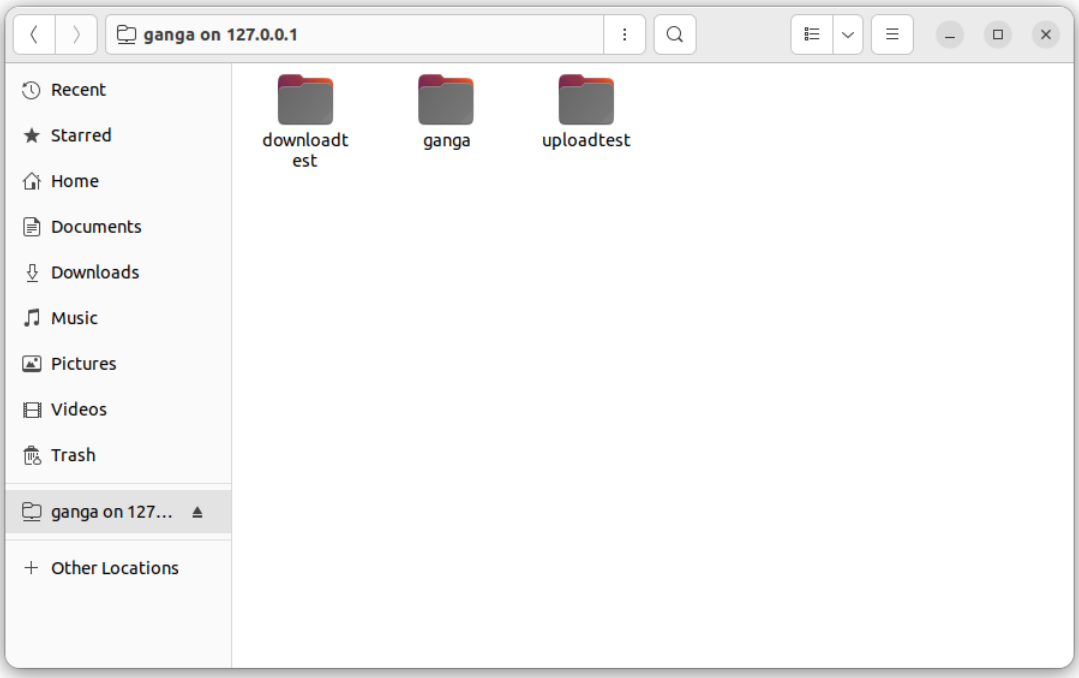
7.Since Samba doesn't use the system account password, we need to set up a Samba password for our user account:
$sudo smbpasswd -a username

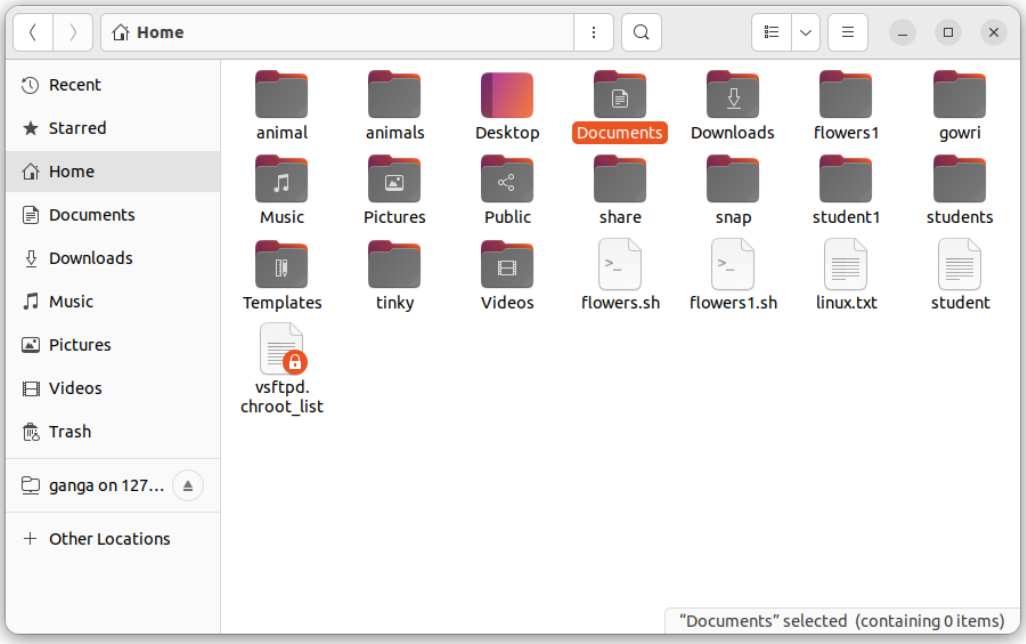
CONNECTING TO SHARE

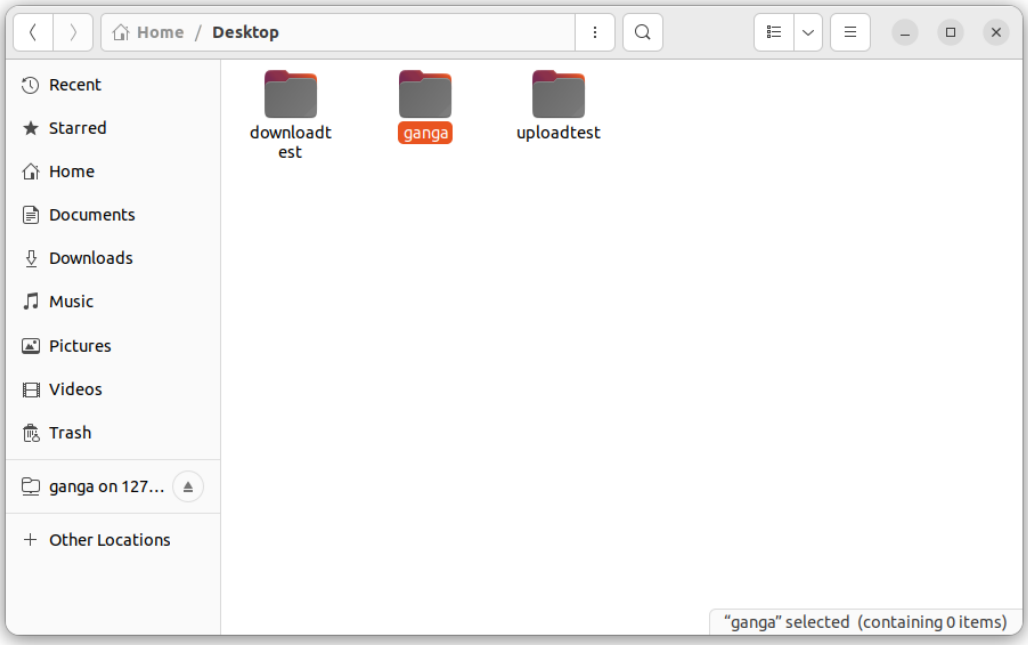
8. On Ubuntu: Open up the default file manager and click Connect to Server then enter: Connecting to samba via smb://127.0.0.1/sambashare
Note: ip-address is the Samba server IP address and sambashare is the name of the share. You'll be prompted for your credentials. Enter them to connect!

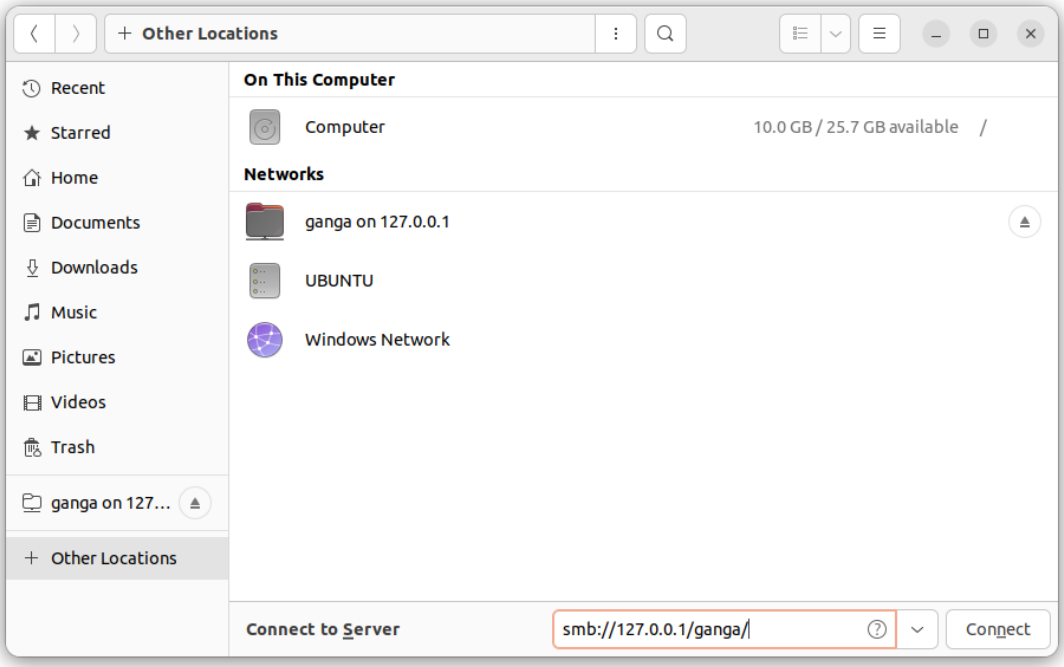
Result:

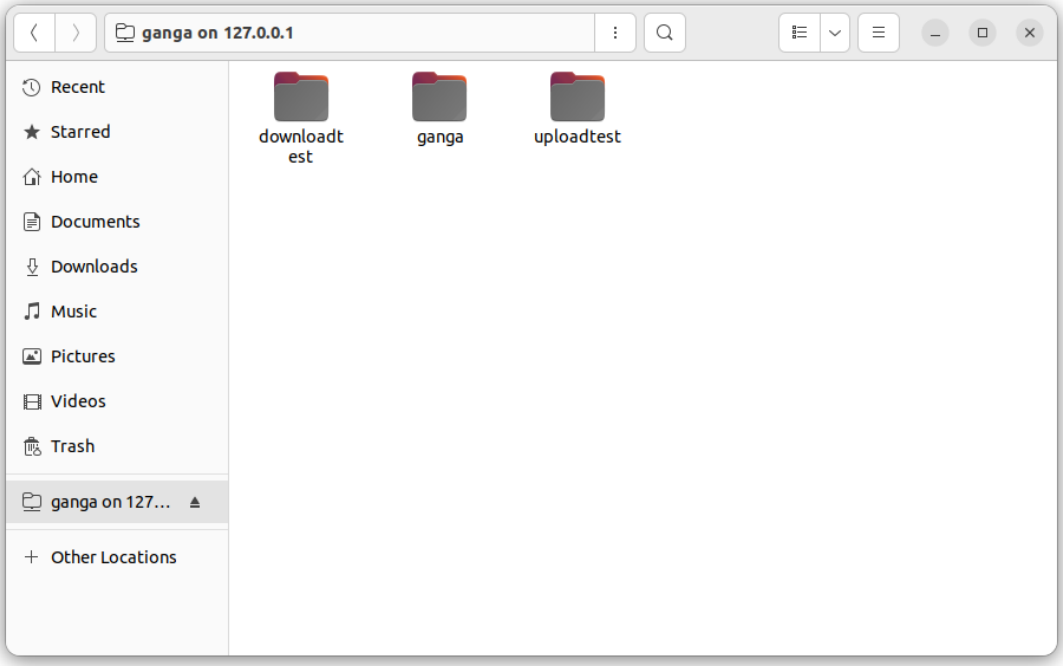

Activities
Terminal
Jun 6 16:00
root@UBUNTU: /etc/samba
GNU nano 6.2
smb.conf
; guest ok = no
; browseable = no
; create mask = 0600
; directory mask = 0700
[printers]
comment = All Printers
browseable = no
path = /var/spool/samba
printable = yes
guest ok = no
read only = yes
create mask = 0700
Windows 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
[ganga]
path= /home/ubuntu22/Desktop
browseable = yes
read only = yes
guest ok = yes
^G Help
^X Exit
^O Write Out
^R Read File
^W Where Is
^\ Replace
^K Cut
^U Paste
^T Execute
^J Justify
^C Location
^/ Go To Line
M-U Undo
M-E Redo
M-A Set Mark
M-6 Copy


ganga on 127.0.0.1
Recent
Starred
Home
Documents
Downloads
Music
Pictures
Videos
Trash
ganga on 127...
Other Locations
downloadtest
ganga
uploadtest


Home
Recent
Starred
Home
Documents
Downloads
Music
Pictures
Videos
Trash
ganga on 127...
Other Locations
animal
animals
Desktop
Documents
Downloads
flowers1
gowri
Music
Pictures
Public
share
snap
student1
students
Templates
tinky
Videos
flowers.sh
flowers1.sh
linux.txt
student
vsftpd.
chroot_list
"Documents" selected (containing 0 items)


Home / Desktop
Recent
Starred
Home
Documents
Downloads
Music
Pictures
Videos
Trash
ganga on 127...
Other Locations
downloadt
est
ganga
uploadtest
"ganga" selected (containing 0 items)





All the commands have been executed and the output has been obtained successfully.

SSH

Experiment: 3

Aim: Installation of Open SSH between two ubuntu machines.

Description:

Remote File Sharing using SSH

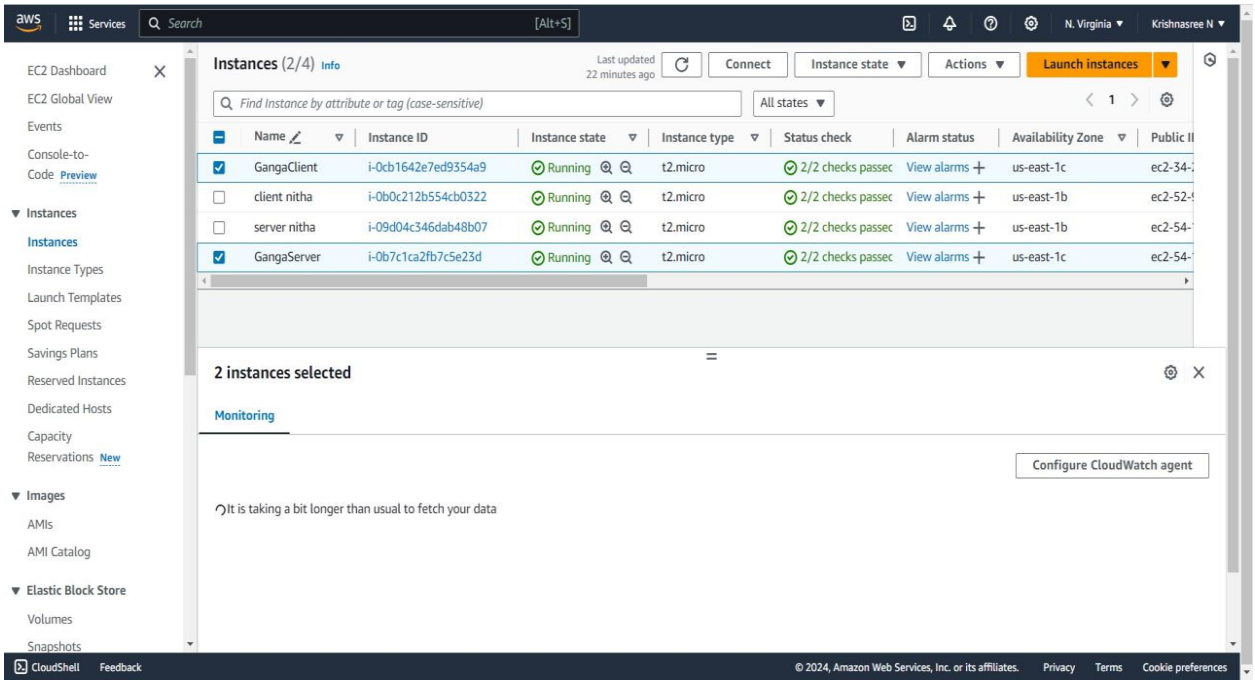
OpenSSH is a powerful collection of tools for the remote control of, and transfer of data between, networked computers. You will also learn about some of the configuration settings possible with the OpenSSH server application and how to change them on your Ubuntu system.
OpenSSH is a freely available version of the Secure Shell (SSH) protocol family of tools for remotely controlling, or transferring files between computers. Traditional tools used to accomplish these functions, such as telnet or rcp, are insecure and transmit the user's password in cleartext when used. OpenSSH provides a server daemon and client tools to facilitate secure, encrypted remote control and file transfer operations, effectively replacing the legacy tools.

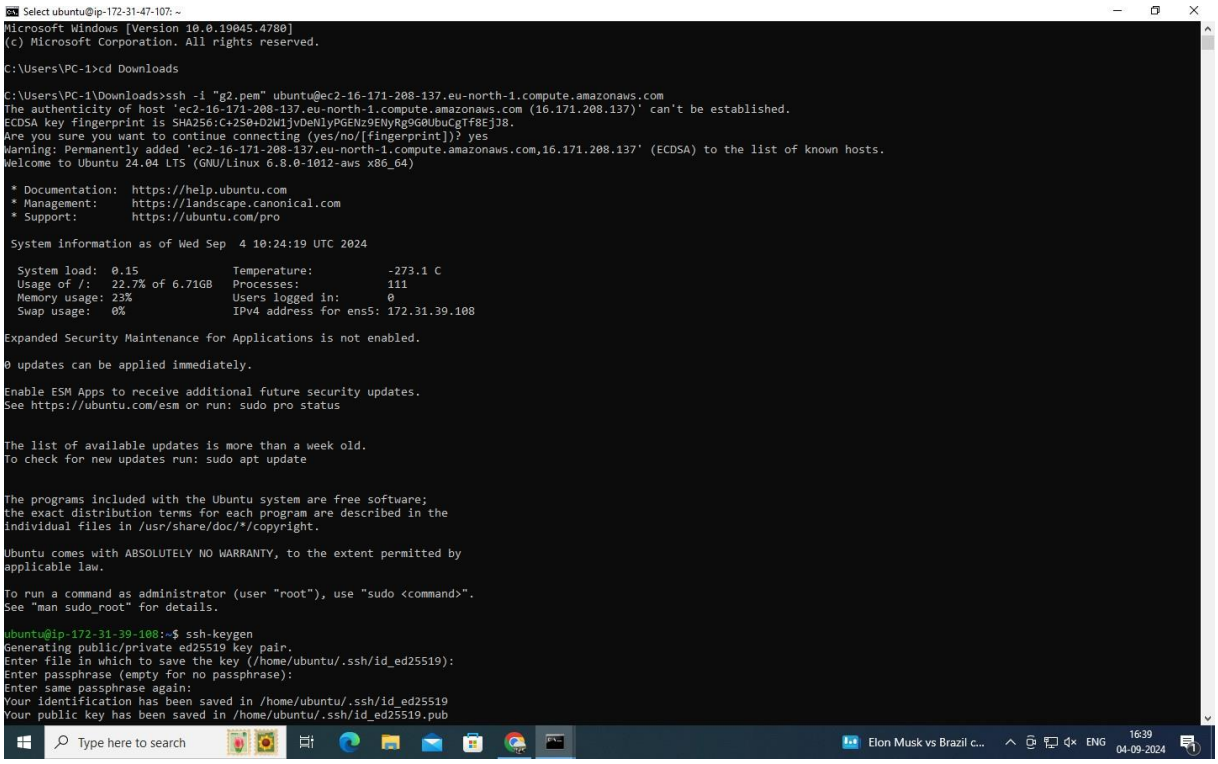
Port No: 22
Package name: openssh-client
Configuration file: /etc/ssh/sshd_config

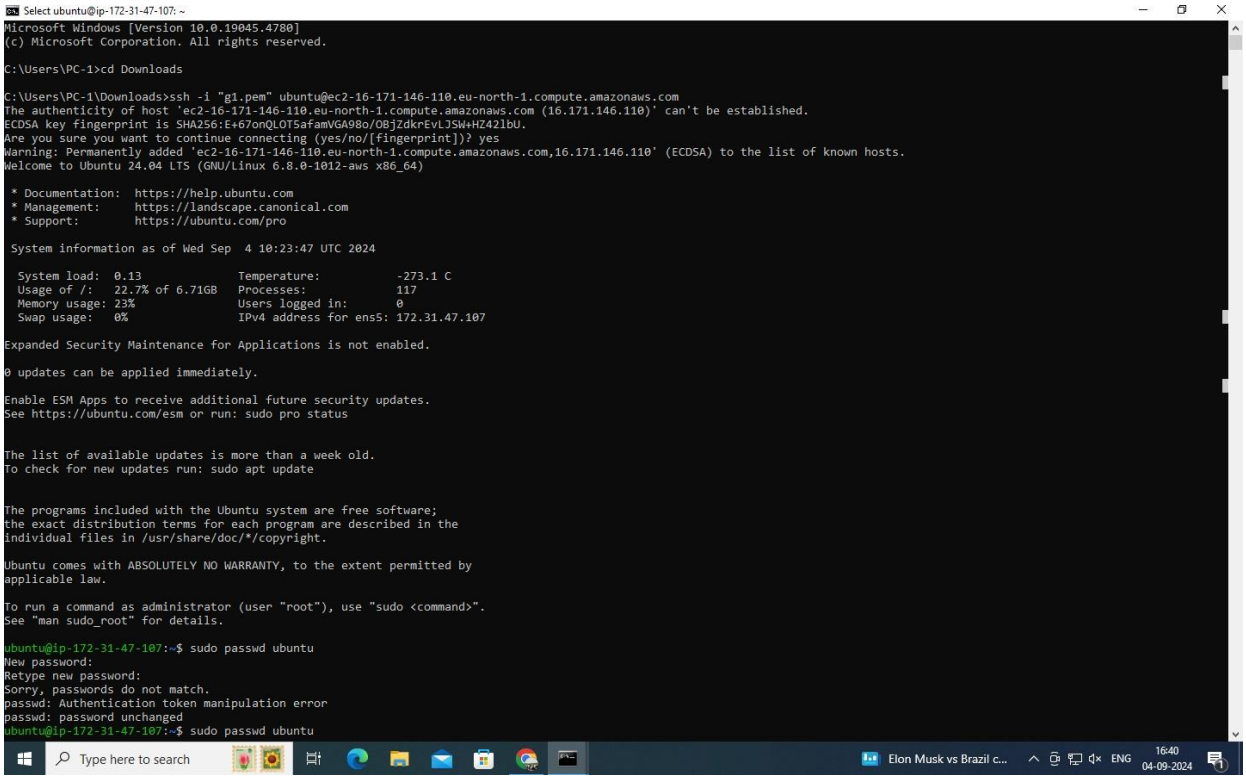
Procedure:

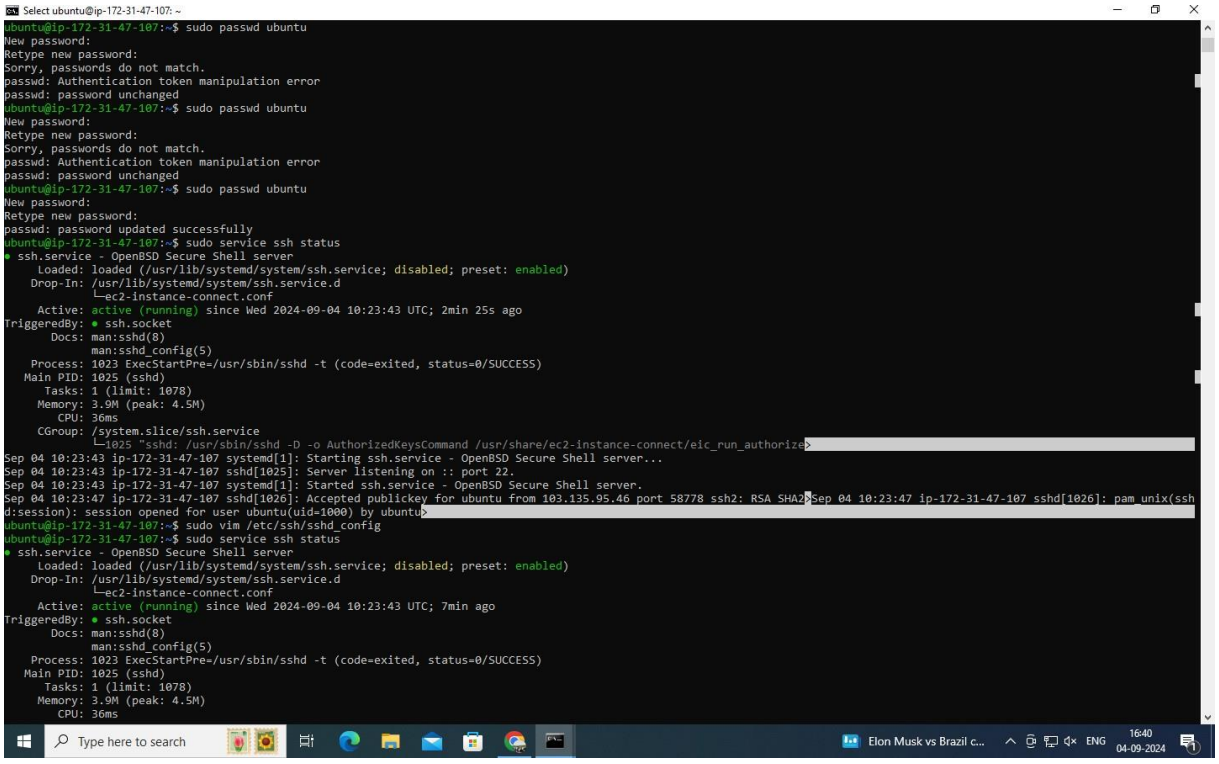
1. create two EC2 instance of ubuntu ssh client and ssh server
2. Create the password for the instance of ssh server by $sudo passwd ubuntu
3. Now check whether the ssh server is running by the command $sudo servicessh status
4. configure the sshd_config file by the following command $sudo vim /etc/ssh/sshd_config and include the following changes PasswordAuthentication yes , KbdInteractiveAuthenticationno ,KerberosGetAFSToken no
5. Now check the status of the ssh server by the command $sudo service sshstatus
6. Now create a text file by the command $touch text.txt
7. Now log in to the ssh_client and create a ssh_keygen by the command $ssh_keygen
8. Now copy the ssh_keygen form the ssh_client $ssh-copy-id ubuntu@privateip
9. Now restart the client machine
10. Then connect to the ssh_server by ssh_client
11. then type ls you will be prompted with the screen with your text file which you have created

Result:


aws
Services
Search
[Alt+S]
N. Virginia
Krishnasree N
EC2 Dashboard
EC2 Global View
Events
Console-to-Code Preview
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations New
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Instances (2/4) Info
Last updated 22 minutes ago
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public II
GangaClient
i-0cb1642e7ed9354a9
Running
t2.micro
2/2 checks passec
View alarms
us-east-1c
client nitha
i-0b0c212b554cb0322
Running
t2.micro
2/2 checks passec
View alarms
us-east-1b
server nitha
i-09d04c346dab48b07
Running
t2.micro
2/2 checks passec
View alarms
us-east-1b
GangaServer
i-0b7c1ca2fb7c5e23d
Running
t2.micro
2/2 checks passec
View alarms
us-east-1c
2 instances selected
Monitoring
Configure CloudWatch agent
It is taking a bit longer than usual to fetch your data
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


Select ubuntu@ip-172-31-47-107: ~
Microsoft Windows [Version 10.0.19045.4780]
(c) Microsoft Corporation. All rights reserved.
C:\Users\PC-1>cd Downloads
C:\Users\PC-1\Downloads>ssh -i "g2.pem" ubuntu@ec2-16-171-208-137.eu-north-1.compute.amazonaws.com
The authenticity of host 'ec2-16-171-208-137.eu-north-1.compute.amazonaws.com (16.171.208.137)' can't be established.
ECDSA key fingerprint is SHA256:C+2S0+D2W1jvDeN1yPGENz9ENyRg9G0UbuCgTf8Ej38.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-16-171-208-137.eu-north-1.compute.amazonaws.com,16.171.208.137' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/pro
System information as of Wed Sep 4 10:24:19 UTC 2024
System load: 0.15 Temperature: -273.1 C
Usage of /: 22.7% of 6.71GB Processes: 111
Memory usage: 23% Users logged in: 0
Swap usage: 0% IPv4 address for ens5: 172.31.39.108
Expanded Security Maintenance for Applications is not enabled.
0 updates can be applied immediately.
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status
The list of available updates is more than a week old.
To check for new updates run: sudo apt update
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
ubuntu@ip-172-31-39-108:~$ ssh-keygen
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/ubuntu/.ssh/id_ed25519):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ubuntu/.ssh/id_ed25519
Your public key has been saved in /home/ubuntu/.ssh/id_ed25519.pub
Type here to search
Elon Musk vs Brazil c...
ENG
16:39
04-09-2024


Select ubuntu@ip-172-31-47-107: ~
Microsoft Windows [Version 10.0.19045.4780]
(c) Microsoft Corporation. All rights reserved.
C:\Users\PC-1>cd Downloads
C:\Users\PC-1\Downloads>ssh -i "g1.pem" ubuntu@ec2-16-171-146-110.eu-north-1.compute.amazonaws.com
The authenticity of host 'ec2-16-171-146-110.eu-north-1.compute.amazonaws.com (16.171.146.110)' can't be established.
ECDSA key fingerprint is SHA256:E+67onQLOT5afamVGA98o/OBjZdkrEvlJSW+HZ42lbU.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-16-171-146-110.eu-north-1.compute.amazonaws.com,16.171.146.110' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/pro
System information as of Wed Sep 4 10:23:47 UTC 2024
System load: 0.13
Usage of /: 22.7% of 6.71GB
Memory usage: 23%
Swap usage: 0%
Temperature: -273.1 C
Processes: 117
Users logged in: 0
IPv4 address for ens5: 172.31.47.107
Expanded Security Maintenance for Applications is not enabled.
0 updates can be applied immediately.
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status
The list of available updates is more than a week old.
To check for new updates run: sudo apt update
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
ubuntu@ip-172-31-47-107:~$ sudo passwd ubuntu
New password:
Retype new password:
Sorry, passwords do not match.
passwd: Authentication token manipulation error
passwd: password unchanged
ubuntu@ip-172-31-47-107:~$ sudo passwd ubuntu
Type here to search
Elon Musk vs Brazil c...
ENG
16:40
04-09-2024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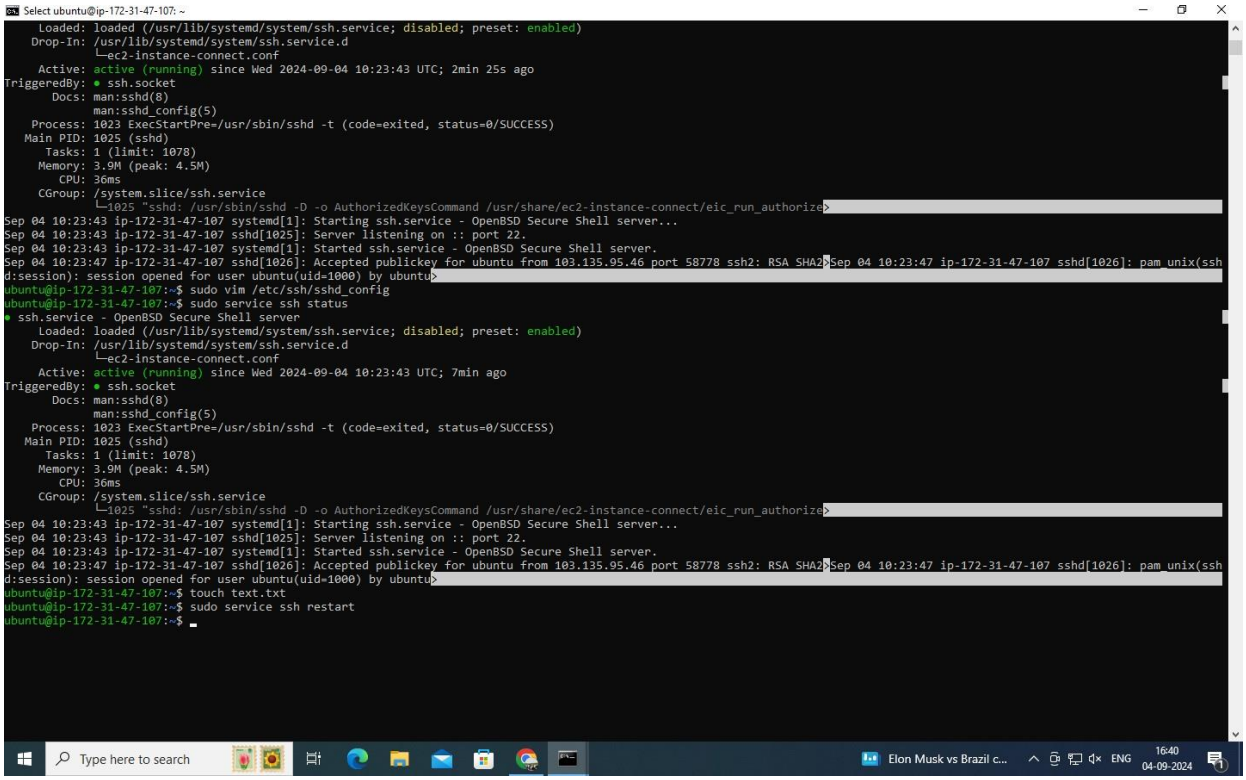
New password:
Retype new password:
Sorry, passwords do not match.
passwd: Authentication token manipulation error
passwd: password unchanged
ubuntu@ip-172-31-47-107:~$ sudo passwd ubuntu
New password:
Retype new password:
passwd: password updated successfully
ubuntu@ip-172-31-47-107:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: enabled)
Drop-In: /usr/lib/systemd/system/ssh.service.d
└─ec2-instance-connect.conf
Active: active (running) since Wed 2024-09-04 10:23:43 UTC; 2min 25s ago
TriggeredBy: ● ssh.socket
Docs: man:sshd(8)
man:sshd_config(5)
Process: 1023 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
Main PID: 1025 (sshd)
Tasks: 1 (limit: 1078)
Memory: 3.9M (peak: 4.5M)
CPU: 36ms
CGroup: /system.slice/ssh.service
└─1025 "sshd: /usr/sbin/sshd -D -o AuthorizedKeysCommand /usr/share/ec2-instance-connect/eic_run_authorize>
Sep 04 10:23:43 ip-172-31-47-107 systemd[1]: Starting ssh.service - OpenBSD Secure Shell server...
Sep 04 10:23:43 ip-172-31-47-107 sshd[1025]: Server listening on :: port 22.
Sep 04 10:23:43 ip-172-31-47-107 systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
Sep 04 10:23:47 ip-172-31-47-107 sshd[1026]: Accepted publickey for ubuntu from 103.135.95.46 port 58778 ssh2: RSA SHA2Sep 04 10:23:47 ip-172-31-47-107 sshd[1026]: pam_unix(ssh
d:session): session opened for user ubuntu(uid=1000) by ubuntu>
ubuntu@ip-172-31-47-107:~$ sudo vim /etc/ssh/sshd_config
ubuntu@ip-172-31-47-107:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: enabled)
Drop-In: /usr/lib/systemd/system/ssh.service.d
└─ec2-instance-connect.conf
Active: active (running) since Wed 2024-09-04 10:23:43 UTC; 7min ago
TriggeredBy: ● ssh.socket
Docs: man:sshd(8)
man:sshd_config(5)
Process: 1023 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
Main PID: 1025 (sshd)
Tasks: 1 (limit: 1078)
Memory: 3.9M (peak: 4.5M)
CPU: 36ms
Type here to search
Elon Musk vs Brazil c...
ENG
16:40
04-09-2024


Select ubuntu@ip-172-31-47-107: ~
Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: enabled)
Drop-In: /usr/lib/systemd/system/ssh.service.d
└─ec2-instance-connect.conf
Active: active (running) since Wed 2024-09-04 10:23:43 UTC; 2min 25s ago
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Sep 04 10:23:47 ip-172-31-47-107 sshd[1026]: pam_unix(sshd:session): session opened for user ubuntu(uid=1000) by ubuntu
ubuntu@ip-172-31-47-107:~$ sudo vim /etc/ssh/sshd_config
ubuntu@ip-172-31-47-107:~$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: enabled)
Drop-In: /usr/lib/systemd/system/ssh.service.d
└─ec2-instance-connect.conf
Active: active (running) since Wed 2024-09-04 10:23:43 UTC; 7min ago
TriggeredBy: ● ssh.socket
Docs: man:sshd(8)
man:sshd_config(5)
Process: 1023 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
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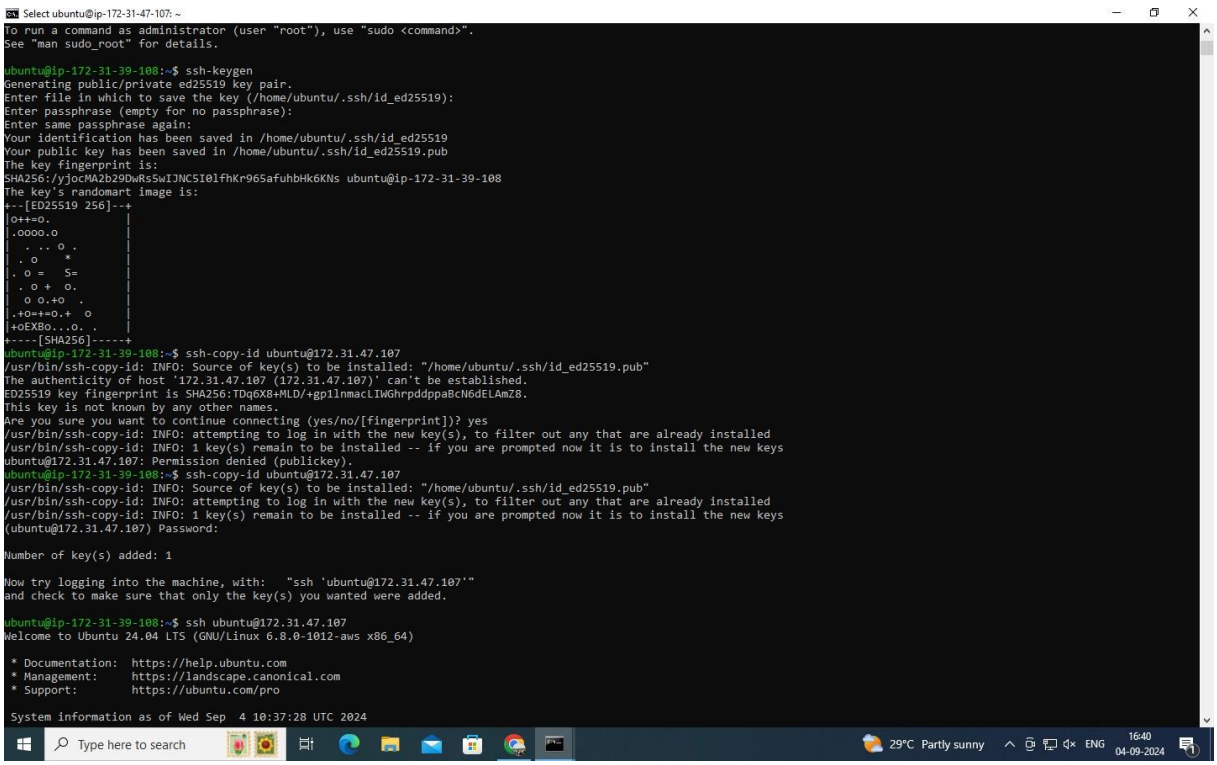
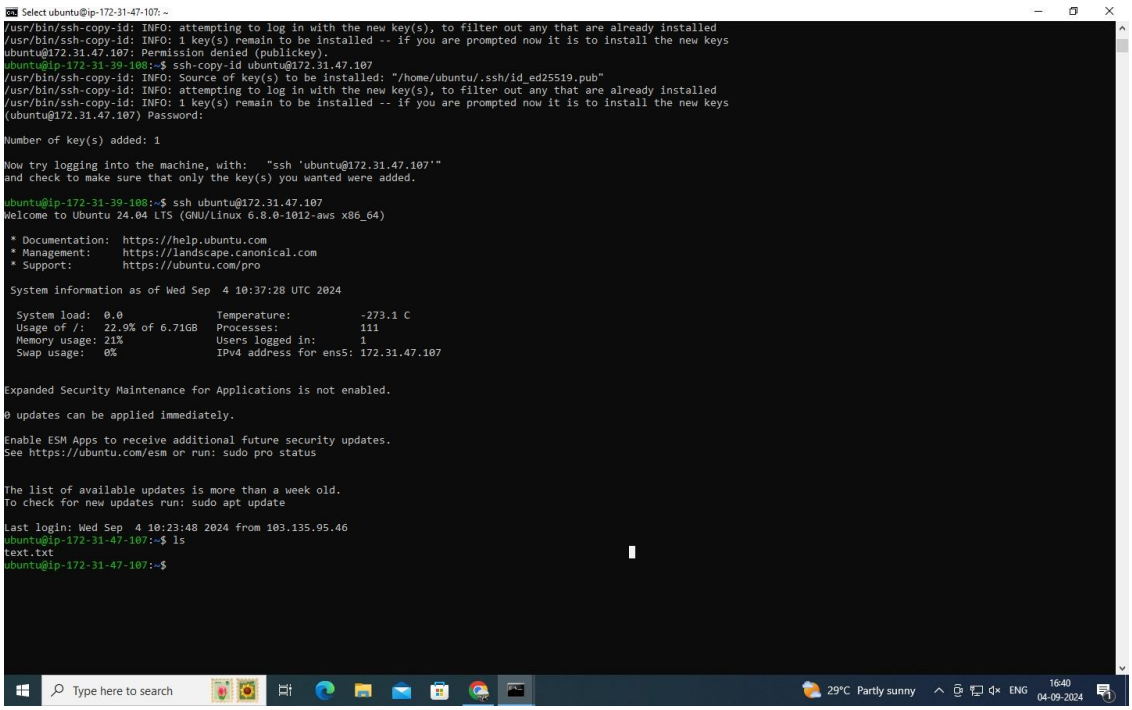
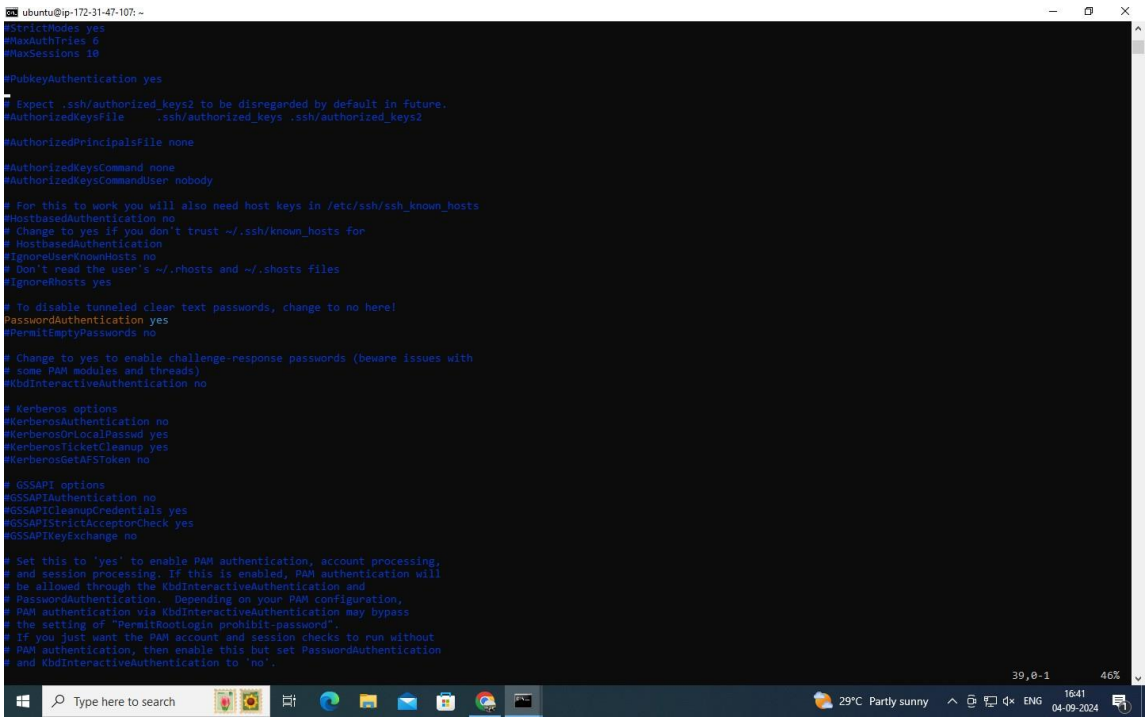
Sep 04 10:23:47 ip-172-31-47-107 sshd[1026]: Accepted publickey for ubuntu from 103.135.95.46 port 58778 ssh2: RSA SHA2
Sep 04 10:23:47 ip-172-31-47-107 sshd[1026]: pam_unix(sshd:session): session opened for user ubuntu(uid=1000) by ubuntu
ubuntu@ip-172-31-47-107:~$ touch text.txt
ubuntu@ip-172-31-47-107:~$ sudo service ssh restart
ubuntu@ip-172-31-47-107:~$
Type here to search
Elon Musk vs Brazil c...
ENG
16:40
04-09-2024


Select ubuntu@ip-172-31-47-107: ~
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
ubuntu@ip-172-31-39-108:~$ ssh-keygen
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/ubuntu/.ssh/id_ed25519):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ubuntu/.ssh/id_ed25519
Your public key has been saved in /home/ubuntu/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:/yjocMA2b29DwRs5wIJNC5I0lfhKr965afuhbHk6KNs ubuntu@ip-172-31-39-108
The key's randomart image is:
+--[ED25519 256]--+
|o++=o. |
|.oooo.o |
| . .. o . |
| . o * |
|. o = S= |
| . o + o. |
| o o.+o .. |
|.+o=+=o.+ o |
|+oEXBo...o. . |
+----[SHA256]-----+
ubuntu@ip-172-31-39-108:~$ ssh-copy-id ubuntu@172.31.47.107
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/ubuntu/.ssh/id_ed25519.pub"
The authenticity of host '172.31.47.107 (172.31.47.107)' can't be established.
ED25519 key fingerprint is SHA256:TDq6X8+MLD/+gp1lnmacLIWGhrpddppaBcN6dELAmZ8.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
ubuntu@172.31.47.107: Permission denied (publickey).
ubuntu@ip-172-31-39-108:~$ ssh-copy-id ubuntu@172.31.47.107
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/ubuntu/.ssh/id_ed25519.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
(ubuntu@172.31.47.107) Password:
Number of key(s) added: 1
Now try logging into the machine, with: "ssh 'ubuntu@172.31.47.107'"
and check to make sure that only the key(s) you wanted were added.
ubuntu@ip-172-31-39-108:~$ ssh ubuntu@172.31.47.107
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/pro
System information as of Wed Sep 4 10:37:28 UTC 2024
Type here to search
29°C Partly sunny
ENG
16:40
04-09-2024





All the commands have been executed and the output has been obtained successfully.

DNS

Experiment: 4

Aim: To create and configure DNS Server

Description:

DNS Server

A DNS server is a computer server that contains a database of public IP addresses and their associated hostnames, and in most cases, serves to resolve, or translate, those common names to IP addresses as requested.

Port No: 53
Package name: bind9

Configuration file: /etc/bind/named.conf. (Primary configuration file),/etc/bind/db.root (root nameservers)

Procedure:

CASHING NAMESERVER

When configured as a caching nameserver BIND9 will find the answer to name queries and
remember the answer when the domain is queried again.

1. Install bind9 by typing

$sudo apt install bind9
$sudo apt install dnsutils

2. The default configuration is set up to act as a caching server. All that is required is simply
adding the IP Addresses of your ISP's DNS servers. Simply uncomment and edit the following in /etc/bind/named.conf.options:

3. Restart it by typing
$sudo systemctl restart bind9.service

PRIMARY MASTER

As a primary master server BIND9 reads the data for a zone from a file on it's host and is authoritative for that zone.

Forward zone file

To add a DNS zone to BIND9, turning BIND9 into a Primary Master server, the first step is to edit /etc/bind/named.conf.local:

$sudo cp /etc/bind/db.local /etc/bind/db.example.com
$sudo systemctl restart bind9.service

Reverse Zone File

Now that the zone is set up and resolving names to IP Addresses, a *Reverse zone* needs to be added to allows DNS to resolve an address to a name.

1. Edit /etc/bind/named.conf.local
2. Now create the /etc/bind/db.192 file:
   $sudo cp /etc/bind/db.127 /etc/bind/db.192

3. edit /etc/bind/db.192changing the basically the same options as /etc/bind/db.example.com:

4.After creating the reverse zone file restart BIND9:
   $sudo systemctl restart bind9.service
5.Check the status
   $Sudo service bind9 status
6.Check if nslookup can resolve

$nslookup ftp.example.com
$nslookup ubuntu.example.com

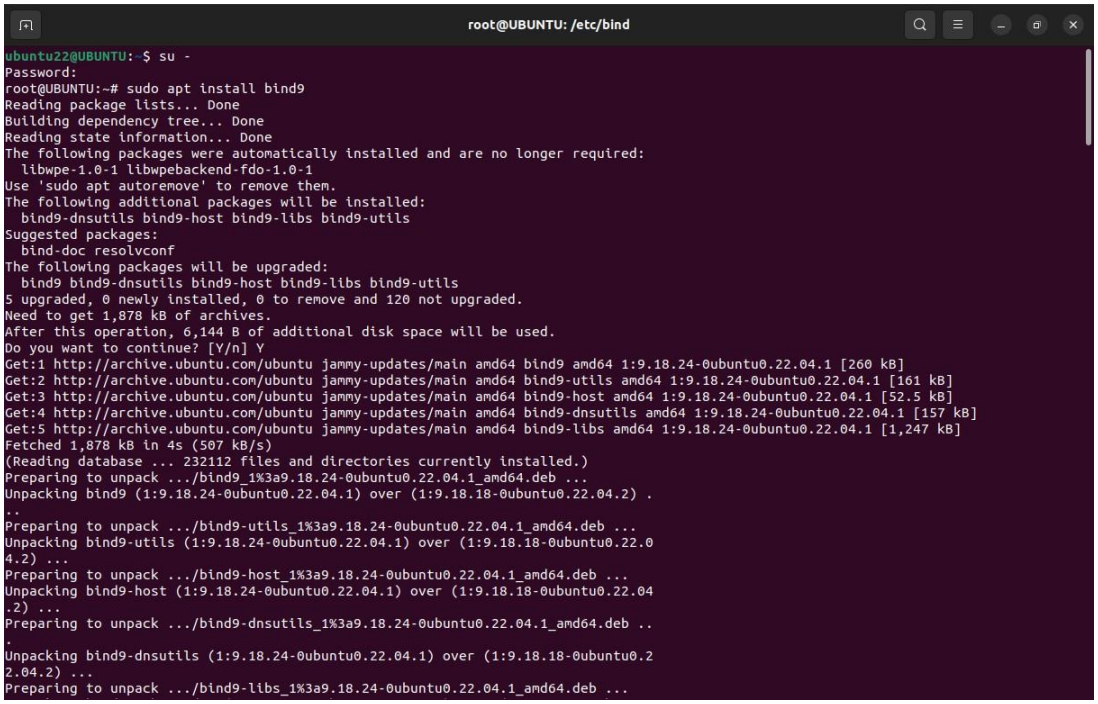
7.Gather information about your DNS server

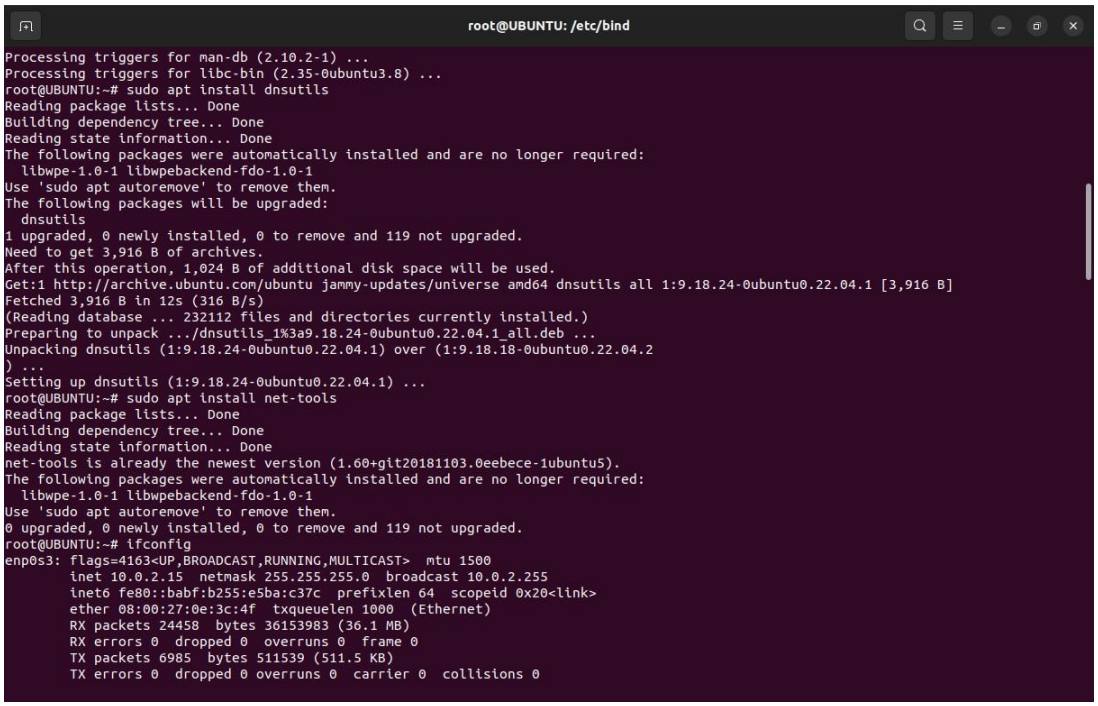
$dig ubuntu.example.com

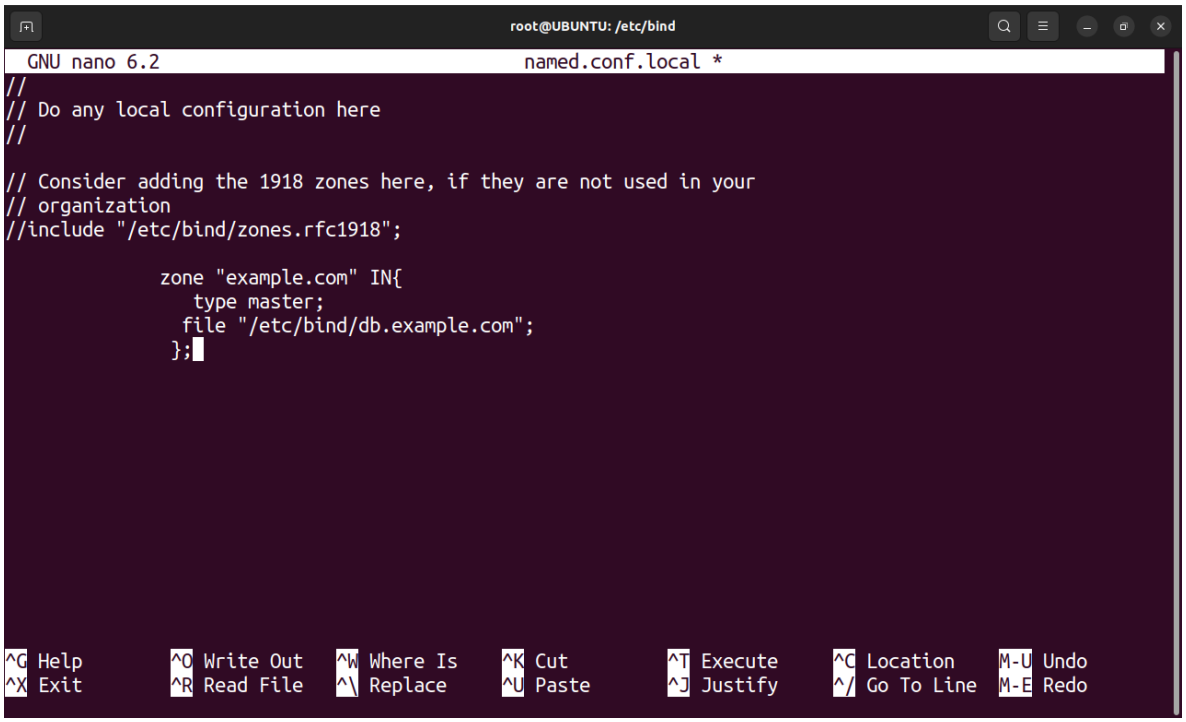
$dig www.example.com

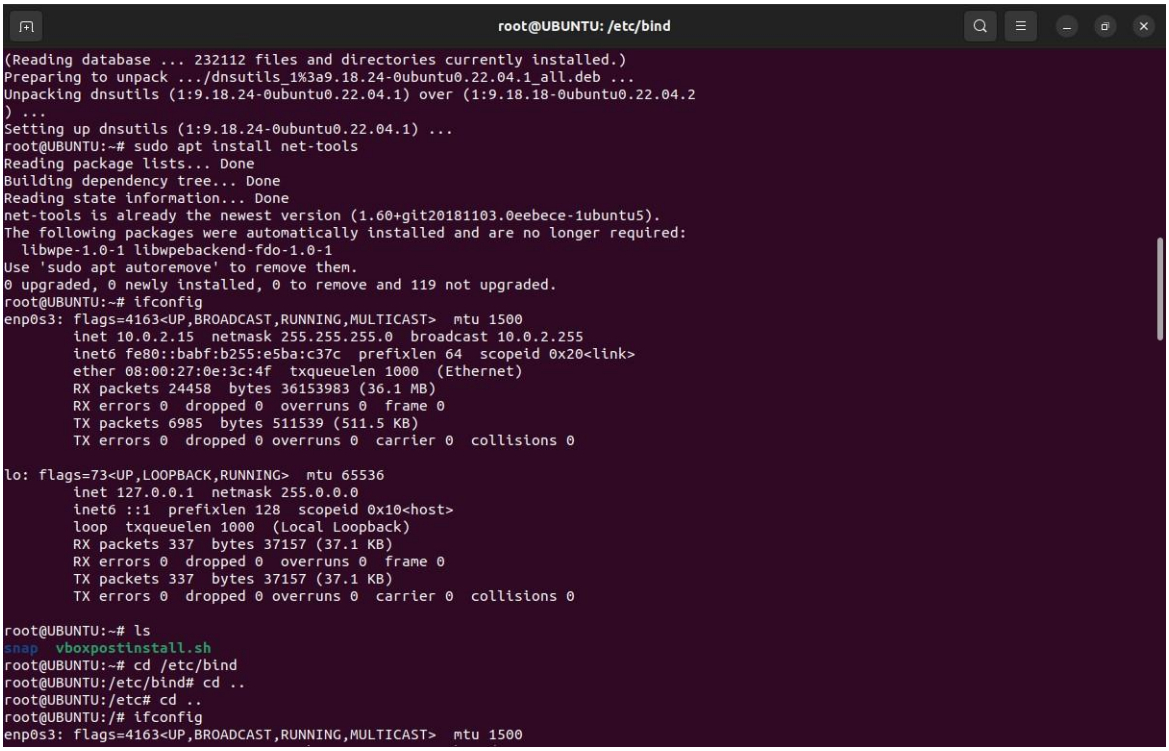
$dig ftp.example.com

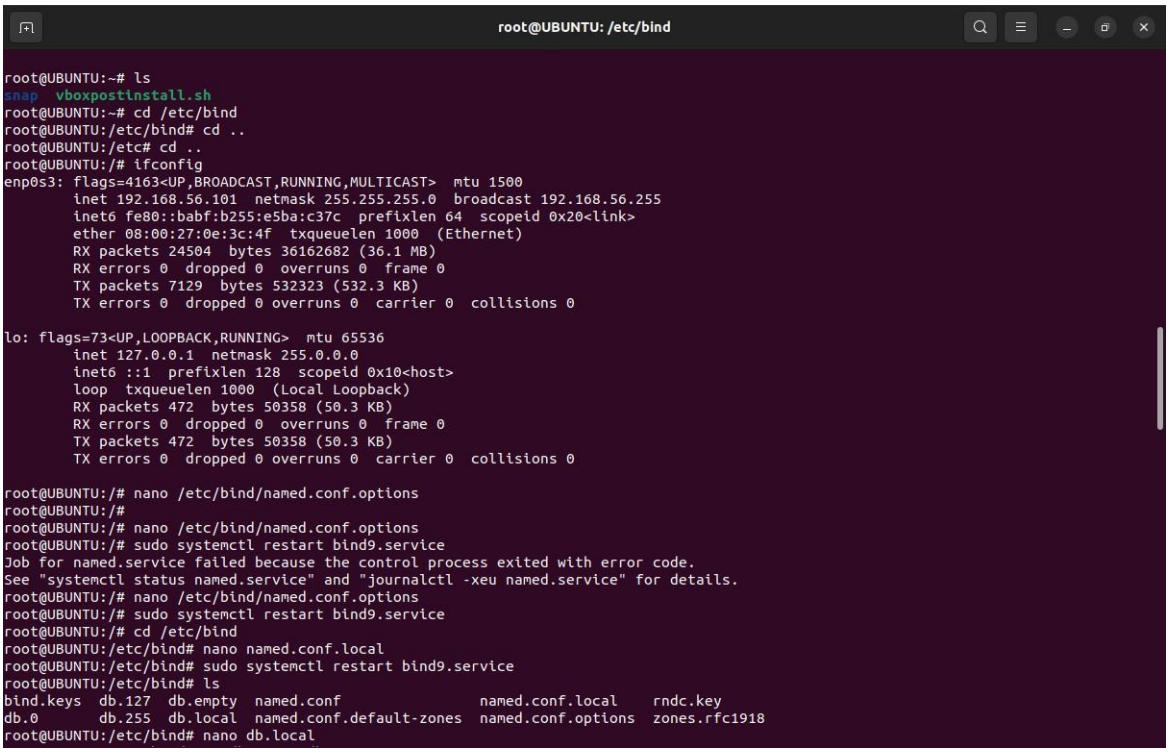
Result:

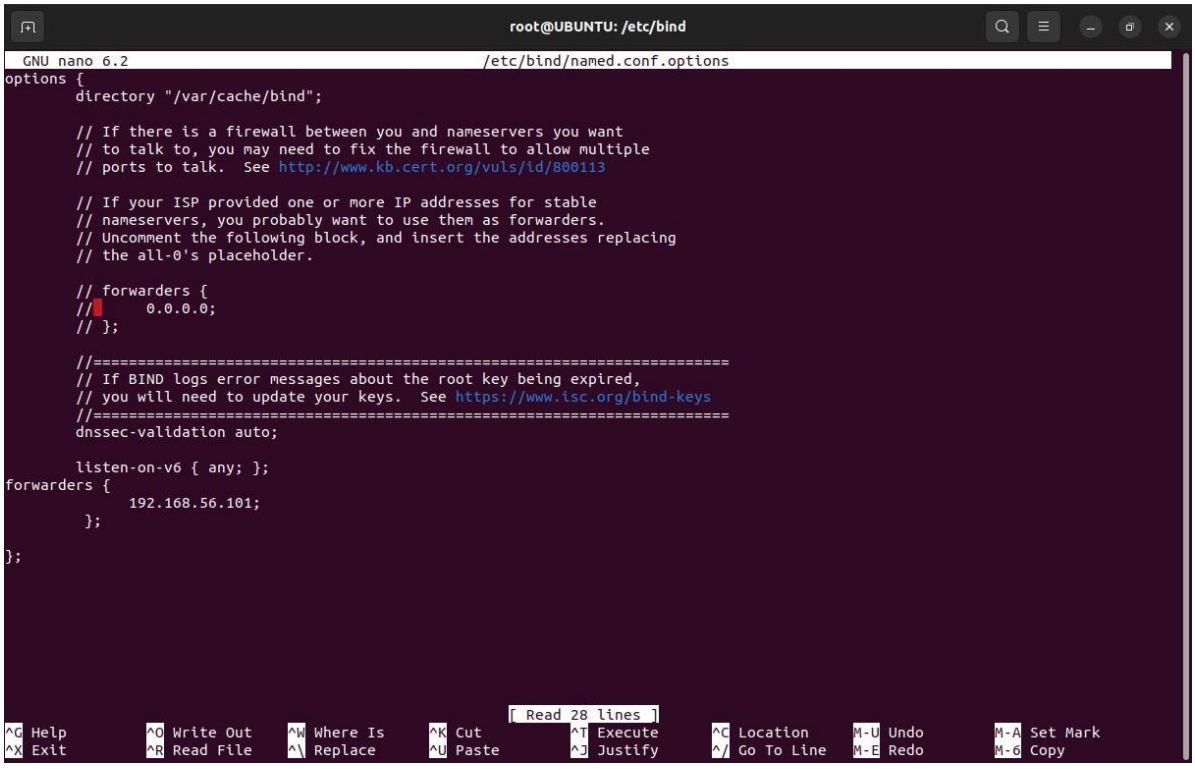

root@UBUNTU: /etc/bind
ubuntu22@UBUNTU:~$ su -
Password:
root@UBUNTU:~# sudo apt install bind9
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
bind9-dnsutils bind9-host bind9-libs bind9-utils
Suggested packages:
bind-doc resolvconf
The following packages will be upgraded:
bind9 bind9-dnsutils bind9-host bind9-libs bind9-utils
5 upgraded, 0 newly installed, 0 to remove and 120 not upgraded.
Need to get 1,878 kB of archives.
After this operation, 6,144 B of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 bind9 amd64 1:9.18.24-0ubuntu0.22.04.1 [260 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 bind9-utils amd64 1:9.18.24-0ubuntu0.22.04.1 [161 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 bind9-host amd64 1:9.18.24-0ubuntu0.22.04.1 [52.5 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 bind9-dnsutils amd64 1:9.18.24-0ubuntu0.22.04.1 [157 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 bind9-libs amd64 1:9.18.24-0ubuntu0.22.04.1 [1,247 kB]
Fetched 1,878 kB in 4s (507 kB/s)
(Reading database ... 232112 files and directories currently installed.)
Preparing to unpack .../bind9_1%3a9.18.24-0ubuntu0.22.04.1_amd64.deb ...
Unpacking bind9 (1:9.18.24-0ubuntu0.22.04.1) over (1:9.18.18-0ubuntu0.22.04.2) .
..
Preparing to unpack .../bind9-utils_1%3a9.18.24-0ubuntu0.22.04.1_amd64.deb ...
Unpacking bind9-utils (1:9.18.24-0ubuntu0.22.04.1) over (1:9.18.18-0ubuntu0.22.0
4.2) ...
Preparing to unpack .../bind9-host_1%3a9.18.24-0ubuntu0.22.04.1_amd64.deb ...
Unpacking bind9-host (1:9.18.24-0ubuntu0.22.04.1) over (1:9.18.18-0ubuntu0.22.04
.2) ...
Preparing to unpack .../bind9-dnsutils_1%3a9.18.24-0ubuntu0.22.04.1_amd64.deb ..
.
Unpacking bind9-dnsutils (1:9.18.24-0ubuntu0.22.04.1) over (1:9.18.18-0ubuntu0.2
2.04.2) ...
Preparing to unpack .../bind9-libs_1%3a9.18.24-0ubuntu0.22.04.1_amd64.deb ...

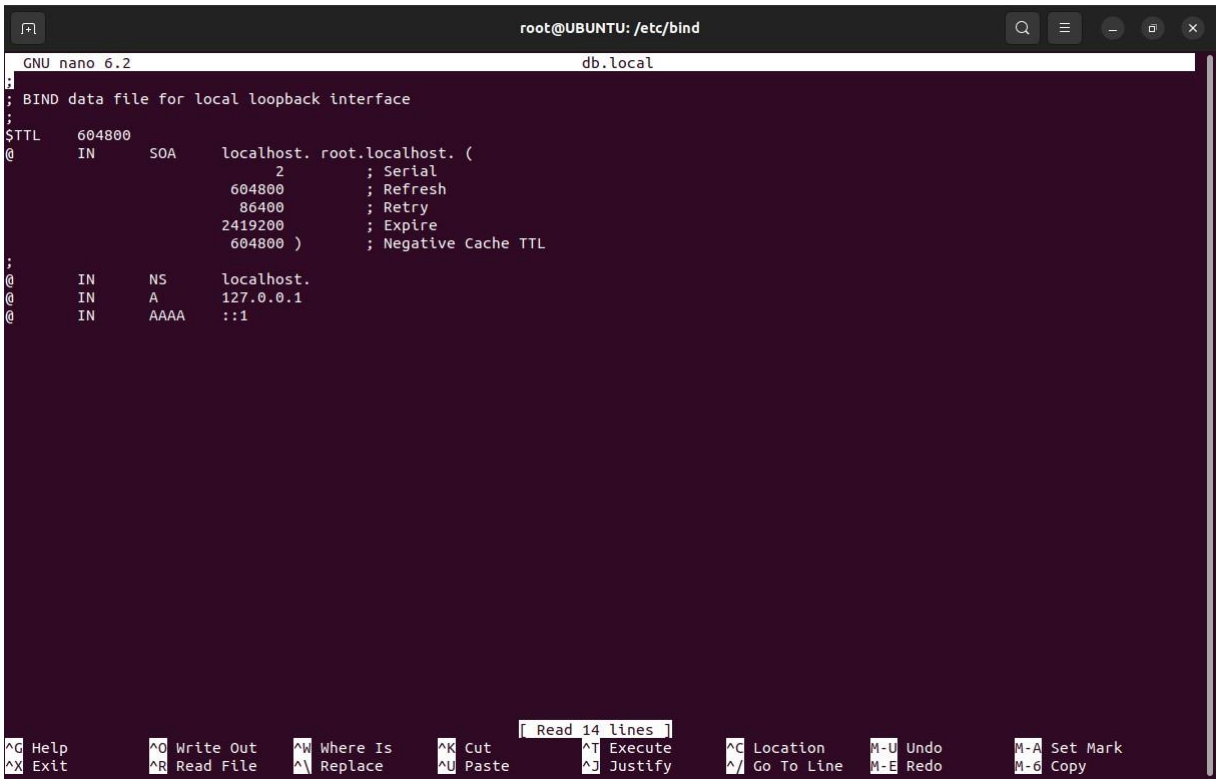

root@UBUNTU: /etc/bind
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.8) ...
root@UBUNTU:~# sudo apt install dnsutils
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following packages will be upgraded:
dnsutils
1 upgraded, 0 newly installed, 0 to remove and 119 not upgraded.
Need to get 3,916 B of archives.
After this operation, 1,024 B of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 dnsutils all 1:9.18.24-0ubuntu0.22.04.1 [3,916 B]
Fetched 3,916 B in 12s (316 B/s)
(Reading database ... 232112 files and directories currently installed.)
Preparing to unpack .../dnsutils_1%3a9.18.24-0ubuntu0.22.04.1_all.deb ...
Unpacking dnsutils (1:9.18.24-0ubuntu0.22.04.1) over (1:9.18.18-0ubuntu0.22.04.2
) ...
Setting up dnsutils (1:9.18.24-0ubuntu0.22.04.1) ...
root@UBUNTU:~# sudo apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
net-tools is already the newest version (1.60+git20181103.0eebece-1ubuntu5).
The following packages were automatically installed and are no longer required:
libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 119 not upgraded.
root@UBUNTU:~# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::babf:b255:e5ba:c37c prefixlen 64 scopeid 0x20<link>
ether 08:00:27:0e:3c:4f txqueuelen 1000 (Ethernet)
RX packets 24458 bytes 36153983 (36.1 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 6985 bytes 511539 (511.5 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

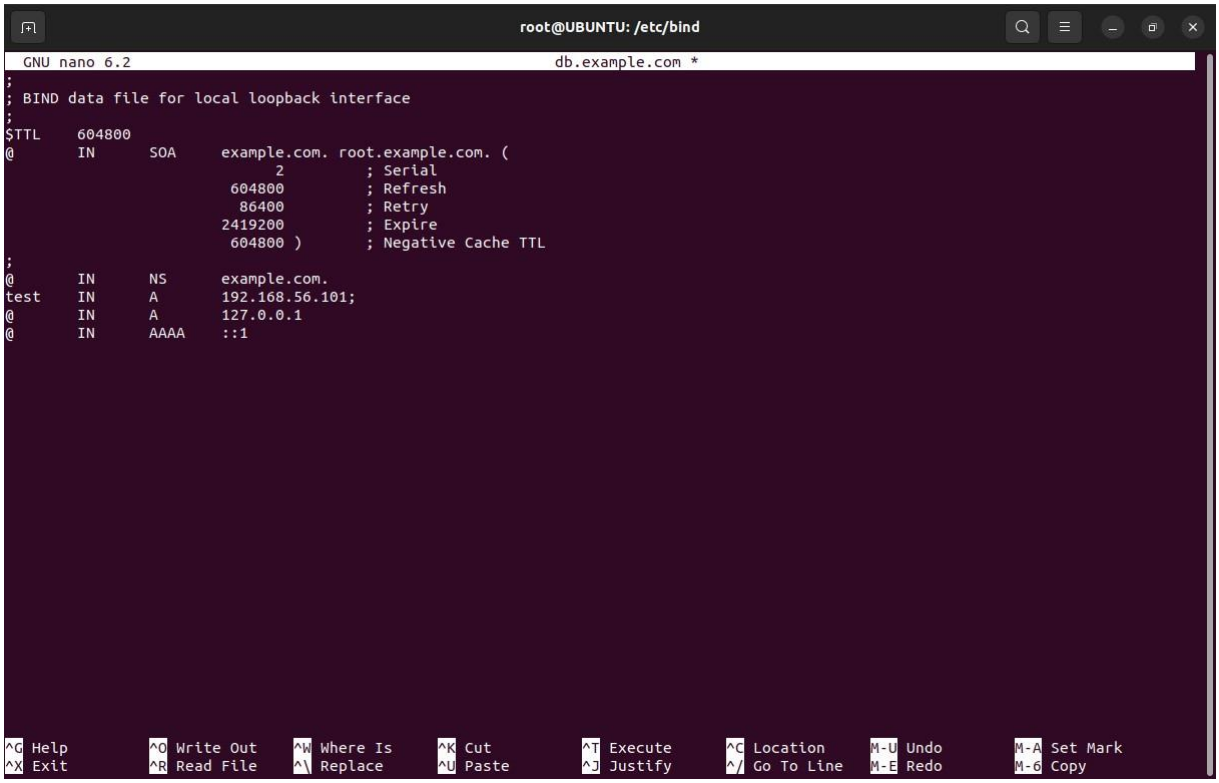

root@UBUNTU: /etc/bind
GNU nano 6.2 named.conf.local *
//
// Do any local configuration here
//
// Consider adding the 1918 zones here, if they are not used in your
// organization
//include "/etc/bind/zones.rfc1918";
zone "example.com" IN{
type master;
file "/etc/bind/db.example.com";
};
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo

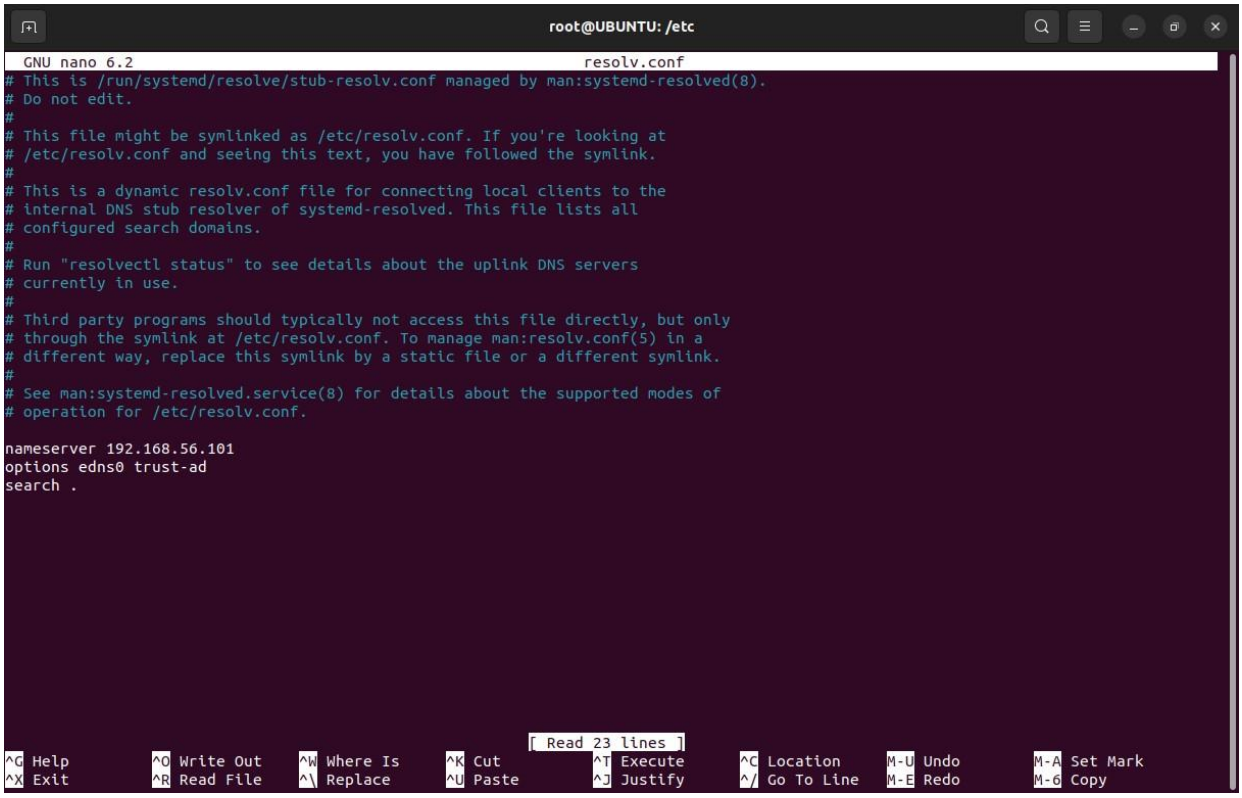

root@UBUNTU: /etc/bind
(Reading database ... 232112 files and directories currently installed.)
Preparing to unpack .../dnsutils_1%3a9.18.24-0ubuntu0.22.04.1_all.deb ...
Unpacking dnsutils (1:9.18.24-0ubuntu0.22.04.1) over (1:9.18.18-0ubuntu0.22.04.2
) ...
Setting up dnsutils (1:9.18.24-0ubuntu0.22.04.1) ...
root@UBUNTU:~# sudo apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
net-tools is already the newest version (1.60+git20181103.0eebece-1ubuntu5).
The following packages were automatically installed and are no longer required:
libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 119 not upgraded.
root@UBUNTU:~# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::babf:b255:e5ba:c37c prefixlen 64 scopeid 0x20<link>
ether 08:00:27:0e:3c:4f txqueuelen 1000 (Ethernet)
RX packets 24458 bytes 36153983 (36.1 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 6985 bytes 511539 (511.5 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 337 bytes 37157 (37.1 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 337 bytes 37157 (37.1 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
root@UBUNTU:~# ls
snap vboxpostinstall.sh
root@UBUNTU:~# cd /etc/bind
root@UBUNTU:/etc/bind# cd ..
root@UBUNTU:/etc# cd ..
root@UBUNTU:/# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500

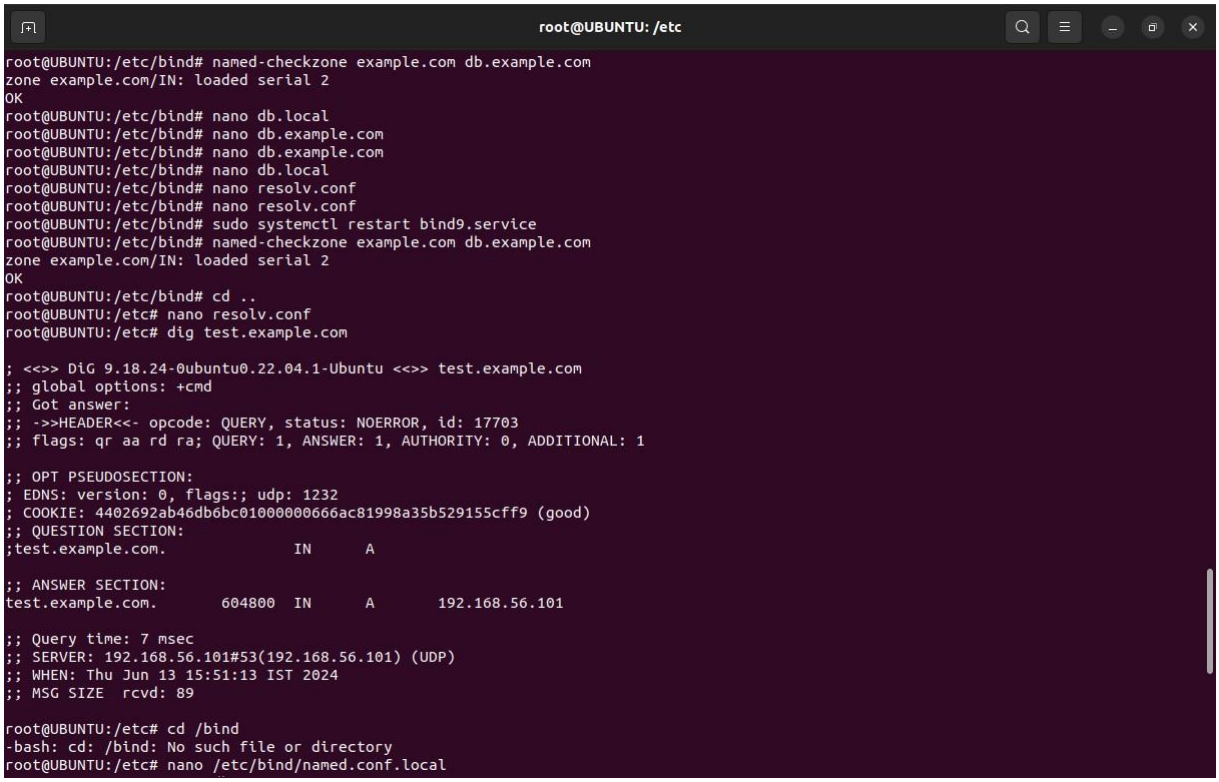

root@UBUNTU: /etc/bind
root@UBUNTU:~# ls
snap vboxpostinstall.sh
root@UBUNTU:~# cd /etc/bind
root@UBUNTU:/etc/bind# cd ..
root@UBUNTU:/etc# cd ..
root@UBUNTU:/# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 192.168.56.101 netmask 255.255.255.0 broadcast 192.168.56.255
inet6 fe80::babf:b255:e5ba:c37c prefixlen 64 scopeid 0x20<link>
ether 08:00:27:0e:3c:4f txqueuelen 1000 (Ethernet)
RX packets 24504 bytes 36162682 (36.1 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 7129 bytes 532323 (532.3 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 472 bytes 50358 (50.3 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 472 bytes 50358 (50.3 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
root@UBUNTU:/# nano /etc/bind/named.conf.options
root@UBUNTU:/#
root@UBUNTU:/# nano /etc/bind/named.conf.options
root@UBUNTU:/# sudo systemctl restart bind9.service
Job for named.service failed because the control process exited with error code.
See "systemctl status named.service" and "journalctl -xeu named.service" for details.
root@UBUNTU:/# nano /etc/bind/named.conf.options
root@UBUNTU:/# sudo systemctl restart bind9.service
root@UBUNTU:/# cd /etc/bind
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# sudo systemctl restart bind9.service
root@UBUNTU:/etc/bind# ls
bind.keys db.127 db.empty named.conf named.conf.local rndc.key
db.0 db.255 db.local named.conf.default-zones named.conf.options zones.rfc1918
root@UBUNTU:/etc/bind# nano db.local

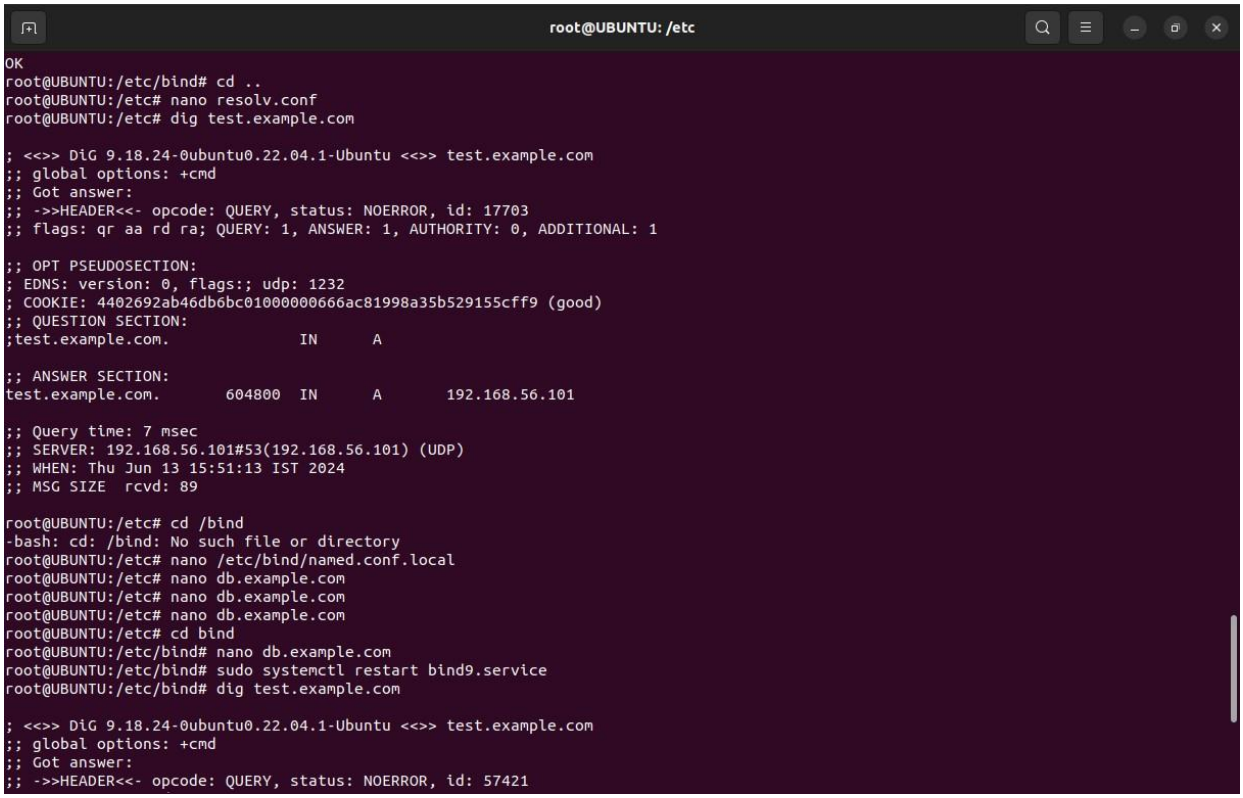

root@UBUNTU: /etc/bind
GNU nano 6.2 /etc/bind/named.conf.options
options {
directory "/var/cache/bind";
// If there is a firewall between you and nameservers you want
// to talk to, you may need to fix the firewall to allow multiple
// ports to talk. See http://www.kb.cert.org/vuls/id/800113
// If your ISP provided one or more IP addresses for stable
// nameservers, you probably want to use them as forwarders.
// Uncomment the following block, and insert the addresses replacing
// the all-0's placeholder.
// forwarders {
// 0.0.0.0;
// };
//==
// If BIND logs error messages about the root key being expired,
// you will need to update your keys. See https://www.isc.org/bind-keys
//==
dnssec-validation auto;
listen-on-v6 { any; };
forwarders {
192.168.56.101;
};
};
[Read 28 lines]
^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

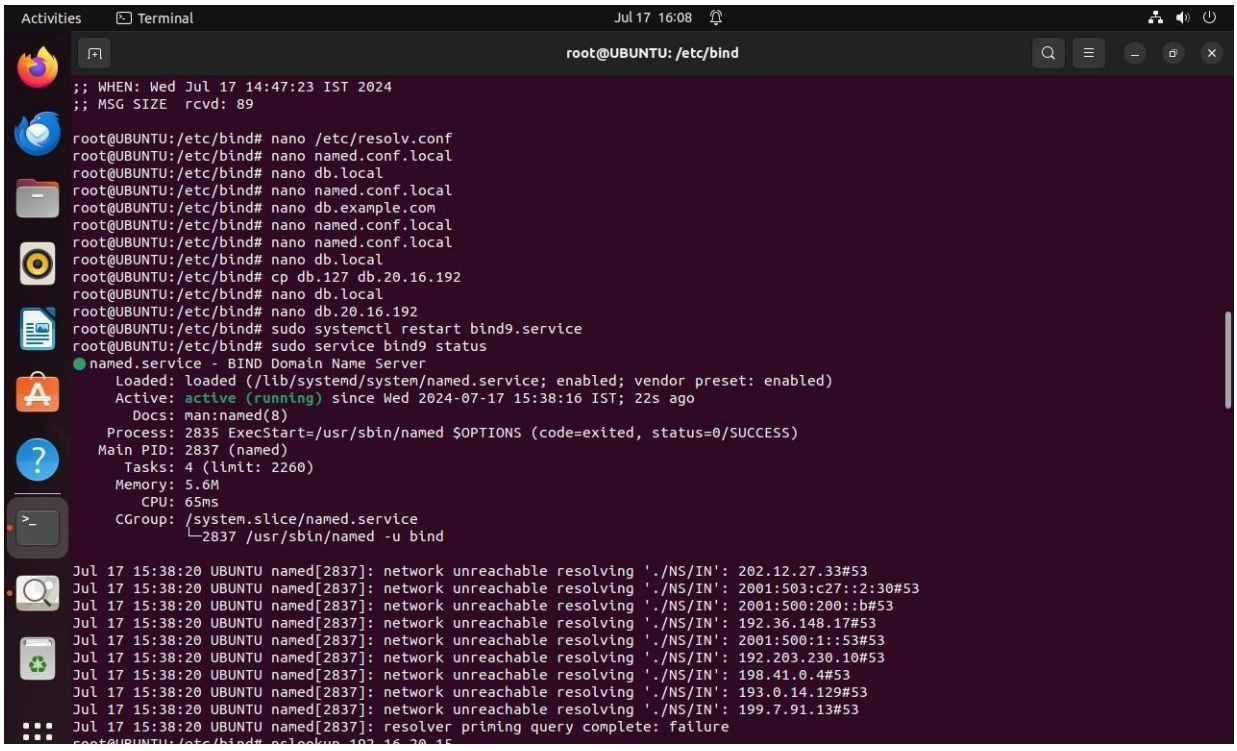

root@UBUNTU: /etc/bind
GNU nano 6.2 db.local
;
; BIND data file for local loopback interface
;
$TTL 604800
@ IN SOA localhost. root.localhost. (
2 ; Serial
604800 ; Refresh
86400 ; Retry
2419200 ; Expire
604800) ; Negative Cache TTL
;
@ IN NS localhost.
@ IN A 127.0.0.1
@ IN AAAA ::1
[Read 14 lines]
^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

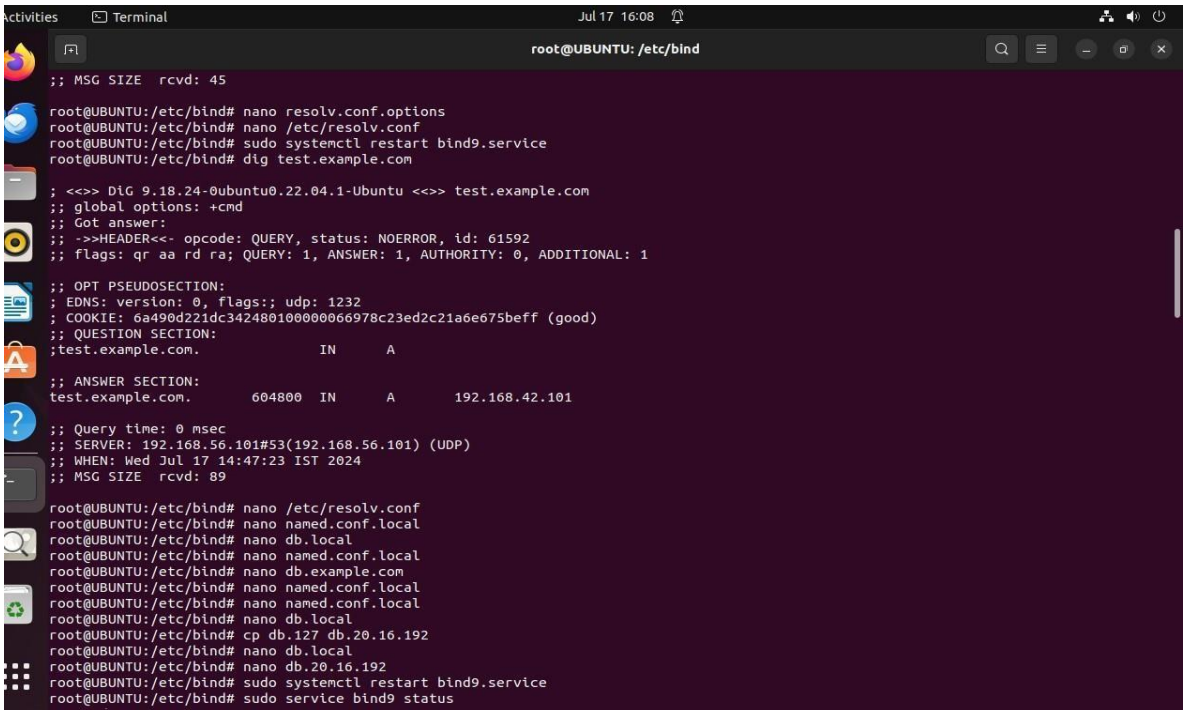

root@UBUNTU: /etc/bind
GNU nano 6.2 db.example.com *
;
; BIND data file for local loopback interface
;
$TTL 604800
@ IN SOA example.com. root.example.com. (
2 ; Serial
604800 ; Refresh
86400 ; Retry
2419200 ; Expire
604800) ; Negative Cache TTL
;
@ IN NS example.com.
test IN A 192.168.56.101;
@ IN A 127.0.0.1
@ IN AAAA ::1
^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

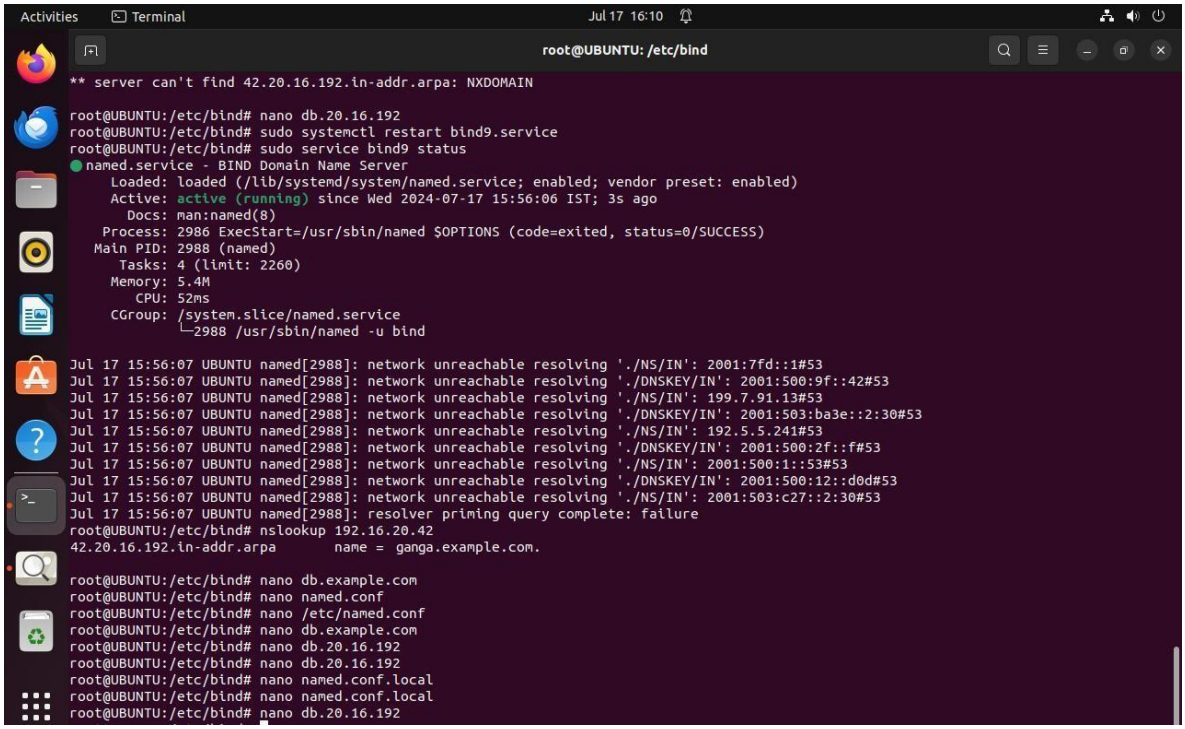

root@UBUNTU: /etc
GNU nano 6.2 resolv.conf
This is /run/systemd/resolve/stub-resolv.conf managed by man:systemd-resolved(8).
Do not edit.
#
This file might be symlinked as /etc/resolv.conf. If you're looking at
/etc/resolv.conf and seeing this text, you have followed the symlink.
#
This is a dynamic resolv.conf file for connecting local clients to the
internal DNS stub resolver of systemd-resolved. This file lists all
configured search domains.
#
Run "resolvectl status" to see details about the uplink DNS servers
currently in use.
#
Third party programs should typically not access this file directly, but only
through the symlink at /etc/resolv.conf. To manage man:resolv.conf(5) in a
different way, replace this symlink by a static file or a different symlink.
#
See man:systemd-resolved.service(8) for details about the supported modes of
operation for /etc/resolv.conf.
nameserver 192.168.56.101
options edns0 trust-ad
search .
[Read 23 lines]
^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

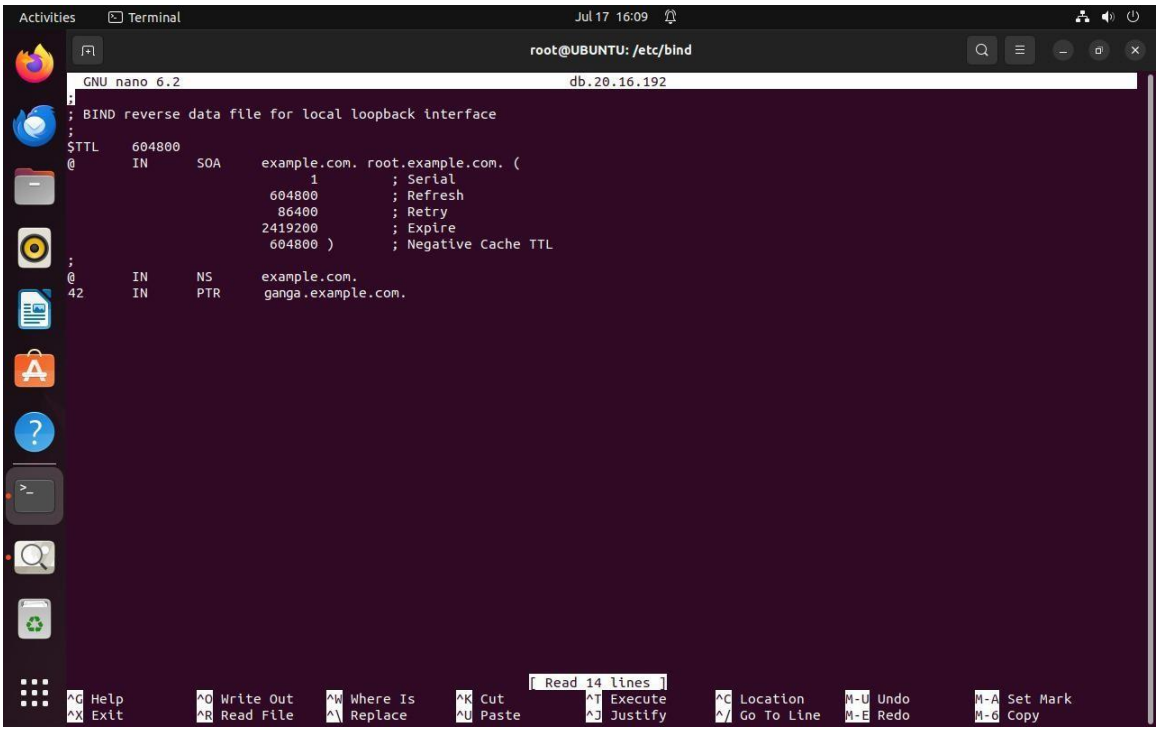

root@UBUNTU: /etc
root@UBUNTU:/etc/bind# named-checkzone example.com db.example.com
zone example.com/IN: loaded serial 2
OK
root@UBUNTU:/etc/bind# nano db.local
root@UBUNTU:/etc/bind# nano db.example.com
root@UBUNTU:/etc/bind# nano db.example.com
root@UBUNTU:/etc/bind# nano db.local
root@UBUNTU:/etc/bind# nano resolv.conf
root@UBUNTU:/etc/bind# nano resolv.conf
root@UBUNTU:/etc/bind# sudo systemctl restart bind9.service
root@UBUNTU:/etc/bind# named-checkzone example.com db.example.com
zone example.com/IN: loaded serial 2
OK
root@UBUNTU:/etc/bind# cd ..
root@UBUNTU:/etc# nano resolv.conf
root@UBUNTU:/etc# dig test.example.com
; <<>> DiG 9.18.24-0ubuntu0.22.04.1-Ubuntu <<>> test.example.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 17703
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: 4402692ab46db6bc01000000666ac81998a35b529155cff9 (good)
;; QUESTION SECTION:
;test.example.com. IN A
;; ANSWER SECTION:
test.example.com. 604800 IN A 192.168.56.101
;; Query time: 7 msec
;; SERVER: 192.168.56.101#53(192.168.56.101) (UDP)
;; WHEN: Thu Jun 13 15:51:13 IST 2024
;; MSG SIZE rcvd: 89
root@UBUNTU:/etc# cd /bind
-bash: cd: /bind: No such file or directory
root@UBUNTU:/etc# nano /etc/bind/named.conf.local

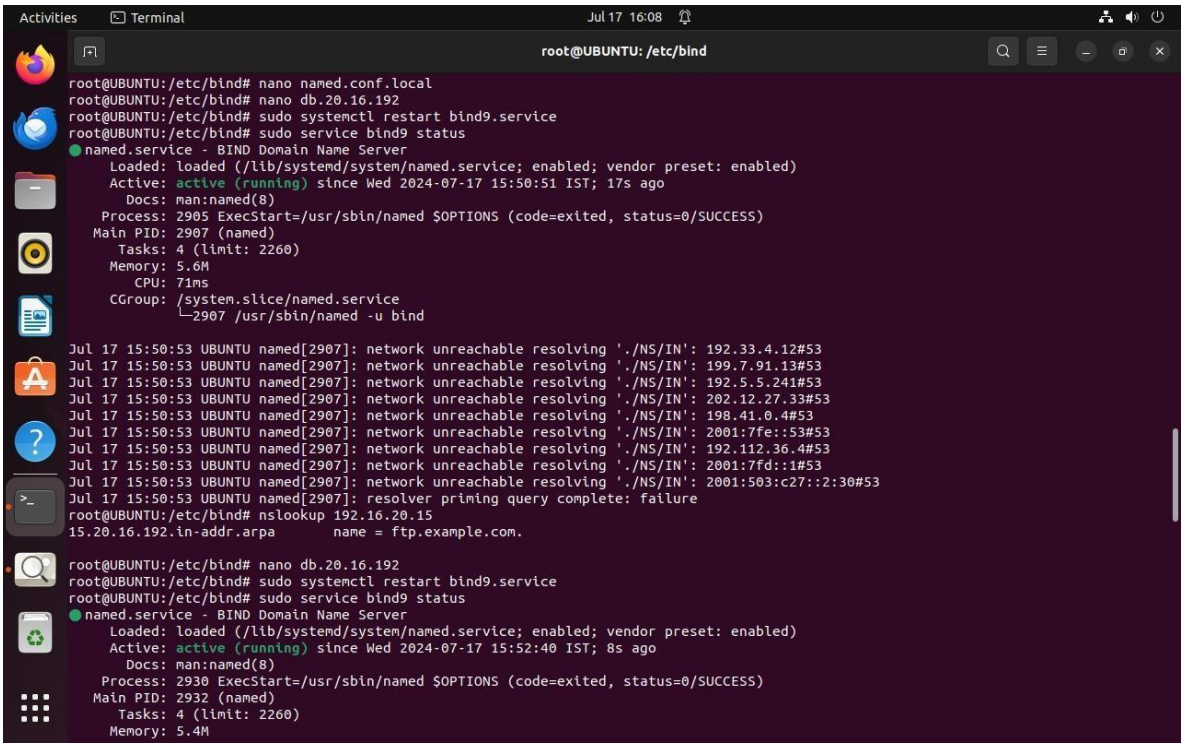

root@UBUNTU: /etc
OK
root@UBUNTU:/etc/bind# cd ..
root@UBUNTU:/etc# nano resolv.conf
root@UBUNTU:/etc# dig test.example.com
; <<>> DiG 9.18.24-0ubuntu0.22.04.1-Ubuntu <<>> test.example.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 17703
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: 4402692ab46db6bc0100000666ac81998a35b529155cff9 (good)
;; QUESTION SECTION:
;test.example.com. IN A
;; ANSWER SECTION:
test.example.com. 604800 IN A 192.168.56.101
;; Query time: 7 msec
;; SERVER: 192.168.56.101#53(192.168.56.101) (UDP)
;; WHEN: Thu Jun 13 15:51:13 IST 2024
;; MSG SIZE rcvd: 89
root@UBUNTU:/etc# cd /bind
-bash: cd: /bind: No such file or directory
root@UBUNTU:/etc# nano /etc/bind/named.conf.local
root@UBUNTU:/etc# nano db.example.com
root@UBUNTU:/etc# nano db.example.com
root@UBUNTU:/etc# nano db.example.com
root@UBUNTU:/etc# cd bind
root@UBUNTU:/etc/bind# nano db.example.com
root@UBUNTU:/etc/bind# sudo systemctl restart bind9.service
root@UBUNTU:/etc/bind# dig test.example.com
; <<>> DiG 9.18.24-0ubuntu0.22.04.1-Ubuntu <<>> test.example.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 57421

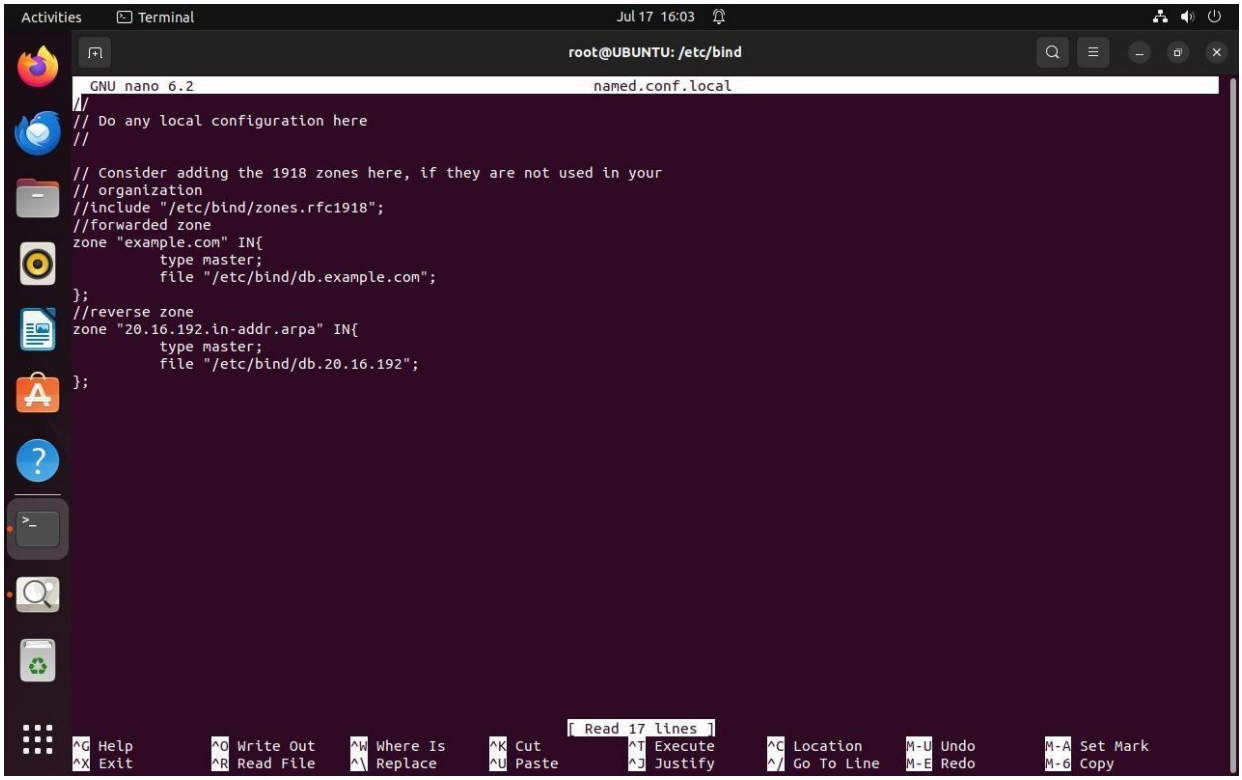

Activities
Terminal
Jul 17 16:08
root@UBUNTU: /etc/bind
;; WHEN: Wed Jul 17 14:47:23 IST 2024
;; MSG SIZE rcvd: 89
root@UBUNTU:/etc/bind# nano /etc/resolv.conf
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano db.local
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano db.example.com
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano db.local
root@UBUNTU:/etc/bind# cp db.127 db.20.16.192
root@UBUNTU:/etc/bind# nano db.local
root@UBUNTU:/etc/bind# nano db.20.16.192
root@UBUNTU:/etc/bind# sudo systemctl restart bind9.service
root@UBUNTU:/etc/bind# sudo service bind9 status
named.service - BIND Domain Name Server
Loaded: loaded (/lib/systemd/system/named.service; enabled; vendor preset: enabled)
Active: active (running) since Wed 2024-07-17 15:38:16 IST; 22s ago
Docs: man:named(8)
Process: 2835 ExecStart=/usr/sbin/named $OPTIONS (code=exited, status=0/SUCCESS)
Main PID: 2837 (named)
Tasks: 4 (limit: 2260)
Memory: 5.6M
CPU: 65ms
CGroup: /system.slice/named.service
└─2837 /usr/sbin/named -u bind
Jul 17 15:38:20 UBUNTU named[2837]: network unreachable resolving './NS/IN': 202.12.27.33#53
Jul 17 15:38:20 UBUNTU named[2837]: network unreachable resolving './NS/IN': 2001:503:c27::2:30#53
Jul 17 15:38:20 UBUNTU named[2837]: network unreachable resolving './NS/IN': 2001:500:200::b#53
Jul 17 15:38:20 UBUNTU named[2837]: network unreachable resolving './NS/IN': 192.36.148.17#53
Jul 17 15:38:20 UBUNTU named[2837]: network unreachable resolving './NS/IN': 2001:500:1::53#53
Jul 17 15:38:20 UBUNTU named[2837]: network unreachable resolving './NS/IN': 192.203.230.10#53
Jul 17 15:38:20 UBUNTU named[2837]: network unreachable resolving './NS/IN': 198.41.0.4#53
Jul 17 15:38:20 UBUNTU named[2837]: network unreachable resolving './NS/IN': 193.0.14.129#53
Jul 17 15:38:20 UBUNTU named[2837]: network unreachable resolving './NS/IN': 199.7.91.13#53
Jul 17 15:38:20 UBUNTU named[2837]: resolver priming query complete: failure


Activities
Terminal
Jul 17 16:08
root@UBUNTU: /etc/bind
;; MSG SIZE rcvd: 45
root@UBUNTU:/etc/bind# nano resolv.conf.options
root@UBUNTU:/etc/bind# nano /etc/resolv.conf
root@UBUNTU:/etc/bind# sudo systemctl restart bind9.service
root@UBUNTU:/etc/bind# dig test.example.com
; <<>> DiG 9.18.24-0ubuntu0.22.04.1-Ubuntu <<>> test.example.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 61592
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: 6a490d221dc34248010000066978c23ed2c21a6e675beff (good)
;; QUESTION SECTION:
;test.example.com.   IN   A
;; ANSWER SECTION:
test.example.com.   604800 IN   A   192.168.42.101
;; Query time: 0 msec
;; SERVER: 192.168.56.101#53(192.168.56.101) (UDP)
;; WHEN: Wed Jul 17 14:47:23 IST 2024
;; MSG SIZE rcvd: 89
root@UBUNTU:/etc/bind# nano /etc/resolv.conf
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano db.local
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano db.example.com
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano db.local
root@UBUNTU:/etc/bind# cp db.127 db.20.16.192
root@UBUNTU:/etc/bind# nano db.local
root@UBUNTU:/etc/bind# nano db.20.16.192
root@UBUNTU:/etc/bind# sudo systemctl restart bind9.service
root@UBUNTU:/etc/bind# sudo service bind9 status


Activities
Terminal
Jul 17 16:10
root@UBUNTU: /etc/bind
** server can't find 42.20.16.192.in-addr.arpa: NXDOMAIN
root@UBUNTU:/etc/bind# nano db.20.16.192
root@UBUNTU:/etc/bind# sudo systemctl restart bind9.service
root@UBUNTU:/etc/bind# sudo service bind9 status
named.service - BIND Domain Name Server
Loaded: loaded (/lib/systemd/system/named.service; enabled; vendor preset: enabled)
Active: active (running) since Wed 2024-07-17 15:56:06 IST; 3s ago
Docs: man:named(8)
Process: 2986 ExecStart=/usr/sbin/named $OPTIONS (code=exited, status=0/SUCCESS)
Main PID: 2988 (named)
Tasks: 4 (limit: 2260)
Memory: 5.4M
CPU: 52ms
CGroup: /system.slice/named.service
└─2988 /usr/sbin/named -u bind
Jul 17 15:56:07 UBUNTU named[2988]: network unreachable resolving './NS/IN': 2001:7fd::1#53
Jul 17 15:56:07 UBUNTU named[2988]: network unreachable resolving './DNSKEY/IN': 2001:500:9f::42#53
Jul 17 15:56:07 UBUNTU named[2988]: network unreachable resolving './NS/IN': 199.7.91.13#53
Jul 17 15:56:07 UBUNTU named[2988]: network unreachable resolving './DNSKEY/IN': 2001:503:ba3e::2:30#53
Jul 17 15:56:07 UBUNTU named[2988]: network unreachable resolving './NS/IN': 192.5.5.241#53
Jul 17 15:56:07 UBUNTU named[2988]: network unreachable resolving './DNSKEY/IN': 2001:500:2f::f#53
Jul 17 15:56:07 UBUNTU named[2988]: network unreachable resolving './NS/IN': 2001:500:1::53#53
Jul 17 15:56:07 UBUNTU named[2988]: network unreachable resolving './DNSKEY/IN': 2001:500:12::d0d#53
Jul 17 15:56:07 UBUNTU named[2988]: network unreachable resolving './NS/IN': 2001:503:c27::2:30#53
Jul 17 15:56:07 UBUNTU named[2988]: resolver priming query complete: failure
root@UBUNTU:/etc/bind# nslookup 192.16.20.42
42.20.16.192.in-addr.arpa   name = ganga.example.com.
root@UBUNTU:/etc/bind# nano db.example.com
root@UBUNTU:/etc/bind# nano named.conf
root@UBUNTU:/etc/bind# nano /etc/named.conf
root@UBUNTU:/etc/bind# nano db.example.com
root@UBUNTU:/etc/bind# nano db.20.16.192
root@UBUNTU:/etc/bind# nano db.20.16.192
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano db.20.16.192


Activities
Terminal
Jul 17 16:09
root@UBUNTU: /etc/bind
GNU nano 6.2
db.20.16.192
;
; BIND reverse data file for local loopback interface
;
$TTL 604800
@ IN SOA example.com. root.example.com. (
1 ; Serial
604800 ; Refresh
86400 ; Retry
2419200 ; Expire
604800) ; Negative Cache TTL
;
@ IN NS example.com.
42 IN PTR ganga.example.com.
[Read 14 lines]
^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


Activities
Terminal
Jul 17 16:08
root@UBUNTU: /etc/bind
root@UBUNTU:/etc/bind# nano named.conf.local
root@UBUNTU:/etc/bind# nano db.20.16.192
root@UBUNTU:/etc/bind# sudo systemctl restart bind9.service
root@UBUNTU:/etc/bind# sudo service bind9 status
named.service - BIND Domain Name Server
Loaded: loaded (/lib/systemd/system/named.service; enabled; vendor preset: enabled)
Active: active (running) since Wed 2024-07-17 15:50:51 IST; 17s ago
Docs: man:named(8)
Process: 2905 ExecStart=/usr/sbin/named $OPTIONS (code=exited, status=0/SUCCESS)
Main PID: 2907 (named)
Tasks: 4 (limit: 2260)
Memory: 5.6M
CPU: 71ms
CGroup: /system.slice/named.service
└─2907 /usr/sbin/named -u bind
Jul 17 15:50:53 UBUNTU named[2907]: network unreachable resolving './NS/IN': 192.33.4.12#53
Jul 17 15:50:53 UBUNTU named[2907]: network unreachable resolving './NS/IN': 199.7.91.13#53
Jul 17 15:50:53 UBUNTU named[2907]: network unreachable resolving './NS/IN': 192.5.5.241#53
Jul 17 15:50:53 UBUNTU named[2907]: network unreachable resolving './NS/IN': 202.12.27.33#53
Jul 17 15:50:53 UBUNTU named[2907]: network unreachable resolving './NS/IN': 198.41.0.4#53
Jul 17 15:50:53 UBUNTU named[2907]: network unreachable resolving './NS/IN': 2001:7fe::53#53
Jul 17 15:50:53 UBUNTU named[2907]: network unreachable resolving './NS/IN': 192.112.36.4#53
Jul 17 15:50:53 UBUNTU named[2907]: network unreachable resolving './NS/IN': 2001:7fd::1#53
Jul 17 15:50:53 UBUNTU named[2907]: network unreachable resolving './NS/IN': 2001:503:c27::2:30#53
Jul 17 15:50:53 UBUNTU named[2907]: resolver priming query complete: failure
root@UBUNTU:/etc/bind# nslookup 192.16.20.15
15.20.16.192.in-addr.arpa name = ftp.example.com.
root@UBUNTU:/etc/bind# nano db.20.16.192
root@UBUNTU:/etc/bind# sudo systemctl restart bind9.service
root@UBUNTU:/etc/bind# sudo service bind9 status
named.service - BIND Domain Name Server
Loaded: loaded (/lib/systemd/system/named.service; enabled; vendor preset: enabled)
Active: active (running) since Wed 2024-07-17 15:52:40 IST; 8s ago
Docs: man:named(8)
Process: 2930 ExecStart=/usr/sbin/named $OPTIONS (code=exited, status=0/SUCCESS)
Main PID: 2932 (named)
Tasks: 4 (limit: 2260)
Memory: 5.4M



All the commands have been executed and the output has been obtained successfully.

SQUID

Experiment: 5

Aim: To create and configure Squid -proxy server

Description:

SQUID – PROXY SERVER

Squid is a full-featured web proxy cache server application which provides proxy and cache services for HyperText Transport Protocol (HTTP), File Transfer Protocol (FTP), and other popular network protocols. Squid can implement caching and proxying of Secure Sockets Layer (SSL) requests and caching of Domain Name Server (DNS) lookups, and perform transparent caching. Squid also supports a wide variety of caching protocols, such as Internet Cache Protocol (ICP), the HyperText Caching Protocol (HTCP), the Cache Array Routing Protocol (CARP), and the Web Cache Coordination Protocol (WCCP).
The Squid proxy cache server is an excellent solution to various proxy and caching server needs, and scales from the branch office to enterprise-level networks while providing extensive, granular access control mechanisms, and monitoring of critical parameters via the Simple Network Management Protocol (SNMP). When selecting a computer system for use as a dedicated Squid caching proxy server for many users ensure it is configured with a large amount of physical memory as Squid maintains an in-memory cache for increased performance.

Port No: 3128
Package name: squid
Configuration file: /etc/squid/squid.conf

Procedure:

1. At a terminal prompt, enter the following command to install the Squid server:

   $sudo apt install squid

2. Squid is configured by editing the directives contained within the /etc/squid/squid.conf configuration file.
3. Change the access as shown below:

acl localnet src 192.168.234.139(your ip address)

acl blocksite dstdomain "/etc/squid/blocksite"

http_access deny blocksite

http_access allow localnet

#http_access deny all

http_access allow all

4. To block access to the website we must configure using "/etc/squid/blocksite”

   we edit the file by running:

   $cd /etc/squid

   $sudo gedit blocksite

5. Add the websites to block:

   in this case, I am blocking youtube, facebook, google

6. To check the actual functioning of the proxy server go to the browser and click settings, search proxy in connection settings.

7. To configure Proxy access to the internet
8. Select Manual Proxy configuration

9. Type your HTTP Proxy(IP Address) and Port number as 3128.

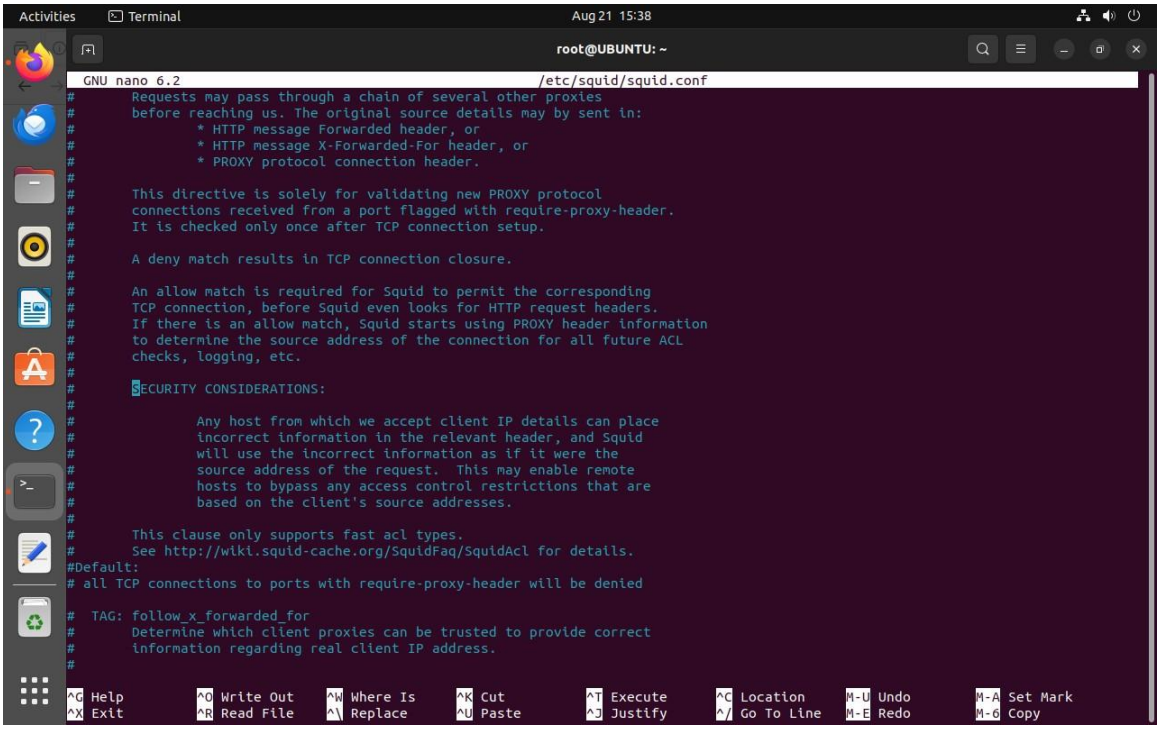
10. Select SOCKS v5

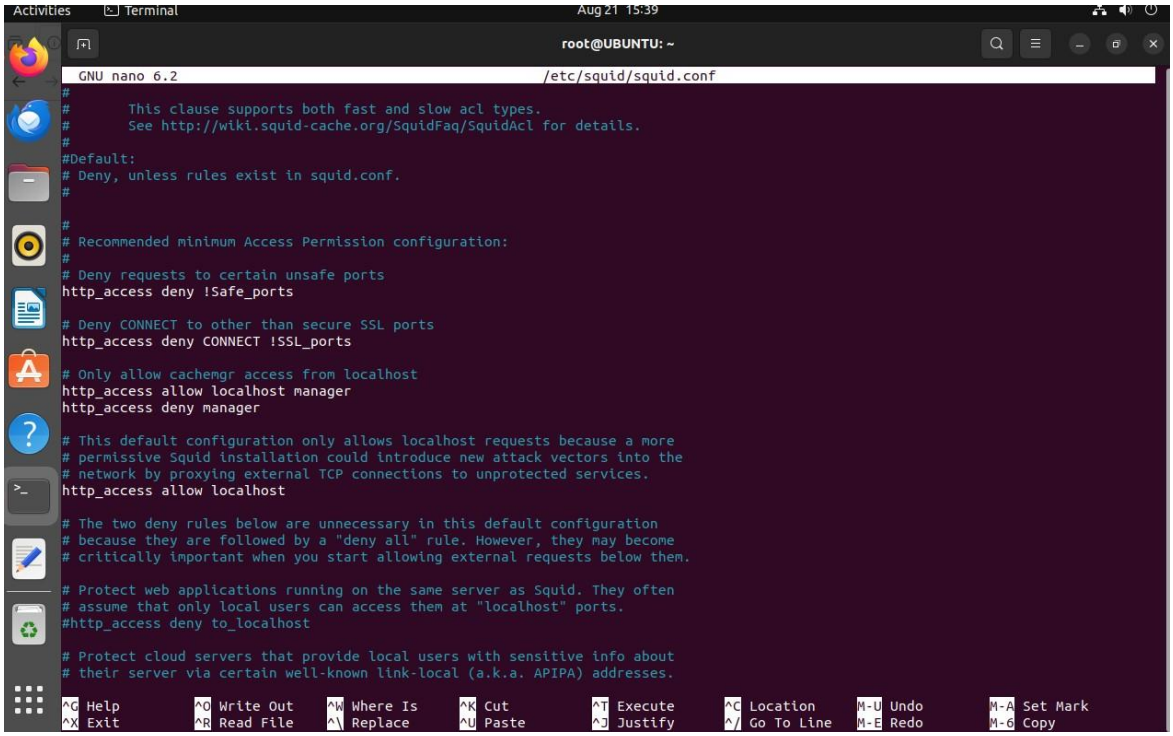
CONNECTING TO WEBSITE

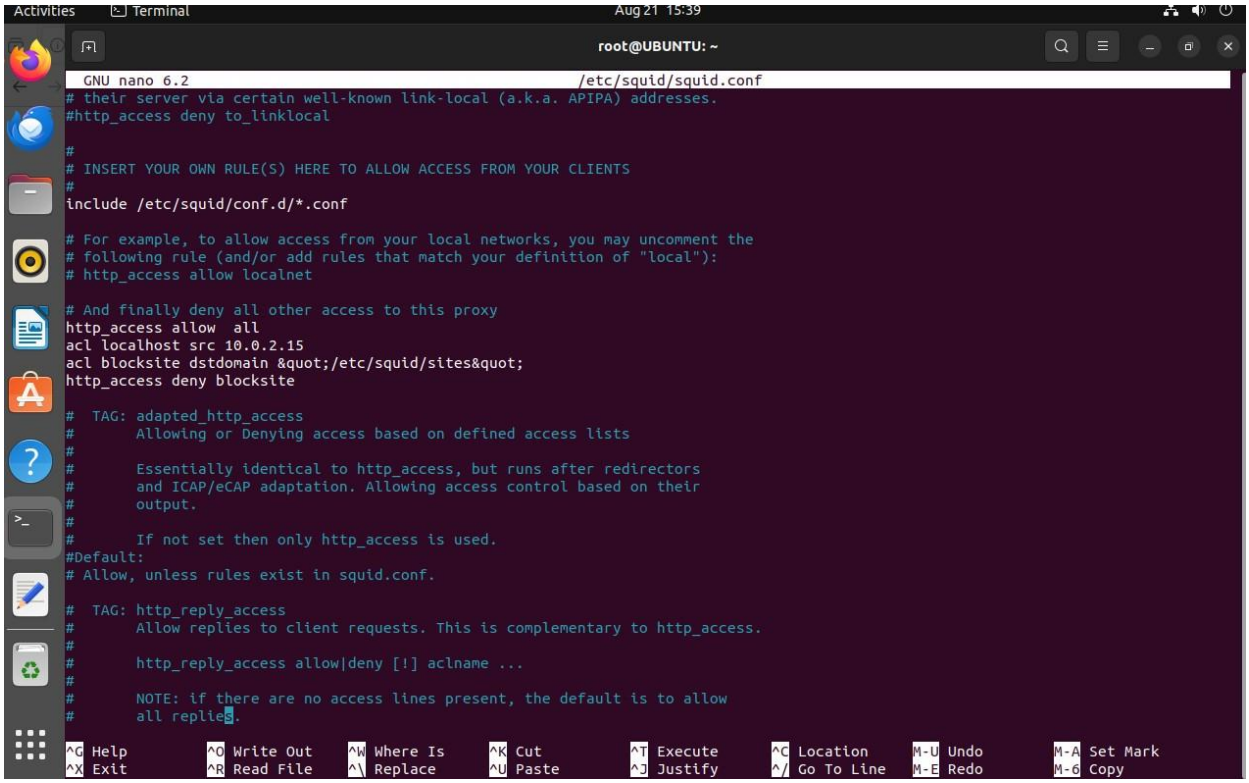
11. Search for the blocked websites

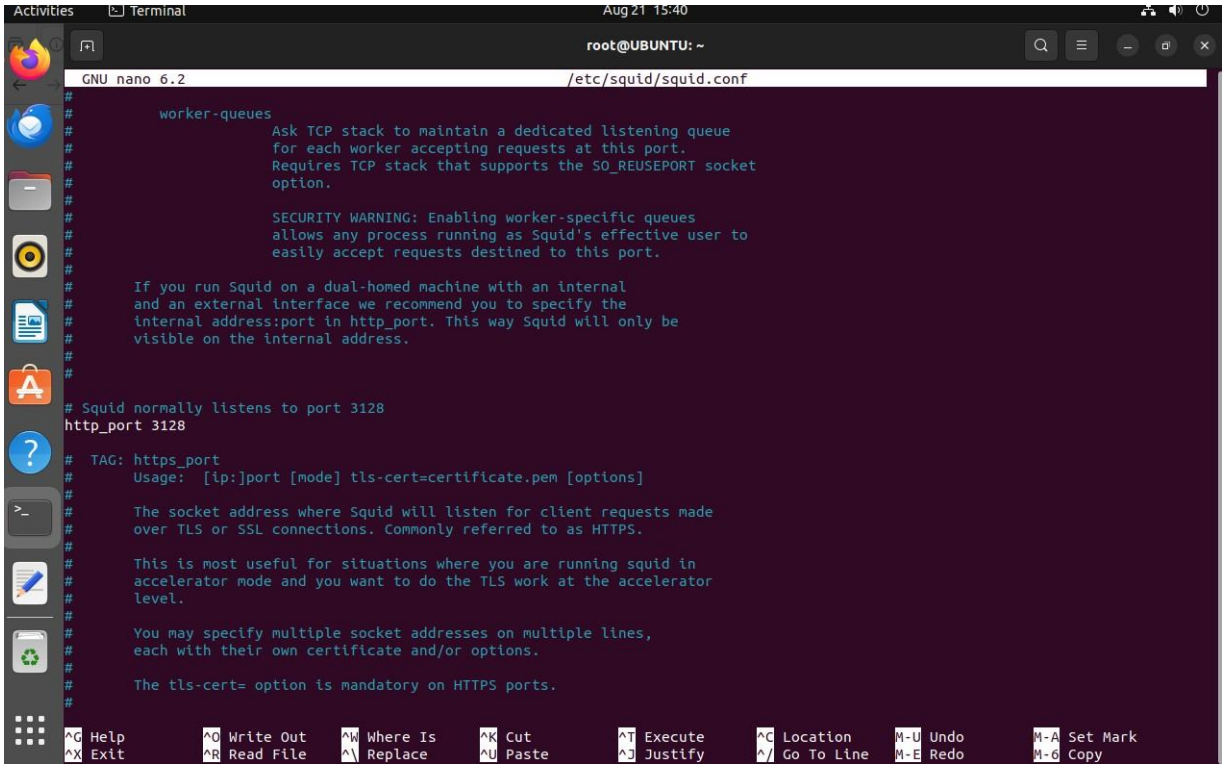
12. Access is denied to the above websites.

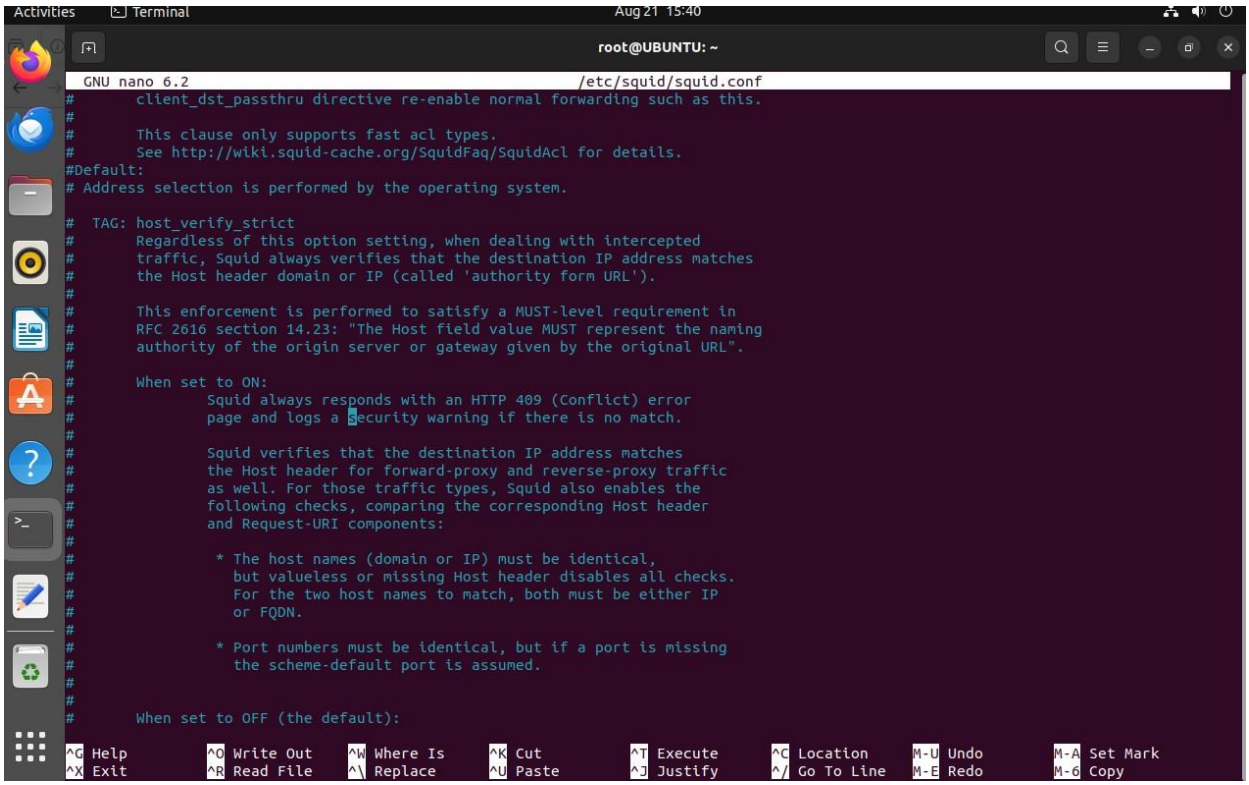
Result:

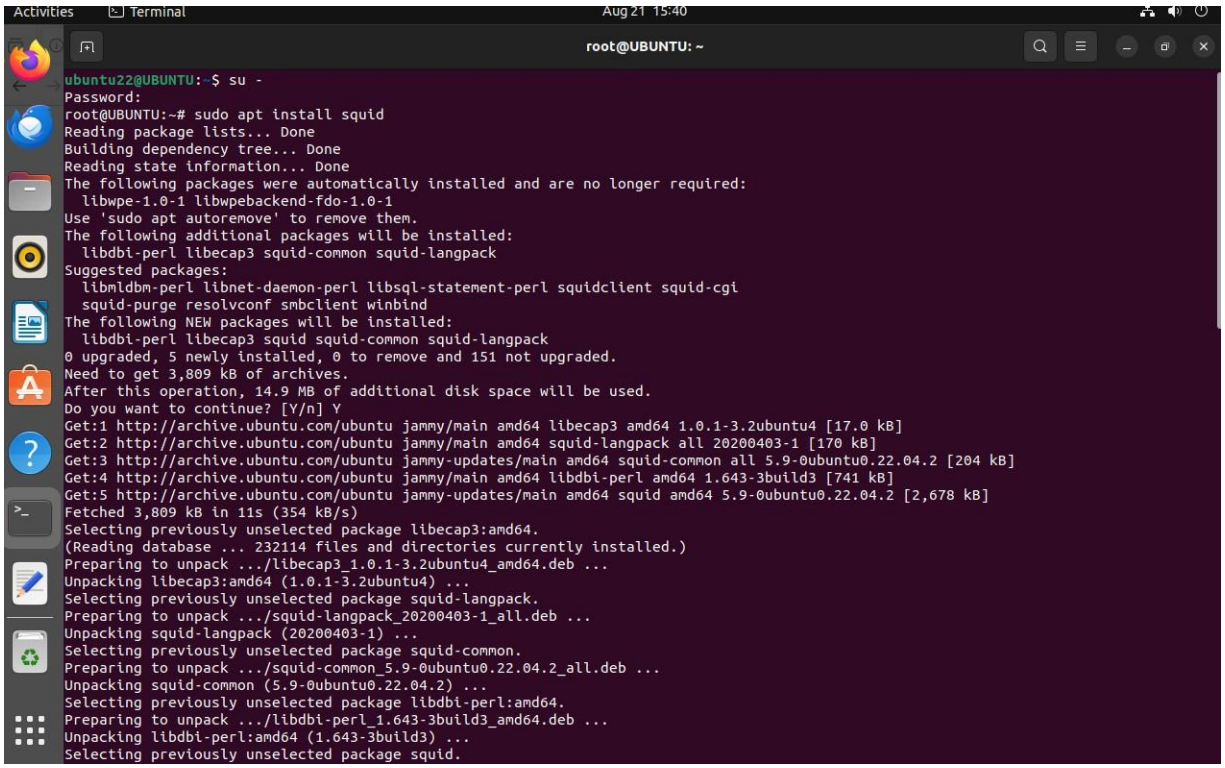

Activities
Terminal
Aug 21 15:38
root@UBUNTU: ~
GNU nano 6.2
/etc/squid/squid.conf
Requests may pass through a chain of several other proxies
before reaching us. The original source details may by sent in:
* HTTP message Forwarded header, or
* HTTP message X-Forwarded-For header, or
* PROXY protocol connection header.
#
This directive is solely for validating new PROXY protocol
connections received from a port flagged with require-proxy-header.
It is checked only once after TCP connection setup.
#
A deny match results in TCP connection closure.
#
An allow match is required for Squid to permit the corresponding
TCP connection, before Squid even looks for HTTP request headers.
If there is an allow match, Squid starts using PROXY header information
to determine the source address of the connection for all future ACL
checks, logging, etc.
#
SECURITY CONSIDERATIONS:
#
Any host from which we accept client IP details can place
incorrect information in the relevant header, and Squid
will use the incorrect information as if it were the
source address of the request. This may enable remote
hosts to bypass any access control restrictions that are
based on the client's source addresses.
#
This clause only supports fast acl types.
See http://wiki.squid-cache.org/SquidFaq/SquidAcl for details.
#Default:
all TCP connections to ports with require-proxy-header will be denied
#
TAG: follow_x_forwarded_for
Determine which client proxies can be trusted to provide correct
information regarding real client IP address.
#
^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

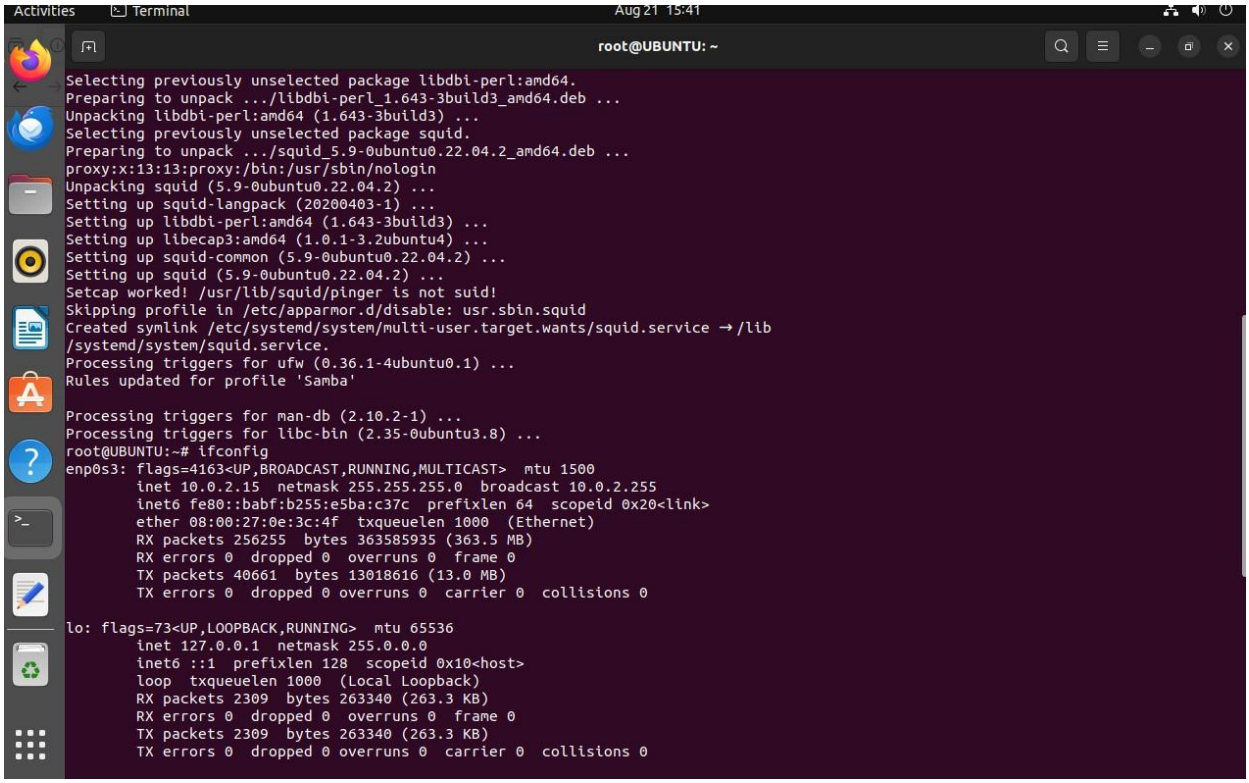

Activities
Terminal
Aug 21 15:39
root@UBUNTU: ~
GNU nano 6.2
/etc/squid/squid.conf
#
This clause supports both fast and slow acl types.
See http://wiki.squid-cache.org/SquidFaq/SquidAcl for details.
#
#Default:
Deny, unless rules exist in squid.conf.
#
#
Recommended minimum Access Permission configuration:
#
Deny requests to certain unsafe ports
http_access deny !Safe_ports
Deny CONNECT to other than secure SSL ports
http_access deny CONNECT !SSL_ports
Only allow cachemgr access from localhost
http_access allow localhost manager
http_access deny manager
This default configuration only allows localhost requests because a more
permissive Squid installation could introduce new attack vectors into the
network by proxying external TCP connections to unprotected services.
http_access allow localhost
The two deny rules below are unnecessary in this default configuration
because they are followed by a "deny all" rule. However, they may become
critically important when you start allowing external requests below them.
Protect web applications running on the same server as Squid. They often
assume that only local users can access them at "localhost" ports.
#http_access deny to_localhost
Protect cloud servers that provide local users with sensitive info about
their server via certain well-known link-local (a.k.a. APIPA) addresses.
^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

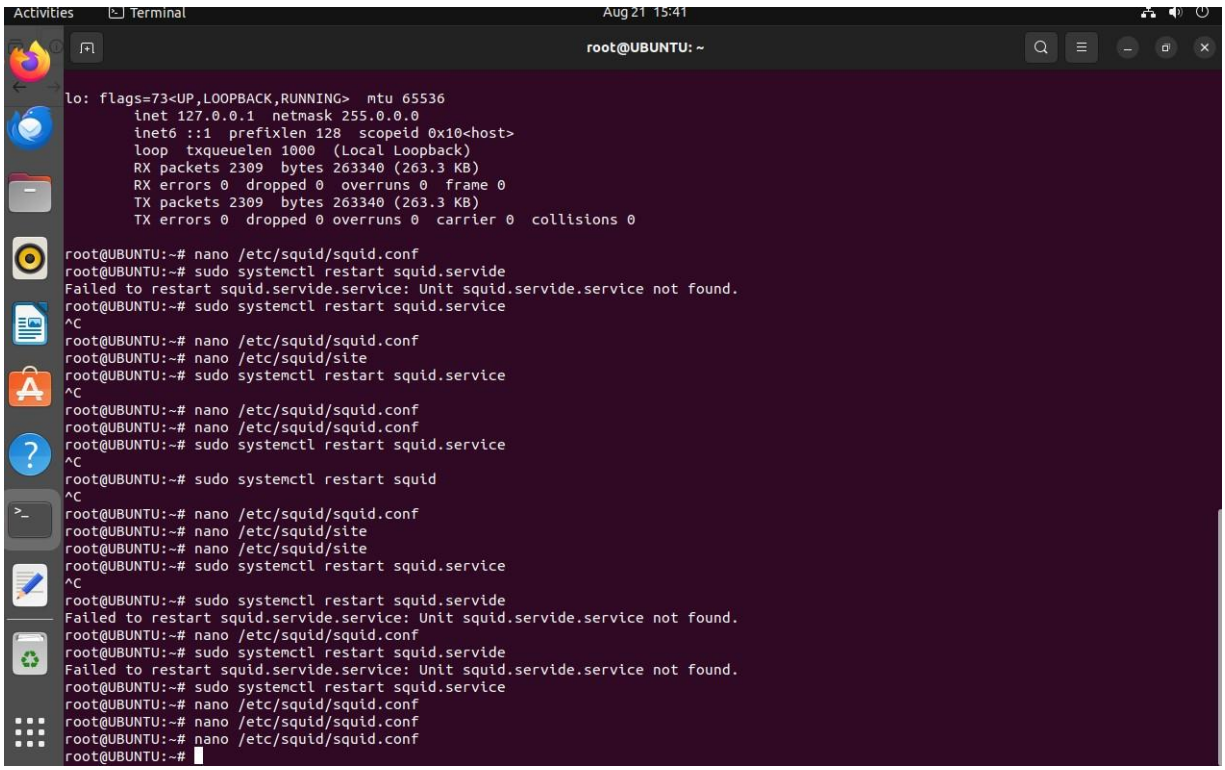

Activities
Terminal
Aug 21 15:39
root@UBUNTU: ~
GNU nano 6.2
/etc/squid/squid.conf
their server via certain well-known link-local (a.k.a. APIPA) addresses.
#http_access deny to_linklocal
#
INSERT YOUR OWN RULE(S) HERE TO ALLOW ACCESS FROM YOUR CLIENTS
#
include /etc/squid/conf.d/*.conf
For example, to allow access from your local networks, you may uncomment the
following rule (and/or add rules that match your definition of "local"):
http_access allow localnet
And finally deny all other access to this proxy
http_access allow all
acl localhost src 10.0.2.15
acl blocksite dstdomain "/etc/squid/sites"
http_access deny blocksite
TAG: adapted_http_access
Allowing or Denying access based on defined access lists
#
Essentially identical to http_access, but runs after redirectors
and ICAP/eCAP adaptation. Allowing access control based on their
output.
#
If not set then only http_access is used.
#Default:
Allow, unless rules exist in squid.conf.
TAG: http_reply_access
Allow replies to client requests. This is complementary to http_access.
#
http_reply_access allow|deny [!] aclname ...
#
NOTE: if there are no access lines present, the default is to allow
all replies.
^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


Activities
Terminal
Aug 21 15:40
root@UBUNTU: ~
GNU nano 6.2
/etc/squid/squid.conf
worker-queues
Ask TCP stack to maintain a dedicated listening queue
for each worker accepting requests at this port.
Requires TCP stack that supports the SO_REUSEPORT socket
option.
#
SECURITY WARNING: Enabling worker-specific queues
allows any process running as Squid's effective user to
easily accept requests destined to this port.
#
If you run Squid on a dual-homed machine with an internal
and an external interface we recommend you to specify the
internal address:port in http_port. This way Squid will only be
visible on the internal address.
#
#
Squid normally listens to port 3128
http_port 3128
TAG: https_port
Usage: [ip:]port [mode] tls-cert=certificate.pem [options]
#
The socket address where Squid will listen for client requests made
over TLS or SSL connections. Commonly referred to as HTTPS.
#
This is most useful for situations where you are running squid in
accelerator mode and you want to do the TLS work at the accelerator
level.
#
You may specify multiple socket addresses on multiple lines,
each with their own certificate and/or options.
#
The tls-cert= option is mandatory on HTTPS ports.
#
^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

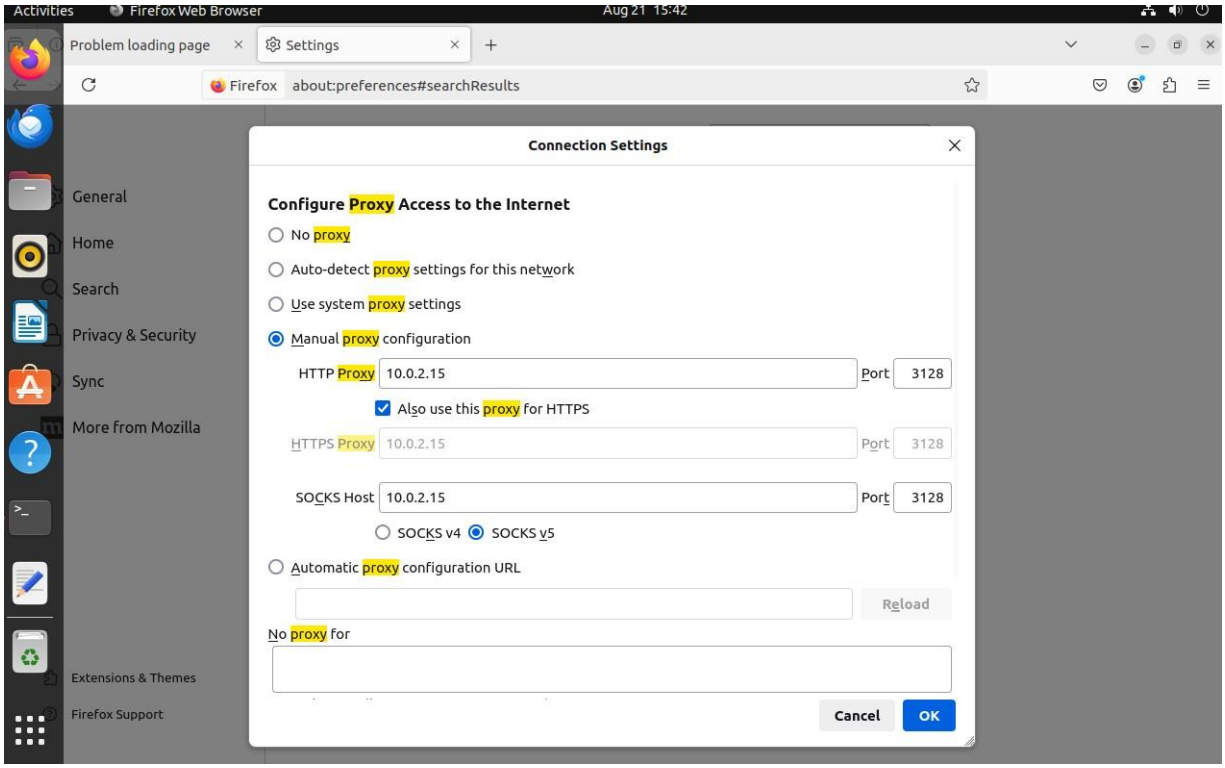

Activities
Terminal
Aug 21 15:40
root@UBUNTU: ~
GNU nano 6.2 /etc/squid/squid.conf
client_dst_passthru directive re-enable normal forwarding such as this.
This clause only supports fast acl types.
See http://wiki.squid-cache.org/SquidFaq/SquidAcl for details.
#Default:
Address selection is performed by the operating system.
TAG: host_verify_strict
Regardless of this option setting, when dealing with intercepted
traffic, Squid always verifies that the destination IP address matches
the Host header domain or IP (called 'authority form URL').
This enforcement is performed to satisfy a MUST-level requirement in
RFC 2616 section 14.23: "The Host field value MUST represent the naming
authority of the origin server or gateway given by the original URL".
When set to ON:
Squid always responds with an HTTP 409 (Conflict) error
page and logs a security warning if there is no match.
Squid verifies that the destination IP address matches
the Host header for forward-proxy and reverse-proxy traffic
as well. For those traffic types, Squid also enables the
following checks, comparing the corresponding Host header
and Request-URI components:
* The host names (domain or IP) must be identical,
but valueless or missing Host header disables all checks.
For the two host names to match, both must be either IP
or FQDN.
* Port numbers must be identical, but if a port is missing
the scheme-default port is assumed.
When set to OFF (the default):
^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

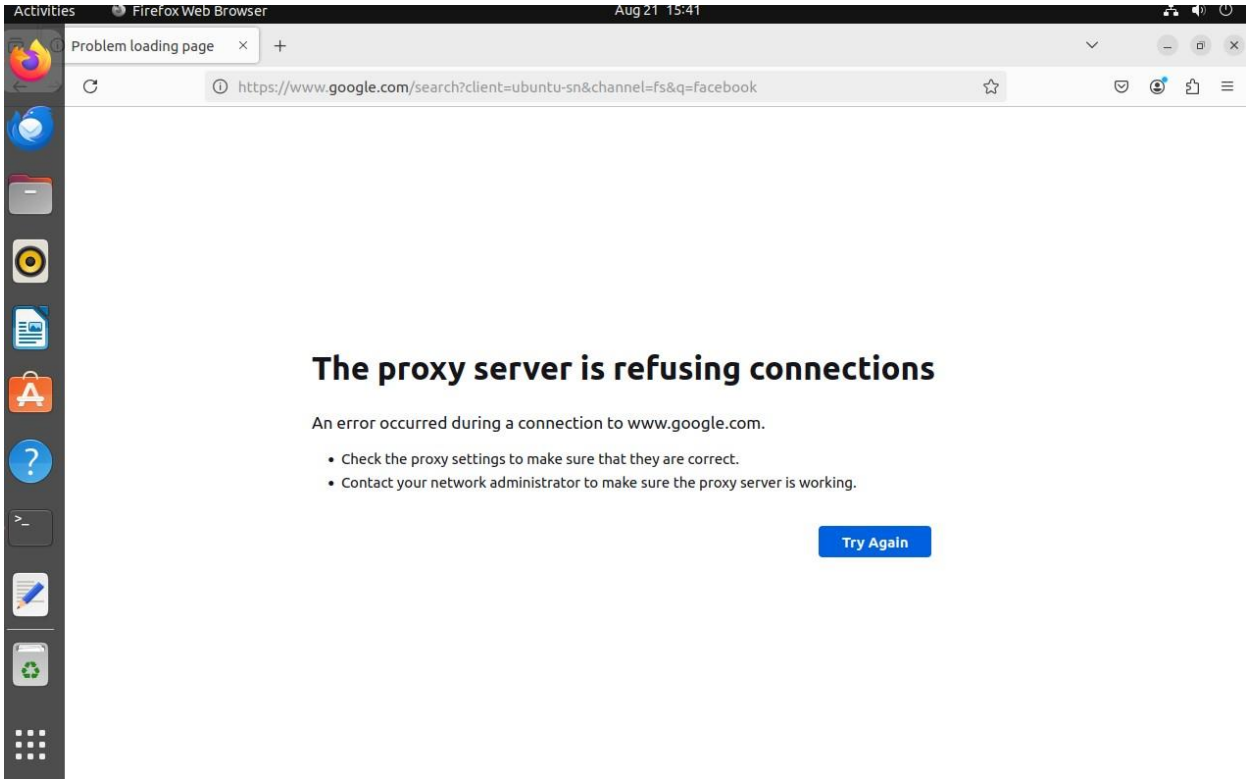

Activities
Terminal
Aug 21 15:40
root@UBUNTU: ~
ubuntu22@UBUNTU:~$ su -
Password:
root@UBUNTU:~# sudo apt install squid
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
libdbi-perl libecap3 squid-common squid-langpack
Suggested packages:
libmldbm-perl libnet-daemon-perl libsql-statement-perl squidclient squid-cgi
squid-purge resolvconf smbclient winbind
The following NEW packages will be installed:
libdbi-perl libecap3 squid squid-common squid-langpack
0 upgraded, 5 newly installed, 0 to remove and 151 not upgraded.
Need to get 3,809 kB of archives.
After this operation, 14.9 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 libecap3 amd64 1.0.1-3.2ubuntu4 [17.0 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 squid-langpack all 20200403-1 [170 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 squid-common all 5.9-0ubuntu0.22.04.2 [204 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy/main amd64 libdbi-perl amd64 1.643-3build3 [741 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 squid amd64 5.9-0ubuntu0.22.04.2 [2,678 kB]
Fetched 3,809 kB in 11s (354 kB/s)
Selecting previously unselected package libecap3:amd64.
(Reading database ... 232114 files and directories currently installed.)
Preparing to unpack .../libecap3_1.0.1-3.2ubuntu4_amd64.deb ...
Unpacking libecap3:amd64 (1.0.1-3.2ubuntu4) ...
Selecting previously unselected package squid-langpack.
Preparing to unpack .../squid-langpack_20200403-1_all.deb ...
Unpacking squid-langpack (20200403-1) ...
Selecting previously unselected package squid-common.
Preparing to unpack .../squid-common_5.9-0ubuntu0.22.04.2_all.deb ...
Unpacking squid-common (5.9-0ubuntu0.22.04.2) ...
Selecting previously unselected package libdbi-perl:amd64.
Preparing to unpack .../libdbi-perl_1.643-3build3_amd64.deb ...
Unpacking libdbi-perl:amd64 (1.643-3build3) ...
Selecting previously unselected package squid.


Activities
Terminal
Aug 21 15:41
root@UBUNTU: ~
Selecting previously unselected package libdbi-perl:amd64.
Preparing to unpack .../libdbi-perl_1.643-3build3_amd64.deb ...
Unpacking libdbi-perl:amd64 (1.643-3build3) ...
Selecting previously unselected package squid.
Preparing to unpack .../squid_5.9-0ubuntu0.22.04.2_amd64.deb ...
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
Unpacking squid (5.9-0ubuntu0.22.04.2) ...
Setting up squid-langpack (20200403-1) ...
Setting up libdbi-perl:amd64 (1.643-3build3) ...
Setting up libecap3:amd64 (1.0.1-3.2ubuntu4) ...
Setting up squid-common (5.9-0ubuntu0.22.04.2) ...
Setting up squid (5.9-0ubuntu0.22.04.2) ...
Setcap worked! /usr/lib/squid/pinger is not suid!
Skipping profile in /etc/apparmor.d/disable: usr.sbin.squid
Created symlink /etc/systemd/system/multi-user.target.wants/squid.service → /lib
/systemd/system/squid.service.
Processing triggers for ufw (0.36.1-4ubuntu0.1) ...
Rules updated for profile 'Samba'
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.8) ...
root@UBUNTU:~# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::babf:b255:e5ba:c37c prefixlen 64 scopeid 0x20<link>
ether 08:00:27:0e:3c:4f txqueuelen 1000 (Ethernet)
RX packets 256255 bytes 363585935 (363.5 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 40661 bytes 13018616 (13.0 MB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 2309 bytes 263340 (263.3 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 2309 bytes 263340 (263.3 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0


Activities
Terminal
Aug 21 15:41
root@UBUNTU: ~
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 2309 bytes 263340 (263.3 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 2309 bytes 263340 (263.3 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
root@UBUNTU:~# nano /etc/squid/squid.conf
root@UBUNTU:~# sudo systemctl restart squid.servide
Failed to restart squid.servide.service: Unit squid.servide.service not found.
root@UBUNTU:~# sudo systemctl restart squid.service
^C
root@UBUNTU:~# nano /etc/squid/squid.conf
root@UBUNTU:~# nano /etc/squid/site
root@UBUNTU:~# sudo systemctl restart squid.service
^C
root@UBUNTU:~# nano /etc/squid/squid.conf
root@UBUNTU:~# nano /etc/squid/squid.conf
root@UBUNTU:~# sudo systemctl restart squid.service
^C
root@UBUNTU:~# sudo systemctl restart squid
^C
root@UBUNTU:~# nano /etc/squid/squid.conf
root@UBUNTU:~# nano /etc/squid/site
root@UBUNTU:~# nano /etc/squid/site
root@UBUNTU:~# sudo systemctl restart squid.service
^C
root@UBUNTU:~# sudo systemctl restart squid.servide
Failed to restart squid.servide.service: Unit squid.servide.service not found.
root@UBUNTU:~# nano /etc/squid/squid.conf
root@UBUNTU:~# sudo systemctl restart squid.servide
Failed to restart squid.servide.service: Unit squid.servide.service not found.
root@UBUNTU:~# sudo systemctl restart squid.service
root@UBUNTU:~# nano /etc/squid/squid.conf
root@UBUNTU:~# nano /etc/squid/squid.conf
root@UBUNTU:~# nano /etc/squid/squid.conf
root@UBUNTU:~#


Activities
Terminal
Aug 21 15:41
root@UBUNTU: ~
GNU nano 6.2
/etc/squid/site
www.facebook.com
www.youtube.com
[Read 2 lines]
^G Help
^X Exit
^O Write Out
^R Read File
^W Where Is
^\ Replace
^K Cut
^U Paste
^T Execute
^J Justify
^C Location
^/ Go To Line
M-U Undo
M-E Redo
M-A Set Mark
M-6 Copy


Activities
Firefox Web Browser
Aug 21 15:42
Problem loading page
Settings
Firefox
about:preferences#searchResults
General
Home
Search
Privacy & Security
Sync
More from Mozilla
Extensions & Themes
Firefox Support
Connection Settings
Configure Proxy Access to the Internet
No proxy
Auto-detect proxy settings for this network
Use system proxy settings
Manual proxy configuration
HTTP Proxy
10.0.2.15
Port
3128
Also use this proxy for HTTPS
HTTPS Proxy
10.0.2.15
Port
3128
SOCKS Host
10.0.2.15
Port
3128
SOCKS v4
SOCKS v5
Automatic proxy configuration URL
Reload
No proxy for
Cancel
OK



All the commands have been executed and the output has been obtained successfully.

FTP

Experiment : 6

Aim : To create and configure FTP Server

Description :

FTP Server

File Transfer Protocol (FTP) is a TCP protocol for downloading files between computers. In the past, it has also been used for uploading but, as that method does not use encryption, user credentials as well as data transferred in the clear and are easily intercepted. So if you are here looking for a way to upload and download files securely,

FTP works on a client/server model. The server component is called an *FTP daemon*. It continuously listens for FTP requests from remote clients. When a request is received, it manages the login and sets up the connection. For the duration of the session it executes any of commands sent by the FTP client

Port No: 21
Package name: vsftpd
Configuration file: /etc/vsftpd.conf

Procedure:

1. Install the vsftpd - FTP Server Installation in the ubuntu operating system

$sudo apt install vsftpd

2. By default vsftpd is *not* configured to allow anonymous download. If you wish to enable anonymous download edit /etc/vsftpd.conf by changing:

$anonymous_enable=YES

3. During installation a *ftp* user is created with a home directory of /srv/ftp. This is the default FTP directory.

If you wish to change this location, to /srv/files/ftp for example, simply create a directory in another location and change the *ftp* user's home directory:

$sudo mkdir -p /srv/files/ftp

$sudo usermod -d /srv/files/ftp ftp

4. After making the change restart vsftpd:

$ sudo service vsftpd restart

5. User Authenticated FTP Configuration

By default vsftpd is configured to authenticate system users and allow them to download files. If you want users to be able to upload files, edit /etc/vsftpd.conf

$write_enable=YES

6. Now restart vsftpd:

$ sudo service vsftpd restart

7. Securing FTP

There are options in /etc/vsftpd.conf to help make vsftpd more secure.

$chroot_local_user=YES

$chroot_list_enable=YES

$chroot_list_file=/etc/vsftpd.chroot_list

8. After uncommenting the above options, create a /etc/vsftpd.chroot_list

containing a list of users one per line.

9. Then restart vsftpd:

$sudo service vsftpd restart

10. To configure *FTPS*, edit /etc/vsftpd.conf and at the bottom add:

$ssl_enable=YES

11. Then check the vsftpd status

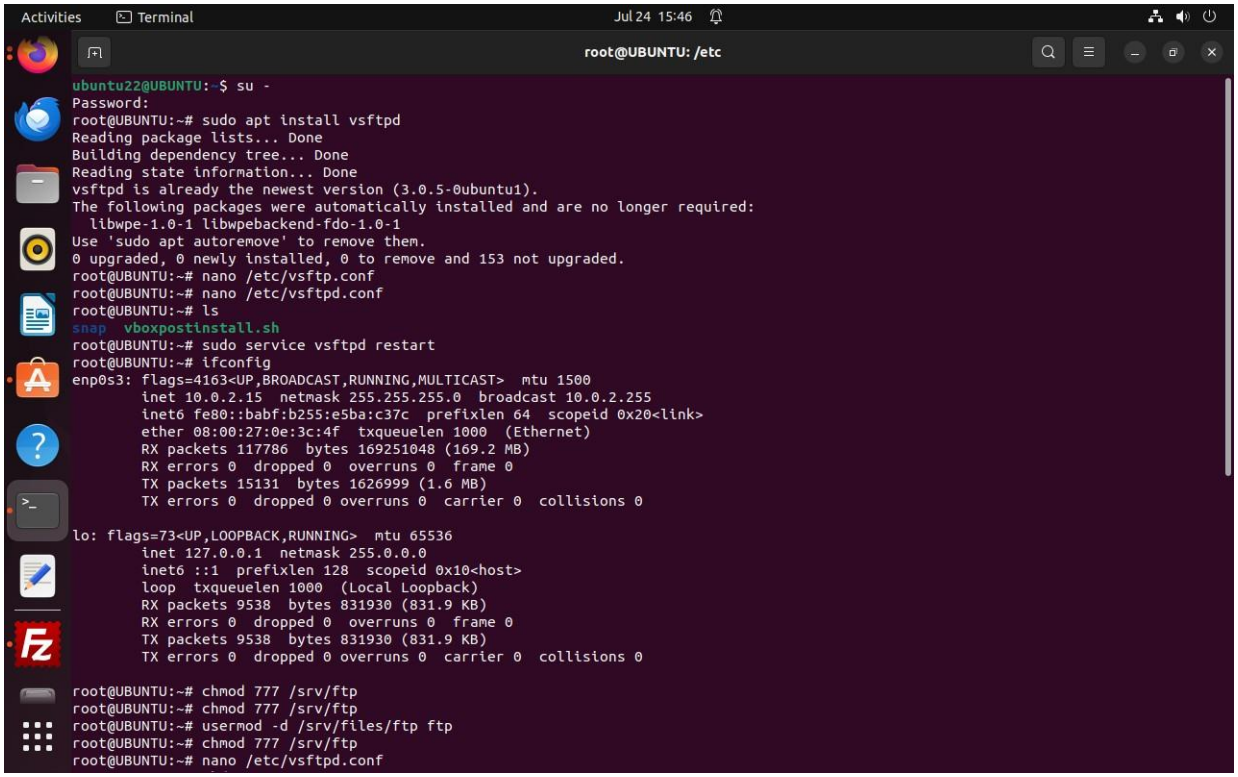
$sudo service vsftpd status

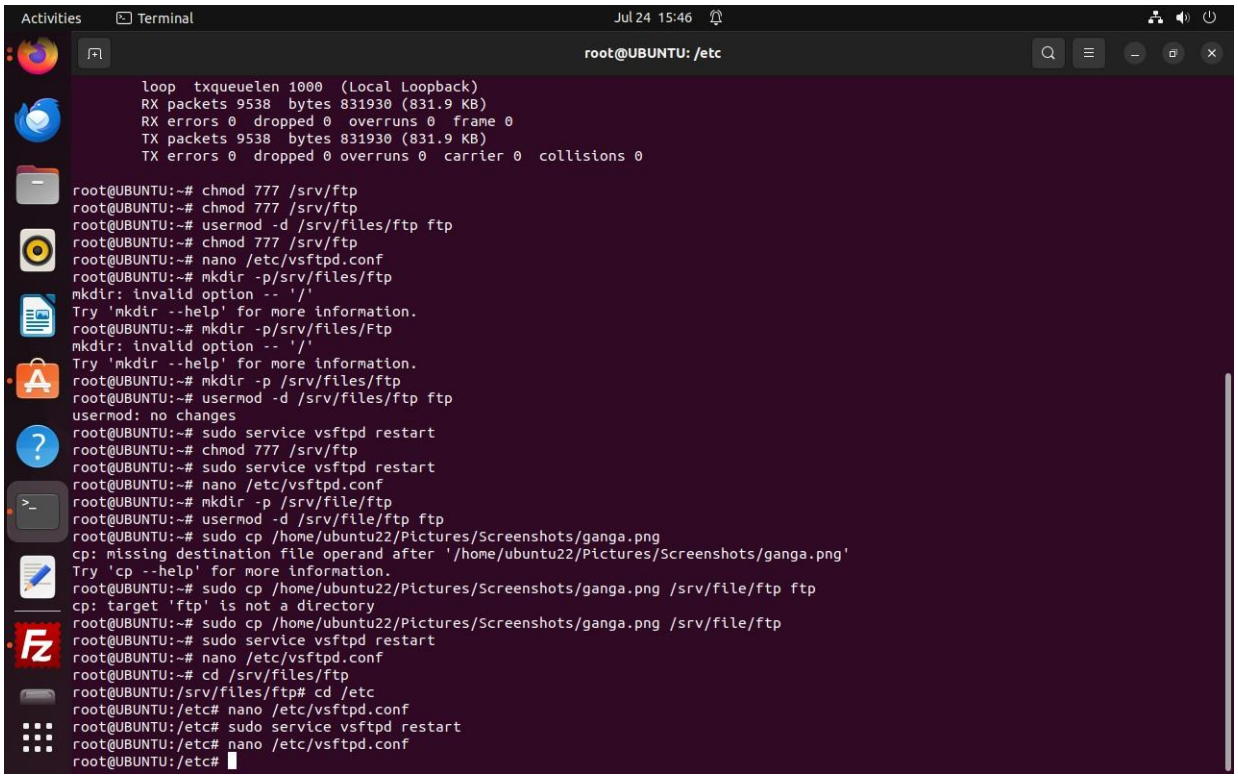
12. Now connect to ftp by the command

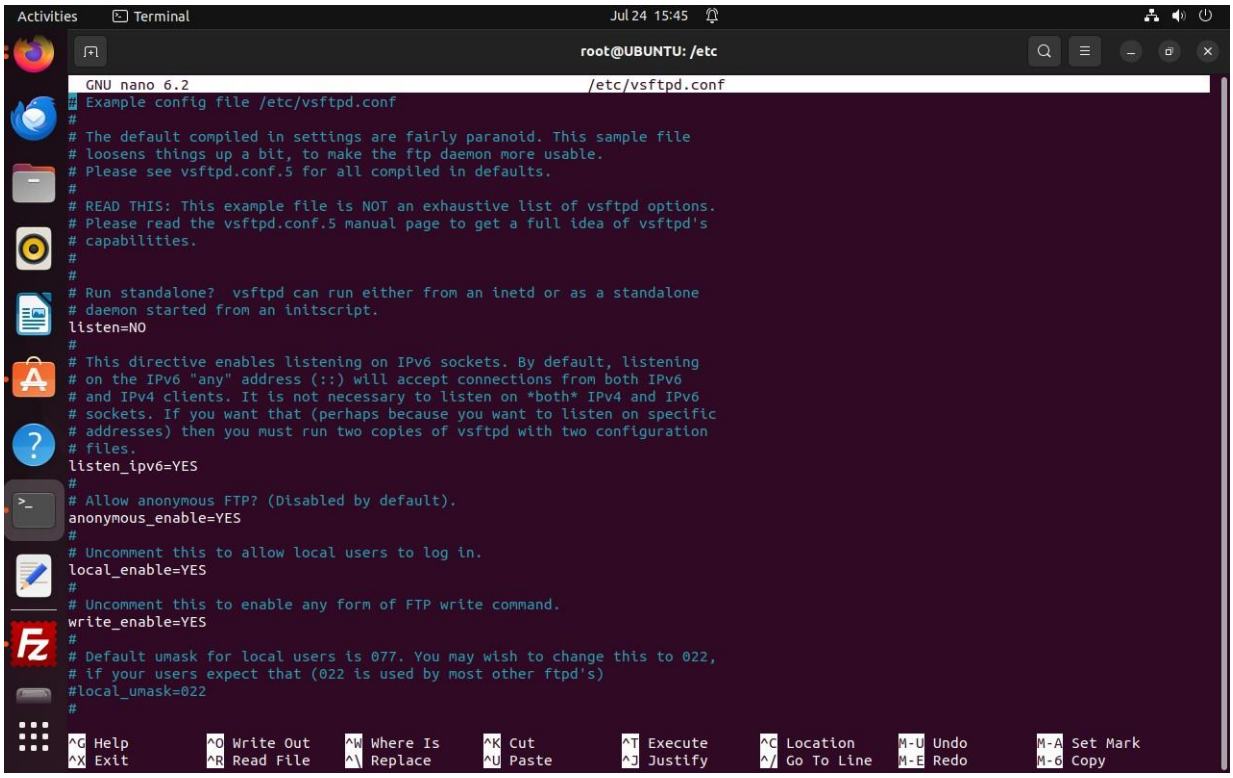
$ftp -p 192.168.234.128

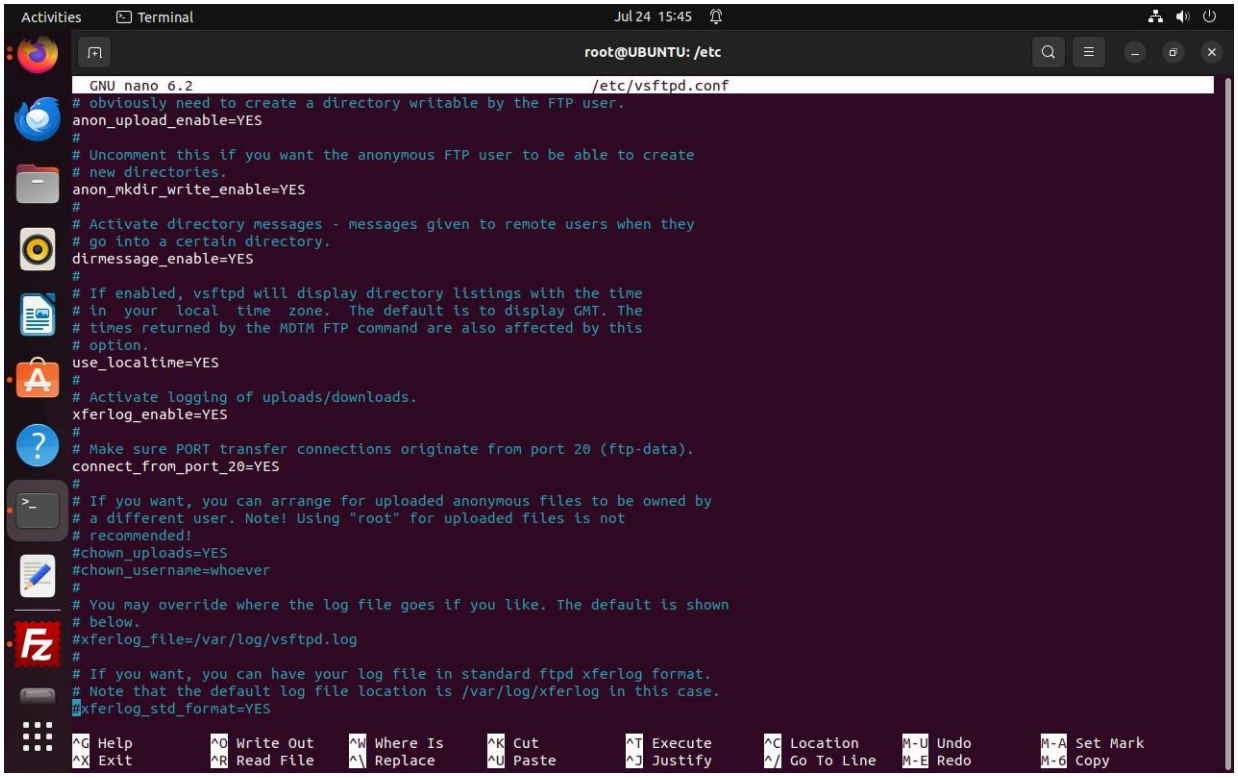
13. Now install filezilla in ubuntu and open the filezilla and specify the ip address and port number of the ftp server then click connect

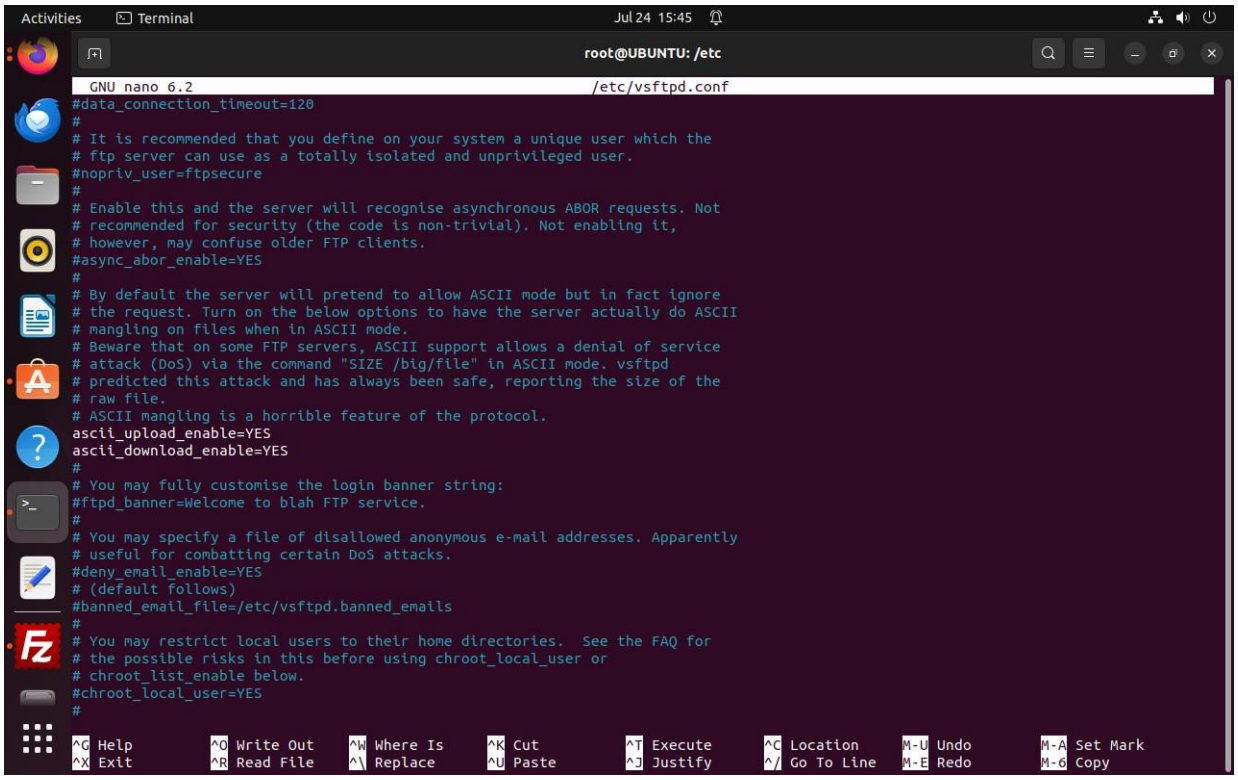
Result:

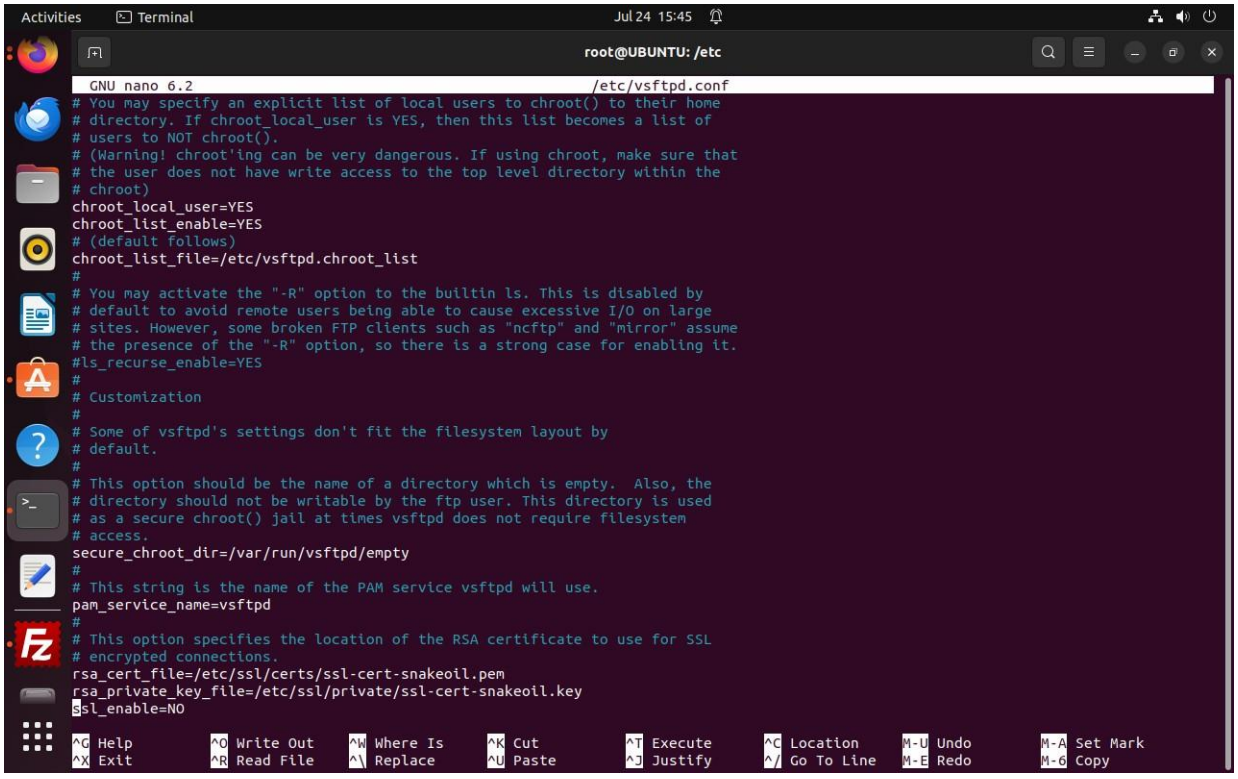

Activities
Terminal
Jul 24 15:46
root@UBUNTU: /etc
ubuntu22@UBUNTU:~$ su -
Password:
root@UBUNTU:~# sudo apt install vsftpd
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
vsftpd is already the newest version (3.0.5-0ubuntu1).
The following packages were automatically installed and are no longer required:
libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 153 not upgraded.
root@UBUNTU:~# nano /etc/vsftp.conf
root@UBUNTU:~# nano /etc/vsftpd.conf
root@UBUNTU:~# ls
snap vboxpostinstall.sh
root@UBUNTU:~# sudo service vsftpd restart
root@UBUNTU:~# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::babf:b255:e5ba:c37c prefixlen 64 scopeid 0x20<link>
ether 08:00:27:0e:3c:4f txqueuelen 1000 (Ethernet)
RX packets 117786 bytes 169251048 (169.2 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 15131 bytes 1626999 (1.6 MB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 9538 bytes 831930 (831.9 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 9538 bytes 831930 (831.9 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
root@UBUNTU:~# chmod 777 /srv/ftp
root@UBUNTU:~# chmod 777 /srv/ftp
root@UBUNTU:~# usermod -d /srv/files/ftp ftp
root@UBUNTU:~# chmod 777 /srv/ftp
root@UBUNTU:~# nano /etc/vsftpd.conf

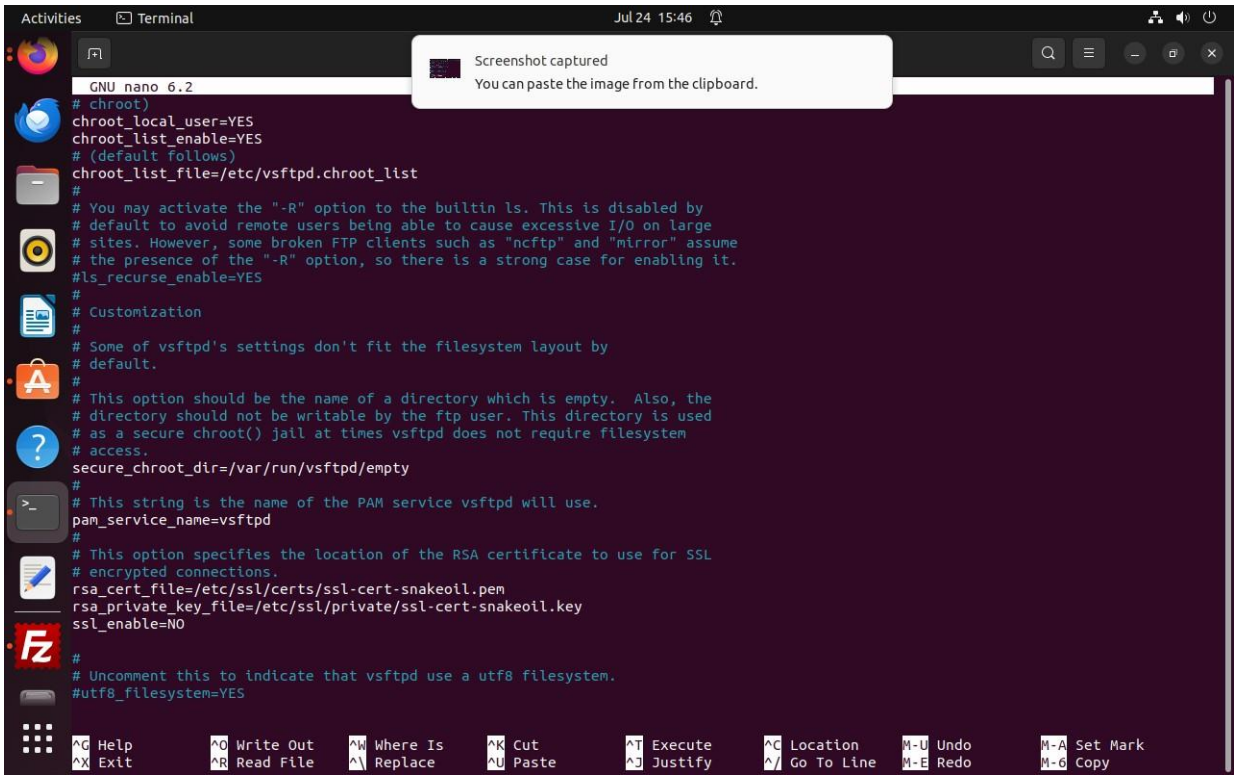

Activities
Terminal
Jul 24 15:46
root@UBUNTU: /etc
loop txqueuelen 1000 (Local Loopback)
RX packets 9538 bytes 831930 (831.9 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 9538 bytes 831930 (831.9 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
root@UBUNTU:~# chmod 777 /srv/ftp
root@UBUNTU:~# chmod 777 /srv/ftp
root@UBUNTU:~# usermod -d /srv/files/ftp ftp
root@UBUNTU:~# chmod 777 /srv/ftp
root@UBUNTU:~# nano /etc/vsftpd.conf
root@UBUNTU:~# mkdir -p/srv/files/ftp
mkdir: invalid option -- '/'
Try 'mkdir --help' for more information.
root@UBUNTU:~# mkdir -p/srv/files/Ftp
mkdir: invalid option -- '/'
Try 'mkdir --help' for more information.
root@UBUNTU:~# mkdir -p /srv/files/ftp
root@UBUNTU:~# usermod -d /srv/files/ftp ftp
usermod: no changes
root@UBUNTU:~# sudo service vsftpd restart
root@UBUNTU:~# chmod 777 /srv/ftp
root@UBUNTU:~# sudo service vsftpd restart
root@UBUNTU:~# nano /etc/vsftpd.conf
root@UBUNTU:~# mkdir -p /srv/file/ftp
root@UBUNTU:~# usermod -d /srv/file/ftp ftp
root@UBUNTU:~# sudo cp /home/ubuntu22/Pictures/Screenshots/ganga.png
cp: missing destination file operand after '/home/ubuntu22/Pictures/Screenshots/ganga.png'
Try 'cp --help' for more information.
root@UBUNTU:~# sudo cp /home/ubuntu22/Pictures/Screenshots/ganga.png /srv/file/ftp ftp
cp: target 'ftp' is not a directory
root@UBUNTU:~# sudo cp /home/ubuntu22/Pictures/Screenshots/ganga.png /srv/file/ftp
root@UBUNTU:~# sudo service vsftpd restart
root@UBUNTU:~# nano /etc/vsftpd.conf
root@UBUNTU:~# cd /srv/files/ftp
root@UBUNTU:/srv/files/ftp# cd /etc
root@UBUNTU:/etc# nano /etc/vsftpd.conf
root@UBUNTU:/etc# sudo service vsftpd restart
root@UBUNTU:/etc# nano /etc/vsftpd.conf
root@UBUNTU:/etc#

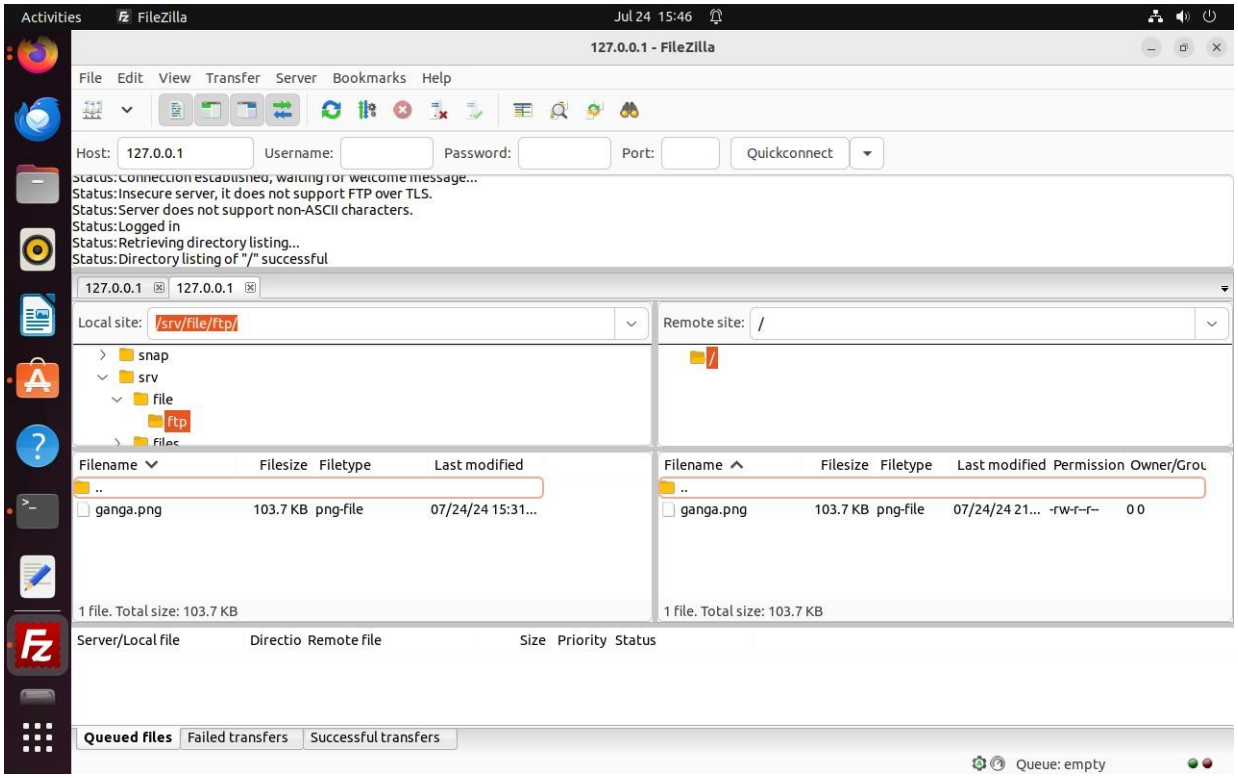

Activities
Terminal
Jul 24 15:45
root@UBUNTU: /etc
GNU nano 6.2 /etc/vsftpd.conf
Example config file /etc/vsftpd.conf
#
The default compiled in settings are fairly paranoid. This sample file
loosens things up a bit, to make the ftp daemon more usable.
Please see vsftpd.conf.5 for all compiled in defaults.
#
READ THIS: This example file is NOT an exhaustive list of vsftpd options.
Please read the vsftpd.conf.5 manual page to get a full idea of vsftpd's
capabilities.
#
#
# Run standalone? vsftpd can run either from an inetd or as a standalone
# daemon started from an initscript.
listen=NO
#
# This directive enables listening on IPv6 sockets. By default, listening
# on the IPv6 "any" address (::) will accept connections from both IPv6
# and IPv4 clients. It is not necessary to listen on *both* IPv4 and IPv6
# sockets. If you want that (perhaps because you want to listen on specific
# addresses) then you must run two copies of vsftpd with two configuration
# files.
listen_ipv6=YES
#
# Allow anonymous FTP? (Disabled by default).
anonymous_enable=YES
#
# Uncomment this to allow local users to log in.
local_enable=YES
#
# Uncomment this to enable any form of FTP write command.
write_enable=YES
#
Default umask for local users is 077. You may wish to change this to 022,
if your users expect that (022 is used by most other ftpd's)
#local_umask=022
#
^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

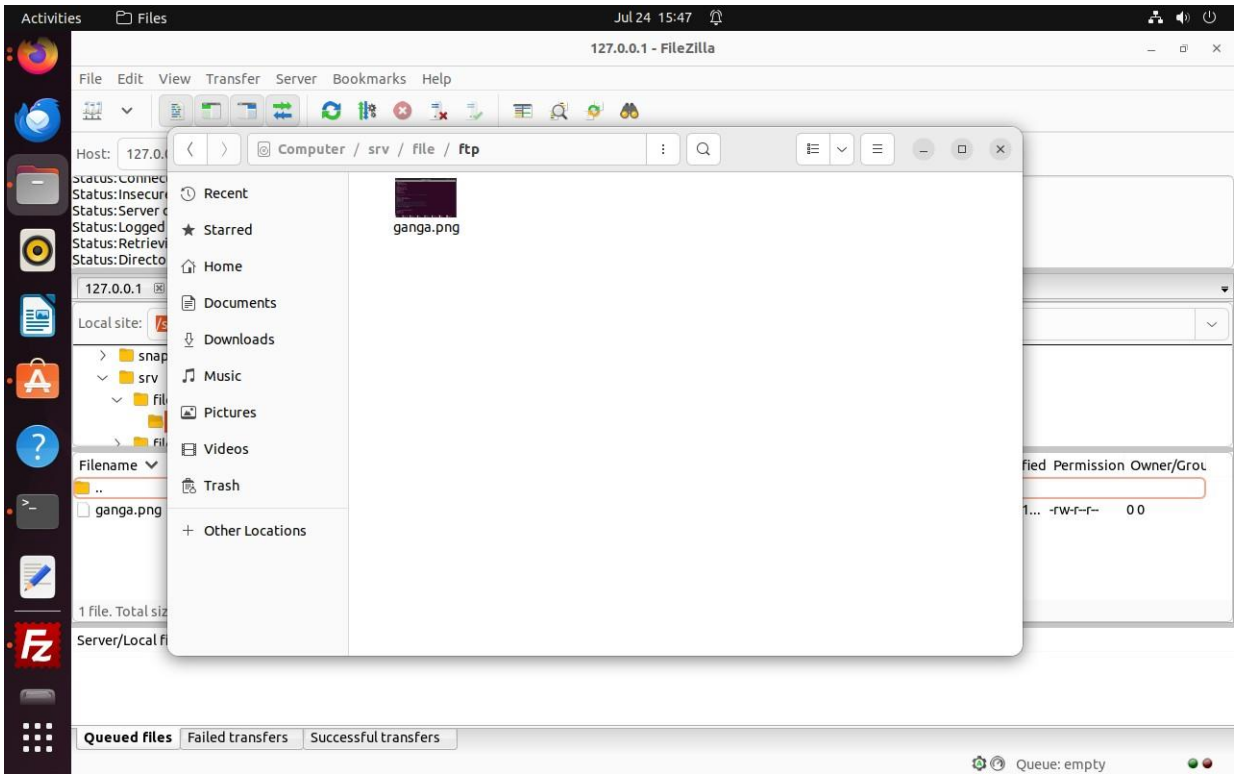

Activities
Terminal
Jul 24 15:45
root@UBUNTU: /etc
GNU nano 6.2 /etc/vsftpd.conf
# obviously need to create a directory writable by the FTP user.
anon_upload_enable=YES
#
# Uncomment this if you want the anonymous FTP user to be able to create
# new directories.
anon_mkdir_write_enable=YES
#
# Activate directory messages - messages given to remote users when they
# go into a certain directory.
dirmessage_enable=YES
#
# If enabled, vsftpd will display directory listings with the time
# in your local time zone. The default is to display GMT. The
# times returned by the MDTM FTP command are also affected by this
# option.
use_localtime=YES
#
# Activate logging of uploads/downloads.
xferlog_enable=YES
#
# Make sure PORT transfer connections originate from port 20 (ftp-data).
connect_from_port_20=YES
#
If you want, you can arrange for uploaded anonymous files to be owned by
a different user. Note! Using "root" for uploaded files is not
recommended!
#chown_uploads=YES
#chown_username=whoever
#
You may override where the log file goes if you like. The default is shown
below.
#xferlog_file=/var/log/vsftpd.log
#
If you want, you can have your log file in standard ftpd xferlog format.
Note that the default log file location is /var/log/xferlog in this case.
#xferlog_std_format=YES
^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

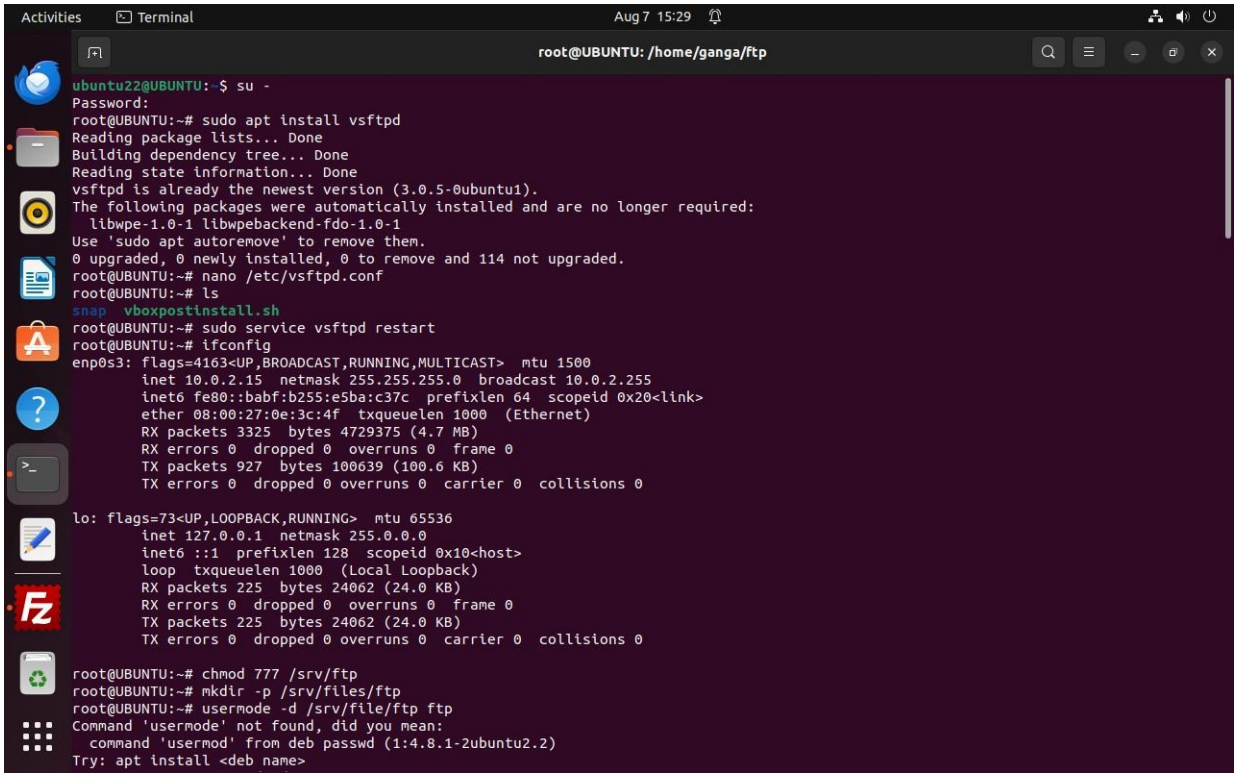

Activities
Terminal
Jul 24 15:45
root@UBUNTU: /etc
GNU nano 6.2 /etc/vsftpd.conf
#data_connection_timeout=120
#
It is recommended that you define on your system a unique user which the
ftp server can use as a totally isolated and unprivileged user.
#nopriv_user=ftpsecure
#
Enable this and the server will recognise asynchronous ABOR requests. Not
recommended for security (the code is non-trivial). Not enabling it,
however, may confuse older FTP clients.
#async_abor_enable=YES
#
# By default the server will pretend to allow ASCII mode but in fact ignore
# the request. Turn on the below options to have the server actually do ASCII
# mangling on files when in ASCII mode.
# Beware that on some FTP servers, ASCII support allows a denial of service
# attack (DoS) via the command "SIZE /big/file" in ASCII mode. vsftpd
# predicted this attack and has always been safe, reporting the size of the
# raw file.
# ASCII mangling is a horrible feature of the protocol.
ascii_upload_enable=YES
ascii_download_enable=YES
#
You may fully customise the login banner string:
#ftpd_banner=Welcome to blah FTP service.
#
You may specify a file of disallowed anonymous e-mail addresses. Apparently
useful for combatting certain DoS attacks.
#deny_email_enable=YES
(default follows)
#banned_email_file=/etc/vsftpd.banned_emails
#
You may restrict local users to their home directories. See the FAQ for
the possible risks in this before using chroot_local_user or
chroot_list_enable below.
#chroot_local_user=YES
#
^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

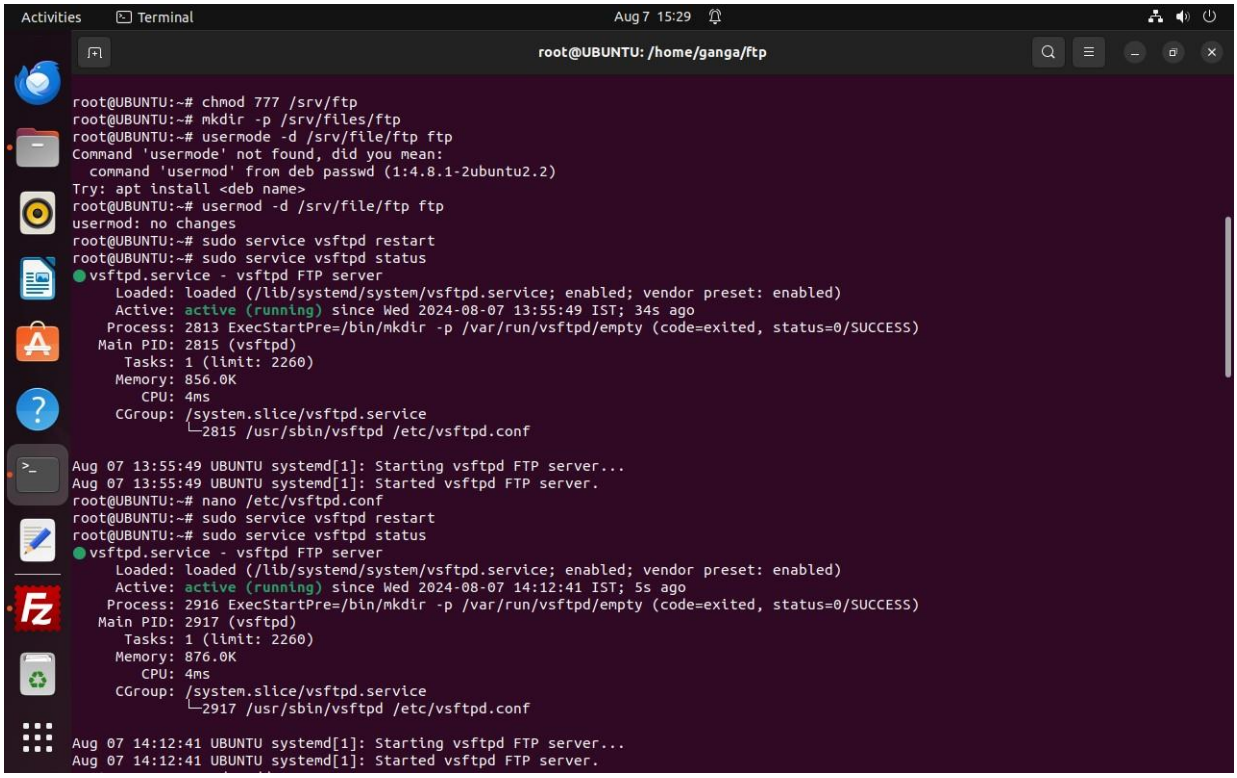

Activities
Terminal
Jul 24 15:45
root@UBUNTU: /etc
GNU nano 6.2 /etc/vsftpd.conf
# You may specify an explicit list of local users to chroot() to their home
# directory. If chroot_local_user is YES, then this list becomes a list of
# users to NOT chroot().
# (Warning! chroot'ing can be very dangerous. If using chroot, make sure that
# the user does not have write access to the top level directory within the
# chroot)
chroot_local_user=YES
chroot_list_enable=YES
# (default follows)
chroot_list_file=/etc/vsftpd.chroot_list
#
You may activate the "-R" option to the builtin ls. This is disabled by
default to avoid remote users being able to cause excessive I/O on large
sites. However, some broken FTP clients such as "ncftp" and "mirror" assume
the presence of the "-R" option, so there is a strong case for enabling it.
#ls_recurse_enable=YES
#
Customization
#
Some of vsftpd's settings don't fit the filesystem layout by
default.
#
# This option should be the name of a directory which is empty. Also, the
# directory should not be writable by the ftp user. This directory is used
# as a secure chroot() jail at times vsftpd does not require filesystem
# access.
secure_chroot_dir=/var/run/vsftpd/empty
#
# This string is the name of the PAM service vsftpd will use.
pam_service_name=vsftpd
#
# This option specifies the location of the RSA certificate to use for SSL
# encrypted connections.
rsa_cert_file=/etc/ssl/certs/ssl-cert-snakeoil.pem
rsa_private_key_file=/etc/ssl/private/ssl-cert-snakeoil.key
ssl_enable=NO
^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

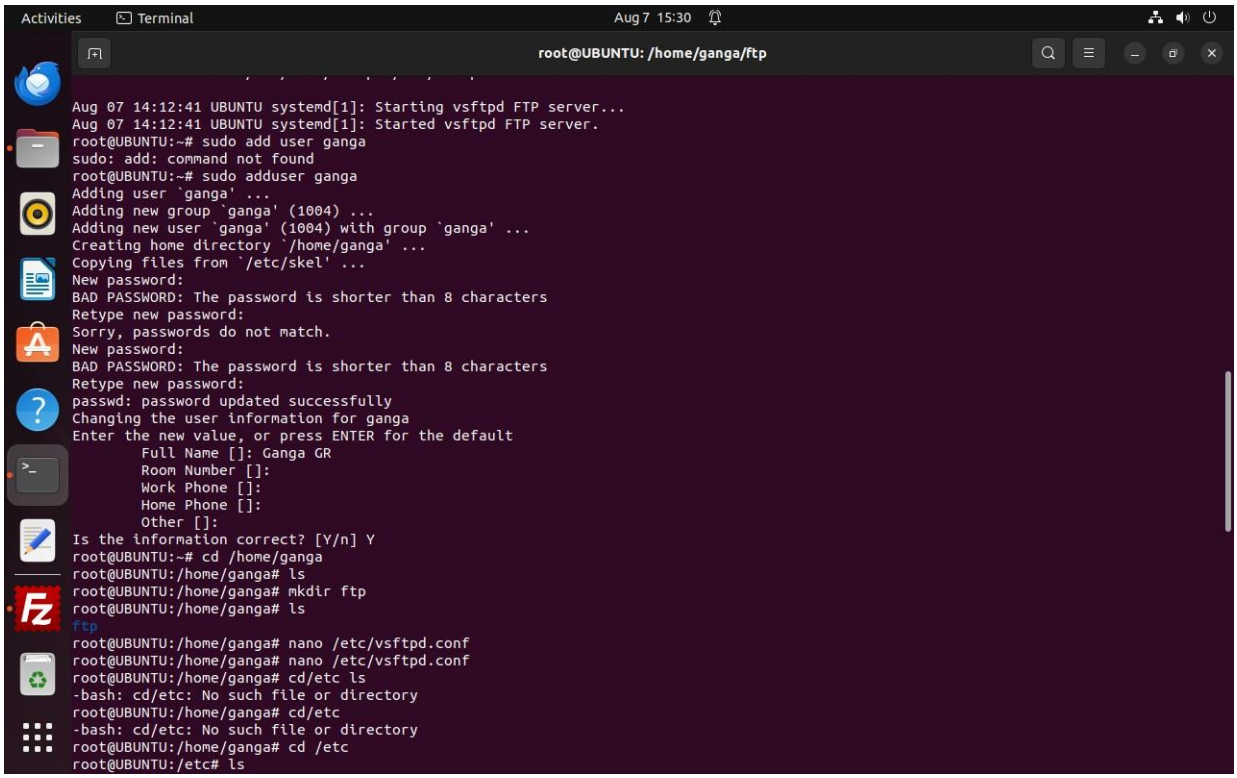

Activities
Terminal
Jul 24 15:46
Screenshot captured
You can paste the image from the clipboard.
GNU nano 6.2
# chroot)
chroot_local_user=YES
chroot_list_enable=YES
# (default follows)
chroot_list_file=/etc/vsftpd.chroot_list
#
You may activate the "-R" option to the builtin ls. This is disabled by
default to avoid remote users being able to cause excessive I/O on large
sites. However, some broken FTP clients such as "ncftp" and "mirror" assume
the presence of the "-R" option, so there is a strong case for enabling it.
#ls_recurse_enable=YES
#
Customization
#
Some of vsftpd's settings don't fit the filesystem layout by
default.
#
# This option should be the name of a directory which is empty. Also, the
# directory should not be writable by the ftp user. This directory is used
# as a secure chroot() jail at times vsftpd does not require filesystem
# access.
secure_chroot_dir=/var/run/vsftpd/empty
#
# This string is the name of the PAM service vsftpd will use.
pam_service_name=vsftpd
#
# This option specifies the location of the RSA certificate to use for SSL
# encrypted connections.
rsa_cert_file=/etc/ssl/certs/ssl-cert-snakeoil.pem
rsa_private_key_file=/etc/ssl/private/ssl-cert-snakeoil.key
ssl_enable=NO
#
Uncomment this to indicate that vsftpd use a utf8 filesystem.
#utf8_filesystem=YES
^G Help
^X Exit
^O Write Out
^R Read File
^W Where Is
^\ Replace
^K Cut
^U Paste
^T Execute
^J Justify
^C Location
^/ Go To Line
M-U Undo
M-E Redo
M-A Set Mark
M-6 Copy

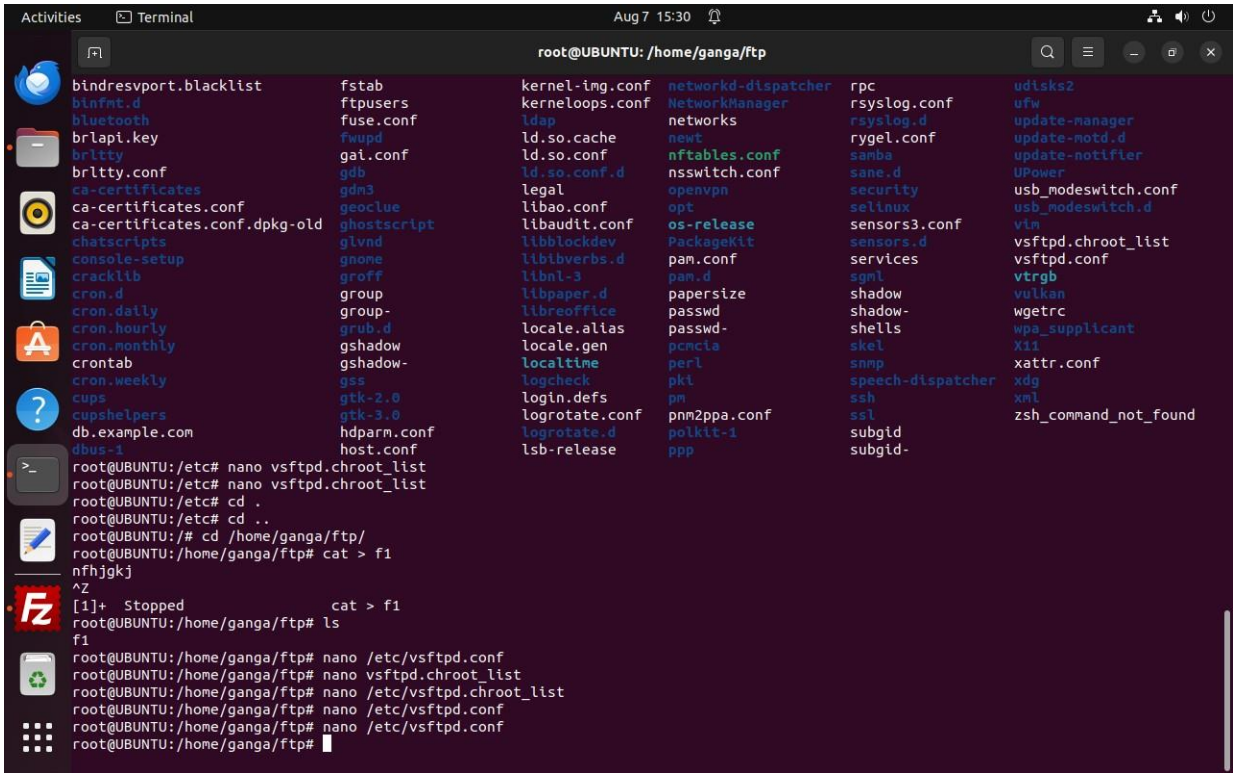

Activities
FileZilla
Jul 24 15:46
127.0.0.1 - FileZilla
File Edit View Transfer Server Bookmarks Help
Host: 127.0.0.1
Username:
Password:
Port:
Quickconnect
Status:Insecure server, it does not support FTP over TLS.
Status:Server does not support non-ASCII characters.
Status:Logged in
Status:Retrieving directory listing...
Status:Directory listing of "/" successful
127.0.0.1
127.0.0.1
Local site: /srv/file/ftp/
Remote site: /
snap
srv
file
ftp
Filename Filesize Filetype Last modified
..
ganga.png 103.7 KB png-file 07/24/24 15:31...
Filename Filesize Filetype Last modified Permission Owner/Grou
..
ganga.png 103.7 KB png-file 07/24/24 21... -rw-r--r-- 0 0
1 file. Total size: 103.7 KB
1 file. Total size: 103.7 KB
Server/Local file Directio Remote file Size Priority Status
Queued files
Failed transfers
Successful transfers
Queue: empty

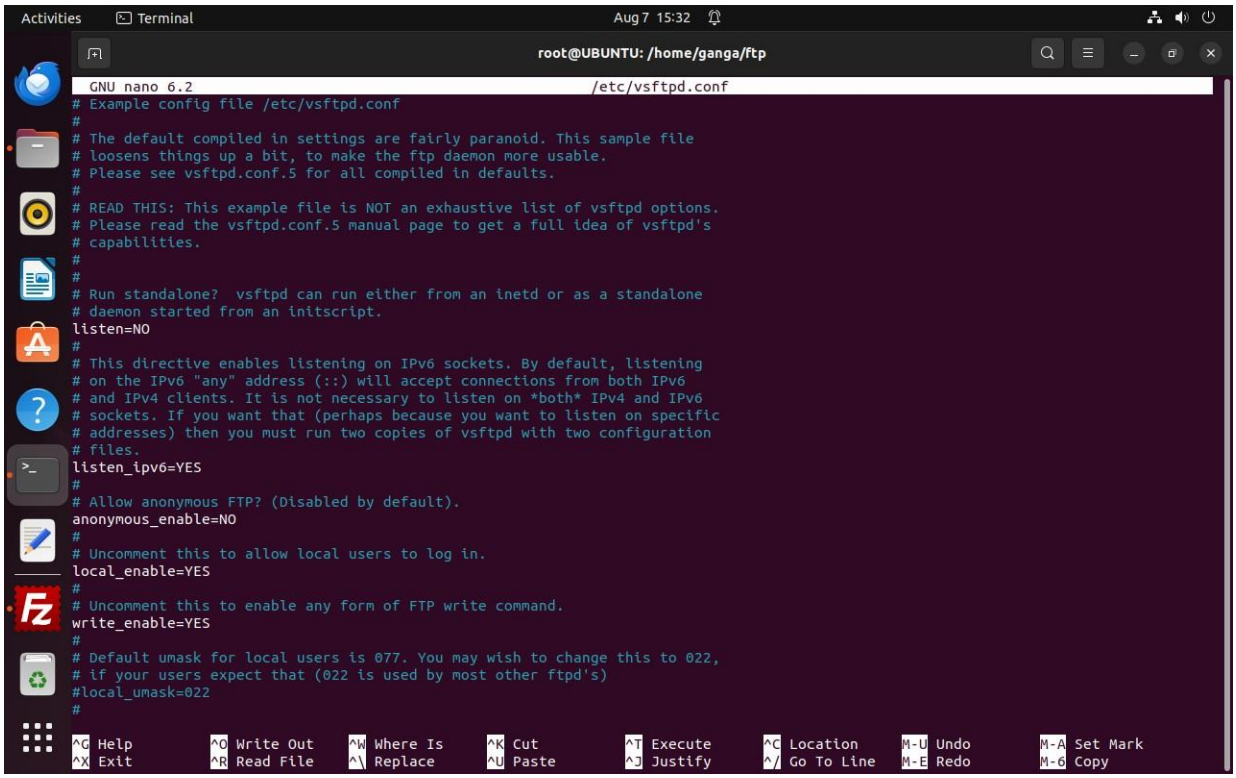

Activities
Files
Jul 24 15:47
127.0.0.1 - FileZilla
File Edit View Transfer Server Bookmarks Help
Computer / srv / file / ftp
Recent
Starred
Home
Documents
Downloads
Music
Pictures
Videos
Trash
Other Locations
ganga.png
Queued files
Failed transfers
Successful transfers
Queue: empty

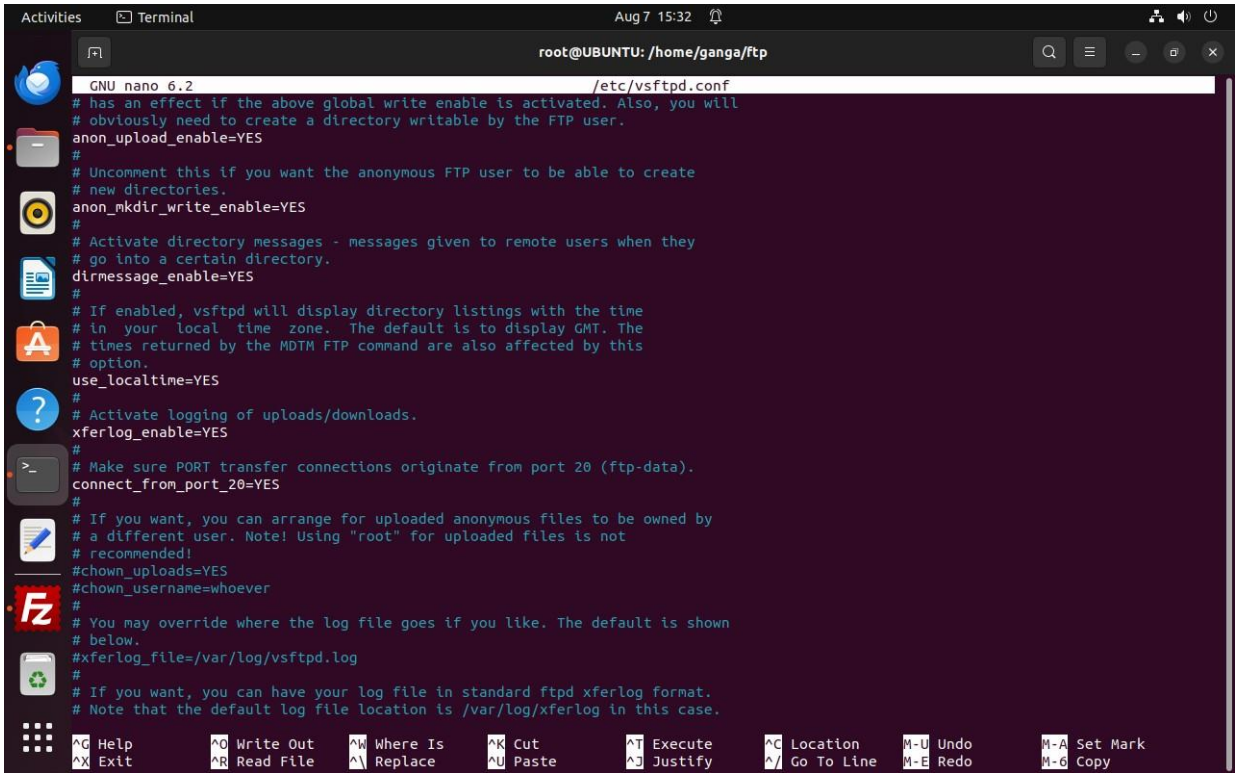

Activities
Terminal
Aug 7 15:29
root@UBUNTU: /home/ganga/ftp
ubuntu22@UBUNTU:~$ su -
Password:
root@UBUNTU:~# sudo apt install vsftpd
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
vsftpd is already the newest version (3.0.5-0ubuntu1).
The following packages were automatically installed and are no longer required:
libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 114 not upgraded.
root@UBUNTU:~# nano /etc/vsftpd.conf
root@UBUNTU:~# ls
snap vboxpostinstall.sh
root@UBUNTU:~# sudo service vsftpd restart
root@UBUNTU:~# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::babf:b255:e5ba:c37c prefixlen 64 scopeid 0x20<link>
ether 08:00:27:0e:3c:4f txqueuelen 1000 (Ethernet)
RX packets 3325 bytes 4729375 (4.7 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 927 bytes 100639 (100.6 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 225 bytes 24062 (24.0 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 225 bytes 24062 (24.0 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
root@UBUNTU:~# chmod 777 /srv/ftp
root@UBUNTU:~# mkdir -p /srv/files/ftp
root@UBUNTU:~# usermode -d /srv/file/ftp ftp
Command 'usermode' not found, did you mean:
command 'usermod' from deb passwd (1:4.8.1-2ubuntu2.2)
Try: apt install <deb name>

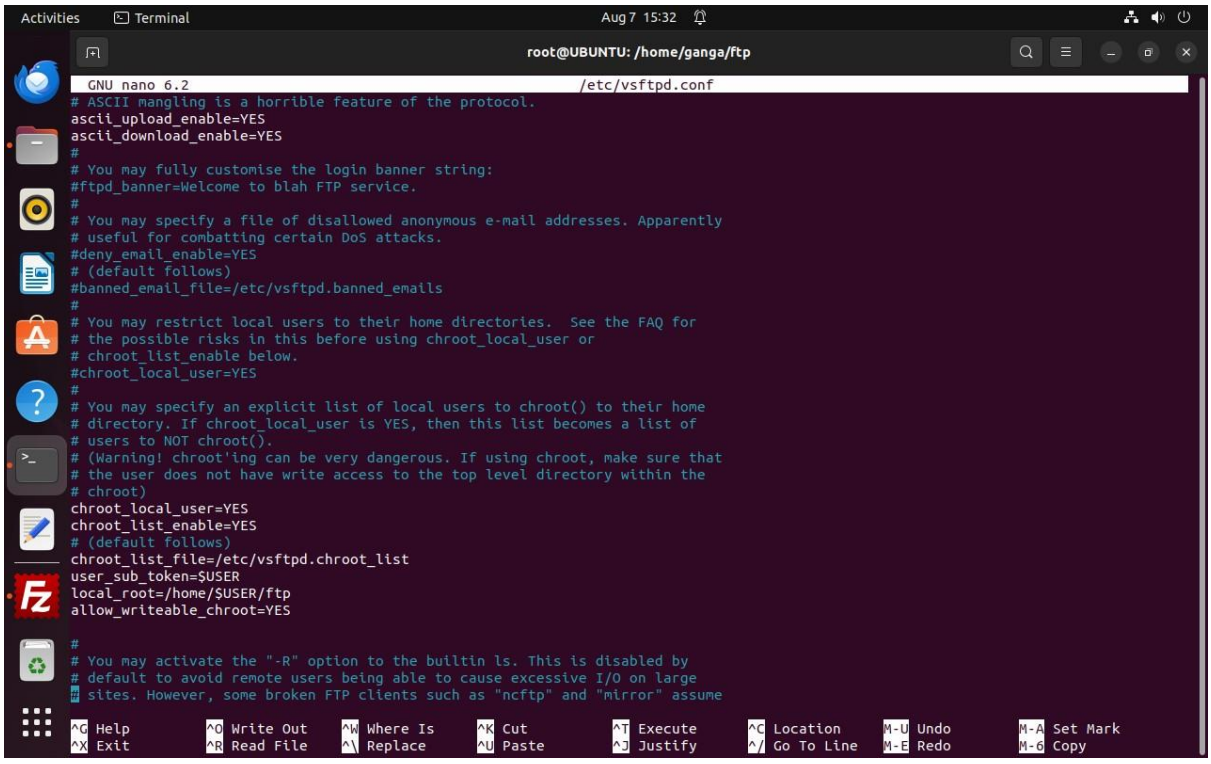

Activities
Terminal
Aug 7 15:29
root@UBUNTU: /home/ganga/ftp
root@UBUNTU:~# chmod 777 /srv/ftp
root@UBUNTU:~# mkdir -p /srv/files/ftp
root@UBUNTU:~# usermode -d /srv/file/ftp ftp
Command 'usermode' not found, did you mean:
command 'usermod' from deb passwd (1:4.8.1-2ubuntu2.2)
Try: apt install <deb name>
root@UBUNTU:~# usermod -d /srv/file/ftp ftp
usermod: no changes
root@UBUNTU:~# sudo service vsftpd restart
root@UBUNTU:~# sudo service vsftpd status
vsftpd.service - vsftpd FTP server
Loaded: loaded (/lib/systemd/system/vsftpd.service; enabled; vendor preset: enabled)
Active: active (running) since Wed 2024-08-07 13:55:49 IST; 34s ago
Process: 2813 ExecStartPre=/bin/mkdir -p /var/run/vsftpd/empty (code=exited, status=0/SUCCESS)
Main PID: 2815 (vsftpd)
Tasks: 1 (limit: 2260)
Memory: 856.0K
CPU: 4ms
CGroup: /system.slice/vsftpd.service
└─2815 /usr/sbin/vsftpd /etc/vsftpd.conf
Aug 07 13:55:49 UBUNTU systemd[1]: Starting vsftpd FTP server...
Aug 07 13:55:49 UBUNTU systemd[1]: Started vsftpd FTP server.
root@UBUNTU:~# nano /etc/vsftpd.conf
root@UBUNTU:~# sudo service vsftpd restart
root@UBUNTU:~# sudo service vsftpd status
vsftpd.service - vsftpd FTP server
Loaded: loaded (/lib/systemd/system/vsftpd.service; enabled; vendor preset: enabled)
Active: active (running) since Wed 2024-08-07 14:12:41 IST; 5s ago
Process: 2916 ExecStartPre=/bin/mkdir -p /var/run/vsftpd/empty (code=exited, status=0/SUCCESS)
Main PID: 2917 (vsftpd)
Tasks: 1 (limit: 2260)
Memory: 876.0K
CPU: 4ms
CGroup: /system.slice/vsftpd.service
└─2917 /usr/sbin/vsftpd /etc/vsftpd.conf
Aug 07 14:12:41 UBUNTU systemd[1]: Starting vsftpd FTP server...
Aug 07 14:12:41 UBUNTU systemd[1]: Started vsftpd FTP server.

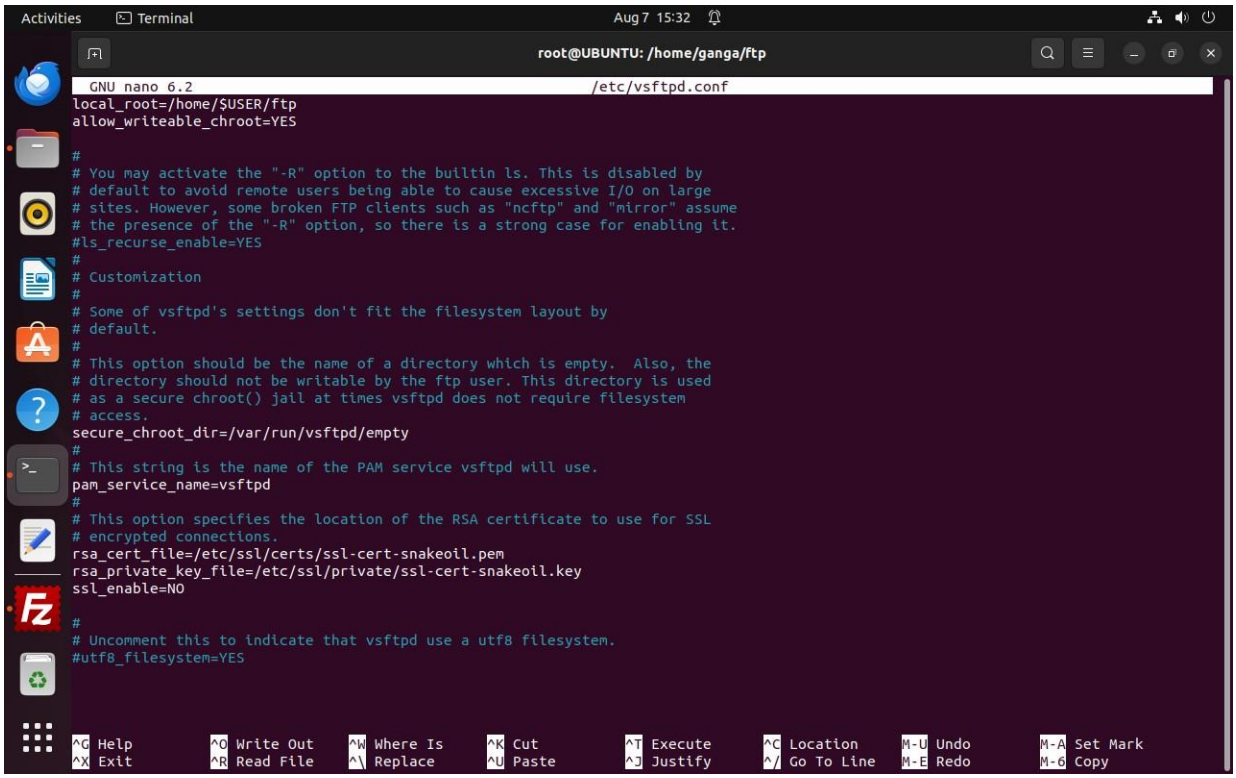

Activities
Terminal
Aug 7 15:30
root@UBUNTU: /home/ganga/ftp
Aug 07 14:12:41 UBUNTU systemd[1]: Starting vsftpd FTP server...
Aug 07 14:12:41 UBUNTU systemd[1]: Started vsftpd FTP server.
root@UBUNTU:~# sudo add user ganga
sudo: add: command not found
root@UBUNTU:~# sudo adduser ganga
Adding user `ganga' ...
Adding new group `ganga' (1004) ...
Adding new user `ganga' (1004) with group `ganga' ...
Creating home directory `/home/ganga' ...
Copying files from `/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for ganga
Enter the new value, or press ENTER for the default
Full Name []: Ganga GR
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n] Y
root@UBUNTU:~# cd /home/ganga
root@UBUNTU:/home/ganga# ls
root@UBUNTU:/home/ganga# mkdir ftp
root@UBUNTU:/home/ganga# ls
ftp
root@UBUNTU:/home/ganga# nano /etc/vsftpd.conf
root@UBUNTU:/home/ganga# nano /etc/vsftpd.conf
root@UBUNTU:/home/ganga# cd/etc ls
-bash: cd/etc: No such file or directory
root@UBUNTU:/home/ganga# cd/etc
-bash: cd/etc: No such file or directory
root@UBUNTU:/home/ganga# cd /etc
root@UBUNTU:/etc# ls

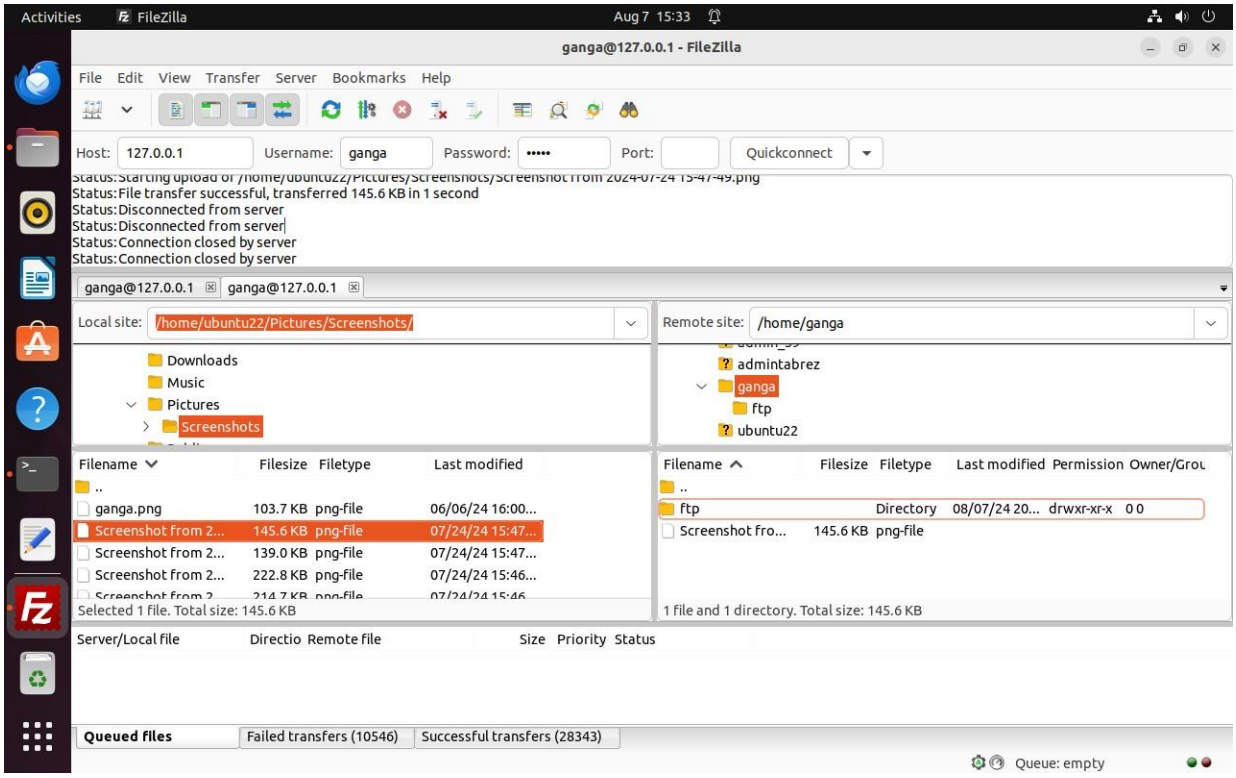

Activities
Terminal
Aug 7 15:30
root@UBUNTU: /home/ganga/ftp
bindresvport.blacklist fstab kernel-img.conf networkd-dispatcher rpc udisks2
binfmt.d ftpusers kerneloops.conf NetworkManager rsyslog.conf ufw
bluetooth fuse.conf ldap networks rsyslog.d update-manager
brlapi.key fwupd ld.so.cache newt rygel.conf update-motd.d
brltty gai.conf ld.so.conf nftables.conf samba update-notifier
brltty.conf gdb ld.so.conf.d nsswitch.conf sane.d UPower
ca-certificates gdm3 legal openvpn security usb_modeswitch.conf
ca-certificates.conf geoclue libao.conf opt selinux usb_modeswitch.d
ca-certificates.conf.dpkg-old ghostscript libaudit.conf os-release sensors3.conf vim
chatscripts glvnd libblockdev PackageKit sensors.d vsftpd.chroot_list
console-setup gnome libibverbs.d pam.conf services vsftpd.conf
cracklib groff libnl-3 pam.d sgml vtrgb
cron.d group libpaper.d papersize shadow vulkan
cron.daily group- libreoffice passwd shadow- wgetrc
cron.hourly grub.d locale.alias passwd- shells wpa_supplicant
cron.monthly gshadow locale.gen pcmcia skel X11
crontab gshadow- localtime perl snmp xattr.conf
cron.weekly gss logcheck pki speech-dispatcher xdg
cups gtk-2.0 login.defs pm ssh xml
cupshelpers gtk-3.0 logrotate.conf pnm2ppa.conf ssl zsh_command_not_found
db.example.com hdparm.conf logrotate.d polkit-1 subgid
dbus-1 host.conf lsb-release ppp subgid-
root@UBUNTU:/etc# nano vsftpd.chroot_list
root@UBUNTU:/etc# nano vsftpd.chroot_list
root@UBUNTU:/etc# cd .
root@UBUNTU:/etc# cd ..
root@UBUNTU:/# cd /home/ganga/ftp/
root@UBUNTU:/home/ganga/ftp# cat > f1
nfhjgkj
^Z
[1]+ Stopped cat > f1
root@UBUNTU:/home/ganga/ftp# ls
f1
root@UBUNTU:/home/ganga/ftp# nano /etc/vsftpd.conf
root@UBUNTU:/home/ganga/ftp# nano vsftpd.chroot_list
root@UBUNTU:/home/ganga/ftp# nano /etc/vsftpd.chroot_list
root@UBUNTU:/home/ganga/ftp# nano /etc/vsftpd.conf
root@UBUNTU:/home/ganga/ftp# nano /etc/vsftpd.conf
root@UBUNTU:/home/ganga/ftp#

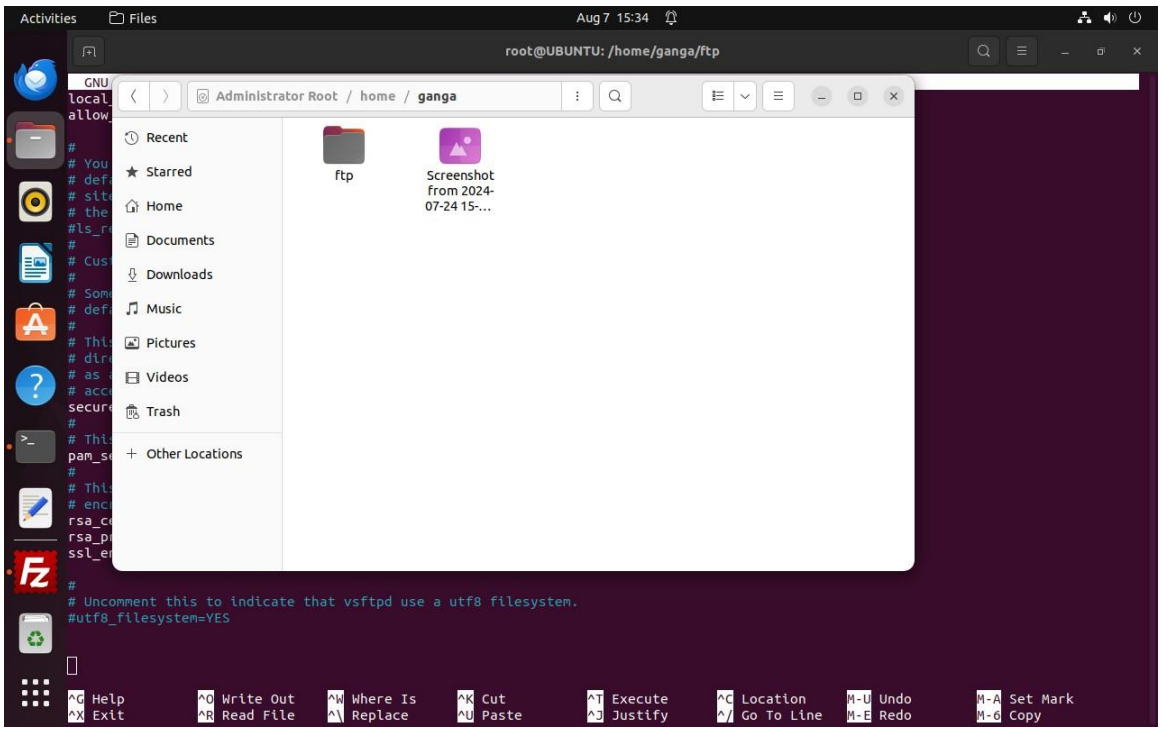

Activities
Terminal
Aug 7 15:32
root@UBUNTU: /home/ganga/ftp
GNU nano 6.2 /etc/vsftpd.conf
Example config file /etc/vsftpd.conf
#
The default compiled in settings are fairly paranoid. This sample file
loosens things up a bit, to make the ftp daemon more usable.
Please see vsftpd.conf.5 for all compiled in defaults.
#
READ THIS: This example file is NOT an exhaustive list of vsftpd options.
Please read the vsftpd.conf.5 manual page to get a full idea of vsftpd's
capabilities.
#
#
# Run standalone? vsftpd can run either from an inetd or as a standalone
# daemon started from an initscript.
listen=NO
#
# This directive enables listening on IPv6 sockets. By default, listening
# on the IPv6 "any" address (::) will accept connections from both IPv6
# and IPv4 clients. It is not necessary to listen on *both* IPv4 and IPv6
# sockets. If you want that (perhaps because you want to listen on specific
# addresses) then you must run two copies of vsftpd with two configuration
# files.
listen_ipv6=YES
#
# Allow anonymous FTP? (Disabled by default).
anonymous_enable=NO
#
# Uncomment this to allow local users to log in.
local_enable=YES
#
# Uncomment this to enable any form of FTP write command.
write_enable=YES
#
Default umask for local users is 077. You may wish to change this to 022,
if your users expect that (022 is used by most other ftpd's)
#local_umask=022
#
^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

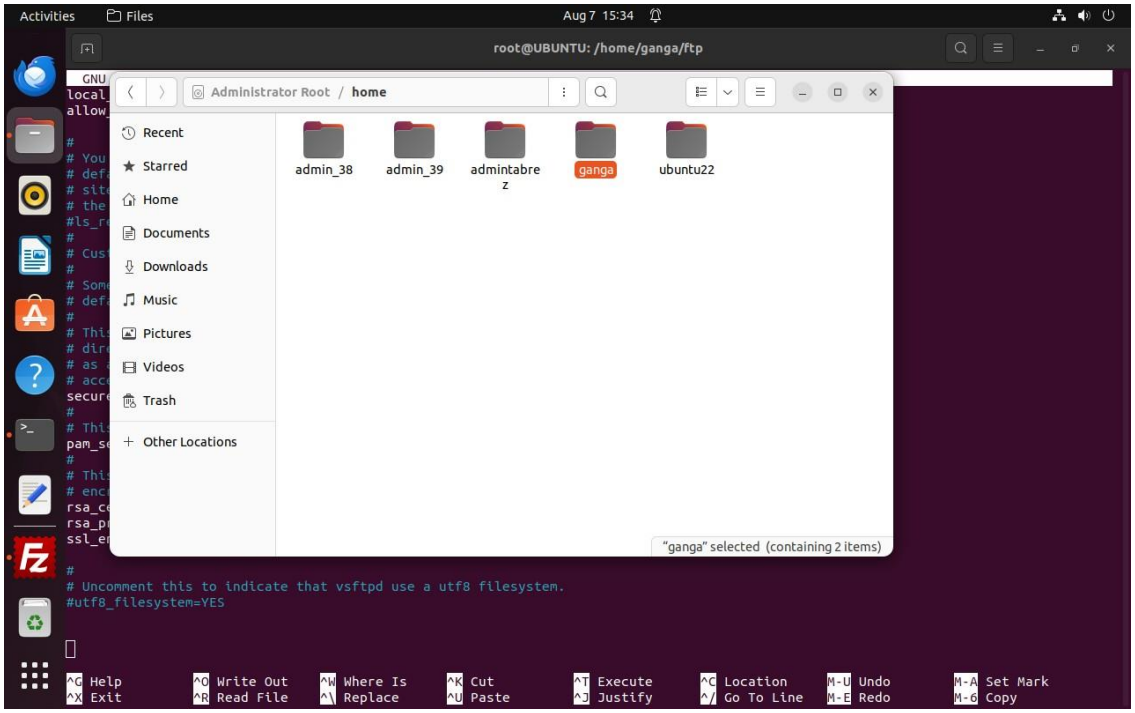

Activities
Terminal
Aug 7 15:32
root@UBUNTU: /home/ganga/ftp
GNU nano 6.2 /etc/vsftpd.conf
# has an effect if the above global write enable is activated. Also, you will
# obviously need to create a directory writable by the FTP user.
anon_upload_enable=YES
#
# Uncomment this if you want the anonymous FTP user to be able to create
# new directories.
anon_mkdir_write_enable=YES
#
# Activate directory messages - messages given to remote users when they
# go into a certain directory.
dirmessage_enable=YES
#
# If enabled, vsftpd will display directory listings with the time
# in your local time zone. The default is to display GMT. The
# times returned by the MDTM FTP command are also affected by this
# option.
use_localtime=YES
#
# Activate logging of uploads/downloads.
xferlog_enable=YES
#
# Make sure PORT transfer connections originate from port 20 (ftp-data).
connect_from_port_20=YES
#
If you want, you can arrange for uploaded anonymous files to be owned by
a different user. Note! Using "root" for uploaded files is not
recommended!
#chown_uploads=YES
#chown_username=whoever
#
You may override where the log file goes if you like. The default is shown
below.
#xferlog_file=/var/log/vsftpd.log
#
If you want, you can have your log file in standard ftpd xferlog format.
Note that the default log file location is /var/log/xferlog in this case.
^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

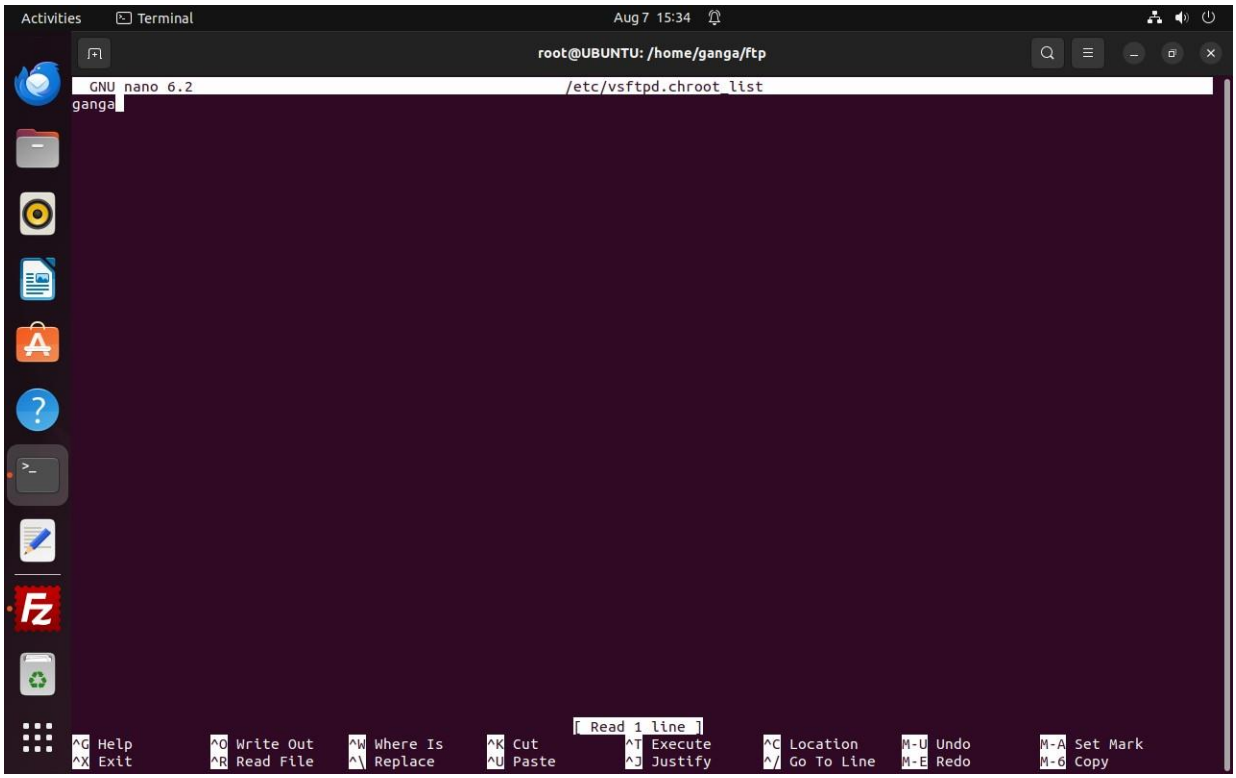

Activities
Terminal
Aug 7 15:32
root@UBUNTU: /home/ganga/ftp
GNU nano 6.2 /etc/vsftpd.conf
# ASCII mangling is a horrible feature of the protocol.
ascii_upload_enable=YES
ascii_download_enable=YES
#
You may fully customise the login banner string:
#ftpd_banner=Welcome to blah FTP service.
#
You may specify a file of disallowed anonymous e-mail addresses. Apparently
useful for combatting certain DoS attacks.
#deny_email_enable=YES
(default follows)
#banned_email_file=/etc/vsftpd.banned_emails
#
You may restrict local users to their home directories. See the FAQ for
the possible risks in this before using chroot_local_user or
chroot_list_enable below.
#chroot_local_user=YES
#
# You may specify an explicit list of local users to chroot() to their home
# directory. If chroot_local_user is YES, then this list becomes a list of
# users to NOT chroot().
# (Warning! chroot'ing can be very dangerous. If using chroot, make sure that
# the user does not have write access to the top level directory within the
# chroot)
chroot_local_user=YES
chroot_list_enable=YES
# (default follows)
chroot_list_file=/etc/vsftpd.chroot_list
user_sub_token=$USER
local_root=/home/$USER/ftp
allow_writeable_chroot=YES
#
You may activate the "-R" option to the builtin ls. This is disabled by
default to avoid remote users being able to cause excessive I/O on large
sites. However, some broken FTP clients such as "ncftp" and "mirror" assume
^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


Activities
Terminal
Aug 7 15:32
root@UBUNTU: /home/ganga/ftp
GNU nano 6.2 /etc/vsftpd.conf
local_root=/home/$USER/ftp
allow_writeable_chroot=YES
# You may activate the "-R" option to the builtin ls. This is disabled by
# default to avoid remote users being able to cause excessive I/O on large
# sites. However, some broken FTP clients such as "ncftp" and "mirror" assume
# the presence of the "-R" option, so there is a strong case for enabling it.
#ls_recurse_enable=YES
# Customization
# Some of vsftpd's settings don't fit the filesystem layout by
# default.
# This option should be the name of a directory which is empty. Also, the
# directory should not be writable by the ftp user. This directory is used
# as a secure chroot() jail at times vsftpd does not require filesystem
# access.
secure_chroot_dir=/var/run/vsftpd/empty
# This string is the name of the PAM service vsftpd will use.
pam_service_name=vsftpd
# This option specifies the location of the RSA certificate to use for SSL
# encrypted connections.
rsa_cert_file=/etc/ssl/certs/ssl-cert-snakeoil.pem
rsa_private_key_file=/etc/ssl/private/ssl-cert-snakeoil.key
ssl_enable=NO
# Uncomment this to indicate that vsftpd use a utf8 filesystem.
#utf8_filesystem=YES
^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


Activities
FileZilla
Aug 7 15:33
ganga@127.0.0.1 - FileZilla
File Edit View Transfer Server Bookmarks Help
Host: 127.0.0.1 Username: ganga Password: ••••• Port: Quickconnect
Status:File transfer successful, transferred 145.6 KB in 1 second
Status:Disconnected from server
Status:Disconnected from server
Status:Connection closed by server
Status:Connection closed by server
ganga@127.0.0.1
ganga@127.0.0.1
Local site: /home/ubuntu22/Pictures/Screenshots/
Remote site: /home/ganga
Downloads
Music
Pictures
Screenshots
admintabrez
ganga
ftp
ubuntu22
Filename Filesize Filetype Last modified
.. ganga.png 103.7 KB png-file 06/06/24 16:00...
Screenshot from 2... 145.6 KB png-file 07/24/24 15:47...
Screenshot from 2... 139.0 KB png-file 07/24/24 15:47...
Screenshot from 2... 222.8 KB png-file 07/24/24 15:46...
Selected 1 file. Total size: 145.6 KB
Filename Filesize Filetype Last modified Permission Owner/Grou
.. ftp Directory 08/07/24 20... drwxr-xr-x 0 0
Screenshot fro... 145.6 KB png-file
1 file and 1 directory. Total size: 145.6 KB
Server/Local file Directio Remote file Size Priority Status
Queued files
Failed transfers (10546)
Successful transfers (28343)
Queue: empty


Activities
Files
Aug 7 15:34
root@UBUNTU: /home/ganga/ftp
Administrator Root / home / ganga
Recent
Starred
Home
Documents
Downloads
Music
Pictures
Videos
Trash
Other Locations
ftp
Screenshot from 2024-07-24 15-...
Uncomment this to indicate that vsftpd use a utf8 filesystem.
#utf8_filesystem=YES
^G Help
^X Exit
^O Write Out
^R Read File
^W Where Is
^\ Replace
^K Cut
^U Paste
^T Execute
^J Justify
^C Location
^/ Go To Line
M-U Undo
M-E Redo
M-A Set Mark
M-6 Copy


Activities
Files
Aug 7 15:34
root@UBUNTU: /home/ganga/ftp
Administrator Root / home
Recent
Starred
Home
Documents
Downloads
Music
Pictures
Videos
Trash
Other Locations
admin_38
admin_39
admintabrez
ganga
ubuntu22
"ganga" selected (containing 2 items)
Uncomment this to indicate that vsftpd use a utf8 filesystem.
#utf8_filesystem=YES
^G Help
^X Exit
^O Write Out
^R Read File
^W Where Is
^\ Replace
^K Cut
^U Paste
^T Execute
^J Justify
^C Location
^/ Go To Line
M-U Undo
M-E Redo
M-A Set Mark
M-6 Copy



All the commands have been executed and the output has been obtained successfully.