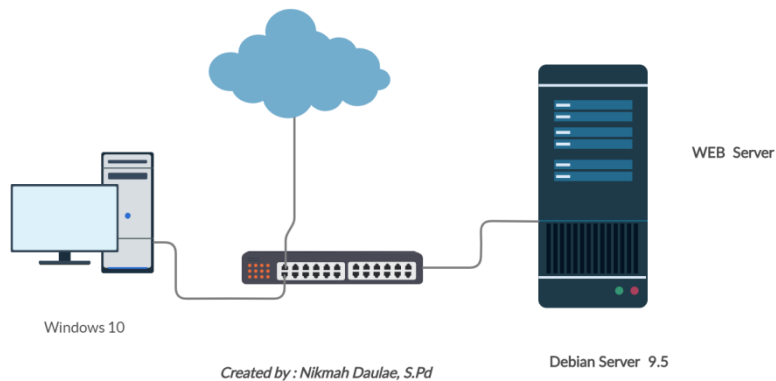


SETTINGAN WEB SERVER PADA DEBIAN 9.5

1. Topologi jaringan :



2. Ip address pada server dengan perintah : `root@niko:/etc/bind# ifconfig`

```
root@niko:/etc/bind# ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.100.100 netmask 255.255.255.0 broadcast 192.168.100.255
    inet6 fe80::20c:29ff:fe1c:779 prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:1c:07:79 txqueuelen 1000 (Ethernet)
    RX packets 3037 bytes 313180 (305.8 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 2217 bytes 283353 (276.7 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

ens37: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.100.101 netmask 255.255.255.0 broadcast 192.168.100.255
    inet6 fe80::20c:29ff:fe1c:783 prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:1c:07:83 txqueuelen 1000 (Ethernet)
    RX packets 68 bytes 19959 (19.4 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 26 bytes 1996 (1.9 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

ens38: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.100.102 netmask 255.255.255.0 broadcast 192.168.100.255
    inet6 fe80::20c:29ff:fe1c:78d prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:1c:07:8d txqueuelen 1000 (Ethernet)
```

3. Persyaratan ketika kita mengecek ip address isikan sesuai yang tercantum ip address yakni : `root@niko:/home/niko# ip addr`. Jika dilihat dari output tersebut untuk membuat ip virtual tidak bisa berurutan karena dari ens33 langsung ke ens37. Hal ini harus sesuai yang didaftarkan pada `/network/interface`.

```
root@niko:/etc/bind# ip address
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 00:0c:29:1c:07:79 brd ff:ff:ff:ff:ff:ff
    inet 192.168.100.100/24 brd 192.168.100.255 scope global ens33
        valid_lft forever preferred_lft forever
    inet6 fe80::20c:29ff:fe1c:779/64 scope link
        valid_lft forever preferred_lft forever
3: ens37: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 00:0c:29:1c:07:83 brd ff:ff:ff:ff:ff:ff
    inet 192.168.100.101/24 brd 192.168.100.255 scope global ens37
        valid_lft forever preferred_lft forever
    inet6 fe80::20c:29ff:fe1c:783/64 scope link
        valid_lft forever preferred_lft forever
4: ens38: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 00:0c:29:1c:07:8d brd ff:ff:ff:ff:ff:ff
    inet 192.168.100.102/24 brd 192.168.100.255 scope global ens38
        valid_lft forever preferred_lft forever
    inet6 fe80::20c:29ff:fe1c:78d/64 scope link
        valid_lft forever preferred_lft forever
root@niko:/etc/bind#
```

4. Penambahan ip virtual pada server dapat dilakukan pada : `root@niko:/etc/bind# nano /etc/network/interfaces`

Isi teksnya yang harus ditambahkan :

GNU nano 2.7.4

File: /etc/network/interfaces

```
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).
```

```
source /etc/network/interfaces.d/*
```

```
# The loopback network interface
```

```
auto lo
iface lo inet loopback
```

```
# The primary network interface
```

```
#allow-hotplug ens33
```

```
auto ens33
```

```
iface ens33 inet static
```

```
    address 192.168.100.100/24
```

```
    gateway 192.168.100.1
```

```
    # dns-* options are implemented by the resolvconf package, if installed
```

```
    dns-nameservers 192.168.100.1
```

```
auto ens37
```

```
iface ens37 inet static
```

```
    address 192.168.100.101/24
```

```
auto ens38
```

```
iface ens38 inet static
```

```
    address 192.168.100.102/24
```

```
niko@niko: ~
GNU nano 2.7.4 File: /etc/network/interfaces

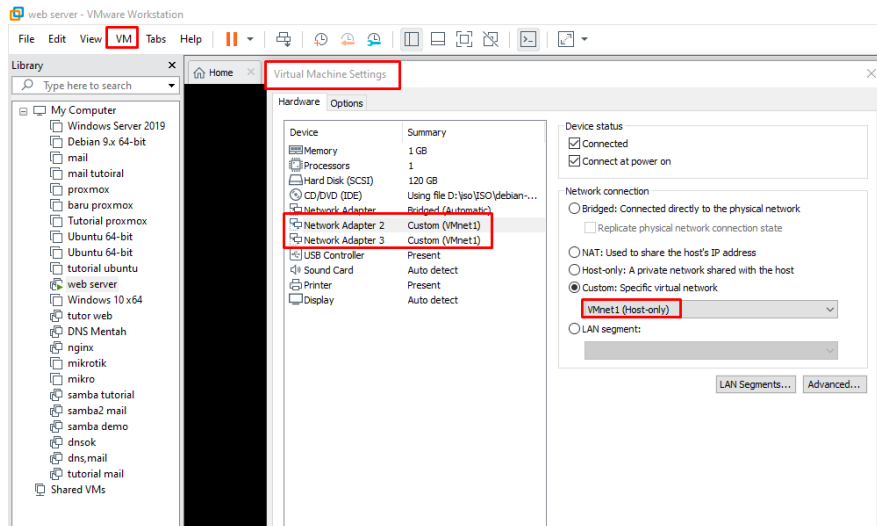
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5) .

source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
#allow-hotplug ens33
auto ens33
iface ens33 inet static
    address 192.168.100.100/24
    gateway 192.168.100.1
    # dns-* options are implemented by the resolvconf package, if installed
    dns-nameservers 192.168.100.1
auto ens37
iface ens37 inet static
    address 192.168.100.101/24
auto ens38
iface ens38 inet static
    address 192.168.100.102/24
```

5. Selanjutnya pengaturan pada virtual mesin dengan menambahkan network adapter:



6. Atur ip address yang terdapat pada dns dengan menambahkan pada file belajar. File yang ditambahkan adalah webnya ftp dan mail. Edit file tersebut dapat diketik dengan perintah :

root@niko:/etc/bind# nano belajar

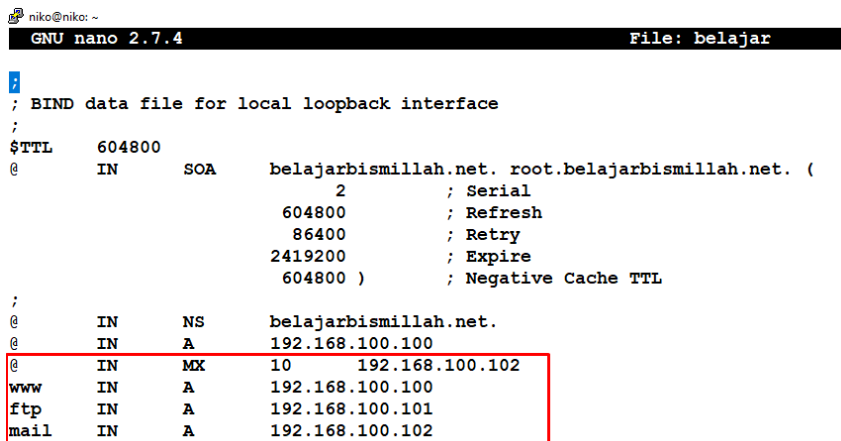
GNU nano 2.7.4

File: belajar

```

;
; BIND data file for local loopback interface
;
$TTL      604800
@         IN      SOA      belajarbismillah.net. root.belajarbismillah.net. (
                                2          ; Serial
                                604800     ; Refresh
                                86400      ; Retry
                                2419200    ; Expire
                                604800 )   ; Negative Cache TTL
;
@         IN      NS       belajarbismillah.net.
@         IN      A        192.168.100.100
@         IN      MX       10      192.168.100.102
www       IN      A        192.168.100.100
ftp       IN      A        192.168.100.101
mail      IN      A        192.168.100.102

```



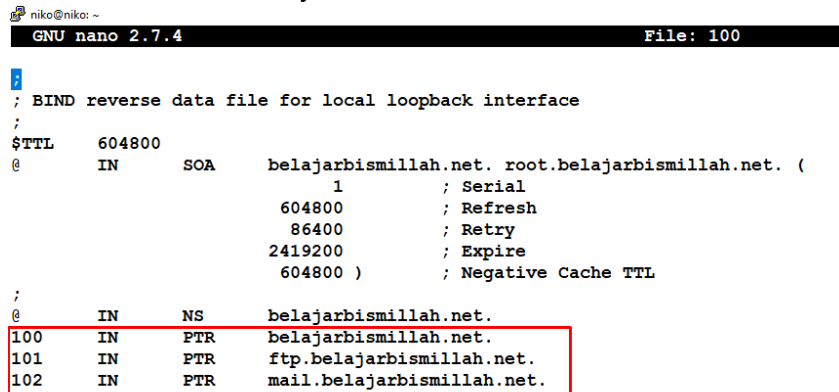
7. Selanjutnya atur pada ip address di domain dengan mengedit file 100 :

root@niko:/etc/bind# nano 100 Perhatikan penambahan kalimat dibawah ini :

GNU nano 2.7.4

File: 100

```
;  
; BIND reverse data file for local loopback interface  
;  
$TTL 604800  
@ IN SOA belajarbismillah.net. root.belajarbismillah.net. (  
    1 ; Serial  
    604800 ; Refresh  
    86400 ; Retry  
    2419200 ; Expire  
    604800 ) ; Negative Cache TTL  
;  
@ IN NS belajarbismillah.net.  
100 IN PTR belajarbismillah.net.  
101 IN PTR ftp.belajarbismillah.net.  
102 IN PTR mail.belajarbismillah.net.
```



```
niko@niko: ~  
GNU nano 2.7.4 File: 100  
;  
; BIND reverse data file for local loopback interface  
;  
$TTL 604800  
@ IN SOA belajarbismillah.net. root.belajarbismillah.net. (  
    1 ; Serial  
    604800 ; Refresh  
    86400 ; Retry  
    2419200 ; Expire  
    604800 ) ; Negative Cache TTL  
;  
@ IN NS belajarbismillah.net.  
100 IN PTR belajarbismillah.net.  
101 IN PTR ftp.belajarbismillah.net.  
102 IN PTR mail.belajarbismillah.net.
```

8. Uji coba dengan perintah ping ke web server yang sudah dibuat sesuaikan dengan ip address yang digunakan. Perintah yang digunakan adalah : ping www.belajarbismillah.net

```

root@niko:/etc/bind# ping www.belajarbismillah.net
PING www.belajarbismillah.net (192.168.100.100) 56(84) bytes of data.
64 bytes from niko (192.168.100.100): icmp_seq=1 ttl=64 time=0.011 ms
64 bytes from niko (192.168.100.100): icmp_seq=2 ttl=64 time=0.053 ms
^C
--- www.belajarbismillah.net ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1018ms
rtt min/avg/max/mdev = 0.011/0.032/0.053/0.021 ms
root@niko:/etc/bind# ping ftp.belajarbismillah.net
PING ftp.belajarbismillah.net (192.168.100.101) 56(84) bytes of data.
64 bytes from ftp.belajarbismillah.net (192.168.100.101): icmp_seq=1 ttl=64 time=0.010 ms
64 bytes from ftp.belajarbismillah.net (192.168.100.101): icmp_seq=2 ttl=64 time=0.057 ms
64 bytes from ftp.belajarbismillah.net (192.168.100.101): icmp_seq=3 ttl=64 time=0.057 ms
^C
--- ftp.belajarbismillah.net ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2005ms
rtt min/avg/max/mdev = 0.010/0.041/0.057/0.022 ms
root@niko:/etc/bind# ping mail.belajarbismillah.net
PING mail.belajarbismillah.net (192.168.100.102) 56(84) bytes of data.
64 bytes from mail.belajarbismillah.net (192.168.100.102): icmp_seq=1 ttl=64 time=0.014 ms
64 bytes from mail.belajarbismillah.net (192.168.100.102): icmp_seq=2 ttl=64 time=0.054 ms
64 bytes from mail.belajarbismillah.net (192.168.100.102): icmp_seq=3 ttl=64 time=0.053 ms
^C
--- mail.belajarbismillah.net ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2005ms
rtt min/avg/max/mdev = 0.014/0.040/0.054/0.019 ms
root@niko:/etc/bind#

```

9. Selanjutnya instal aplikasi paket apache2 untuk web server dengan perintah : **apt install apache2**

```

niko@niko: ~
root@niko:/etc/bind# apt install apache2
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 liblua5.2-0 ssl-cert
Suggested packages:
  www-browser apache2-doc apache2-suexec-pristine | apache2-suexec-custom
  openssl-blacklist
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1 libaprutil1
  libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.2-0 ssl-cert
0 upgraded, 10 newly installed, 0 to remove and 41 not upgraded.
Need to get 2,262 kB of archives.
After this operation, 7,039 kB of additional disk space will be used.
Do you want to continue? [Y/n] y

```

10. Masuk ke folder apache 2 dengan perintah : **root@niko:/etc/bind# cd /etc/apache2/sites-available/**

Lalu copy file 000-default.conf sesuai dengan yang diinginkan. Contoh belajar.conf. Perintahnya adalah: **root@niko:/etc/apache2/sites-available# cp 000-default.conf belajar.conf**

```

niko@niko: ~
root@niko:/etc/bind# cd /etc/apache2/sites-available/
root@niko:/etc/apache2/sites-available# ls
000-default.conf default-ssl.conf
root@niko:/etc/apache2/sites-available# cp 000-default.conf belajar.conf
root@niko:/etc/apache2/sites-available#

```

11. Edit file yang terdapat pada belajar.conf dengan menambahkan : **ServerName www.belajarbismillah.net**

```
GNU nano 2.7.4 File: belajar.conf Modified
<VirtualHost *:80>
# The ServerName directive sets the request scheme, hostname and port t$
# 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.belajarbismillah.net

ServerAdmin webmaster@localhost
DocumentRoot /var/www/html
```

12. Selanjutnya masuk di folder /var/www/html dengan perintah :

```
root@niko:/etc/apache2/sites-available# cd /var/www/html/
```

13. Edit file index.html yang terdapat pada folder tersebut dengan perintah :

```
root@niko:/var/www/html# nano index.html
```

```
GNU nano 2.7.4 File: index.html Modified
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.o$
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<title>Apache2 Debian Default Page: Belajarbismillah</title>
<style type="text/css" media="screen">
* {
margin: 0px 0px 0px 0px;
padding: 0px 0px 0px 0px;
}

body, html {
padding: 3px 3px 3px 3px;

background-color: #D8DBE2;

font-family: Verdana, sans-serif;
font-size: 11pt;
```

14. Matikan terlebih dahulu file site default dengan perintah :

```
root@niko:/etc/apache2/sites-available# a2dissite 000-default.conf
```

```
root@niko:/etc/apache2/sites-available# a2dissite 000-default.conf
Site 000-default disabled.
To activate the new configuration, you need to run:
systemctl reload apache2
root@niko:/etc/apache2/sites-available#
```

15. Kemudian aktifkan file web yang sudah dibuat dengan perintah : `root@niko:/etc/apache2/sites-available# a2ensite belajar.conf`

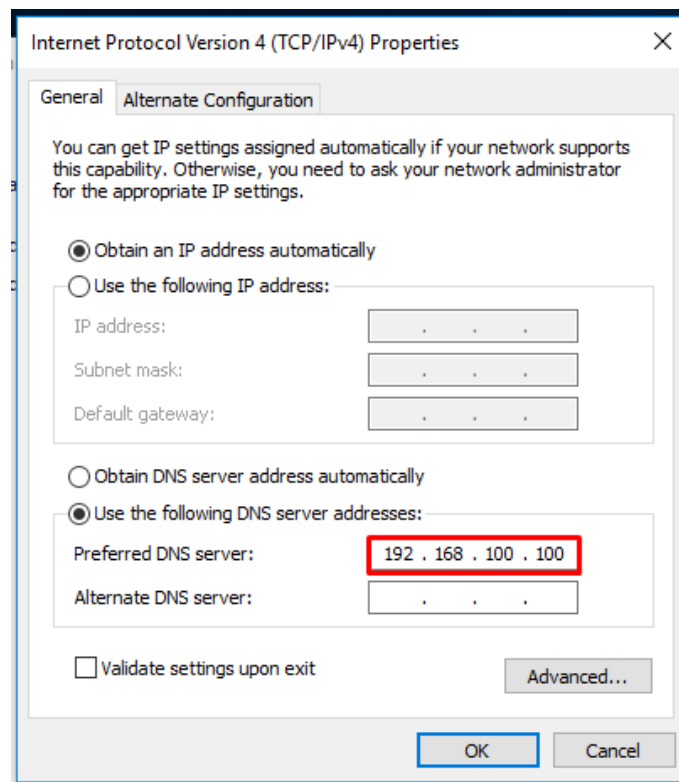
```
niko@niko: ~
root@niko:/etc/apache2/sites-available# a2ensite belajar.conf
Enabling site belajar.
To activate the new configuration, you need to run:
  systemctl reload apache2
root@niko:/etc/apache2/sites-available#
```

16. Selanjutnya restart apache2 dengan perintah :

```
root@niko:/etc/apache2/sites-available# /etc/init.d/apache2 restart
[ ok ] Restarting apache2 (via systemctl): apache2.service.
root@niko:/etc/apache2/sites-available#
```

Pengujian :

1. Pada sisi client dengan menggunakan windows 10 arahkan terlebih dahulu dns ke server :



2. Uji coba dengan perintah ping :

```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\nikmah>ping www.belajarbismillah.net

Pinging www.belajarbismillah.net [192.168.100.100] with 32 bytes of data:
Reply from 192.168.100.100: bytes=32 time<1ms TTL=64
Reply from 192.168.100.100: bytes=32 time<1ms TTL=64
Reply from 192.168.100.100: bytes=32 time<1ms TTL=64
Reply from 192.168.100.100: bytes=32 time<1ms TTL=64

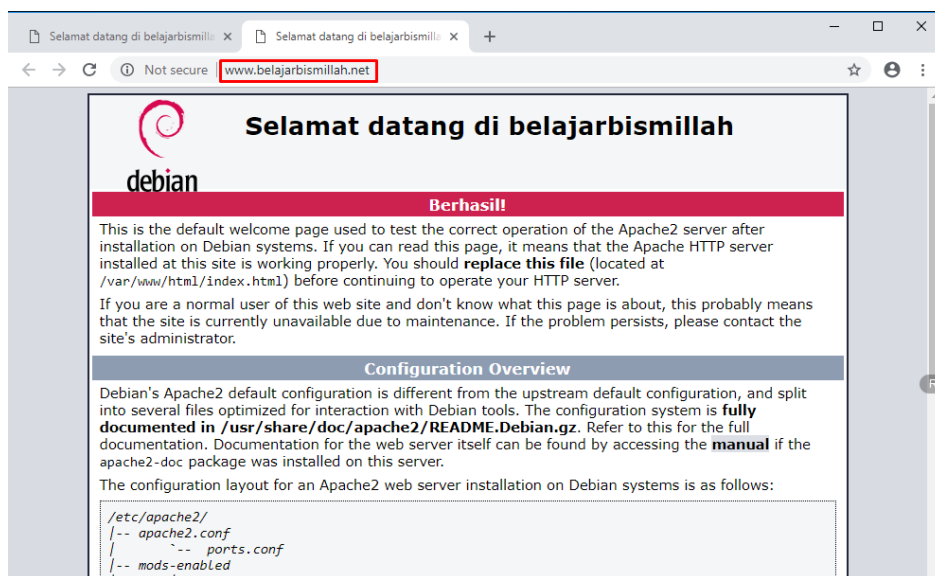
Ping statistics for 192.168.100.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\nikmah>nslookup www.belajarbismillah.net
Server: belajarbismillah.net
Address: 192.168.100.100

Name:    www.belajarbismillah.net
Address: 192.168.100.100

C:\Users\nikmah>
```

3. Buka web browser dengan memasukkan nama domain silakan ketikkan nama domain yang sudah didaftarkan: www.belajarbismillah.net



Tugas :

- ❖ Buatlah tutorial webserver dengan menggunakan dua nama domain sesuai dengan nama yang anda inginkan.
- ❖ Letakan file pada /var/www/namadomain.html
- ❖ Gunakan script html dengan marquee.

Menggunakan nginx :

1. Jika sudah pernah install apache2 terlebih dahulu disable aplikasi tersebut :

```
root@niko:/home/niko# systemctl stop apache2
```

2. Cek status apache 2 dengan perintah : `root@niko:/home/niko# systemctl status apache2`

```
root@niko:/home/niko# systemctl status apache2
● apache2.service
   Loaded: masked (/dev/null; bad)
   Active: inactive (dead) since Thu 2020-01-30 12:14:10 WIB; 31min ago
   Main PID: 10967 (code=exited, status=0/SUCCESS)

Jan 30 11:47:58 niko systemd[1]: Stopped The Apache HTTP Server.
Jan 30 11:47:58 niko systemd[1]: Starting The Apache HTTP Server...
Jan 30 11:47:58 niko apachectl[10963]: AH00558: apache2: Could not reliably determin
Jan 30 11:47:58 niko systemd[1]: Started The Apache HTTP Server.
Jan 30 12:14:10 niko systemd[1]: Stopping The Apache HTTP Server...
Jan 30 12:14:10 niko apachectl[11085]: AH00558: apache2: Could not reliably determin
Jan 30 12:14:10 niko systemd[1]: Stopped The Apache HTTP Server.
lines 1-12/12 (END)
```

3. Instal aplikasi nginx dengan perintah : `root@niko:/home/niko# apt install nginx`

```
root@niko:/etc/bind# apt install nginx
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core libfontconfig1
  libgd3 libjbig0 libjpeg62-turbo
  libnginx-mod-http-auth-pam libnginx-mod-http-dav-ext
  libnginx-mod-http-echo libnginx-mod-http-geoip
  libnginx-mod-http-image-filter
  libnginx-mod-http-substitutions-filter
  libnginx-mod-http-upstream-fair
```

4. Setelah proses instalasi selesai silakan pindah ke direktori :

```
root@niko:/usr/share/nginx/html# cd /var/www/html/
```

```
root@niko:/usr/share/nginx/html# cd /var/www/html/
root@niko:/var/www/html# ls
index.html index.nginx-debian.html
root@niko:/var/www/html#
```

5. Copy kan file index.html ke var/www setelah itu remove file index.html sehingga cuma satu file dalam /var/www/html.

```
root@niko:/var/www/html# cp index.html /var/www
root@niko:/var/www/html# rm index.html
root@niko:/var/www/html# ls
index.nginx-debian.html
root@niko:/var/www/html#
```

6. Cek status nginx apakah sudah aktif atau belum :

root@niko:/var/www/html# systemctl status nginx

```
root@niko:/var/www/html# systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enable
   Active: failed (Result: exit-code) since Thu 2020-02-06 15:35:13 WIB; 26s ago
     Docs: man:nginx(8)
   Process: 2478 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exi
   Process: 2476 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on;

Feb 06 15:35:12 niko nginx[2478]: nginx: [emerg] listen() to [::]:80, backlog 511 fa
Feb 06 15:35:12 niko nginx[2478]: nginx: [emerg] listen() to 0.0.0.0:80, backlog 511
Feb 06 15:35:12 niko nginx[2478]: nginx: [emerg] listen() to [::]:80, backlog 511 fa
Feb 06 15:35:13 niko nginx[2478]: nginx: [emerg] listen() to 0.0.0.0:80, backlog 511
Feb 06 15:35:13 niko nginx[2478]: nginx: [emerg] listen() to [::]:80, backlog 511 fa
Feb 06 15:35:13 niko nginx[2478]: nginx: [emerg] still could not bind()
Feb 06 15:35:13 niko systemd[1]: nginx.service: Control process exited, code=exited
Feb 06 15:35:13 niko systemd[1]: Failed to start A high performance web server and a
Feb 06 15:35:13 niko systemd[1]: nginx.service: Unit entered failed state.
Feb 06 15:35:13 niko systemd[1]: nginx.service: Failed with result 'exit-code'.

[4]+ Stopped                               systemctl status nginx
root@niko:/var/www/html#
```

7. Berhubung karena apache2 masih aktif terlebih dahulu dinonaktifkan :

root@niko:/var/www/html# systemctl stop apache2

8. Cek status apache2 : **root@niko:/var/www/html# systemctl status apache2** disini dapat dilihat bahwa status apache2 inactive.

```
root@niko:/var/www/html# systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enab
   Active: inactive (dead) since Thu 2020-02-06 15:41:31 WIB; 5s ago
   Process: 2521 ExecStop=/usr/sbin/apachectl stop (code=exited, status=0/SUCCESS)
   Main PID: 1421 (code=exited, status=0/SUCCESS)

Feb 06 15:41:31 niko systemd[1]: Stopping The Apache HTTP Server...
Feb 06 15:41:31 niko apachectl[2521]: AH00558: apache2: Could not reliably determine
Feb 06 15:41:31 niko systemd[1]: Stopped The Apache HTTP Server.
Warning: Journal has been rotated since unit was started. Log output is incomplete o
```

9. Sekarang cek status dari nginx :

root@niko:/var/www/html# systemctl start nginx

root@niko:/var/www/html# systemctl status nginx

```

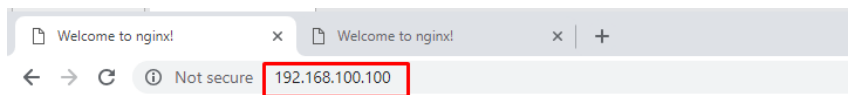
root@niko:/var/www/html# systemctl start nginx
root@niko:/var/www/html# systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enable
   Active: active (running) since Thu 2020-02-06 15:45:11 WIB; 13s ago
     Docs: man:nginx(8)
  Process: 2541 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exi
  Process: 2539 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on;
 Main PID: 2543 (nginx)
    Tasks: 2 (limit: 4915)
   CGroup: /system.slice/nginx.service
           └─2543 nginx: master process /usr/sbin/nginx -g daemon on; master_process
             └─2544 nginx: worker process

Feb 06 15:45:11 niko systemd[1]: Starting A high performance web server and a reverse
Feb 06 15:45:11 niko systemd[1]: nginx.service: Failed to read PID from file /run/ng
Feb 06 15:45:11 niko systemd[1]: Started A high performance web server and a reverse
lines 1-15/15 (END)

```

Pengujian

1. Buka web browser lalu masukkan ip address server : 192.168.100.100.



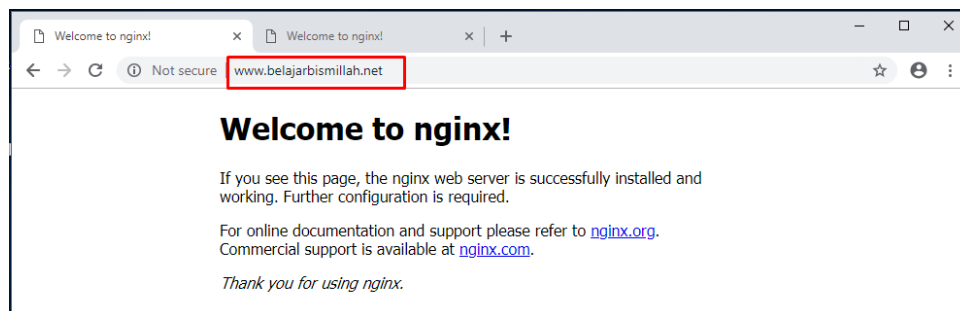
Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org. Commercial support is available at nginx.com.

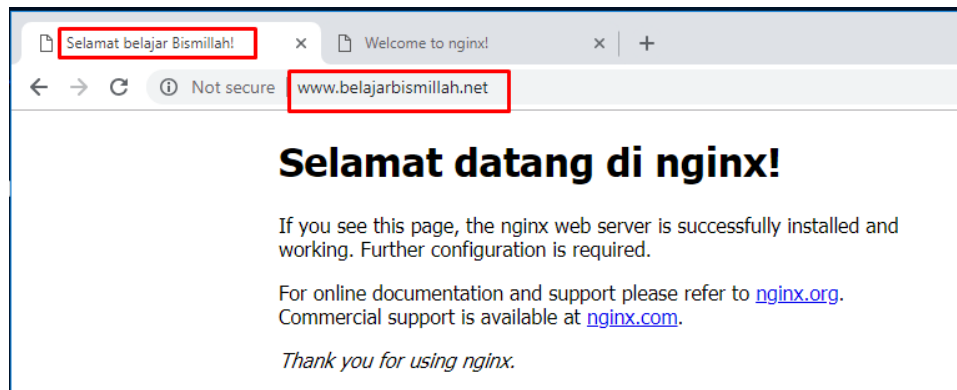
Thank you for using nginx.

2. Langkah kedua buka tab baru web browser masukkan : www.belajarbismillah.net



3. Silakan uji coba dengan mengedit file yang terdapat pada

root@niko:/var/www/html# nano index.nginx-debian.html



Tugas :

- ❖ Buatlah tutorial nginx dengan dua domain yang berbeda dengan isi content yang berbeda.
- ❖ Letakkan file pathnya di /home/namaanda.