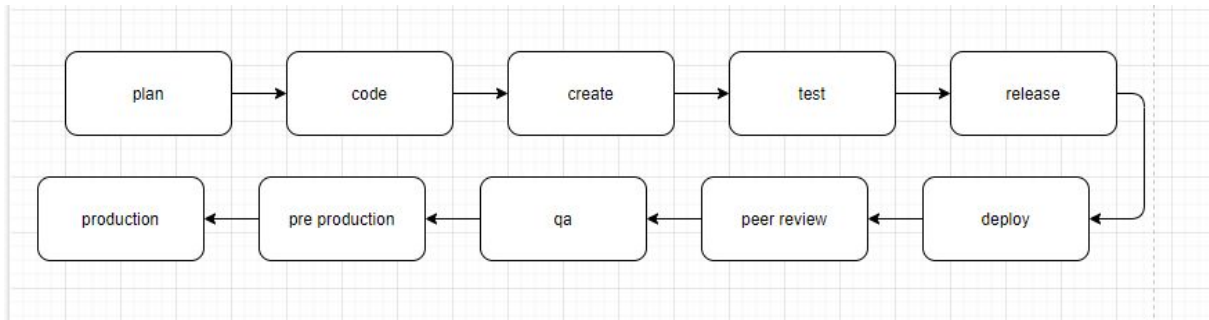


1. devops merupakan proses dalam pengembangan suatu aplikasi dimulai dari planning, rilis, dan monitor bagi perusahaan yang menggunakan perangkat lunak sebagai layanan atau sarana untuk berinteraksi dengan pelanggan, maka devops ini sangat penting agar perusahaan dapat merancang, membangun, bahkan mengembangkan aplikasinya dengan terstruktur, tepat dan mudah.

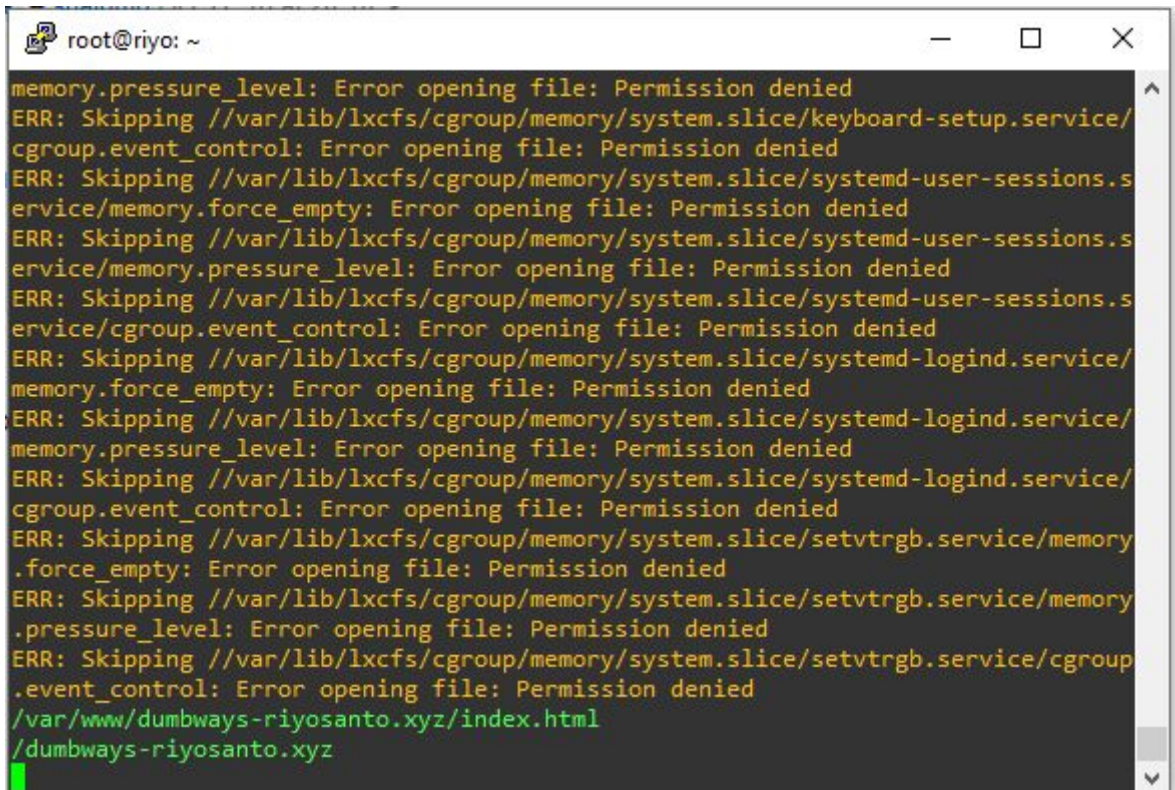
<https://musaamin.web.id/apa-itu-devops/>



gambar01

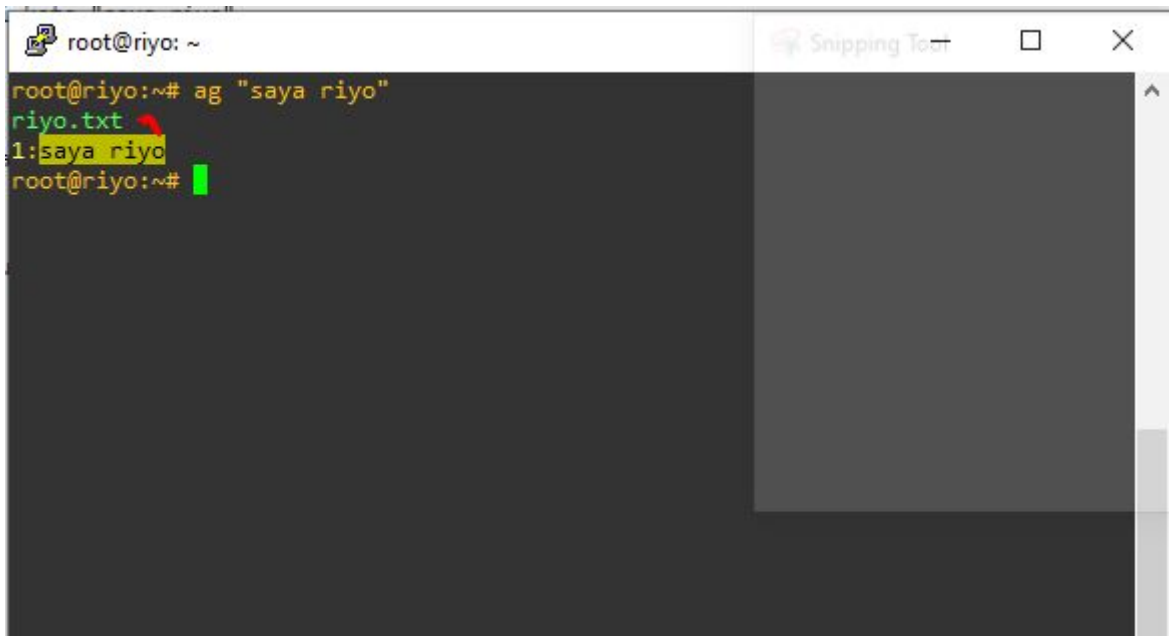
2. bisa menggunakan perintah (ag "Search query") atau (ag 'Search query' / -l), contoh saya mencari kata "saya riyo", tapi sebelumnya lakukan instal ag terlebih dahulu (apt install silversearcher-ag)

<https://stackoverflow.com/questions/16956810/how-do-i-find-all-files-containing-specific-text-on-linux>

A terminal window titled 'root@riyo: ~' with standard window controls. The terminal displays a series of error messages in yellow text, indicating permission denied when attempting to open various systemd service files. The errors are repeated for several services including keyboard-setup.service, systemd-user-sessions.service, systemd-logind.service, and setvtrgb.service. At the bottom, two lines of green text are visible: '/var/www/dumbways-riyosanto.xyz/index.html' and '/dumbways-riyosanto.xyz'.

```
memory.pressure_level: Error opening file: Permission denied
ERR: Skipping //var/lib/lxcfs/cgroup/memory/system.slice/keyboard-setup.service/
cgroup.event_control: Error opening file: Permission denied
ERR: Skipping //var/lib/lxcfs/cgroup/memory/system.slice/systemd-user-sessions.s
ervice/memory.force_empty: Error opening file: Permission denied
ERR: Skipping //var/lib/lxcfs/cgroup/memory/system.slice/systemd-user-sessions.s
ervice/memory.pressure_level: Error opening file: Permission denied
ERR: Skipping //var/lib/lxcfs/cgroup/memory/system.slice/systemd-user-sessions.s
ervice/cgroup.event_control: Error opening file: Permission denied
ERR: Skipping //var/lib/lxcfs/cgroup/memory/system.slice/systemd-logind.service/
memory.force_empty: Error opening file: Permission denied
ERR: Skipping //var/lib/lxcfs/cgroup/memory/system.slice/systemd-logind.service/
memory.pressure_level: Error opening file: Permission denied
ERR: Skipping //var/lib/lxcfs/cgroup/memory/system.slice/systemd-logind.service/
cgroup.event_control: Error opening file: Permission denied
ERR: Skipping //var/lib/lxcfs/cgroup/memory/system.slice/setvtrgb.service/memory
.force_empty: Error opening file: Permission denied
ERR: Skipping //var/lib/lxcfs/cgroup/memory/system.slice/setvtrgb.service/memory
.pressure_level: Error opening file: Permission denied
ERR: Skipping //var/lib/lxcfs/cgroup/memory/system.slice/setvtrgb.service/cgroup
.event_control: Error opening file: Permission denied
/var/www/dumbways-riyosanto.xyz/index.html
/dumbways-riyosanto.xyz
```

gambar 02.1

A terminal window titled 'root@riyo: ~' with standard window controls. The terminal shows a command 'ag "saya riyo"' being executed. The output is 'riyo.txt' followed by '1:saya riyo'. The text 'riyo.txt' is highlighted in green, and '1:saya riyo' is highlighted in yellow. A red arrow points to the 'riyo.txt' output. The prompt 'root@riyo:~#' is visible at the bottom.

```
root@riyo:~# ag "saya riyo"
riyo.txt
1:saya riyo
root@riyo:~#
```

gambar 02

3. load balancing merupakan teknik untuk mendistribusikan lalu lintas koneksi, load balancing digunakan menentukan server mana yang sehat pada backend yang akan dipilih.

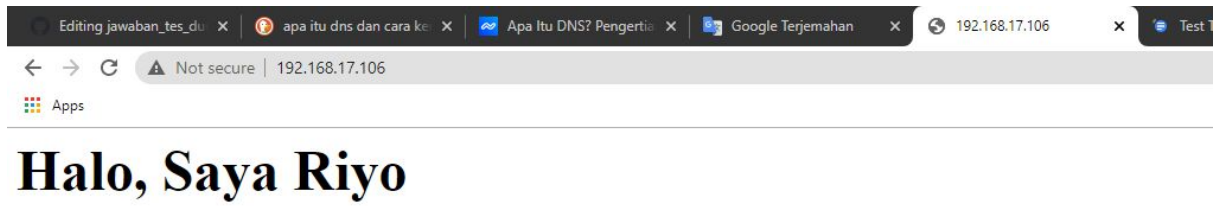
ssl(Secure Socket Layer) merupakan teknologi yang membuat jalur terenkripsi antara website dan web browser, ibarat rumah yang dikelilingi pagar.

contoh-contoh web server:

- apache
- litespeed
- glassfish
- nginx

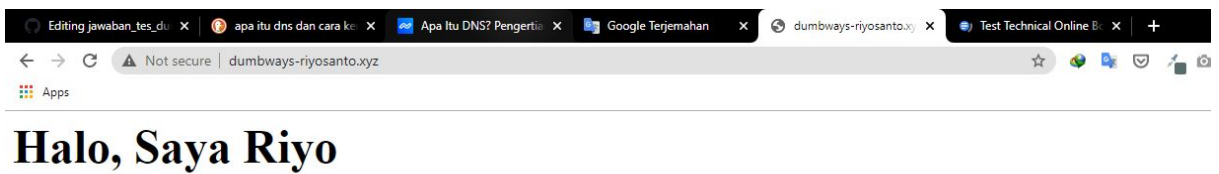
<https://www.kreatifa.com/apa-itu-load-balancing/>

4. docker merupakan salah satu platform container, sedangkan vmware merupakan platform virtualisasi yang digunakan untuk membuat virtual machine, docker dipakai ketika ingin membuat aplikasi yang berbasis container atau hanya berjalan pada 1 kernel maka gunakan docker, namun jika ingin membuat aplikasi berbasis virtual machine atau aplikasi yang berjalan pada beberapa kernel maka gunakan vmware.
5. -Mengubah Port SSH, Secara default port SSH yaitu 22, dengan mengganti ssh default maka akan mengurangi peretas yang ingin meretas ssh default.
 - menggunakan software terbaru, agar meminimalisir adanya bug pada software lama.
 - menggunakan firewall, firewall ibarat tembok yang membatasi komputer dari jaringan internet.
6. monitor.us, tools ini merupakan salah satu server monitoring yang gratis, dan bisa berbagi layar antar komputer, tools ini juga bisa menampilkan cpu, memori, disk, dan bandwidth.
7. DNS merupakan sistem yang mengubah ip address komputer menjadi url sehingga nyaman untuk pengguna, jika hendak mengakses sebuah website, maka pengguna seharusnya mengetikkan ip address dari server website tersebut, dengan adanya dns maka pengguna cukup mengetikkan alamat saja, contohnya seperti website yang saya gunakan seharusnya adalah



gambar 07.1

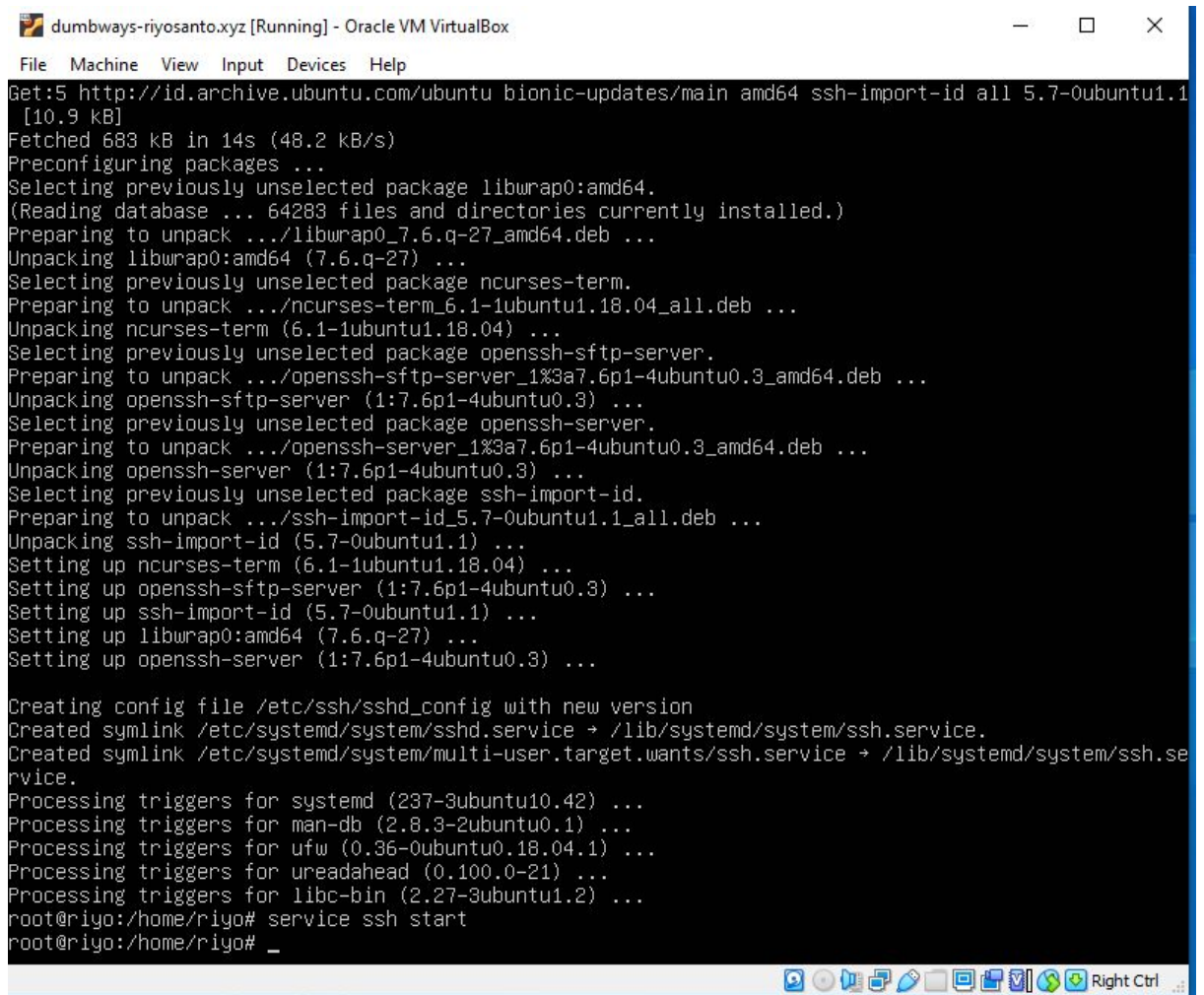
dengan adanya dns maka saya cukup mengetikkan seperti



gambar 07.2

8. Instalasi web dan dns Server

-siapkan ubuntu server(disini saya memakai virtualbox untuk menginstal ubuntu server)

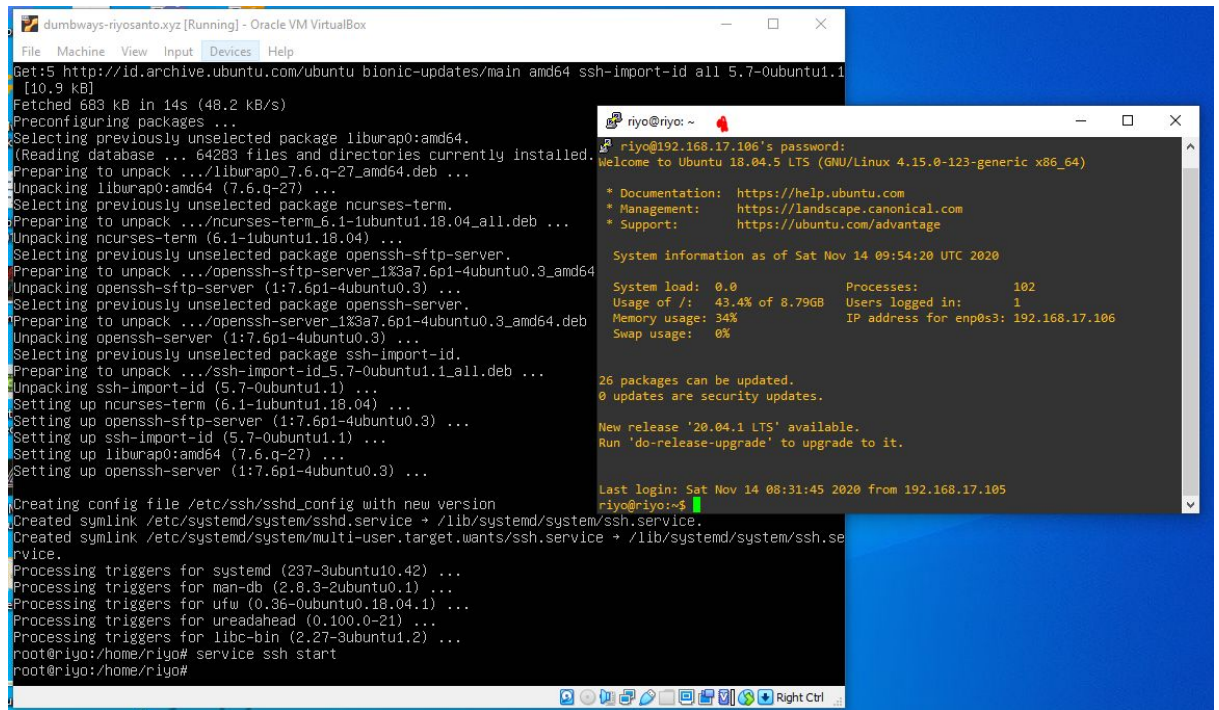


```
dumbways-riyosanto.xyz [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Get:5 http://id.archive.ubuntu.com/ubuntu bionic-updates/main amd64 ssh-import-id all 5.7-0ubuntu1.1
[10.9 kB]
Fetched 683 kB in 14s (48.2 kB/s)
Preconfiguring packages ...
Selecting previously unselected package libwrap0:amd64.
(Reading database ... 64283 files and directories currently installed.)
Preparing to unpack .../libwrap0_7.6.q-27_amd64.deb ...
Unpacking libwrap0:amd64 (7.6.q-27) ...
Selecting previously unselected package ncurses-term.
Preparing to unpack .../ncurses-term_6.1-1ubuntu1.18.04_all.deb ...
Unpacking ncurses-term (6.1-1ubuntu1.18.04) ...
Selecting previously unselected package openssh-sftp-server.
Preparing to unpack .../openssh-sftp-server_1%3a7.6p1-4ubuntu0.3_amd64.deb ...
Unpacking openssh-sftp-server (1:7.6p1-4ubuntu0.3) ...
Selecting previously unselected package openssh-server.
Preparing to unpack .../openssh-server_1%3a7.6p1-4ubuntu0.3_amd64.deb ...
Unpacking openssh-server (1:7.6p1-4ubuntu0.3) ...
Selecting previously unselected package ssh-import-id.
Preparing to unpack .../ssh-import-id_5.7-0ubuntu1.1_all.deb ...
Unpacking ssh-import-id (5.7-0ubuntu1.1) ...
Setting up ncurses-term (6.1-1ubuntu1.18.04) ...
Setting up openssh-sftp-server (1:7.6p1-4ubuntu0.3) ...
Setting up ssh-import-id (5.7-0ubuntu1.1) ...
Setting up libwrap0:amd64 (7.6.q-27) ...
Setting up openssh-server (1:7.6p1-4ubuntu0.3) ...

Creating config file /etc/ssh/sshd_config with new version
Created symlink /etc/systemd/system/ssh.service → /lib/systemd/system/ssh.service.
Created symlink /etc/systemd/system/multi-user.target.wants/ssh.service → /lib/systemd/system/ssh.se
rvice.
Processing triggers for systemd (237-3ubuntu10.42) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for ufw (0.36-0ubuntu0.18.04.1) ...
Processing triggers for ureadahead (0.100.0-21) ...
Processing triggers for libc-bin (2.27-3ubuntu1.2) ...
root@riyo:/home/riyo# service ssh start
root@riyo:/home/riyo# _
```

gambar 8.1

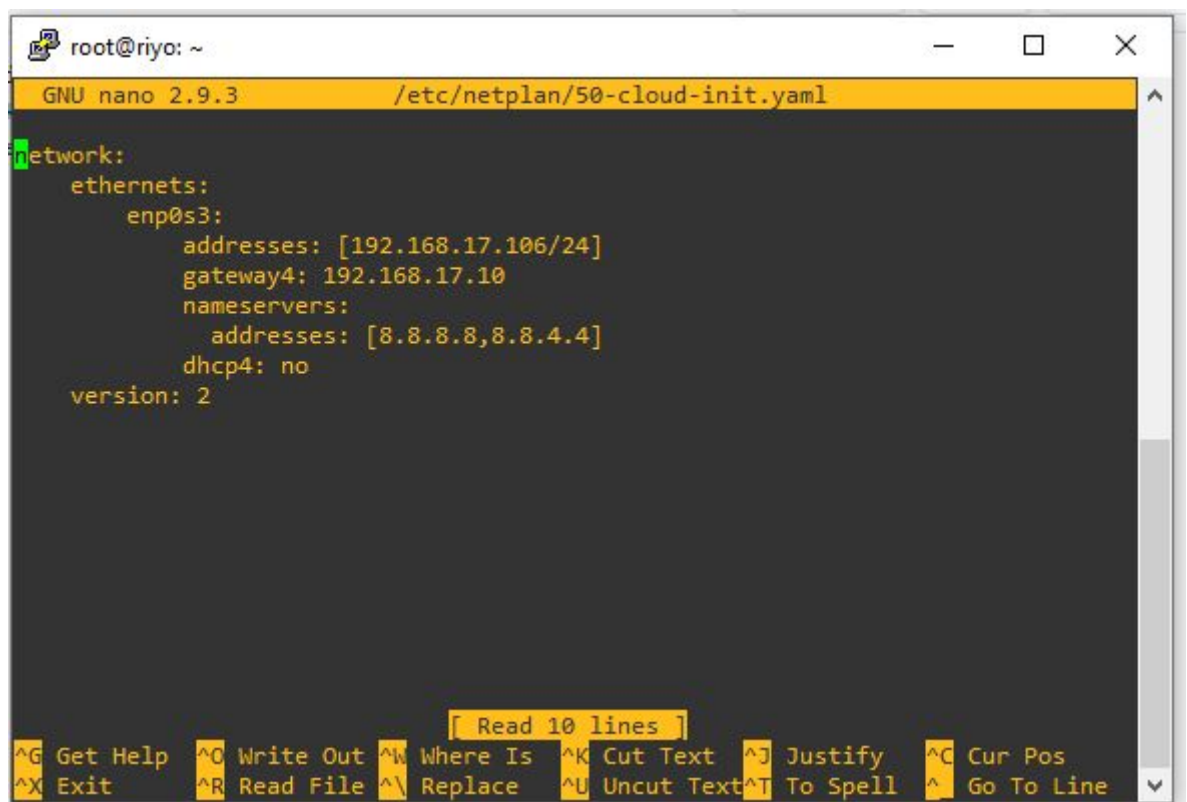
-masuk ke server melalui putty agar bisa copy paste perintah(di virtualbox tidak bisa copy paste perintah)



gambar 8.2

-update ubuntu (apt update)

-setting ip dhcp ke ip statik (nano /etc/netplan/50-cloud-init.yaml)



```
root@riyo: ~
GNU nano 2.9.3 /etc/netplan/50-cloud-init.yaml

network:
  ethernets:
    enp0s3:
      addresses: [192.168.17.106/24]
      gateway4: 192.168.17.10
      nameservers:
        addresses: [8.8.8.8,8.8.4.4]
      dhcp4: no
  version: 2

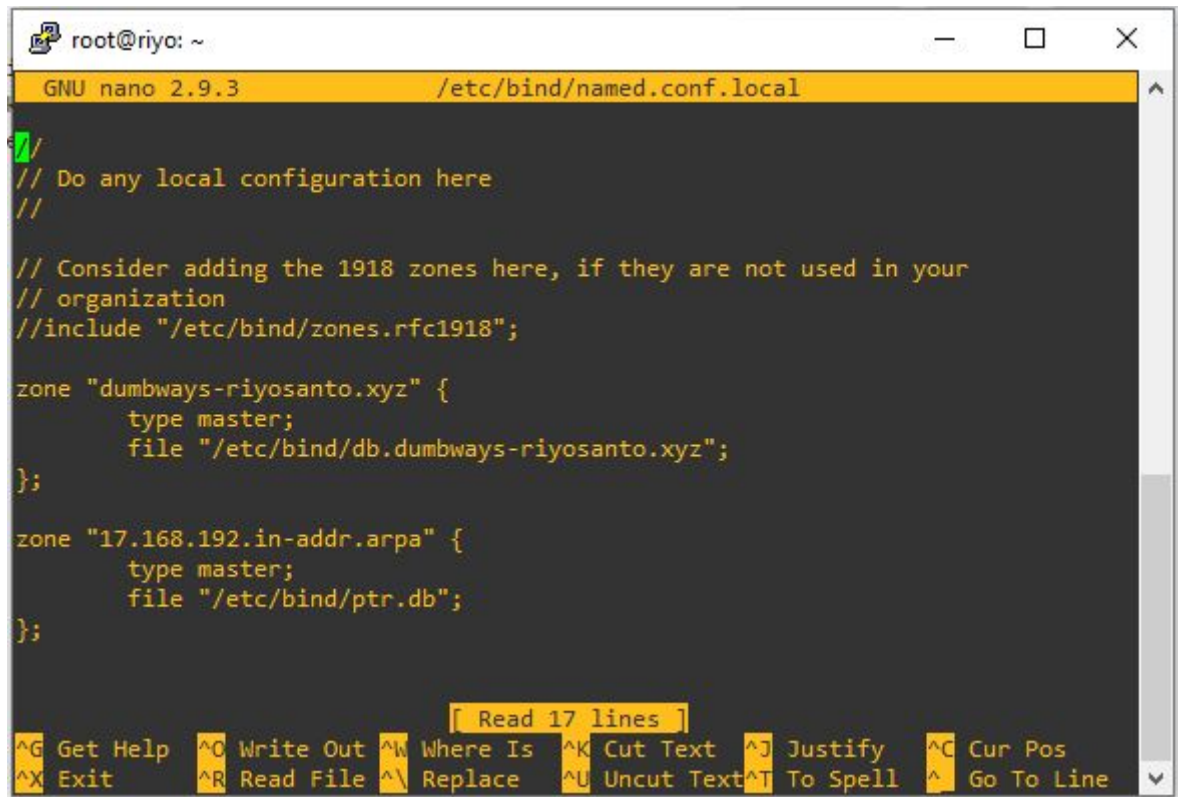
[ Read 10 lines ]
^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Uncut Text ^T To Spell  ^_ Go To Line
```

gambar 8.3

-save netplan apply

-install bind (apt install bind9)

-edit zone (nano /etc/bind/named.conf.local)



```
root@riyo: ~
GNU nano 2.9.3 /etc/bind/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";

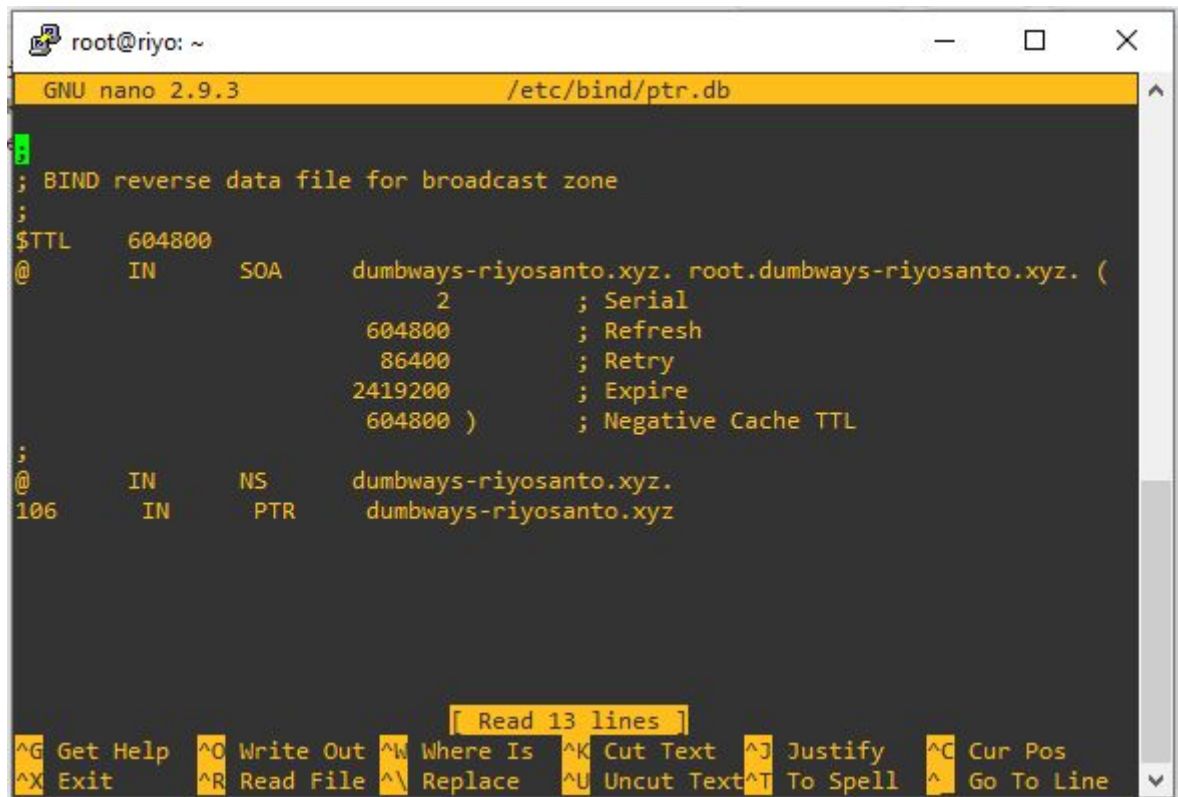
zone "dumbways-riyosanto.xyz" {
    type master;
    file "/etc/bind/db.dumbways-riyosanto.xyz";
};

zone "17.168.192.in-addr.arpa" {
    type master;
    file "/etc/bind/ptr.db";
};

[ Read 17 lines ]
^G Get Help  ^O Write Out  ^W Where Is   ^K Cut Text   ^J Justify    ^C Cur Pos
^X Exit      ^R Read File  ^\ Replace    ^U Uncut Text ^T To Spell   ^_ Go To Line
```

gambar 8.4

- membuat informasi domain
- copykan file db.local (cp /etc/bind/db.local /etc/bind/db.dumbways-riyosanto.xyz.com) dan edit (nano /etc/bind/db.dumbways-riyosanto.xyz)
- Copy dan rename file db.255 menjadi ptr.db (cp /etc/bind/db.255 /etc/bind/ptr.db) dan edit (nano /etc/bind/ptr.db)



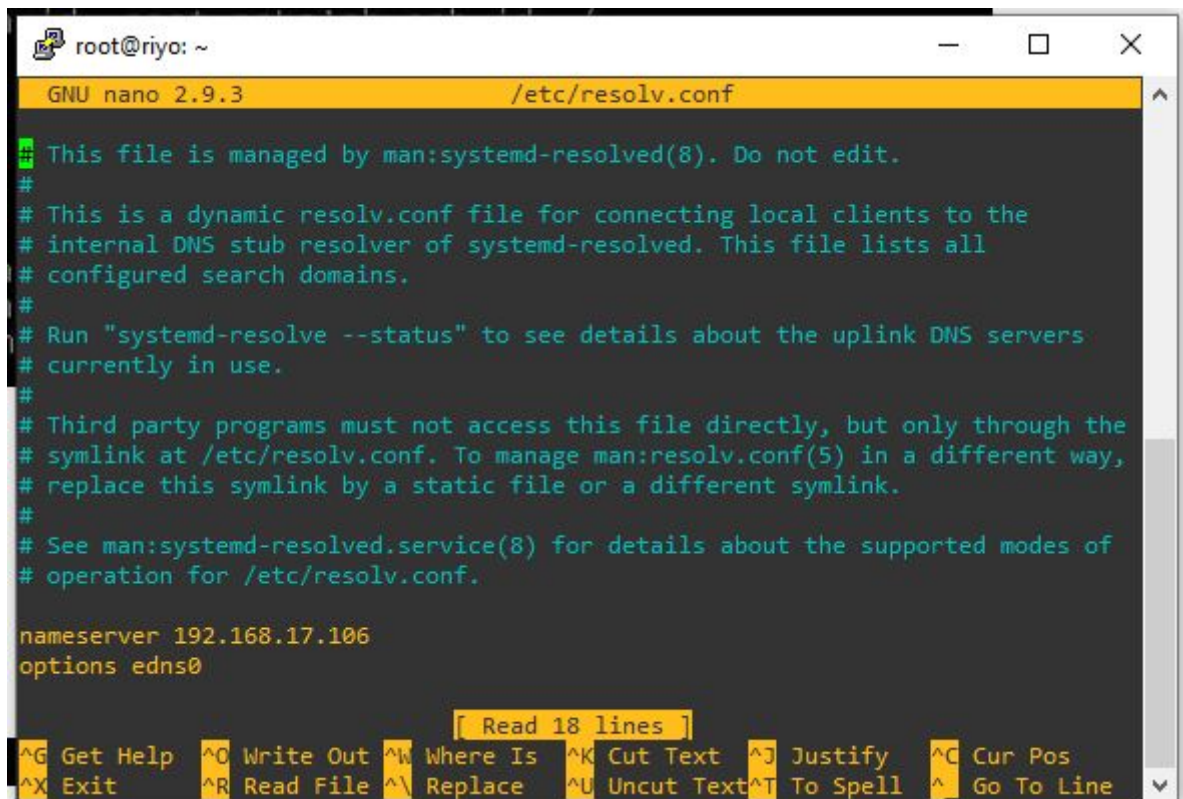
```
root@riyo: ~
GNU nano 2.9.3 /etc/bind/ptr.db

; BIND reverse data file for broadcast zone
;
$TTL      604800
@         IN      SOA      dumbways-riyosanto.xyz. root.dumbways-riyosanto.xyz. (
                                2          ; Serial
                                604800     ; Refresh
                                86400      ; Retry
                                2419200    ; Expire
                                604800 )   ; Negative Cache TTL
;
@         IN      NS       dumbways-riyosanto.xyz.
106       IN      PTR      dumbways-riyosanto.xyz

[ Read 13 lines ]
^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^_ Replace   ^U Uncut Text ^T To Spell  ^_ Go To Line
```

gambar 8.5

-Edit file resolv.conf (nano /etc/resolv.conf)



```
root@riyo: ~
GNU nano 2.9.3 /etc/resolv.conf

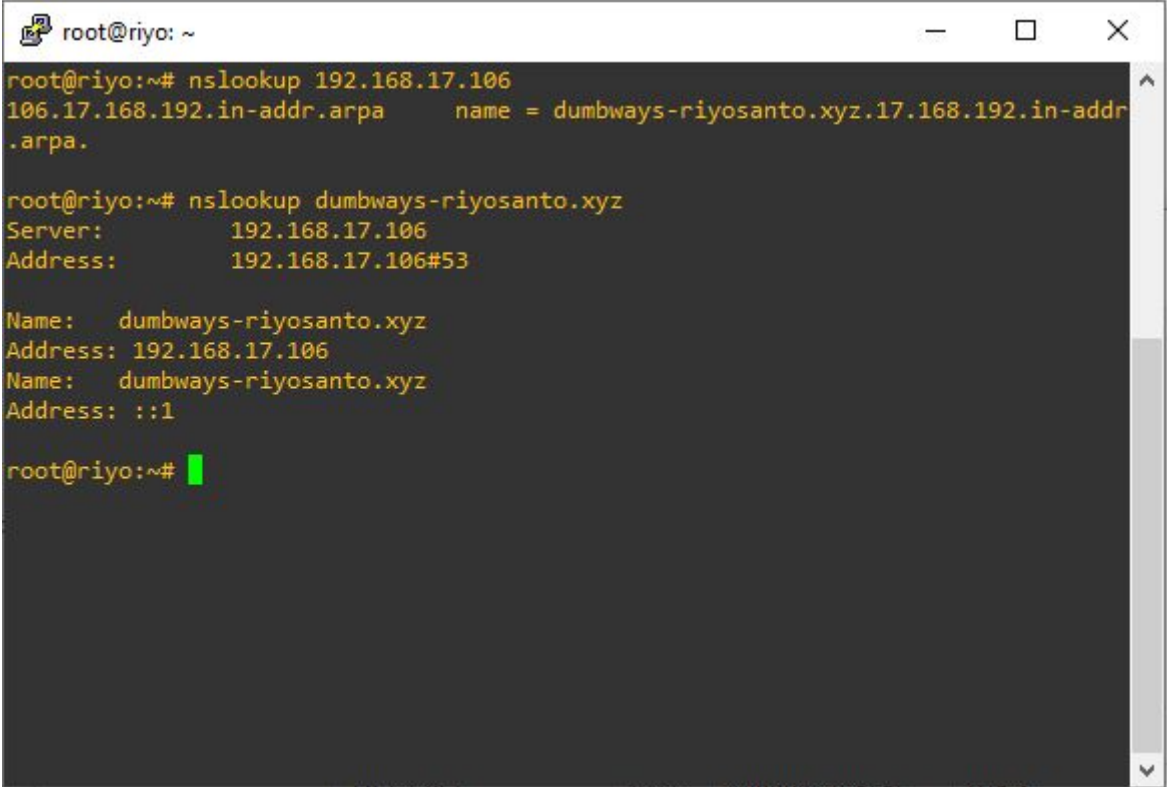
This file is managed by man:systemd-resolved(8). Do not edit.
#
# This is a dynamic resolv.conf file for connecting local clients to the
# internal DNS stub resolver of systemd-resolved. This file lists all
# configured search domains.
#
# Run "systemd-resolve --status" to see details about the uplink 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 192.168.17.106
options edns0

[ Read 18 lines ]
^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^_ Replace   ^U Uncut Text ^T To Spell  ^_ Go To Line
```

gambar 8.6

-melihat IP Address suatu domain (nslookup 192.168.17.106)



```
root@riyo: ~  
root@riyo:~# nslookup 192.168.17.106  
106.17.168.192.in-addr.arpa      name = dumbways-riyosanto.xyz.17.168.192.in-addr  
.arpa.  
  
root@riyo:~# nslookup dumbways-riyosanto.xyz  
Server:      192.168.17.106  
Address:     192.168.17.106#53  
  
Name:   dumbways-riyosanto.xyz  
Address: 192.168.17.106  
Name:   dumbways-riyosanto.xyz  
Address: ::1  
  
root@riyo:~#
```

gambar 8.7

-Service restart (service bind9 restart)

-Instalasi Apache2 (apt install apache2) dan cek statusnya (service apache2 status)

```
root@riyo: ~  
root@riyo:~# service apache2 status  
● apache2.service - The Apache HTTP Server  
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset:   
   Drop-In: /lib/systemd/system/apache2.service.d  
            └─apache2-systemd.conf  
   Active: active (running) since Sat 2020-11-14 09:51:04 UTC; 35min ago  
   Process: 12803 ExecStop=/usr/sbin/apachectl stop (code=exited, status=0/SUCCESS)  
   Process: 12668 ExecReload=/usr/sbin/apachectl graceful (code=exited, status=0/SUCCESS)  
   Process: 12808 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)  
   Main PID: 12824 (apache2)  
   Tasks: 7 (limit: 1107)  
   CGroup: /system.slice/apache2.service  
           └─12824 /usr/sbin/apache2 -k start  
             └─12829 /usr/sbin/apache2 -k start  
               └─12830 /usr/sbin/apache2 -k start  
                 └─12831 /usr/sbin/apache2 -k start  
                   └─12832 /usr/sbin/apache2 -k start  
                     └─12833 /usr/sbin/apache2 -k start  
                       └─12834 /usr/sbin/apache2 -k start  
  
Nov 14 09:51:04 riyo systemd[1]: Starting The Apache HTTP Server...  
Nov 14 09:51:04 riyo apachectl[12808]: AH00558: apache2: Could not reliably determine the server's fully qualified domain name, please see the /etc/httpd/conf/httpd.conf file  
Nov 14 09:51:04 riyo systemd[1]: Started The Apache HTTP Server.  
lines 1-22/22 (END)
```

gambar 8.8

-install php (apt-get install php libapache2-mod-php php-mysql)

-install mysql (apt install mysql-server)

-Konfigurasi Apache2

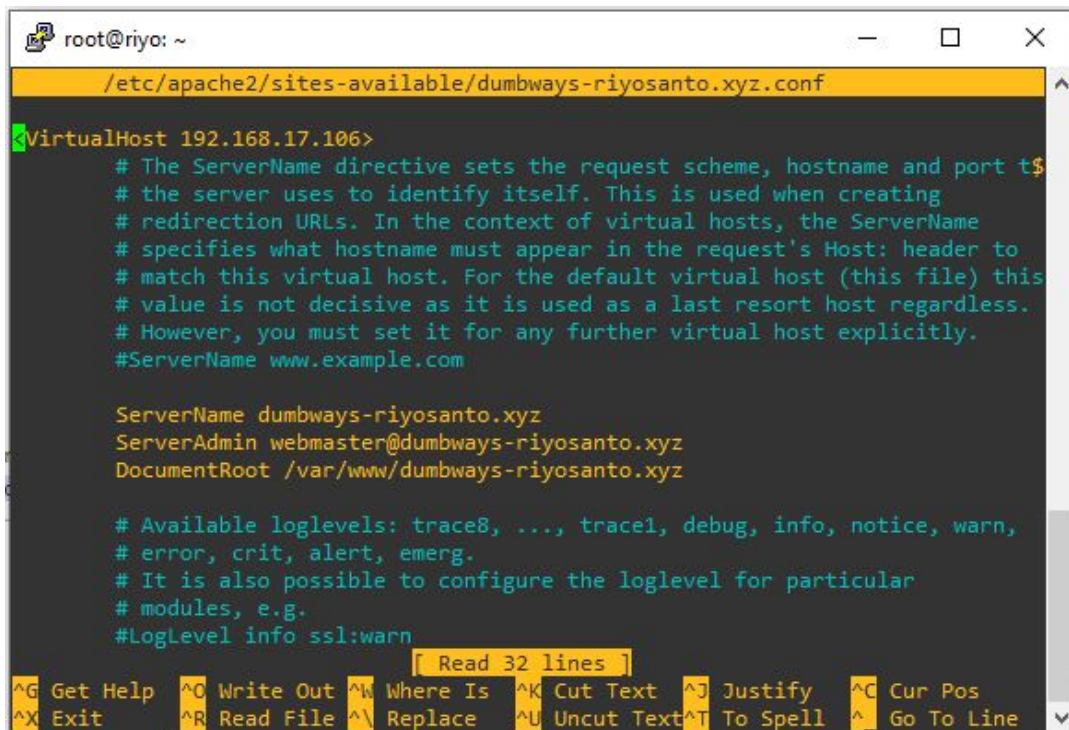
copy dan rename file 000-default.conf (cp

/etc/apache2/sites-available/000-default.conf

/etc/apache2/sites-available/dumbways-riyosanto.xyz.conf)

edit dumbways-riyosanto.xyz.conf (nano

/etc/apache2/sites-available/dumbways-riyosanto.xyz.conf)



```
root@riyo: ~  
/etc/apache2/sites-available/dumbways-riyosanto.xyz.conf  
VirtualHost 192.168.17.106>  
# The ServerName directive sets the request scheme, hostname and port that  
# the server uses to identify itself. This is used when creating  
# redirection URLs. In the context of virtual hosts, the ServerName  
# specifies what hostname must appear in the request's Host: header to  
# match this virtual host. For the default virtual host (this file) this  
# value is not decisive as it is used as a last resort host regardless.  
# However, you must set it for any further virtual host explicitly.  
#ServerName www.example.com  
  
ServerName dumbways-riyosanto.xyz  
ServerAdmin webmaster@dumbways-riyosanto.xyz  
DocumentRoot /var/www/dumbways-riyosanto.xyz  
  
# Available loglevels: trace8, ..., trace1, debug, info, notice, warn,  
# error, crit, alert, emerg.  
# It is also possible to configure the loglevel for particular  
# modules, e.g.  
#LogLevel info ssl:warn  
[ Read 32 lines ]  
^G Get Help ^O Write Out ^K Where Is ^K Cut Text ^J Justify ^C Cur Pos  
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
```

gambar 8.9

-buat file html sebagai tampilan webnya (nano

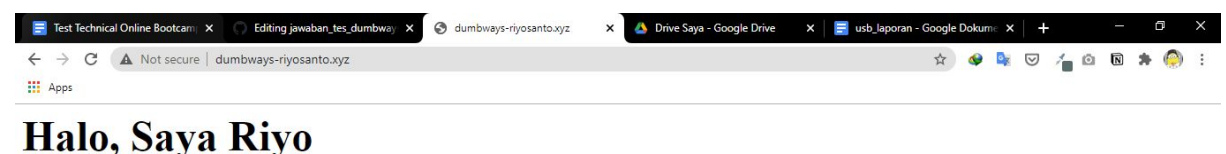
/var/www/dumbways-riyosanto.xyz/index.html)

-Aktifkan webserver dumbways-riyosanto.xyz (a2ensite

dumbways-riyosanto.xyz.conf)

-Restart apache (service apache2 restart)

-web dan dns server sudah jadi



gambar 08

