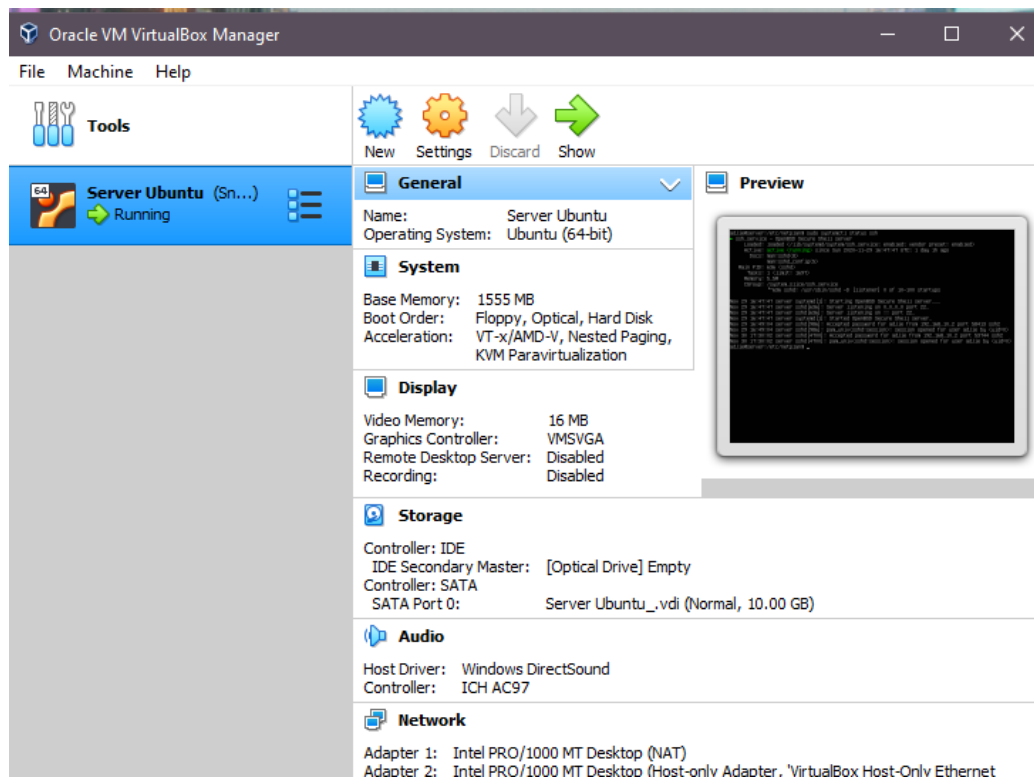


Tugas Telekomunikasi
Konfigurasi Web Server/HTML di ubuntu 20.04

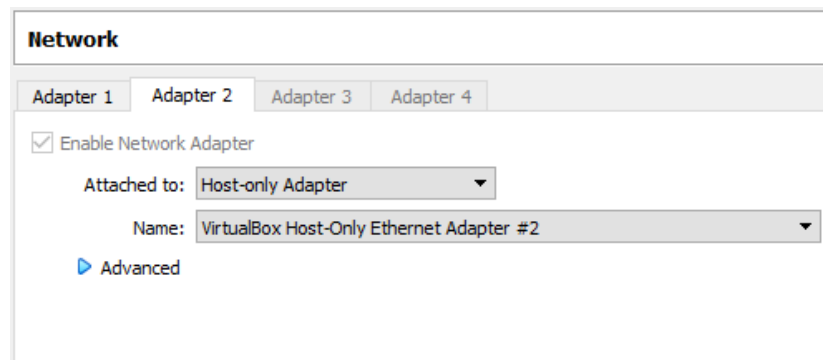


Nama :Adjie Budi Negoro
NIM :09011282025096
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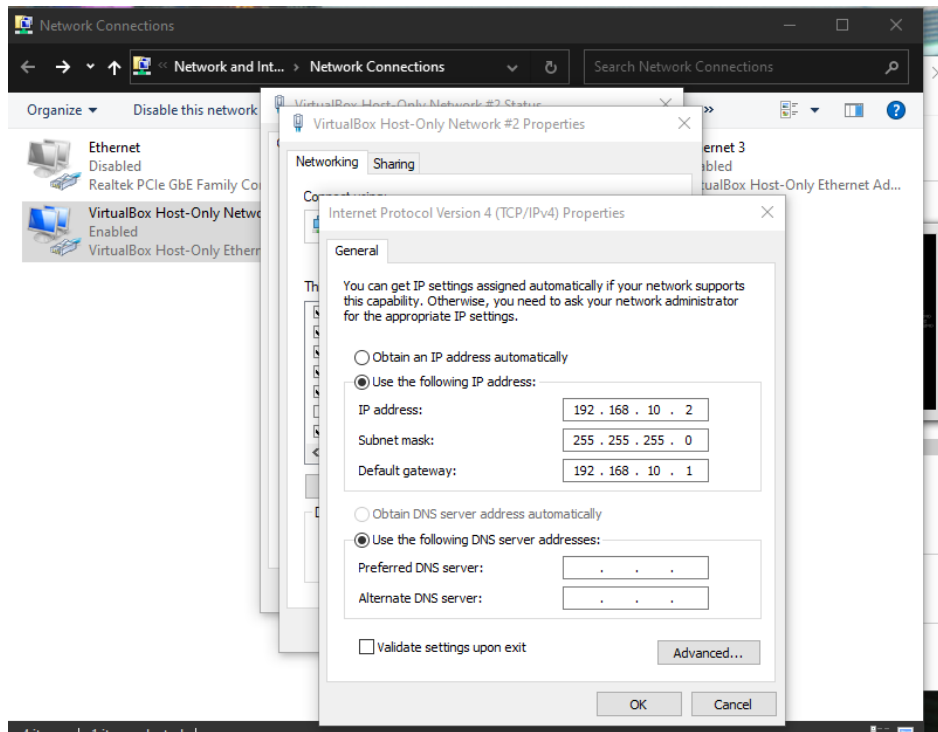
KONFIGURASI WEB SERVER



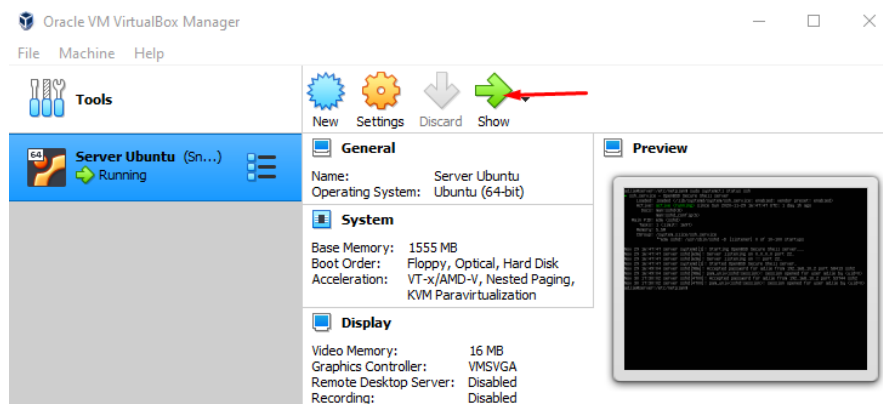
Buat mesin virtual pada virtual box.



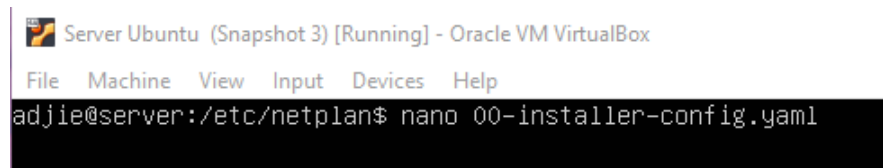
Setting adapter host-only adapter.



Setting IP pada adapter yang barusan di pakai.



Jalankan Mesin virtual lalu install ubuntu.



Masuk ke direktori netplan lalu masuk ke 00-installer-config.yaml untuk setting IP server.

```
Server Ubuntu (Snapshot 3) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
GNU nano 4.8 00-installer-config.yaml
# This is the network config written by 'subiquity'
network:
  ethernets:
    enp0s3:
      dhcp4: true
    enp0s8:
      addresses: [192.168.10.1/24]
      dhcp4: no
  version: 2
```

Ubah menjadi seperti ini kalau pakai adapter 2 menggunakan enp0s8, kalau menggunakan adapter 1 menggunakan enp0s3.

```
Server Ubuntu (Snapshot 3) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
adjie@server:/etc/netplan$ sudo netplan apply
adjie@server:/etc/netplan$ 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::a00:27ff:fec4:cadd prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:c4:ca:dd txqueuelen 1000 (Ethernet)
    RX packets 6551 bytes 7761189 (7.7 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 4314 bytes 315706 (315.7 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.10.1 netmask 255.255.255.0 broadcast 192.168.10.255
    inet6 fe80::a00:27ff:feb9:6a72 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:b9:6a:72 txqueuelen 1000 (Ethernet)
    RX packets 16936 bytes 1435447 (1.4 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 15426 bytes 2134603 (2.1 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 2892 bytes 245906 (245.9 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 2892 bytes 245906 (245.9 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Restart netplan menggunakan “sudo netplan apply”, lalu cek apakah ip sudah berubah atau belum.

```

adjie@server:/etc/netplan$ ping 192.168.10.1
PING 192.168.10.1 (192.168.10.1) 56(84) bytes of data.
64 bytes from 192.168.10.1: icmp_seq=1 ttl=64 time=0.021 ms
64 bytes from 192.168.10.1: icmp_seq=2 ttl=64 time=0.042 ms
64 bytes from 192.168.10.1: icmp_seq=3 ttl=64 time=0.040 ms
^C
--- 192.168.10.1 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2033ms
rtt min/avg/max/mdev = 0.021/0.034/0.042/0.009 ms
adjie@server:/etc/netplan$ ping 192.168.10.2
PING 192.168.10.2 (192.168.10.2) 56(84) bytes of data.
64 bytes from 192.168.10.2: icmp_seq=1 ttl=128 time=0.251 ms
64 bytes from 192.168.10.2: icmp_seq=2 ttl=128 time=0.267 ms
64 bytes from 192.168.10.2: icmp_seq=3 ttl=128 time=0.240 ms
64 bytes from 192.168.10.2: icmp_seq=4 ttl=128 time=0.347 ms
^C
--- 192.168.10.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3055ms
rtt min/avg/max/mdev = 0.240/0.276/0.347/0.041 ms
adjie@server:/etc/netplan$

```

Lakukan ping ke IP server dan IP client.

```

C:\Administrator: C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.19042.630]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\adjie>ping 192.168.10.1

Pinging 192.168.10.1 with 32 bytes of data:
Reply from 192.168.10.1: bytes=32 time<1ms TTL=64
Reply from 192.168.10.1: bytes=32 time<1ms TTL=64
Reply from 192.168.10.1: bytes=32 time<1ms TTL=64
Reply from 192.168.10.1: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

```

Lakukan ping juga dari client ke server.

```

adjie@server:/etc/netplan$ sudo apt-get install ssh
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  ssh
0 upgraded, 1 newly installed, 0 to remove and 75 not upgraded.
Need to get 5,080 B of archives.
After this operation, 120 kB of additional disk space will be used.
Get:1 http://id.archive.ubuntu.com/ubuntu focal-updates/main amd64 ssh all 1:8.2p1-4ubuntu0.1 [5,080 B]
Fetched 5,080 B in 1s (5,243 B/s)
Selecting previously unselected package ssh.
(Reading database ... 71955 files and directories currently installed.)
Preparing to unpack .../ssh_1%3a8.2p1-4ubuntu0.1_all.deb ...
Unpacking ssh (1:8.2p1-4ubuntu0.1) ...
Setting up ssh (1:8.2p1-4ubuntu0.1) ...
adjie@server:/etc/netplan$ _

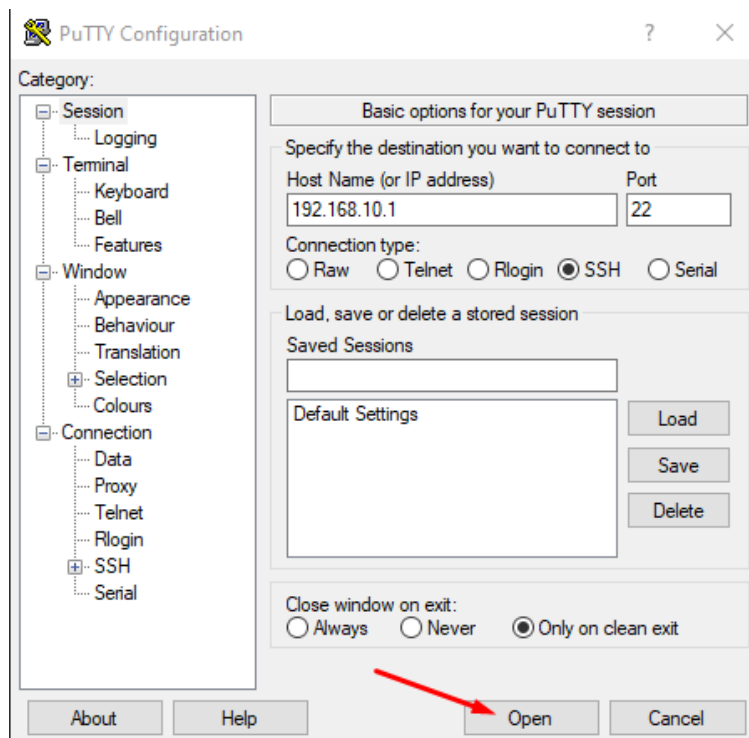
```

Install ssh pada server.

```
Server Ubuntu (Snapshot 3) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
adjie@server:/etc/netplan$ sudo systemctl status ssh
• ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
   Active: active (running) since Sun 2020-11-29 16:47:47 UTC; 1 day 1h ago
     Docs: man:sshd(8)
           man:sshd_config(5)
   Main PID: 636 (sshd)
      Tasks: 1 (limit: 1697)
     Memory: 5.5M
    CGroup: /system.slice/ssh.service
            └─636 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

Nov 29 16:47:47 server systemd[1]: Starting OpenBSD Secure Shell server...
Nov 29 16:47:47 server sshd[636]: Server listening on 0.0.0.0 port 22.
Nov 29 16:47:47 server sshd[636]: Server listening on :: port 22.
Nov 29 16:47:47 server systemd[1]: Started OpenBSD Secure Shell server.
Nov 29 16:49:04 server sshd[986]: Accepted password for adjie from 192.168.10.2 port 58413 ssh2
Nov 29 16:49:04 server sshd[986]: pam_unix(sshd:session): session opened for user adjie by (uid=0)
Nov 30 17:30:02 server sshd[4700]: Accepted password for adjie from 192.168.10.2 port 53744 ssh2
Nov 30 17:30:02 server sshd[4700]: pam_unix(sshd:session): session opened for user adjie by (uid=0)
adjie@server:/etc/netplan$
```

Cek status ssh.



Kalau sudah aktif buka putty sebagai remote.

```
adjie@server: ~  
login as: adjie  
adjie@192.168.10.1's password:  
Welcome to Ubuntu 20.04.1 LTS (GNU/Linux 5.4.0-54-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/advantage  
  
System information as of Mon 30 Nov 2020 05:53:50 PM UTC  
  
System load:  0.02          Processes:            117  
Usage of /:   46.6% of 8.79GB Users logged in:       1  
Memory usage: 16%          IPv4 address for enp0s3: 10.0.2.15  
Swap usage:   0%           IPv4 address for enp0s8: 192.168.10.1  
  
* Introducing self-healing high availability clusters in MicroK8s.  
  Simple, hardened, Kubernetes for production, from RaspberryPi to DC.  
  
  https://microk8s.io/high-availability  
  
78 updates can be installed immediately.  
0 of these updates are security updates.  
To see these additional updates run: apt list --upgradable
```

Login menggunakan username dan password.

```
adjie@server:~$ sudo apt-get install bind9  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following additional packages will be installed:  
  bind9-dnsutils bind9-libs bind9-utils dns-root-data python3-ply  
Suggested packages:  
  bind-doc resolvconf python-ply-doc  
The following NEW packages will be installed:  
  bind9 bind9-utils dns-root-data python3-ply  
The following packages will be upgraded:  
  bind9-dnsutils bind9-libs  
2 upgraded, 4 newly installed, 0 to remove and 76 not upgraded.  
Need to get 1,704 kB of archives.  
After this operation, 1,925 kB of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://id.archive.ubuntu.com/ubuntu focal-updates/main amd64 bind9-dnsutils amd64 1:9.11.3-0ubuntu2.4 [134 kB]  
10% [Working]
```

Install bind9 untuk konfigurasi DNS.

```
adjie@server:~$ cd /etc/bind  
adjie@server:/etc/bind$ sudo nano named.conf
```

Masuk ke direktori bind, lalu buka file named.conf.

```
adjie@server: ~
GNU nano 4.8 /etc/bind/named.conf
// This is the primary configuration file for the BIND DNS server named.
//
// Please read /usr/share/doc/bind9/README.Debian.gz for information on the
// structure of BIND configuration files in Debian, *BEFORE* you customize
// this configuration file.
//
// If you are just adding zones, please do that in /etc/bind/named.conf.local

include "/etc/bind/named.conf.options";
include "/etc/bind/named.conf.local";
include "/etc/bind/named.conf.default-zones";

zone "adjie.com" {
type master;
file "/etc/bind/db.adjie1";
};

zone "10.168.192.in-addr.arpa" {
type master;
file "/etc/bind/db.adjie2";
};
```

Ubah file named.conf menjadi seperti berikut.

```
adjie@server: /etc/bind
adjie@server:/etc/bind$ sudo cp db.local db.adjie1
adjie@server:/etc/bind$ sudo cp db.127 db.adjie2
adjie@server:/etc/bind$
```

Copy file db.local ke db.adjie1 dan db.127 ke db.adjie2.

```
adjie@server: /etc/bind
adjie@server:/etc/bind$ sudo nano db.adjie1
```

Lalu buka file db.adjie1.


```
adje@server: /etc/bind
GNU nano 4.8 db.adjie1
; BIND data file for local loopback interface
;
$TTL      604800
@         IN      SOA      adjie.com. root.adjie.com. (
                        2      ; Serial
                        604800  ; Refresh
                        86400   ; Retry
                        2419200 ; Expire
                        604800 ) ; Negative Cache TTL
;
@         IN      NS       adjie.com.
@         IN      A        192.168.10.1.
@         IN      AAAA     ::1
WWW       IN      CNAME    @
```

Ubah localhost menjadi adjie.com dan tambahkan ip address.

```
adje@server: /etc/bind
adje@server:/etc/bind$ sudo nano db.adjie2
```

Setelah selesai di db.adjie1 kita lanjut edit db.adjie2.

```
adje@server: /etc/bind
GNU nano 4.8 db.adjie2
; BIND reverse data file for local loopback interface
;
$TTL      604800
@         IN      SOA      adjie.com. root.adjie.com. (
                        1      ; Serial
                        604800  ; Refresh
                        86400   ; Retry
                        2419200 ; Expire
                        604800 ) ; Negative Cache TTL
;
@         IN      NS       adjie.com.
1         IN      PTR      adjie.com.
1         IN      PTR      www.adjie.com.
```

Ubah juga localhost menjadi adjie.com, jika sudah diedit keluar dengan menekan “CTRL+X”.

```
adjie@server: /etc/bind
adjie@server:/etc/bind$ sudo nano /etc/resolv.conf
```

Setelah mengedit file db.adjie2 kita ubah resolv.conf.

```
adjie@server: /etc/bind
GNU nano 4.8 /etc/resolv.conf
# This file is managed by man:systemd-resolved(8). Do not edit.
#
# 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 must 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 192.168.10.1
options edns0
```

Ubah nameserver menjadi ip yang kalian gunakan.

```
adjie@server: /etc/bind
adjie@server:/etc/bind$ service bind9 restart
```

Setelah edit semua kita restart bind9nya dengan command diatas.

```
adjie@server: /etc/bind
adjie@server:/etc/bind$ nslookup 192.168.10.1
1.10.168.192.in-addr.arpa      name = adjie.com.
1.10.168.192.in-addr.arpa      name = www.adjie.com.

adjie@server:/etc/bind$ sudo nano db.adjie1
adjie@server:/etc/bind$ nslookup adjie.com
Server:      192.168.10.1
Address:     192.168.10.1#53

Name:   adjie.com
Address: 192.168.10.1
Name:   adjie.com
Address: ::1
```

Cek apakah sudah bisa digunakan apa belum menggunakan nslookup.

```
adjie@server: ~  
adjie@192.168.10.1's password:  
Welcome to Ubuntu 20.04.1 LTS (GNU/Linux 5.4.0-54-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/advantage  
  
System information as of Sun 29 Nov 2020 05:45:17 AM UTC  
  
System load:  0.0           Processes:            106  
Usage of /:   46.4% of 8.79GB Users logged in:        1  
Memory usage: 13%          IPv4 address for enp0s3: 10.0.2.15  
Swap usage:   0%           IPv4 address for enp0s8: 192.168.10.1  
  
126 updates can be installed immediately.  
60 of these updates are security updates.  
To see these additional updates run: apt list --upgradable  
  
Last login: Sun Nov 29 05:32:21 2020  
adjie@server:~$ su  
Password:  
root@server:/home/adjie# exit  
exit  
adjie@server:~$ sudo apt install apache2  
[sudo] password for adjie:  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following additional packages will be installed:  
  apache2-bin apache2-data apache2-utils libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap  
  libjansson4 liblua5.2-0 ssl-cert  
Suggested packages:  
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser openssl-blacklist  
The following NEW packages will be installed:  
  apache2 apache2-bin apache2-data apache2-utils libapr1 libaprutil1 libaprutil1-dbd-sqlite3  
  libaprutil1-ldap libjansson4 liblua5.2-0 ssl-cert  
0 upgraded, 11 newly installed, 0 to remove and 123 not upgraded.  
Need to get 1,865 kB of archives.  
After this operation, 8,080 kB of additional disk space will be used.  
Do you want to continue? [Y/n]
```

Setelah kita setting DNS kita akan menginstall apache2 untuk webservernya.

```
adjie@server: ~  
adjie@server:~$ sudo mkdir -p /var/www/adjie.com/html  
adjie@server:~$ sudo chown -R $USER:$USER /var/www/adjie.com/html  
adjie@server:~$ sudo chmod -R 755 /var/www/adjie.com/  
adjie@server:~$ sudo nano /var/www/adjie.com/html/index.html
```

Buat directory untuk menyimpan data yang digunakan untuk web

Lalu masuk ke file index.html untuk mengedit page pada website kamu.

```
adjie@server: ~  
GNU nano 4.8 /var/www/a  
<html>  
<head>  
<title> WELCOME!!! </title>  
</head>  
  
<body>  
<h1>Selamat datang di web saia</h1>  
</body>  
</html>
```

Bisa edit seperti berikut.

```
adjie@server: ~  
GNU nano 4.8 /etc/apache2/sites-a  
<VirtualHost *:80>  
ServerAdmin admin@info.net  
ServerName adjie.com  
ServerAlias adjie.com  
DocumentRoot /var/www/adjie.com/html  
ErrorLog ${APACHE_LOG_DIR}/error.log  
CustomLog ${APACHE_LOG_DIR}/access.log combined  
</VirtualHost>
```

Setelah edit index.html masuk ke file adjie.com dengan command “sudo nano /etc/apache2/sites-available/adjie.com.conf.

```
adjie@server:~$ sudo a2ensite adjie.com.conf  
Enabling site adjie.com.  
To activate the new configuration, you need to run:  
systemctl reload apache2  
adjie@server:~$ sudo a2dissite 000-default.conf  
Site 000-default disabled.  
To activate the new configuration, you need to run:  
systemctl reload apache2  
adjie@server:~$ sudo systemctl restart apache2
```

Setelah edit file adjie.com, aktifkan file dengan a2ensite, dan a2dissite untuk meremove file sebelumnya. Setelah itu restart apache2nya.

```
adjie@server: ~  
adjie@server:~$ sudo nano /etc/apache2/conf-available/servername.conf
```

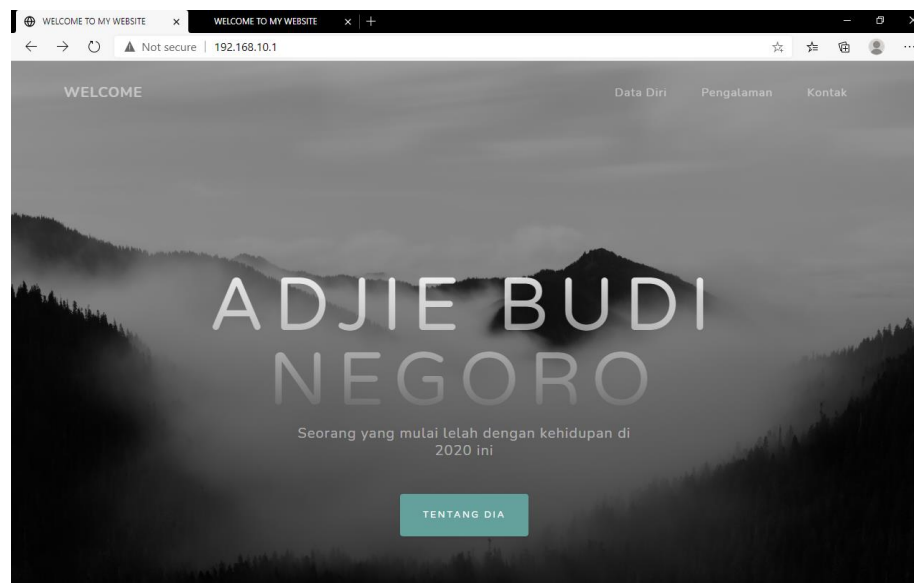
Setelah itu masuk ke directori servername.conf.

```
GNU nano 4.8 /etc/apache2/conf-available/servername.conf  
ServerName adjie.com
```

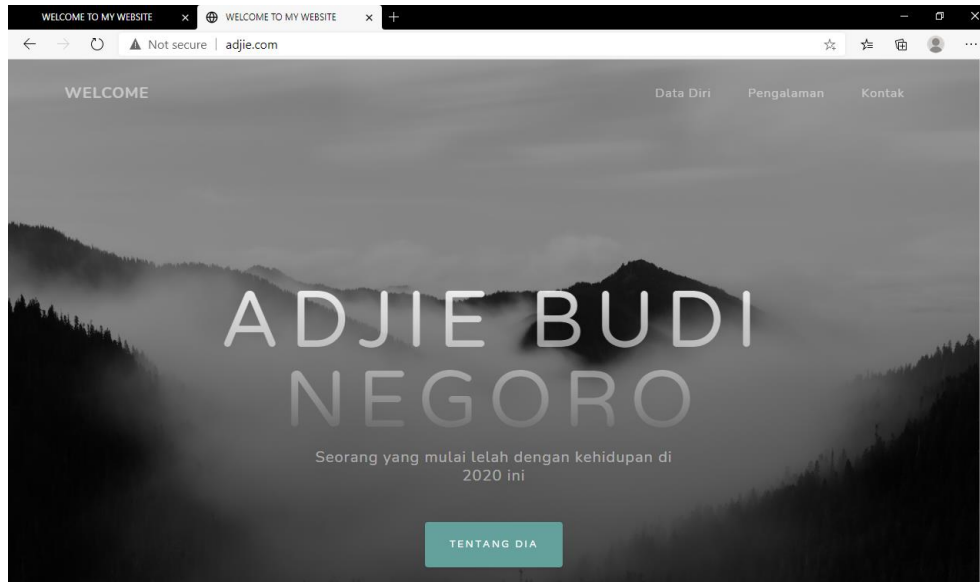
Edit seperti gambar dengan domain yang kalian gunakan.

```
adjie@server: ~  
adjie@server:~$ sudo a2enconf servername  
Conf servername already enabled  
adjie@server:~$ sudo apache2ctl configtest  
Syntax OK
```

Setelah itu aktifkan servername barusan lalu setelah selesai semua lakukan configtest untuk mengecek apakah ada yang error.



Setelah selesai maka buka browser client dan ketik ip atau domain yang kalian gunakan.



Begini hasilnya jika menggunakan tamplate.

KESIMPULAN

Web Server adalah sebuah software yang memberikan layanan berbasis data dan berfungsi menerima permintaan dari HTTP dan HTTPS pada klien yang dikenal dengan dan biasanya kita kenal dengan web browser dan untuk mengirimkan kembali yang hasilnya dalam bentuk beberapa halaman web dan pada umumnya berbentuk dokumen HTML.