DNS AND FTP LINUX CONFIGURATION

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Class:

2CS1

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PROJECT INFORMATION

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CERTIFICATE OF ORIGINALITY

This is to certify that the project report titled "DNS and FTP Linux Configuration" is an original work completed by Abdur Rashid Firdaus, Ahmad Maulana Ibrahim, and Ayunda Pramita Kurnia Hapsari. This project has been submitted in partial fulfillment of their courserequirement at the National Institute of Information Technology (NIIT).

The project report has been prepared under our research and experiment, and it is ensured that the work presented in this report is the result of the individual efforts of the aforementioned students. The contents of this report have not been submitted to any other institution or organization for the award of any degree, diploma, or other similar recognition.

Authors acknowledge that the ideas, designs, and implementations presented in this project report are the intellectual properties of the students mentioned above. Any use or reproduction of this work must give proper credit to the original authors.

Authors hereby endorse the authenticity and originality of the work presented in this project report and confirm that it meets the academic standards and requirements set forth by the National Institute of Information Technology (NIIT).

Coordinator:

Mr. Tri Agus Riyadi, S.Kom, M.T

ACKNOWLEDGEMENT

Author would like to acknowledge the completion of the insightful paper titled "DNS and FTP Linux Configuration." This paper comprehensively discusses how to configure DNS and FTP in the Linux software.

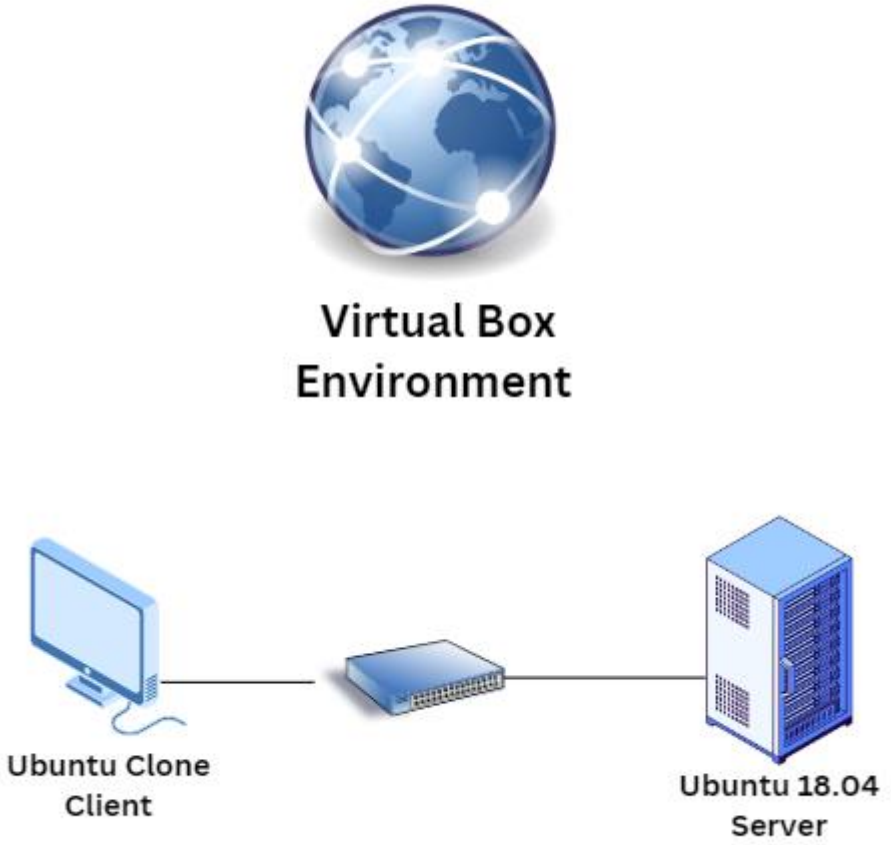
The contents of this paper provide a detailed overview of how to configure FTP for file sharing from one operating system to another and DNS to change the hostname from a set of IP to a domain name. The paper serves as a way of understanding Linux server as a subject for this second semester.

Depok, 8 Mei 2024

Authors

SYSTEM ANALYSIS

Linux is a powerful, flexible, and community-driven OS that manages both hardware and software resources, making it a go-to system for diverse computing needs. One thing about Linux is the ability to set up servers. This paper aims to explore the configuration of DNS and FTP in Linux Ubuntu 18.04 version. The Linux ubuntu served as the server and a clone of ubuntu as the client enabling two systems to communicate and transfer files to one another.



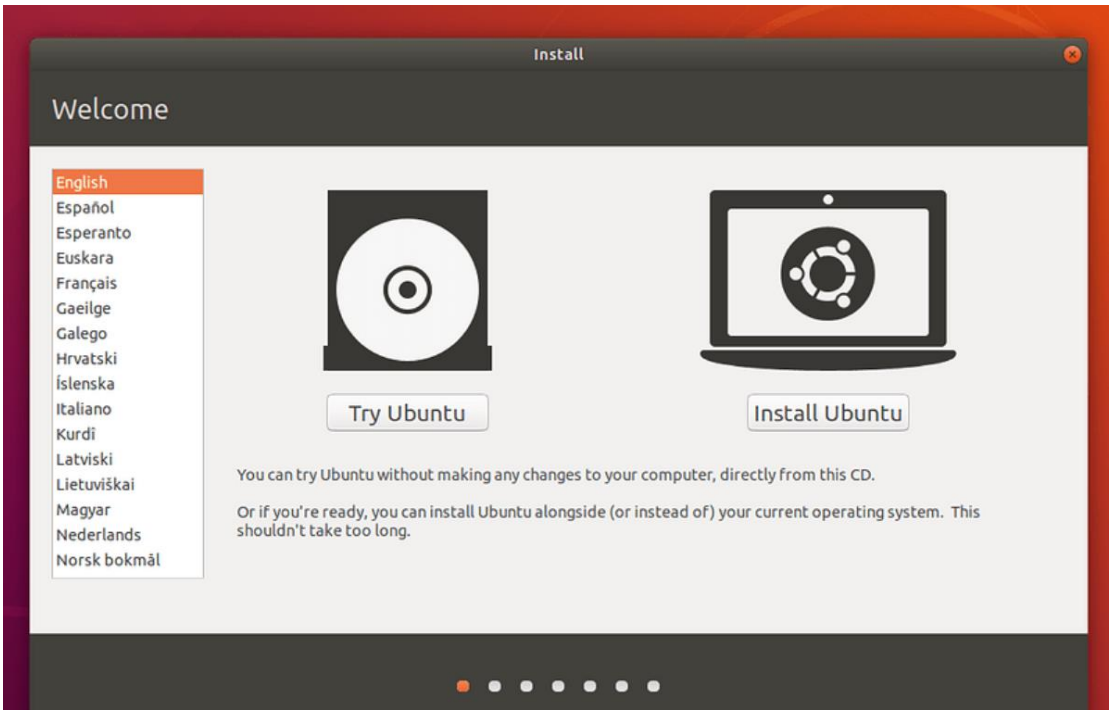
SYSTEM ANALYSIS

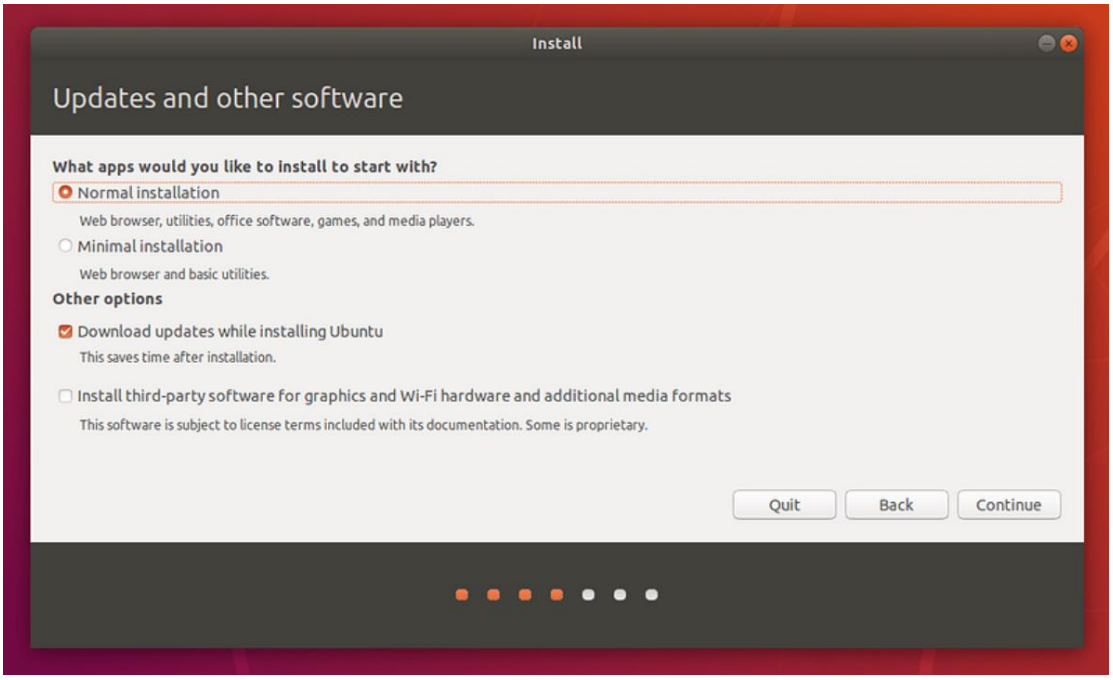
Here are the lists of things to note when conducting the project

1. Make sure the devices meet the requirements for the software used in the project
2. Make sure the two operating systems connected in one network by activating the internal network adapter in the VBOX.
3. IP server is 192.168.1.29 and for the client is 192.168.1.30
4. The testing for the FTP and DNS service will both be using Filezilla FTP service
5. If the configuration proved successful, the two systems will have access to each directories making it possible for file transferring. With the DNS set up two systems can connect with domain name rather than typing the IP to activate file transferring.

LINUX INSTALLATION

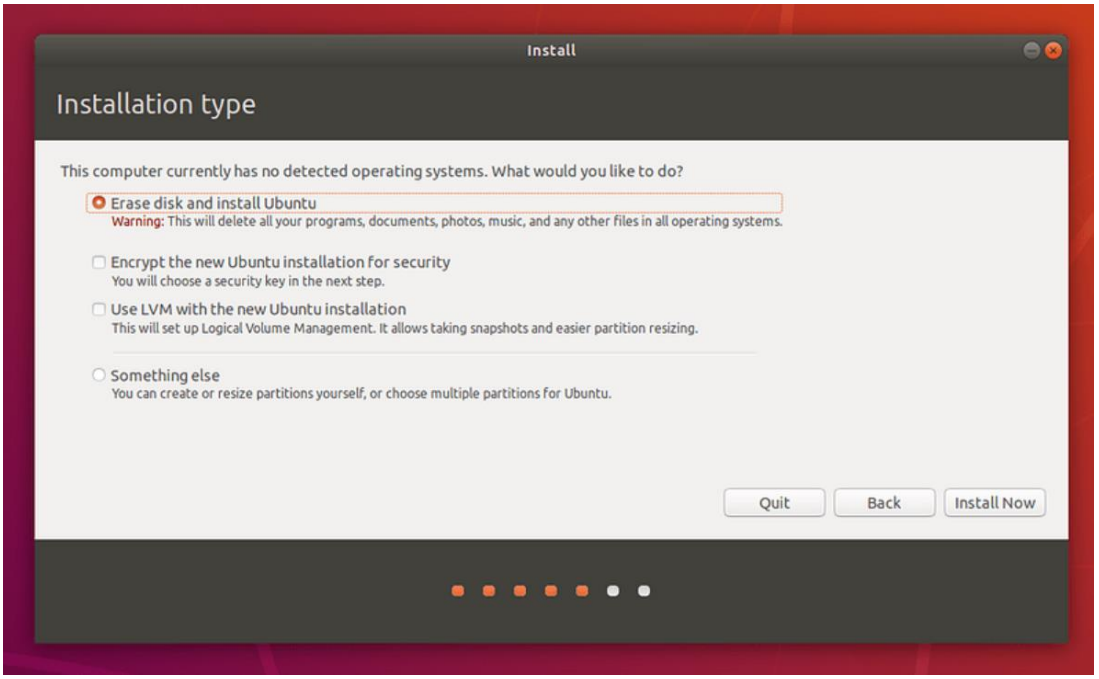
1. Install Ubuntu

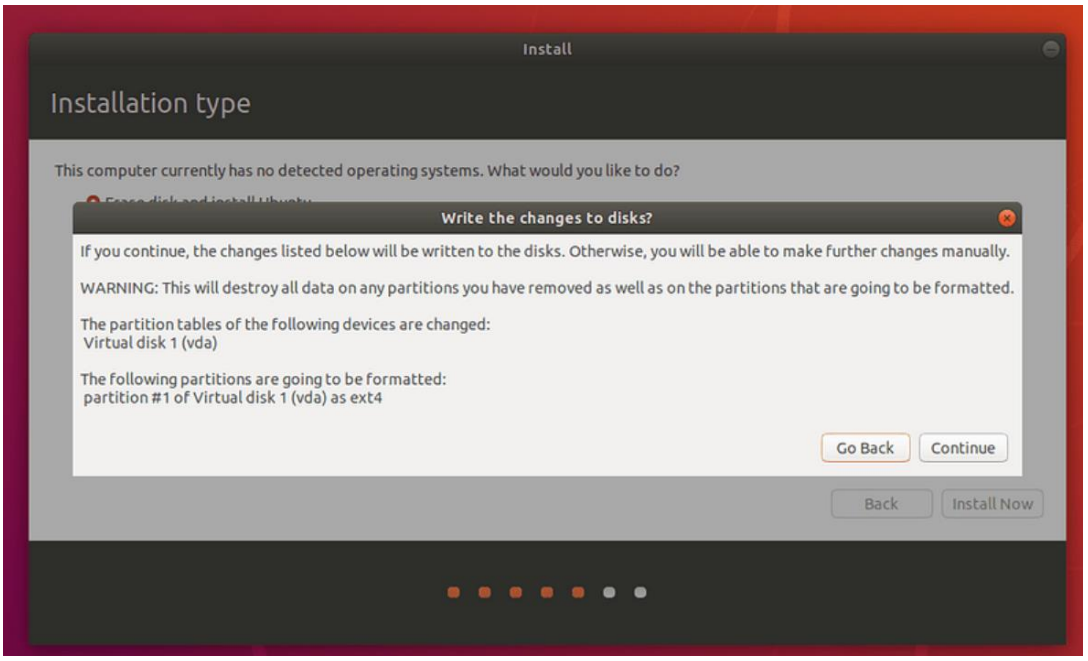




LINUX INSTALLATION

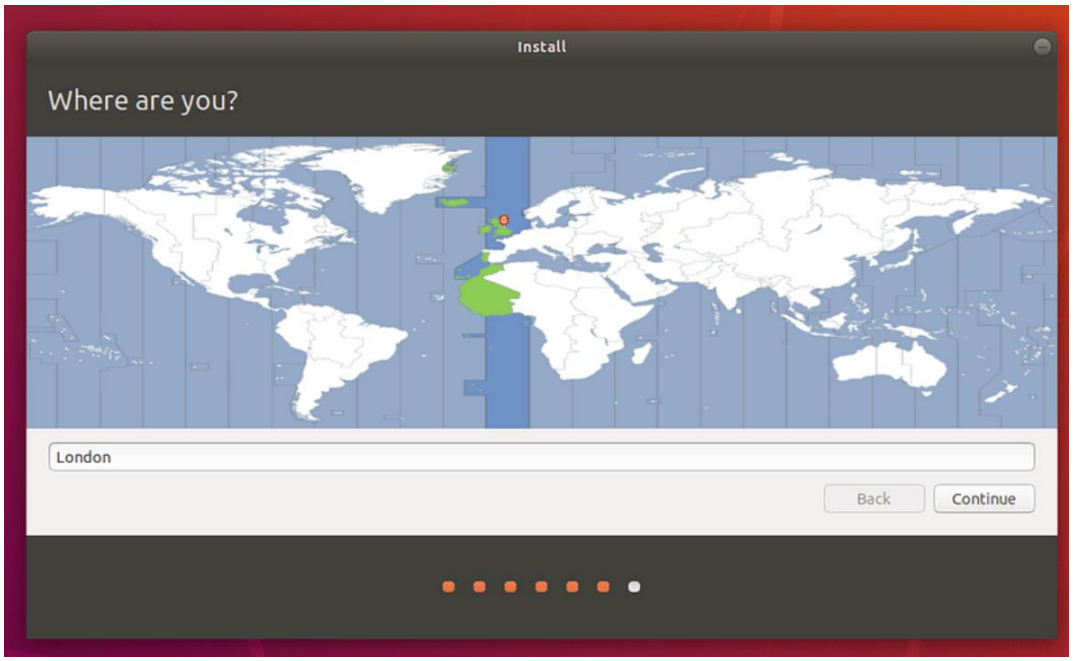
2. Begin Installation



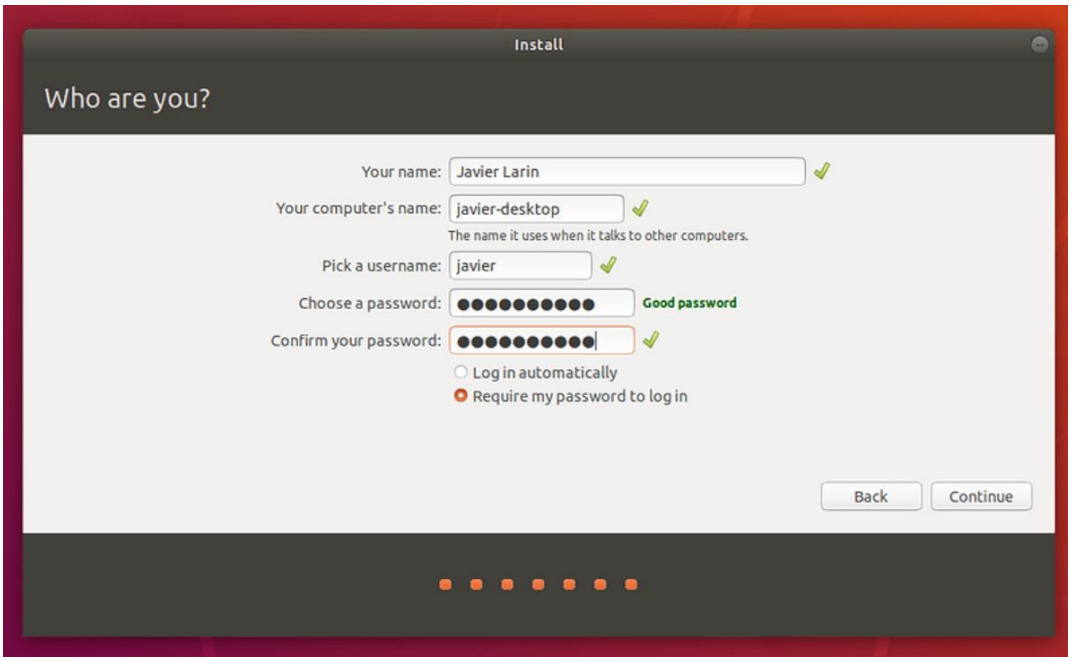


LINUX INSTALLATION

3. Pick your location



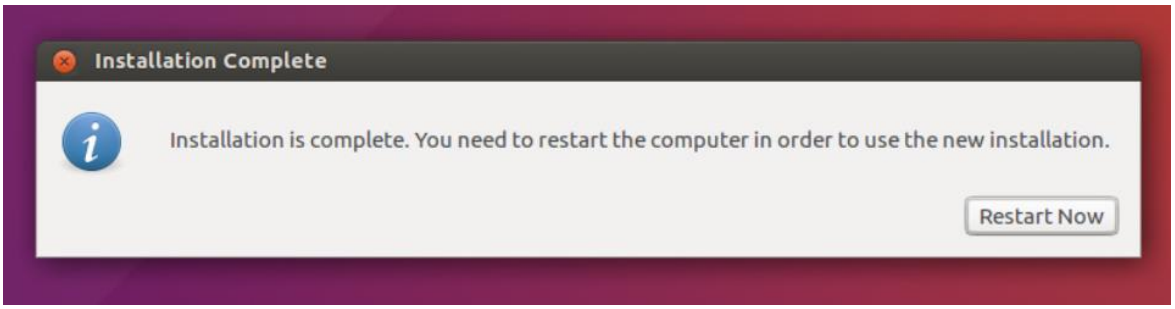
4. Login Preferences



LINUX INSTALLATION

5. Installation Background

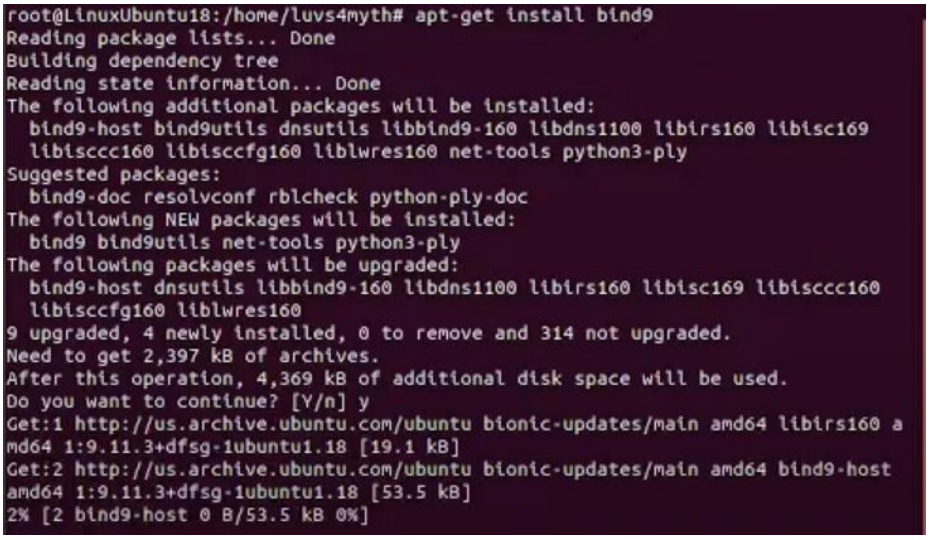
6. Installation Complete



DNS CONFIGURATION

1. Installing Bind9 Services

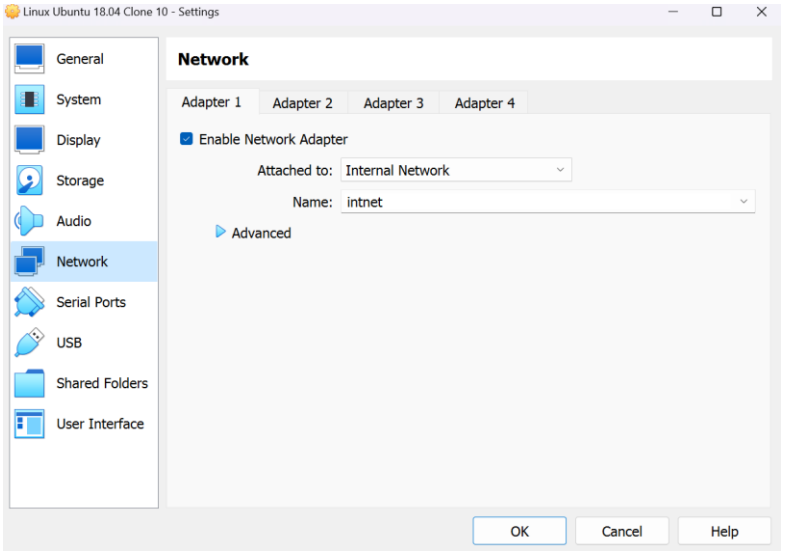
   First, open the Linux that will be used in this case Ubuntu 18.04. Then, user can open the terminal to install the Bind9 service on the Linux. And type the command as below

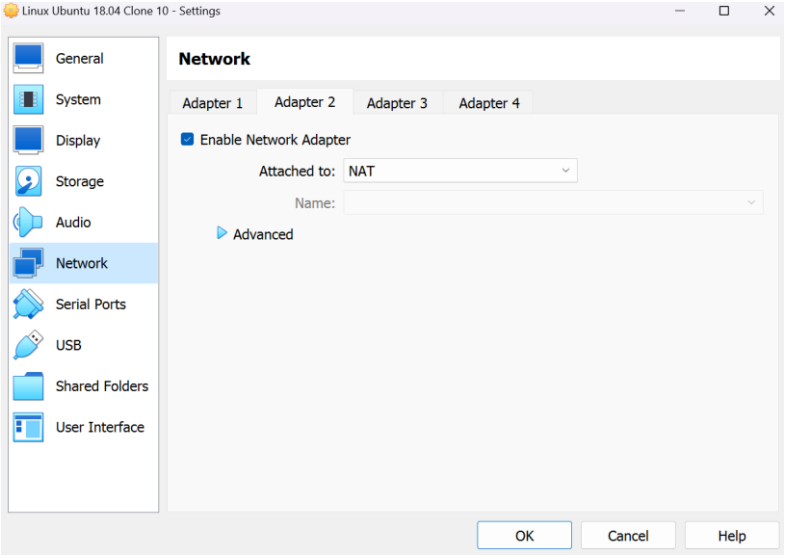


DNS CONFIGURATION

2. Checking All Network Adapter

   In order to connect to the internet network, set adapter 1 & 2 to Internal Network & NAT.

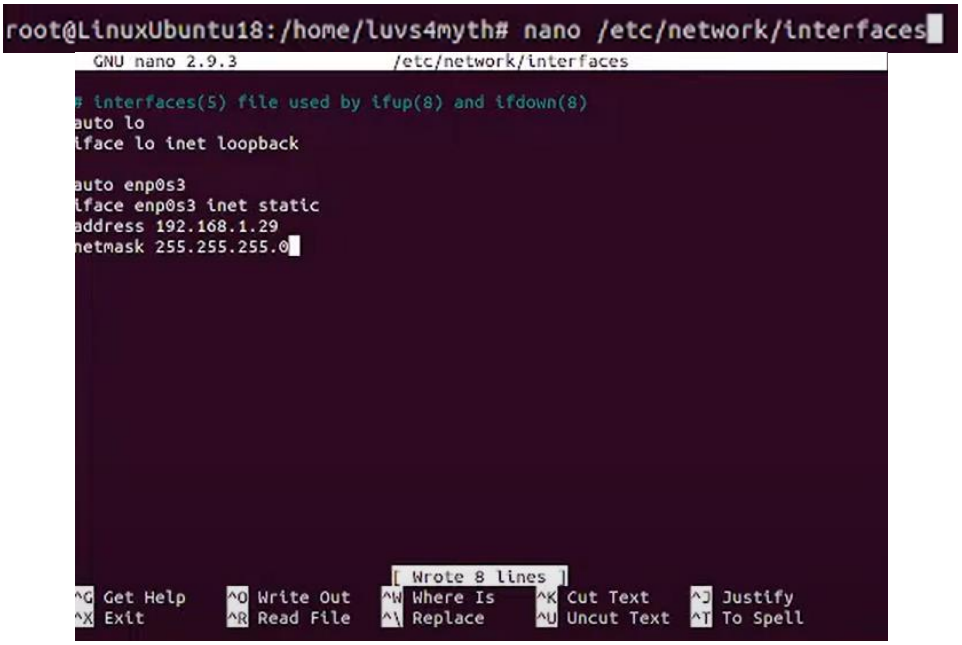




DNS CONFIGURATION

3. Configure DNS settings on Linux

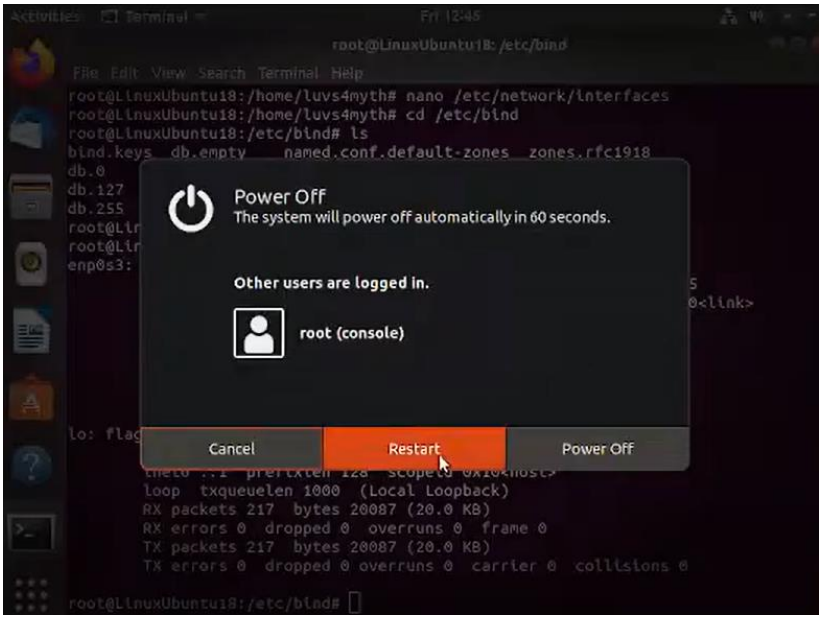
   To create a DNS server, user need to configure several things as below for setting an IP address and creating DNS name



DNS CONFIGURATION

4. Restart the devices and check the IP with ipconfig

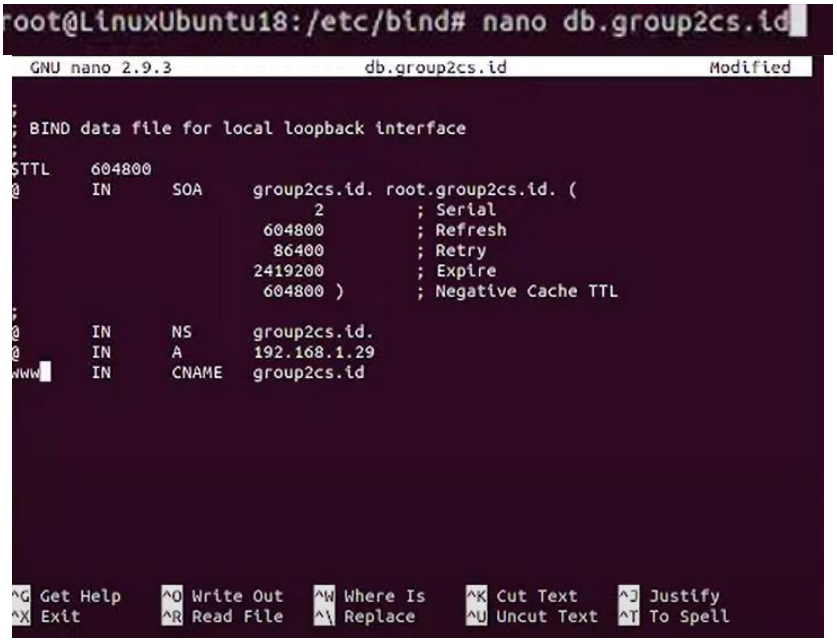
   Once finished, restart Linux, then check whether the IP address has changed or not. If the configuration is successful, the IP address will change as below

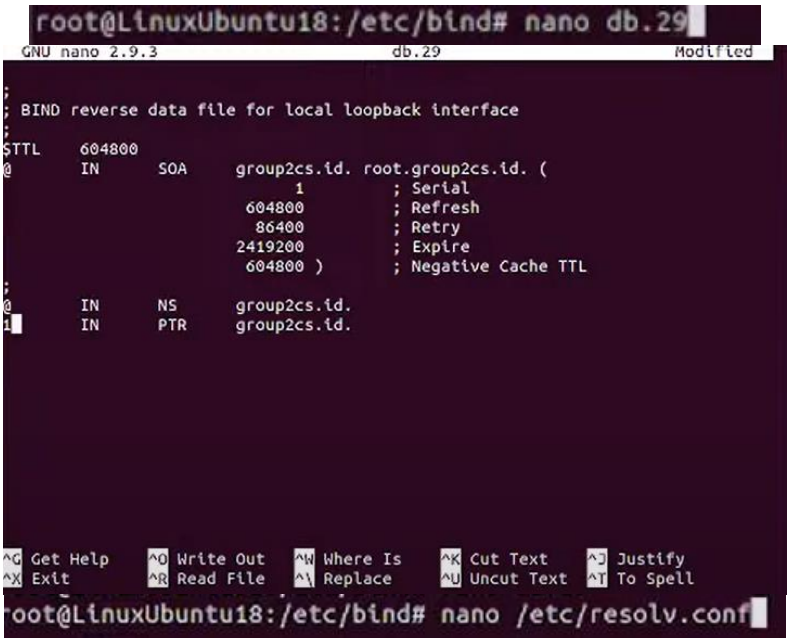


DNS CONFIGURATION

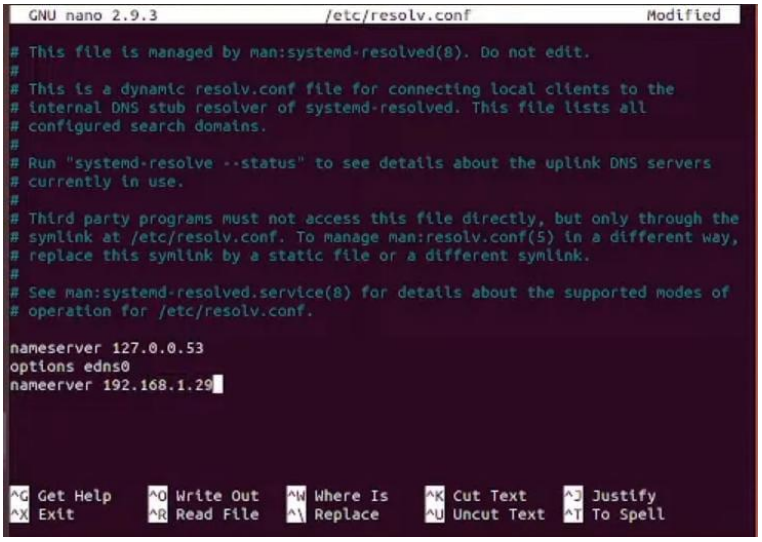
5. After restart the Devices, Continue Configure DNS settings on Linux

   After finished changing the Linux IP Address, continue with several configurations as below to complete the creation of the DNS Server





DNS CONFIGURATION



DNS SIMULATION

6. Restart your Bind9 and Ping Your DNS Server

After completing the configuration, restart the Bind9 service, and after that user can check whether the DNS server has been successfully changed or not. If successful, the display will look like below

```
root@LinuxUbuntu18:/etc/bind# service bind9 restart
```

```
root@LinuxUbuntu18:/etc/bind# nslookup group2cs.id
Server:         192.168.1.29
Address:        192.168.1.29#53

Name:   group2cs.id
Address: 192.168.1.29
```

7. Ping from client

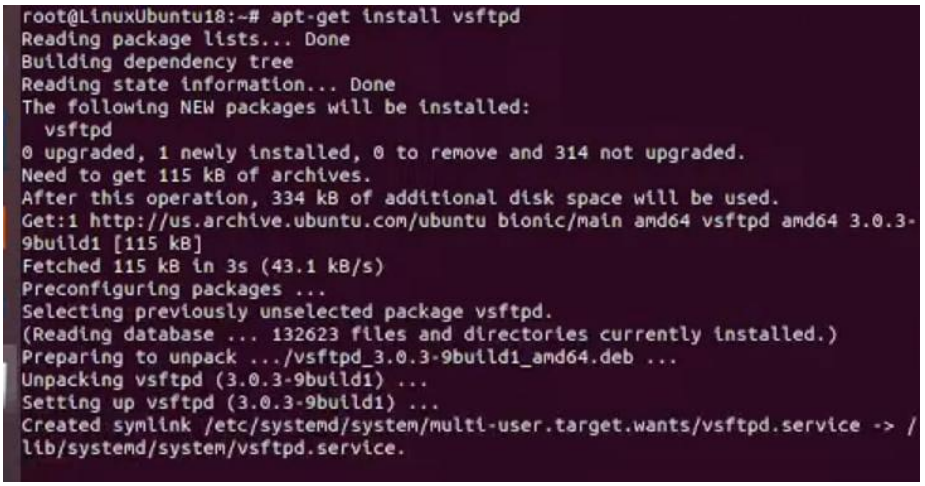
To check whether the DNS server is running or not, user need to check the ping on the Linux client. If the DNS server is successful, then the Linux client will receive a ping as below.

```
root@LinuxUbuntu18:/home/luvs4myth# ping group2cs.id
PING group2cs.id (192.168.1.29) 56(84) bytes of data.
64 bytes from _gateway (192.168.1.29): icmp_seq=1 ttl=64 time=0.385 ms
64 bytes from _gateway (192.168.1.29): icmp_seq=2 ttl=64 time=0.910 ms
64 bytes from _gateway (192.168.1.29): icmp_seq=3 ttl=64 time=0.631 ms
64 bytes from _gateway (192.168.1.29): icmp_seq=4 ttl=64 time=0.715 ms
64 bytes from _gateway (192.168.1.29): icmp_seq=5 ttl=64 time=0.447 ms
64 bytes from _gateway (192.168.1.29): icmp_seq=6 ttl=64 time=0.852 ms
64 bytes from _gateway (192.168.1.29): icmp_seq=7 ttl=64 time=0.295 ms
64 bytes from _gateway (192.168.1.29): icmp_seq=8 ttl=64 time=0.383 ms
64 bytes from _gateway (192.168.1.29): icmp_seq=9 ttl=64 time=0.278 ms
64 bytes from _gateway (192.168.1.29): icmp_seq=10 ttl=64 time=0.295 m
64 bytes from _gateway (192.168.1.29): icmp_seq=11 ttl=64 time=0.260 m
```

FTP CONFIGURATION

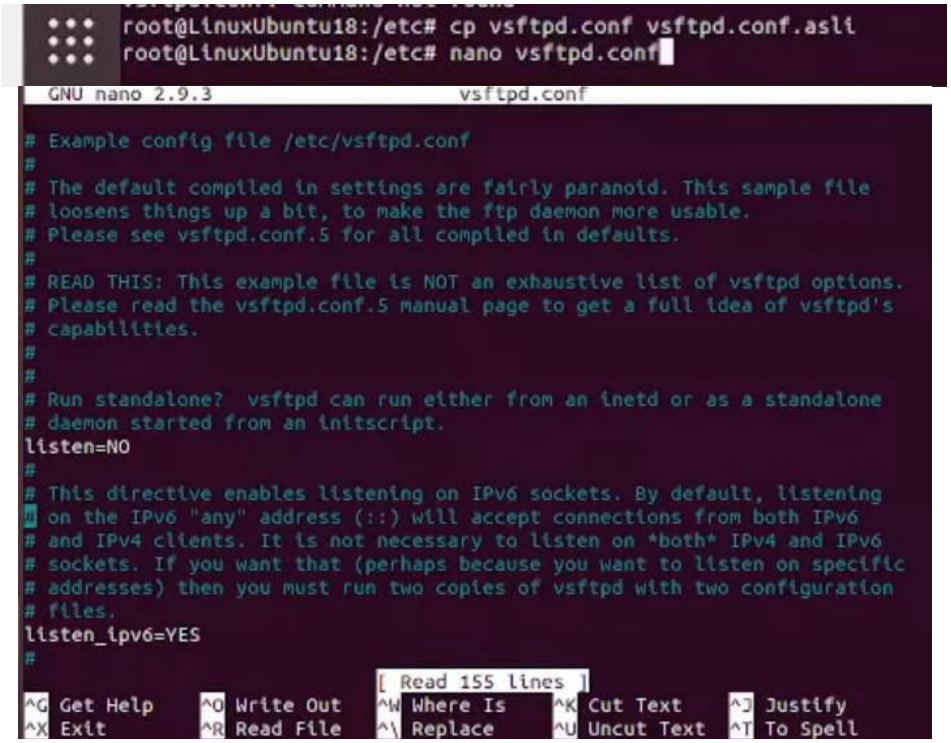
1. Installing vsftpd Services

   Next, user will create an FTP Server. To start configuring the FTP Server, user needs to open a terminal on Linux and install vsftpd as below



2. Edit file configuration vsftpd.conf

   After that, user can edit the vsftpd.conf configuration file. This time, the default configuration will be used.



FTP CONFIGURATION

3. Create an FTP User

Next, an FTP user can be created as below

```
root@LinuxUbuntu18:/etc# adduser group2cs
Adding user `group2cs' ...
Adding new group `group2cs' (1001) ...
Adding new user `group2cs' (1001) with group `group2cs' ...
Creating home directory `/home/group2cs' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for group2cs
Enter the new value, or press ENTER for the default
        Full Name []: Group 2 CS
        Room Number []: 12345
        Work Phone []: 12345
        Home Phone []: 12345
        Other []: 12345
Is the information correct? [Y/n] y
root@LinuxUbuntu18:/etc#
```

4. Set FTP User access permissions

After creating an FTP user, FTP files can be added or edited. But first, user must change the FTP user access permissions as below

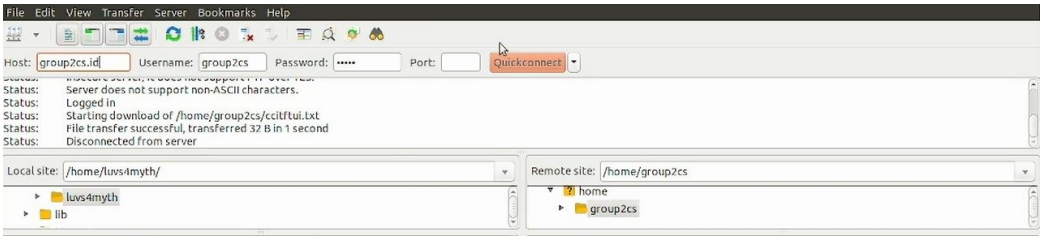
```
root@LinuxUbuntu18:/etc# mkdir /home/group2cs/ftp
```

```
root@LinuxUbuntu18:/etc# chown nobody:nogroup /home/group2cs/ftp
root@LinuxUbuntu18:/etc# chmod a-w /home/group2cs/ftp
root@LinuxUbuntu18:/etc# ls -la /home/group2cs/ftp
total 8
dr-xr-xr-x 2 nobody   nogroup  4096 W.◆  1 17:38 .
drwxr-xr-x 3 group2cs group2cs 4096 W.◆  1 17:38 ..
root@LinuxUbuntu18:/etc#
```

FTP SIMULATION

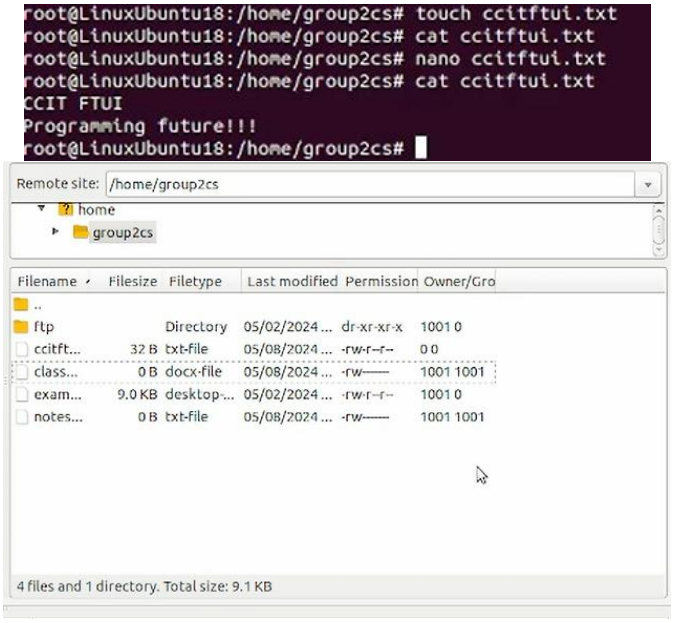
1. Perform an FTP user login in the Filezilla application

   After setting up the FTP user, user can log in to your FTP user in the Filezilla application on the Linux client. Because previously a DNS Server has been created, simply fill in the host address with DNS server address.



2. Try uploading and editing files via terminal

   Next, try to upload a file to the FTP via the terminal. Then, check the transfer success status in Filezilla as the example below



REQUIREMENTS

Hardware :

1. LENOVO Laptop

Operating System :

1. Windows 11 64-bit
2. Linux Ubuntu 18.04
3. Linux Ubuntu 18.04 (Clone)

Software :

1. Oracle Virtual Box
2. Ms. Word
3. Google Drive

PROJECT FILE DETAILS

No	Filename	Remarks
1	Grup 2 Project 2 FINAL.pdf	Paper File
2	Project 2 Presentation.pkt	Presentation File