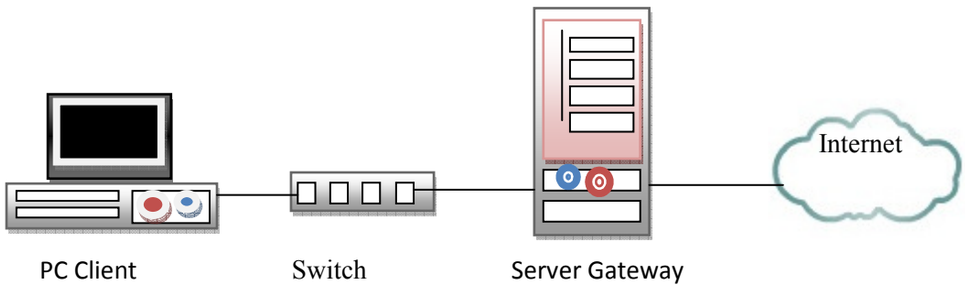
MODUL PRAKTEK DEBIAN SERVER

Dibuat oleh : Yudi Firman Santosa, S.T.
Dipersiapkan untuk Latihan Siswa Praktek Ujian Nasional 2013



Perencanaan Debian Server untuk Gateway (Router), DNS Server, Web Server, Dhcp Server, Remote Access Server dan Proxy Server.

Ketentuan :

Konfigurasi Server

1. IP WAN/Internet
   Debian Server = 172.16.1.2/30 (eth0)
   IP Server DNS ISP = 172.16.1.1/30
2. IP LAN
   Debian Server = 192.168.50.1/24 (eth1)
3. Gateway
   Sesuai Dengan IP yang diberikan oleh ISP
   (Dalam contoh ini ditentukan IP Server ISP adalah 172.16.1.1/30)

Konfigurasi Client

1. IP LAN = 192.168.50.xxx/24
   (DHCP Server address pool = 192.168.50.10 – 192.168.50.254
2. Gateway = 192.168.50.1

Keterangan : xxx merupakan address antara 10 sampai 254

Remote Access Server

1. SSH Server Port = 354

Konfigurasi Proxy Server

1. Sistem Operasi = OS (Linux)
2. Port proxy = *3128*
3. Cache Manager = *nama_peserta*@sekolah.sch.id
   (Dalam Latihan ini adalah admin@sekolah.sch.id)
4. Visible host = *www.sekolah*.sch.id
5. Transparant proxy
6. Blocking Site = www.youtube.com , www.facebook.com

Konfigurasi Router

1. NAT = yes

Tambahan Ketentuan :

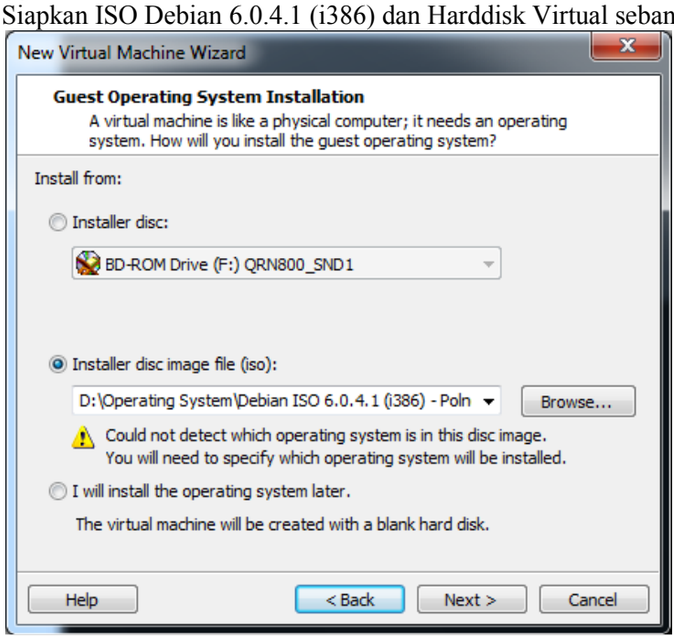
Hostname	=	tkjserver01
Domain	=	sekolah.sch.id
Sub Domain	=	1. sub.sekolah.sch.id
		2. mail.sekolah.sch.id
		3. www.sekolah.sch.id
User	=	siswa
Root Password	=	{Menyesuaikan}
User Password	=	{Menyesuaikan}

A. MEMULAI INSTALASI STANDARD

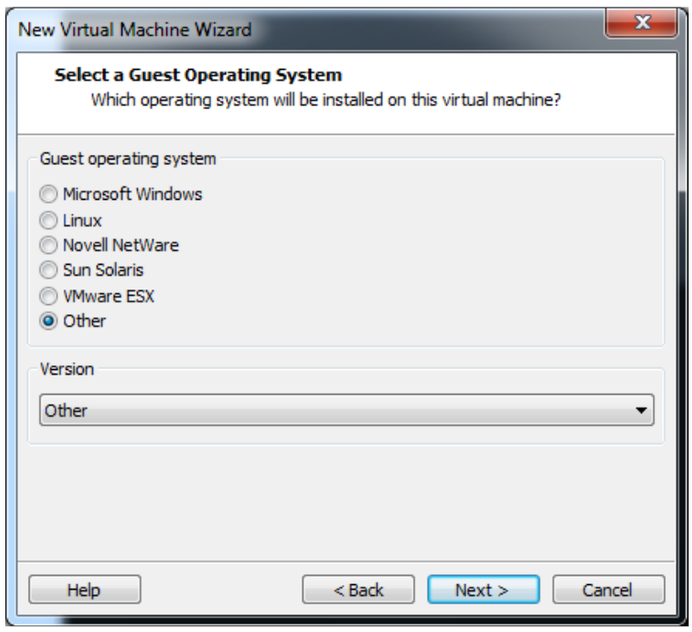
Instalasi dapat dilakukan secara real pada PC/Server dengan menyediakan 2 ethernet card dan/atau dapat menggunakan bantuan software virtual machine (VMWare).

A.1. Menggunakan Software VMWARE

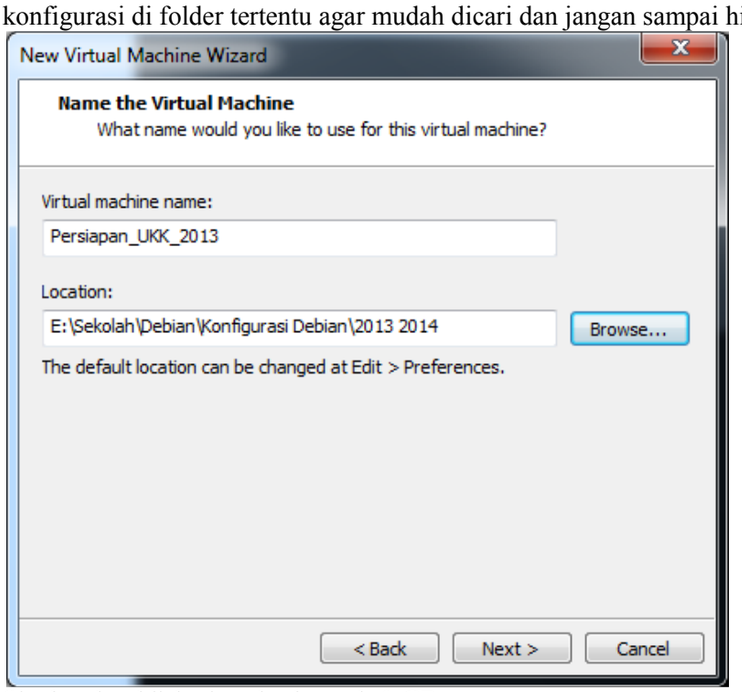
1. Siapkan ISO Debian 6.0.4.1 (i386) dan Harddisk Virtual sebanyak 3 GB



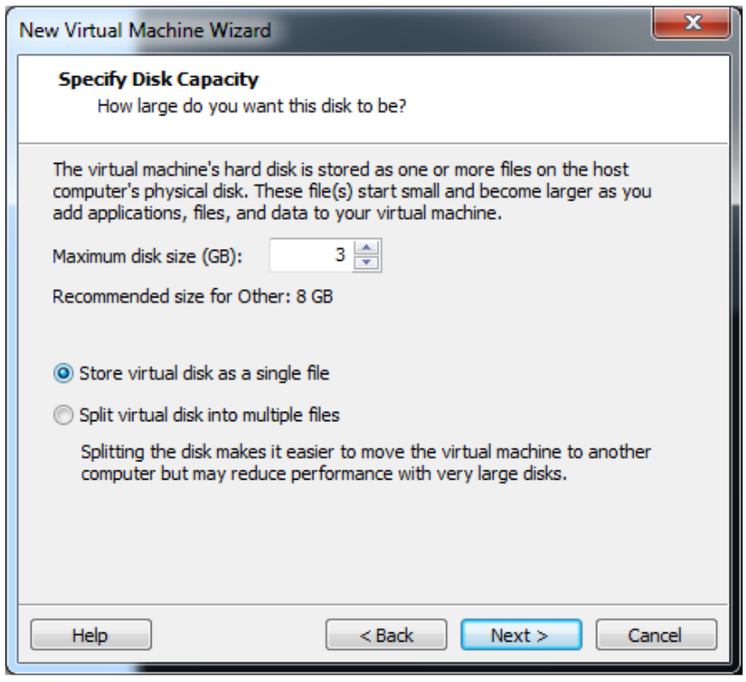
2. Guest Operating system pilih **Other** dan Version pilih **Other**



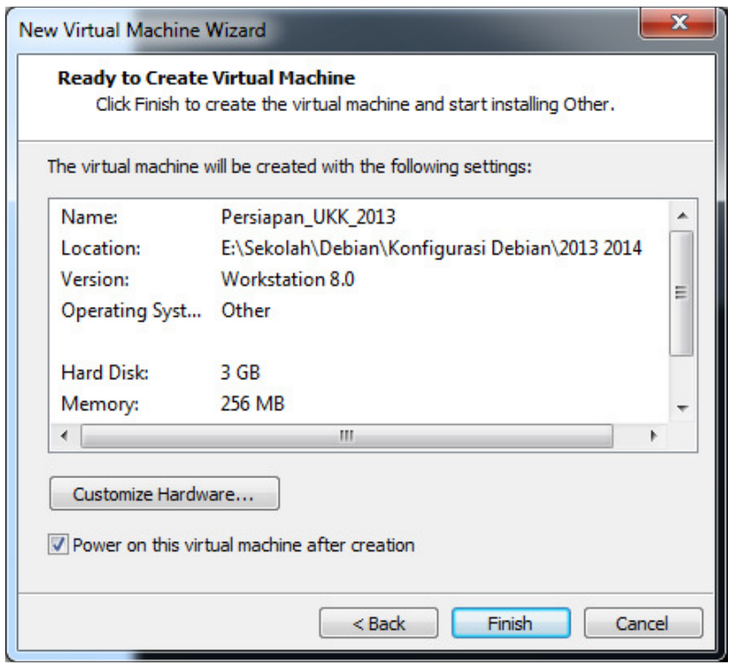
3. Berikan nama Virtual Machine misalnya "***Persiapan_UKK_2013***" dan simpan konfigurasi di folder tertentu agar mudah dicari dan jangan sampai hilang.



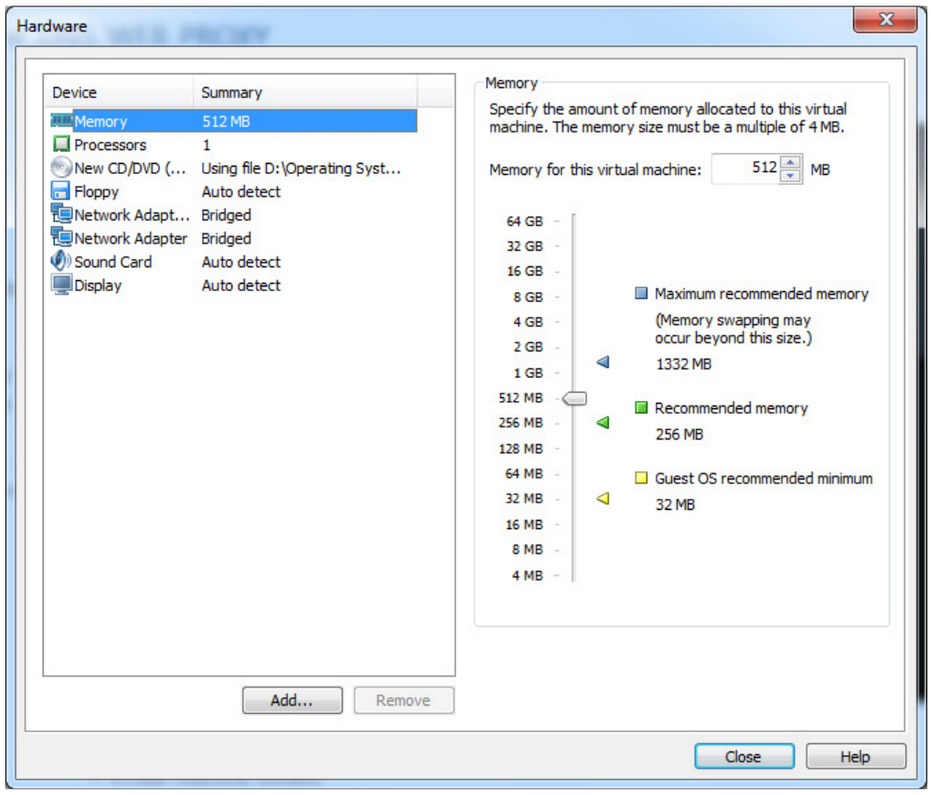
4. Siapkan harddisk virtual sebanyak ***3 GB***.



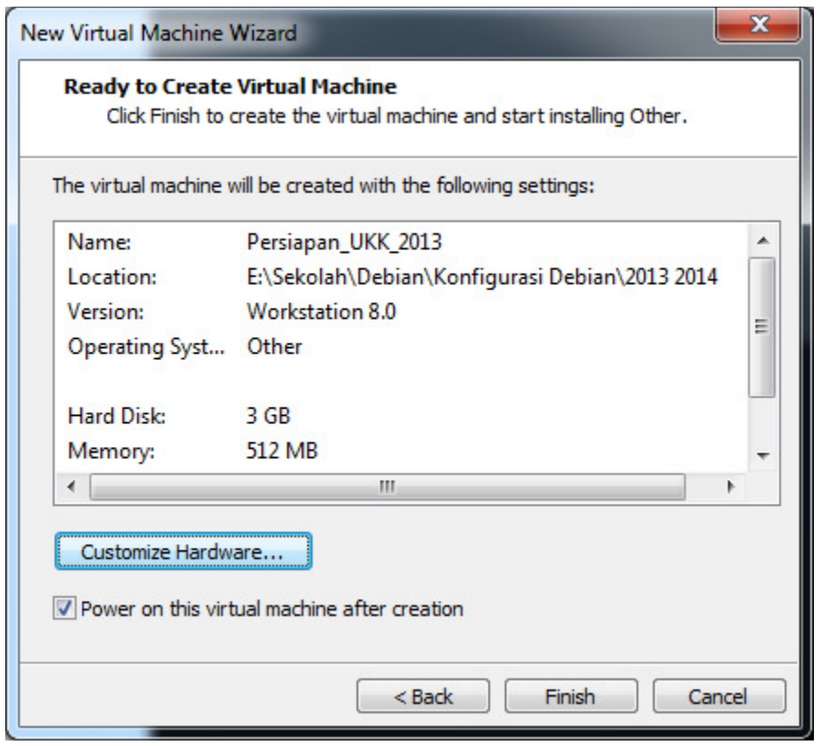
5. Lakukan *customize Hardware* untuk menambah *memory* dan *Ethernet card virtual*.



6. *Upgrade memory (RAM) Virtual* menjadi ***512 MB***, dan tambahkan *network adapter* sehingga total ada ***2 network adapter*** dengan *state bridge*.

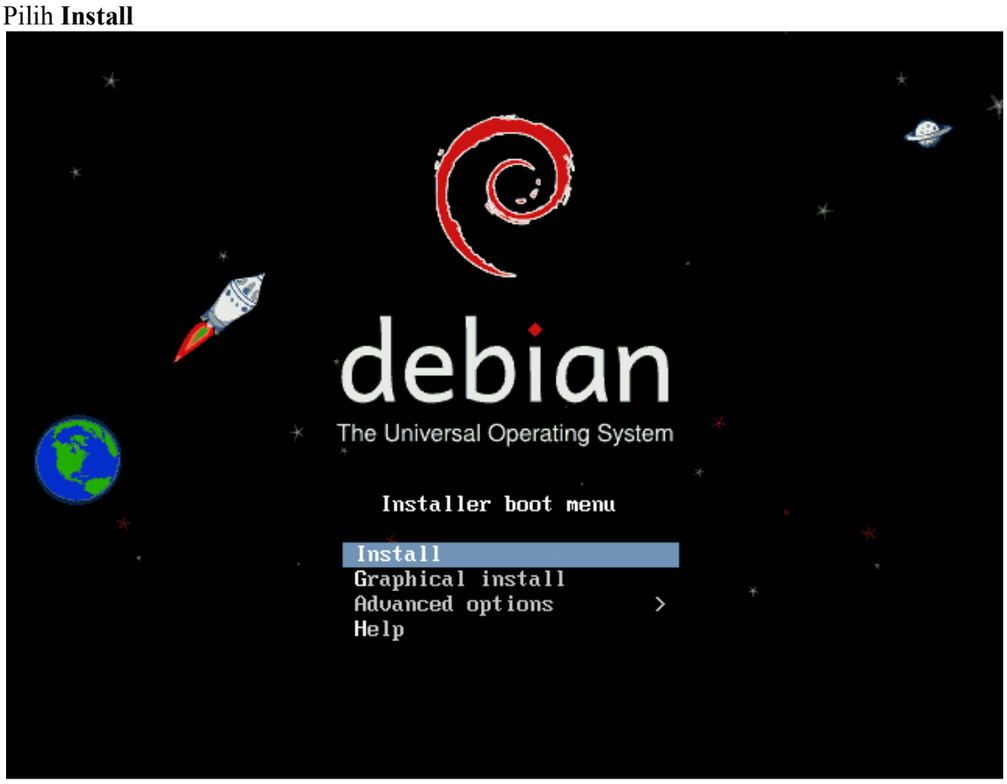


7. Lanjutkan dengan *mengclick* ***Finish***

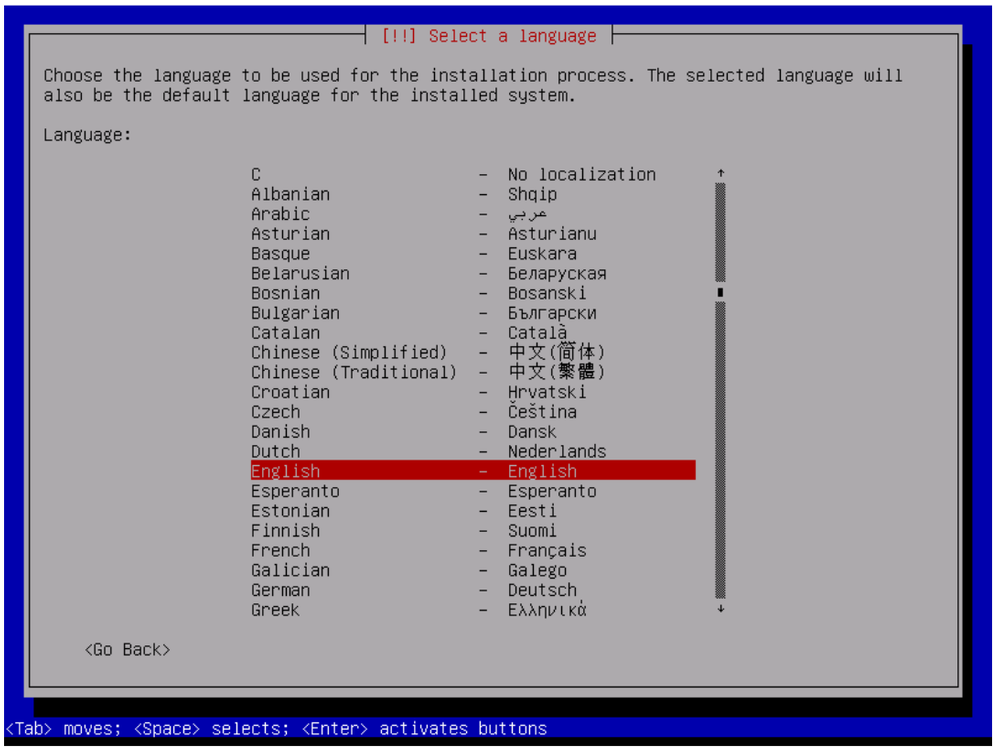


A.2. Menggunakan Instalasi Langsung di PC/Server

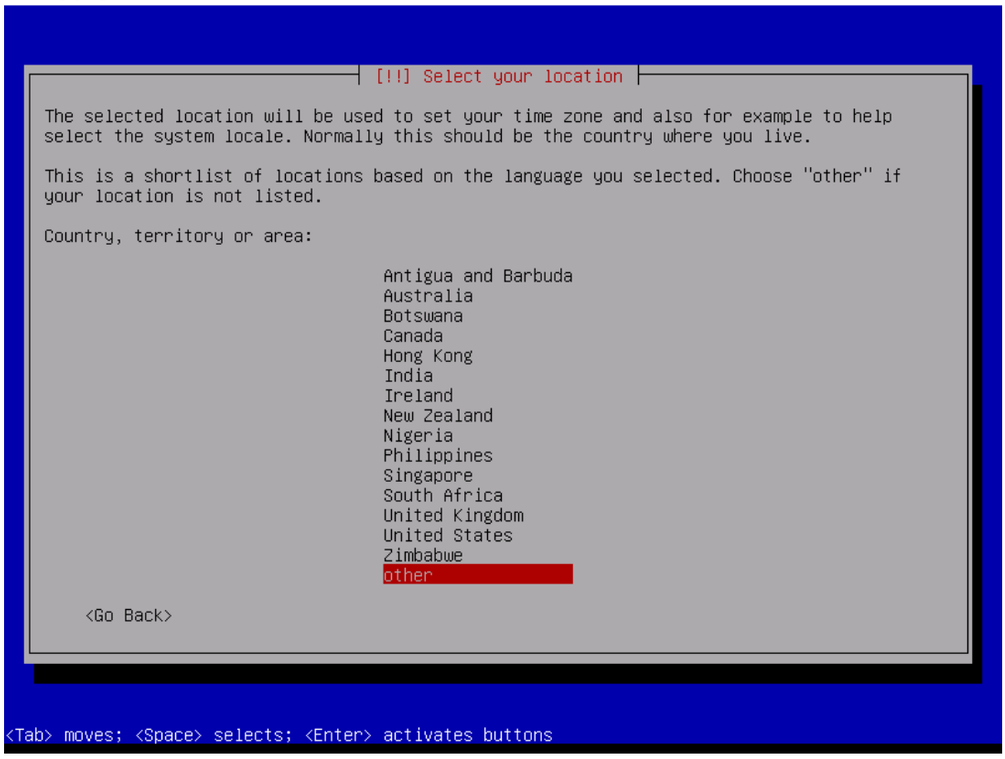
1. Siapkan DVD Debian, hidupkan CPU. Masuk ke BIOS, Atur BIOS agar Boot Order diarahkan pertama ke DVD-ROM. Masukan DVD Debian 6.0.2.1. Simpan Konfigurasi BIOS. Restart CPU.
   Maka Tampilan awal akan sebagai berikut
   Pilih **Install**



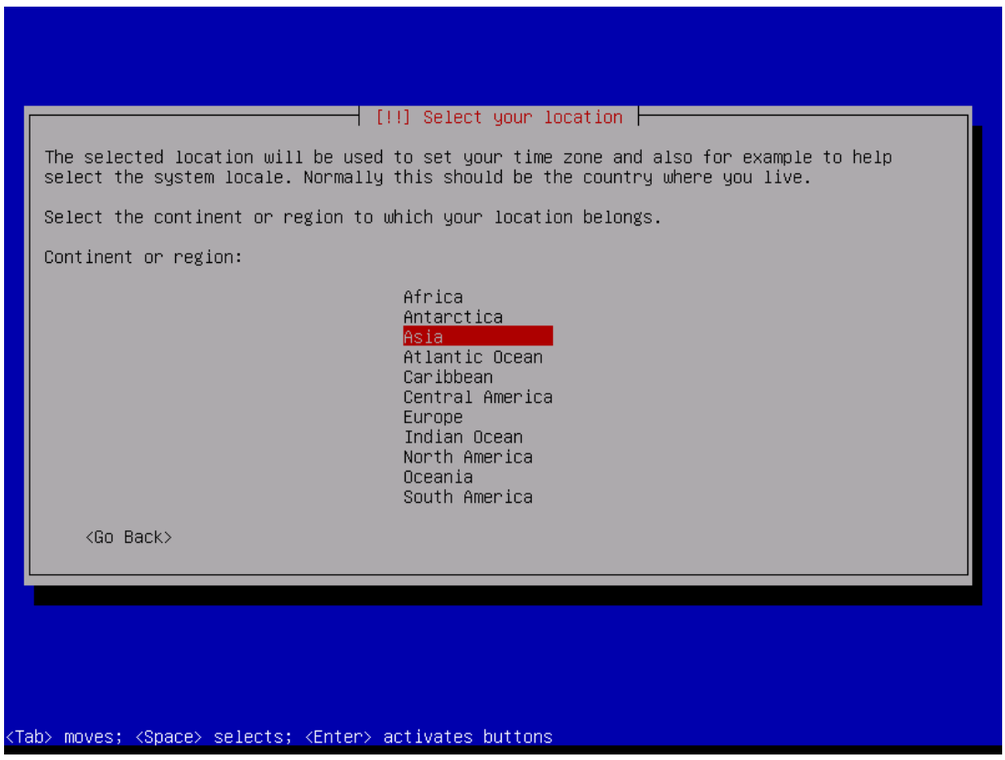
2. Pilih bahasa **English**



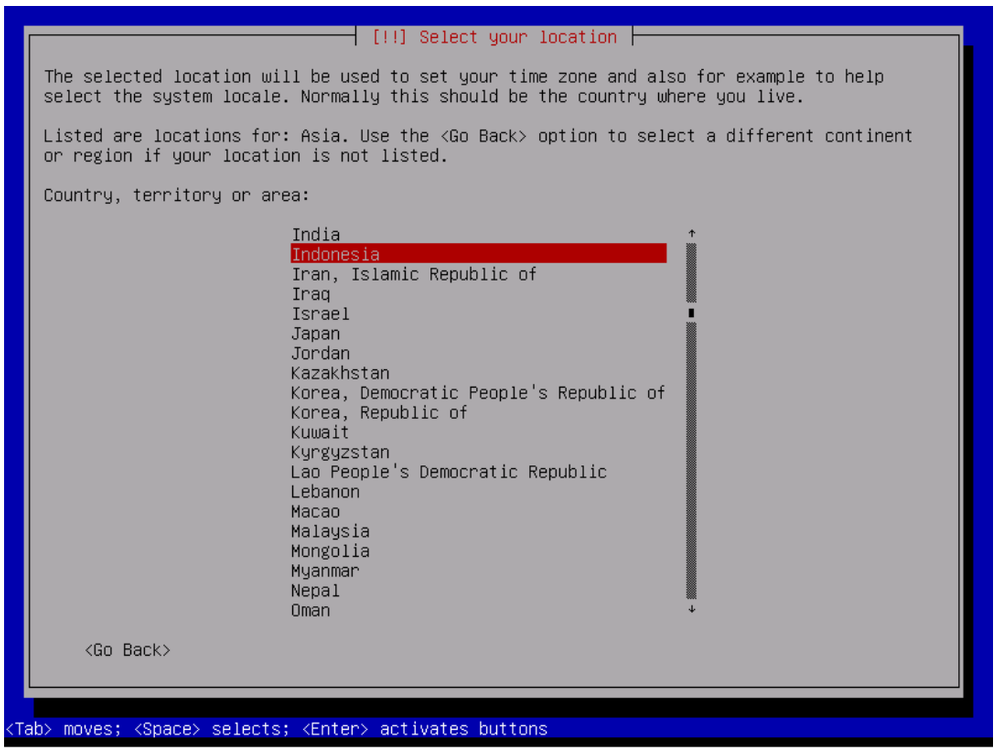
3. Pilih **Other**



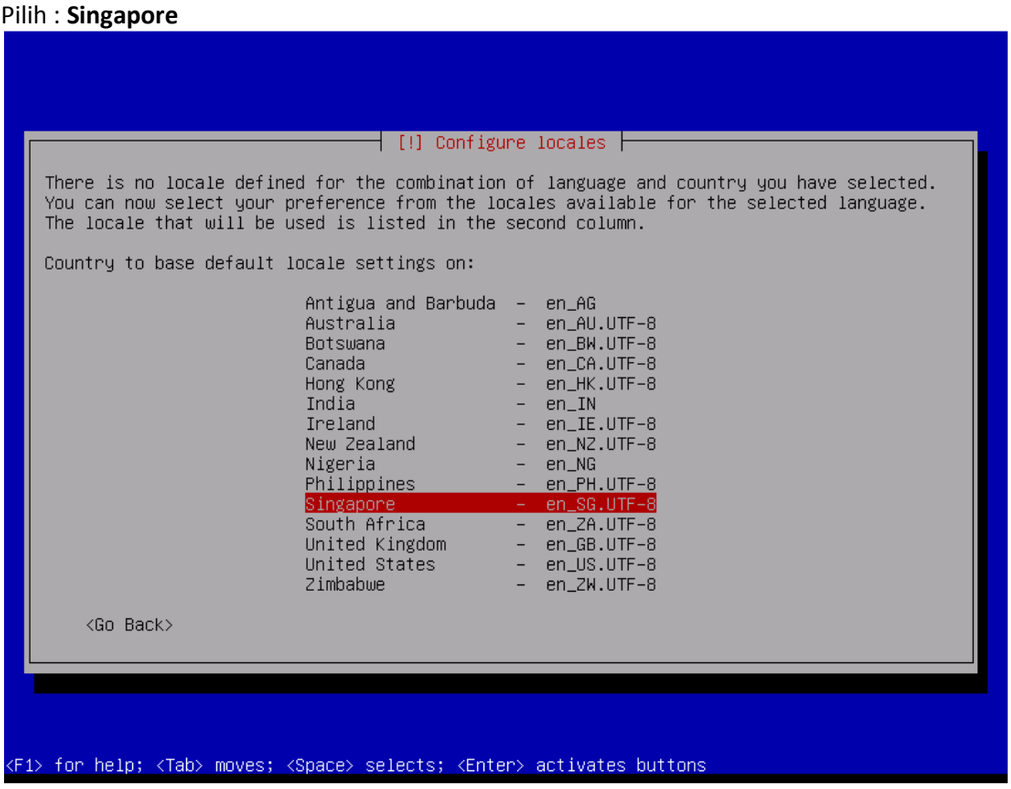
4. Pilih Benua/Region : **Asia**



5. Pilih Negara : **Indonesia**

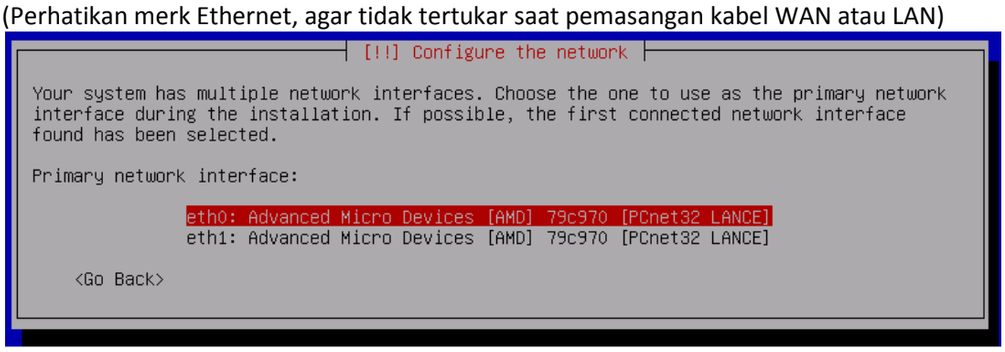


6. Pilih : **Singapore**

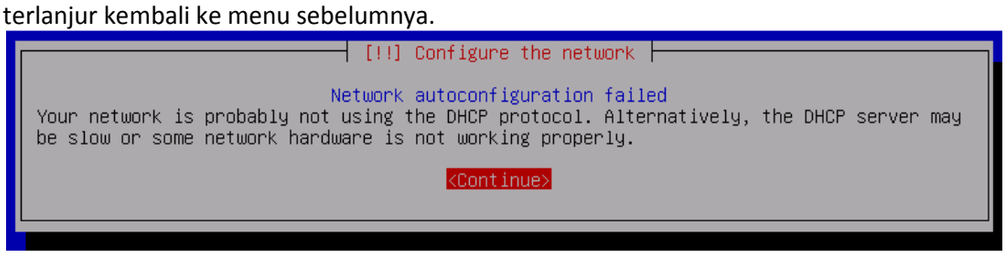


7. Pilih Keyboard Layout : **American English**

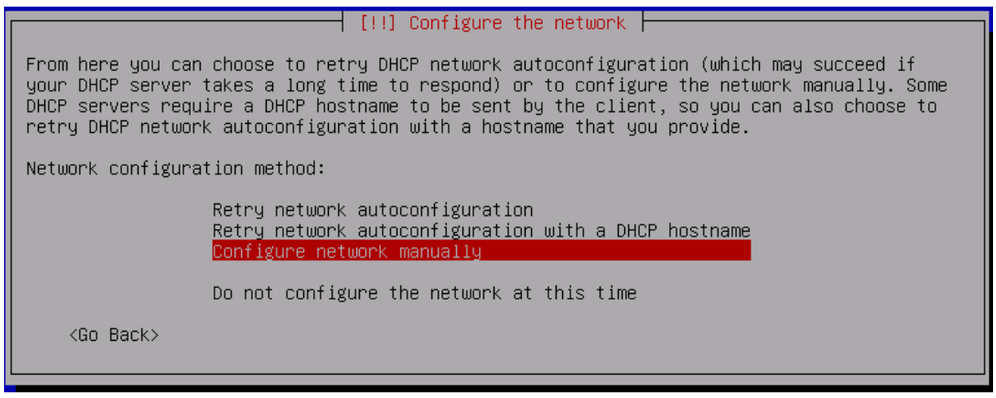
8. Pilih Eth0 sebagai Ethernet yang akan dihubungkan langsung ke WAN / Internet.
(Perhatikan merk Ethernet, agar tidak tertukar saat pemasangan kabel WAN atau LAN)



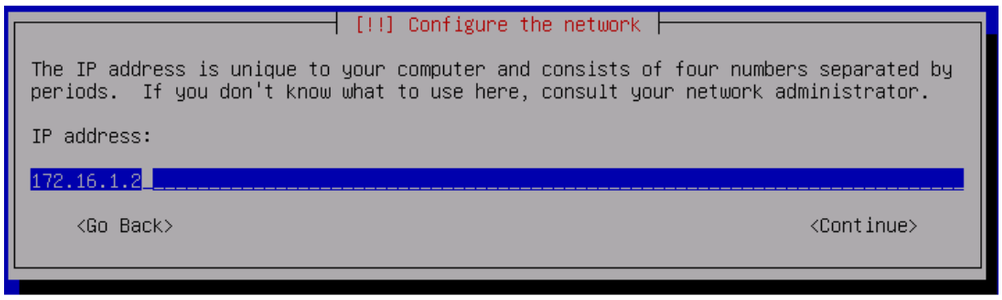
9. Segera batalkan untuk mendapatkan ***automatic ip*** dari DHCP Server. Apabila sudah terlanjur kembali ke menu sebelumnya.



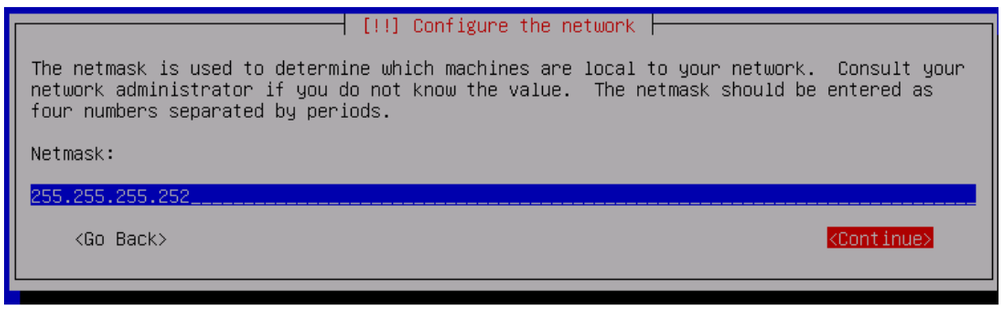
10. Saat ini kita akan mengkonfigurasi IP WAN/Internet terlebih dahulu, Pilih Configure Network Manually



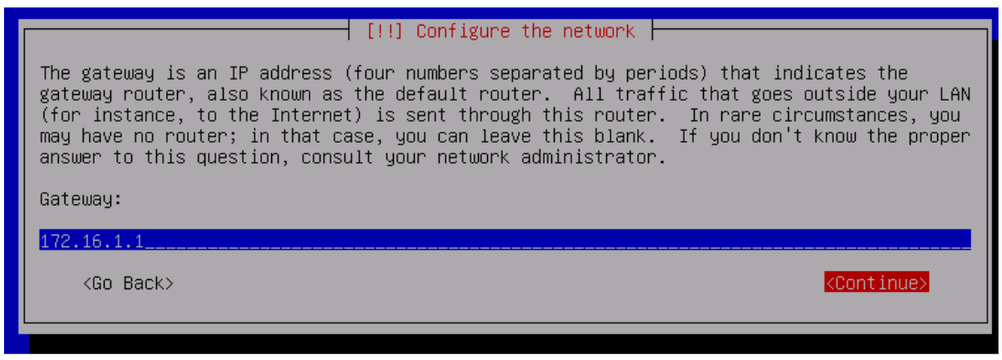
11. Isikan IP WAN yang telah ditentukan oleh ISP dengan : **172.16.1.2**



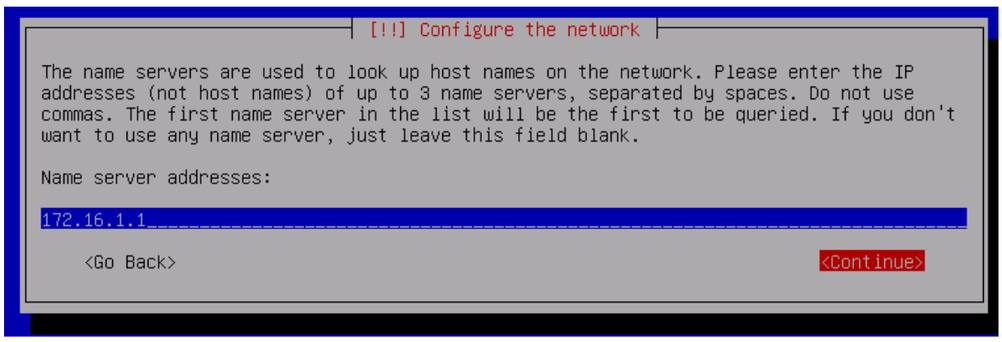
12. Isikan Netmask yang telah ditentukan : **255.255.255.252**



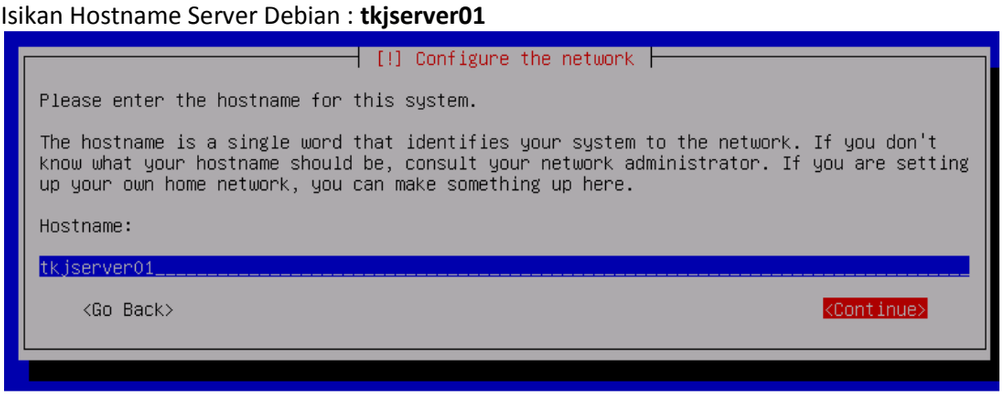
13. Isikan IP Gateway Server Debian, yaitu IP Server ISP : **172.16.1.1** *(secara otomatis sudah terisi, karena hanya 2 (dua) ip saja valid untuk subnetmask /30)*



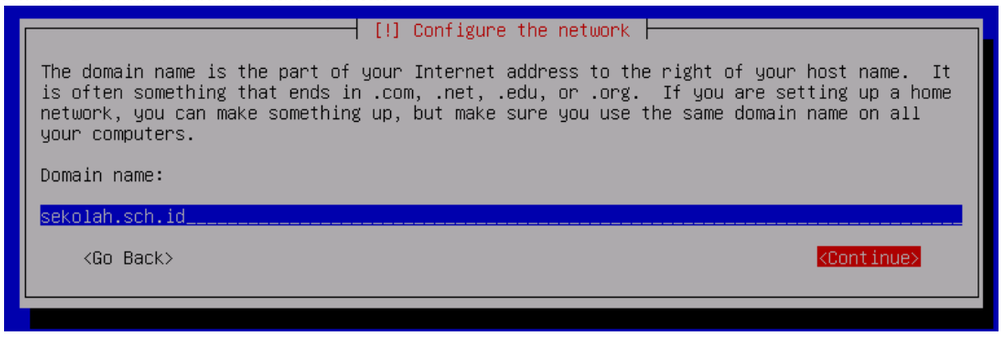
14. Isikan Name Server Addresses dengan IP Server ISP : **172.16.1.1** *(secara otomatis sudah terisi, karena hanya 2 (dua) ip saja valid untuk subnetmask /30)*



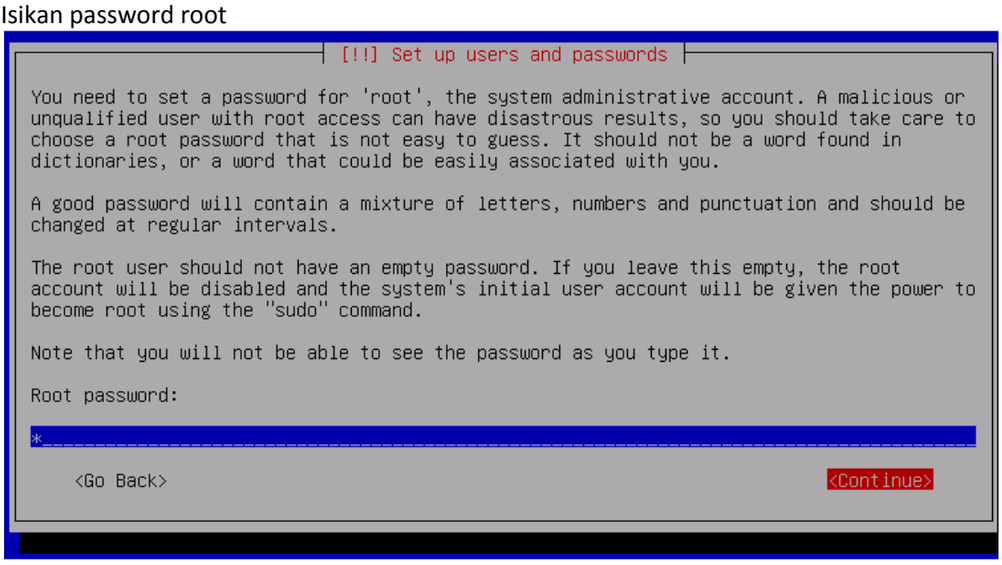
15. Isikan Hostname Server Debian : **tkjserver01**



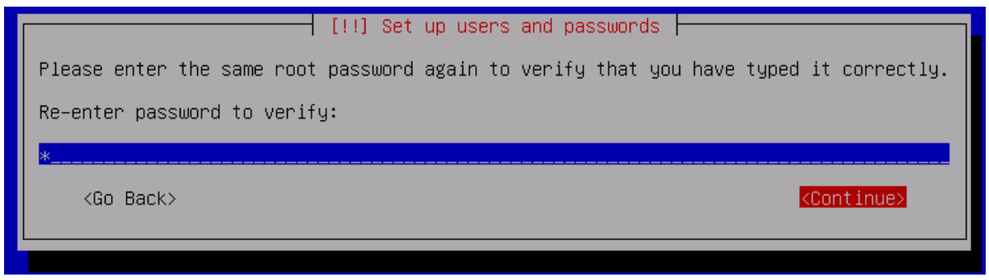
16. Isikan Domain Name : **sekolah.sch.id**



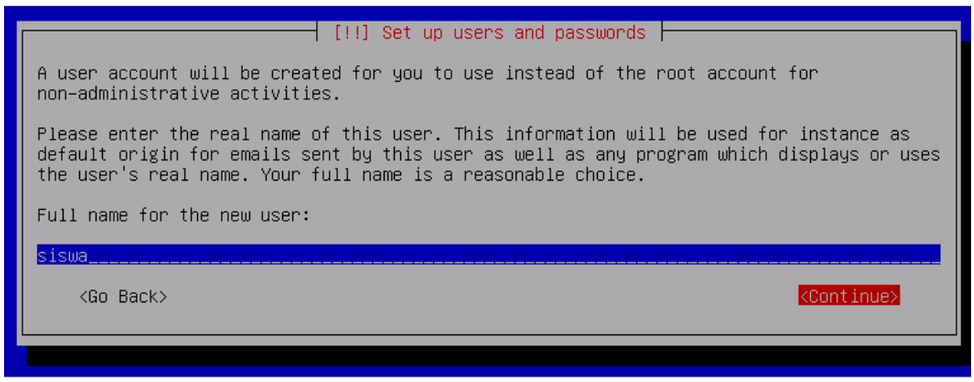
17. Isikan password root



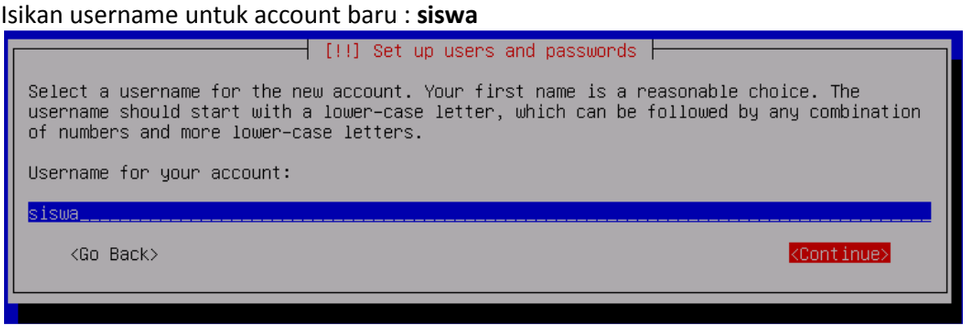
18. Masukan sekali lagi password root untuk verifikasi.



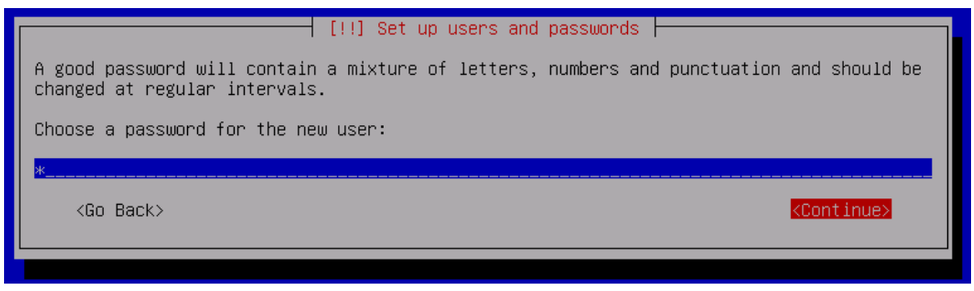
19. Isikan nama user baru : **siswa**



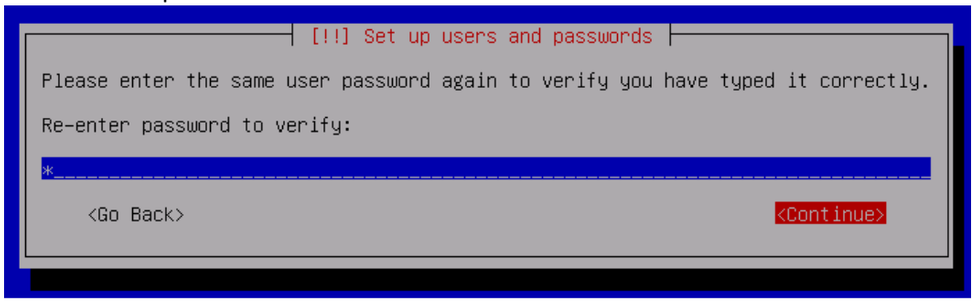
20. Isikan username untuk account baru : **siswa**



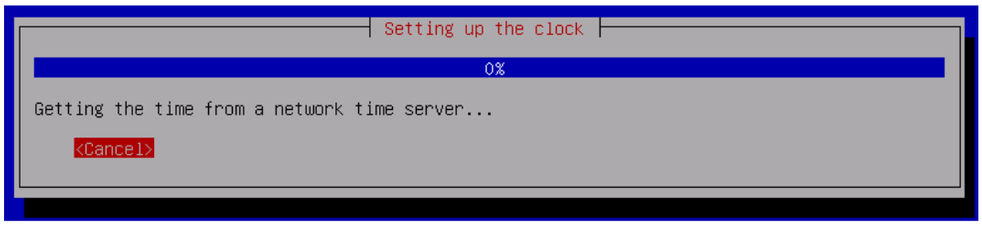
21. Isikan password untuk username siswa



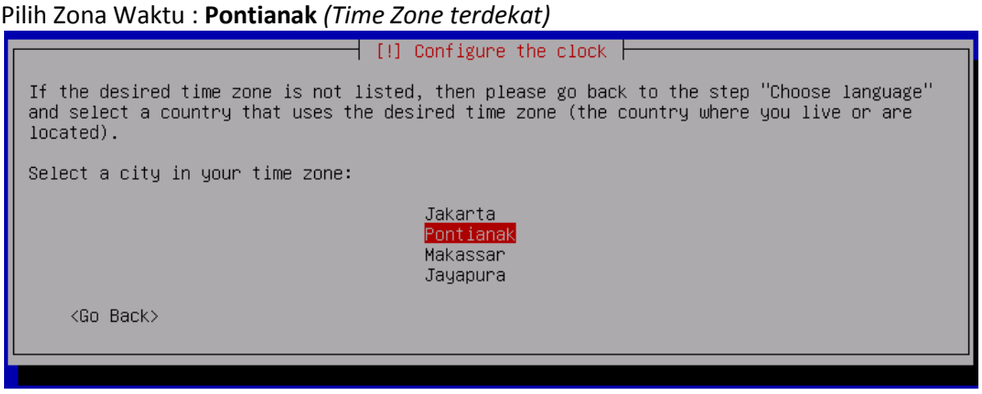
22. Isikan kembali password username siswa untuk verifikasi.



23. Batalkan untuk sinkronisasi waktu server



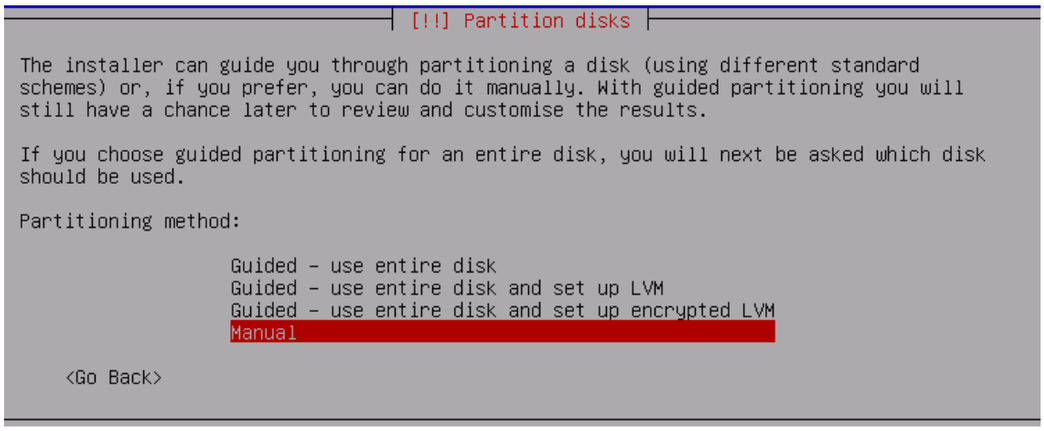
24. Pilih Zona Waktu : **Pontianak** *(Time Zone terdekat)*



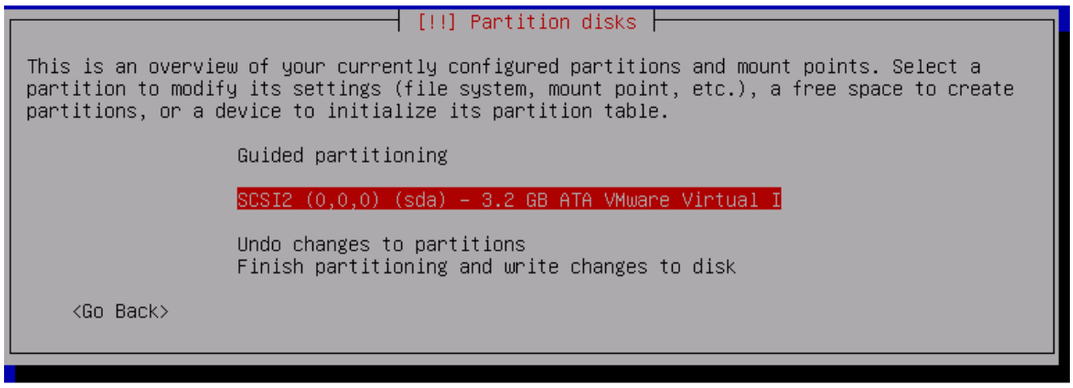
25. Partisi Harddisk Linux dapat dilakukan dengan ***Manual*** atau ***Guided.***

A. Cara ***Manual***

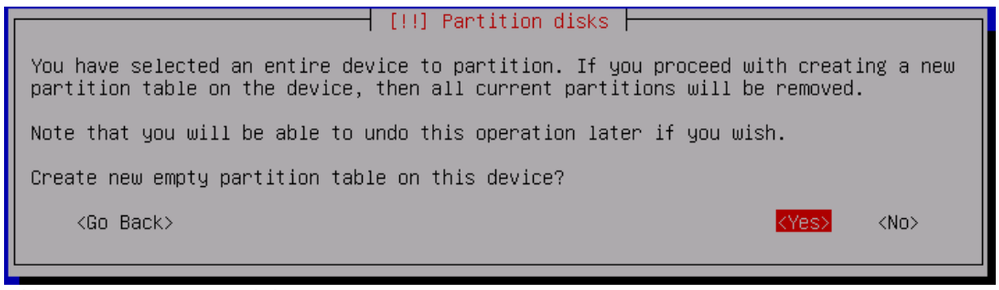
1. Pilih *Manual*



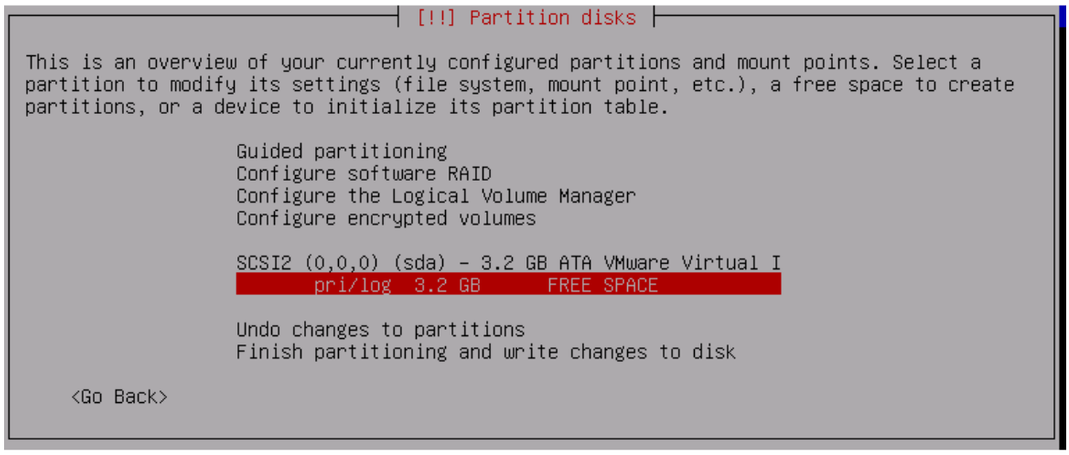
2. Pilih harddisk *Virtual I* seperti berikut



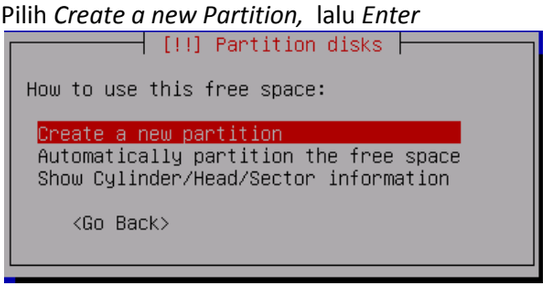
3. Lanjutkan pembuatan partisi baru *click* ***Yes***



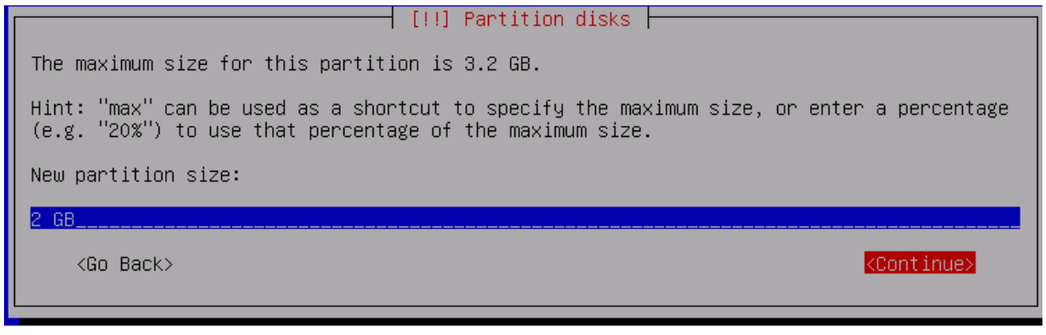
4. Pilih partisi ***Free Space*** lalu *Enter*



5. Pilih *Create a new Partition,* lalu *Enter*



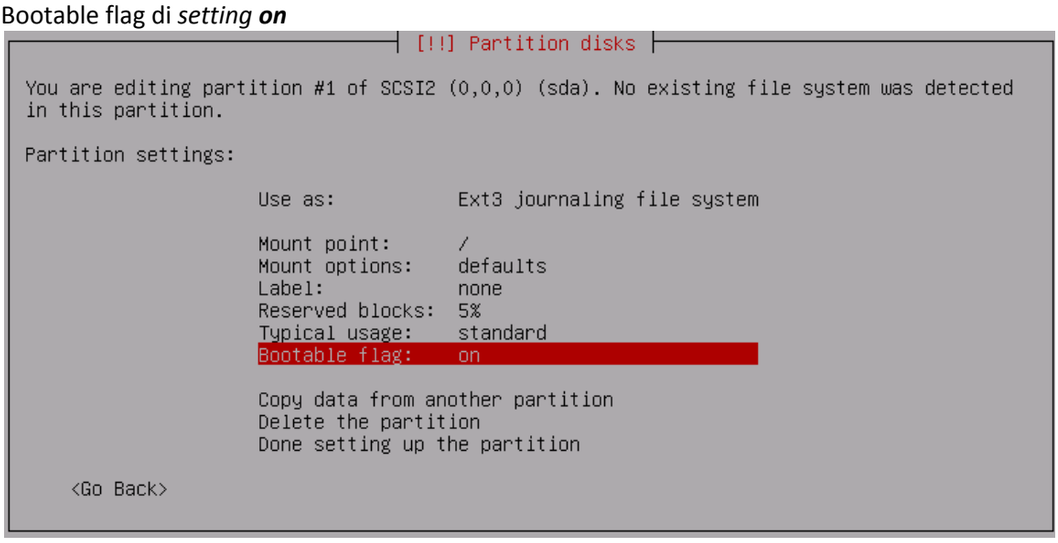
6. Ubah menjadi ***2 GB*** untuk partisi pertama (*root*).



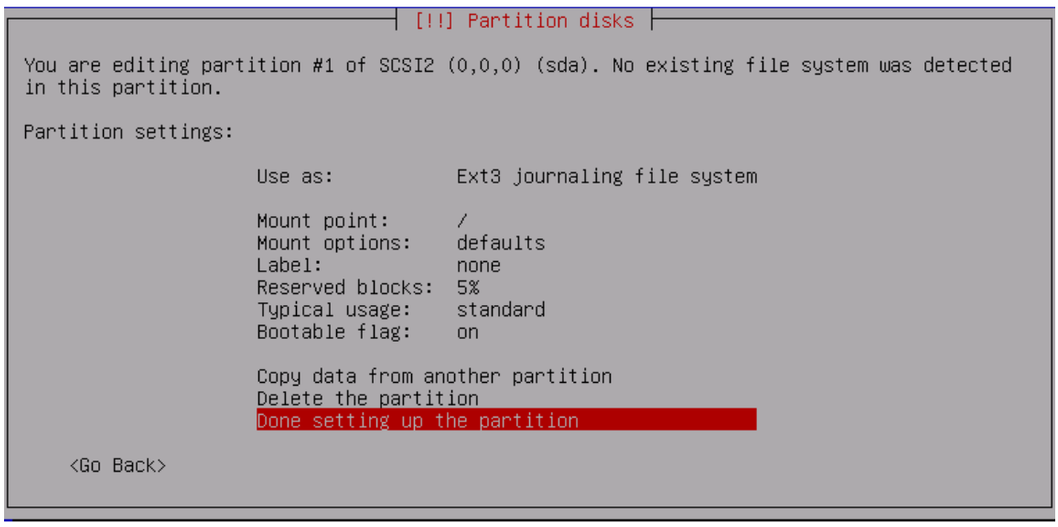
7. Pilih tipe *Primary*

8. Partisi dibuat pada awal *space* yang tersedia, Pilih ***Beginning***, lalu *Enter*.

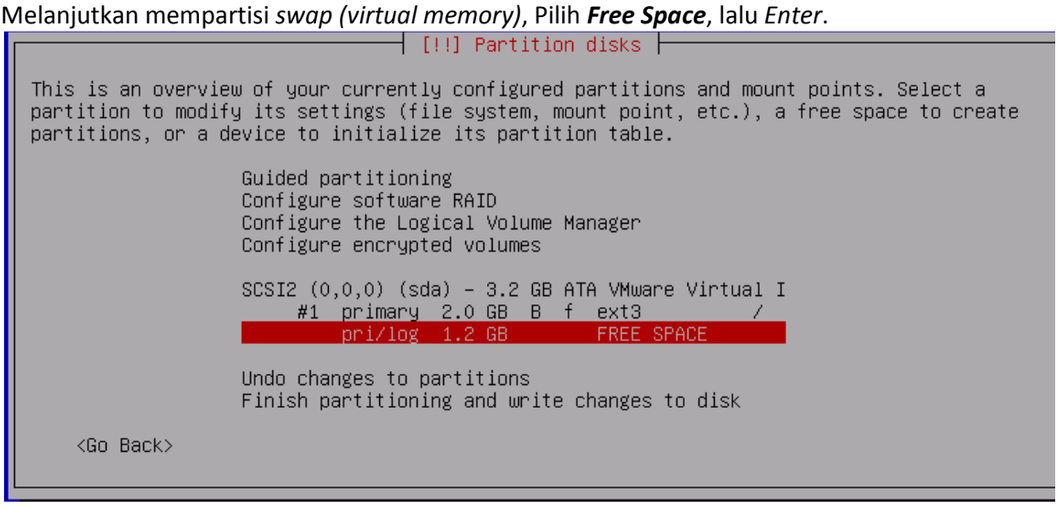
9. Bootable flag di *setting* ***on***



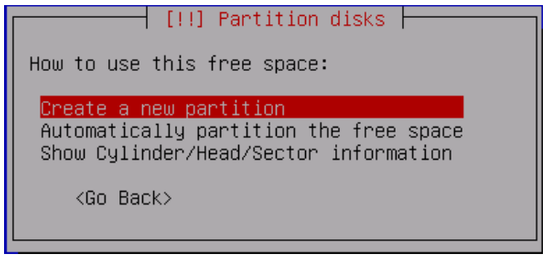
10. Selesai mempartisi root pilih ***Done setting up the partition***, lalu *Enter*



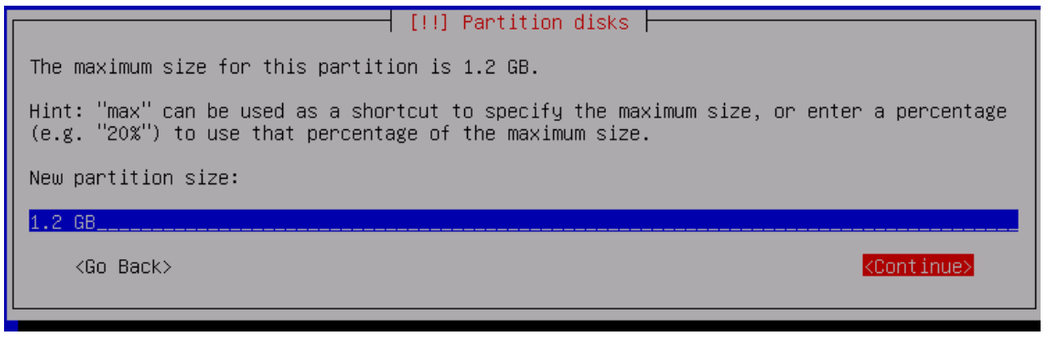
11. Melanjutkan mempartisi *swap (virtual memory)*, Pilih ***Free Space***, lalu *Enter*.



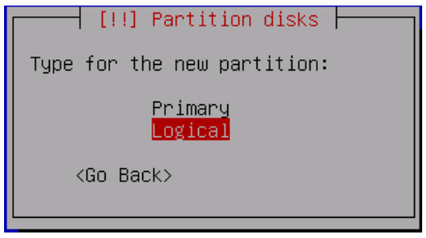
12. Pilih ***Create a new partition***, lalu *Enter*



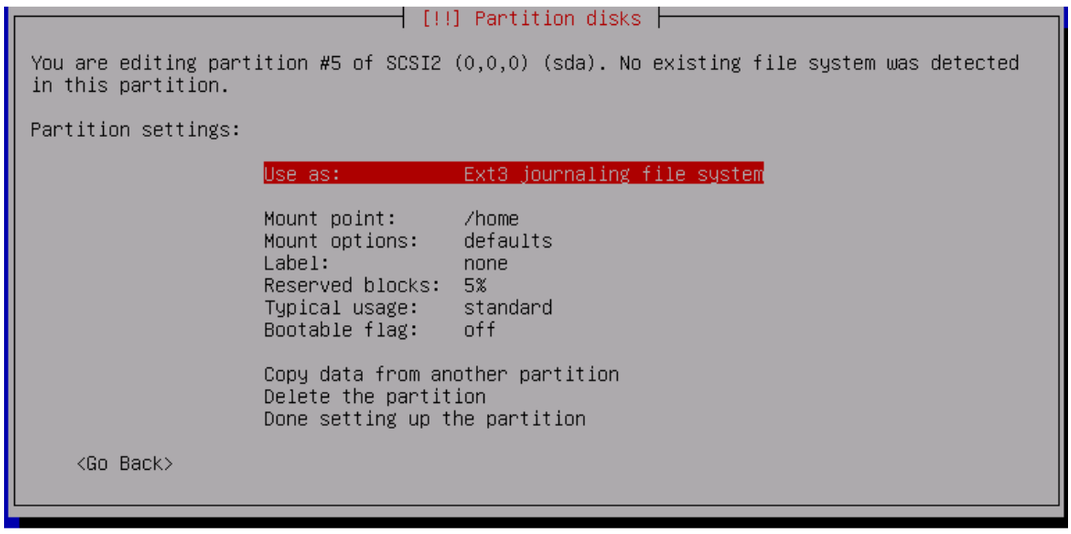
13. Gunakan semua sisa harddisk (partisi swap 2 x RAM) : 2 x 512 MB = 1024 MB ≈ 1,2 GB



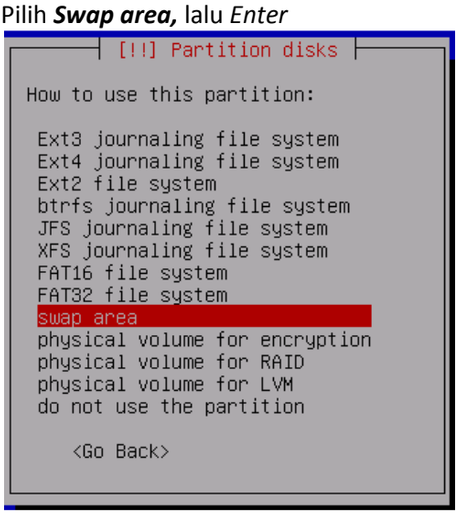
14. Pilih ***Logical*** untuk tipe partisi *swap*.



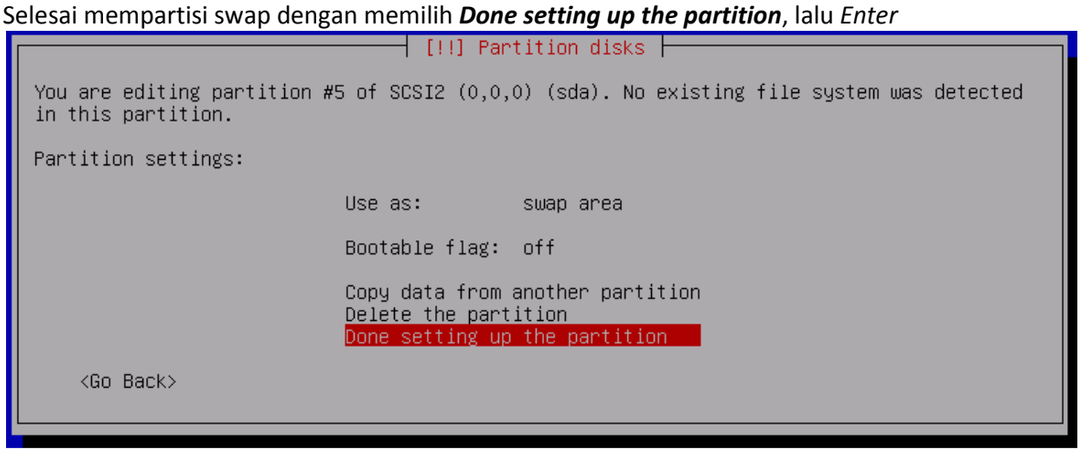
15. Ubah ***file system*** dengan *click* dan *enter* pada ***use as***.



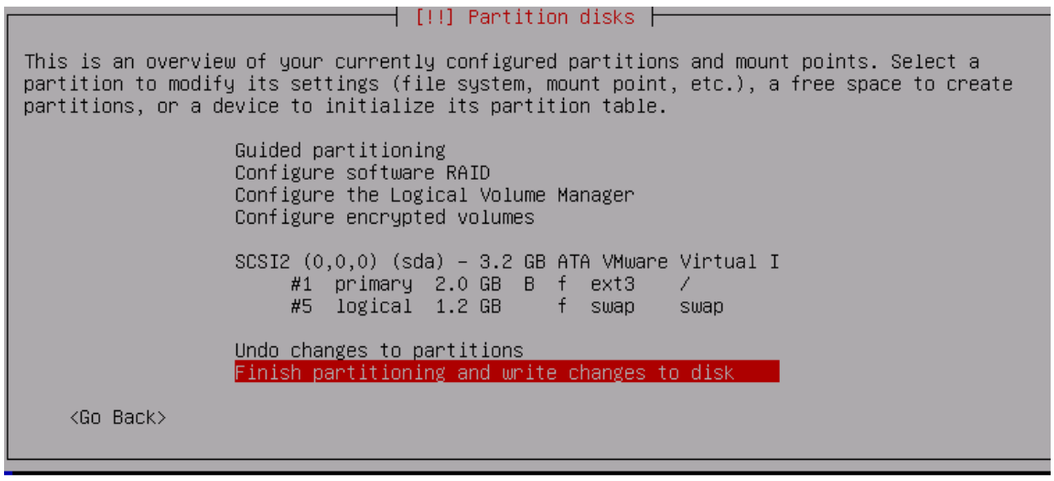
16. Pilih ***Swap area,*** lalu *Enter*



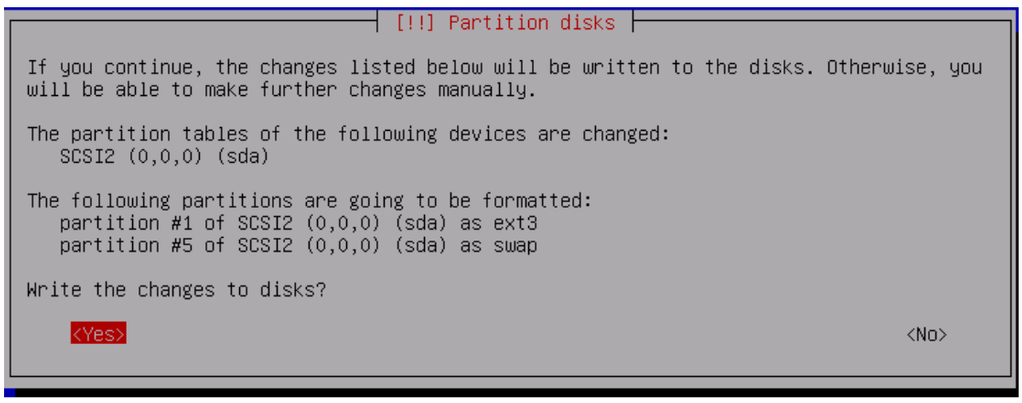
17. Selesai mempartisi swap dengan memilih ***Done setting up the partition***, lalu *Enter*



18. Dua partisi sudah disetting, Pilih ***Finish partitioning and write changes to disk,*** lalu *Enter*



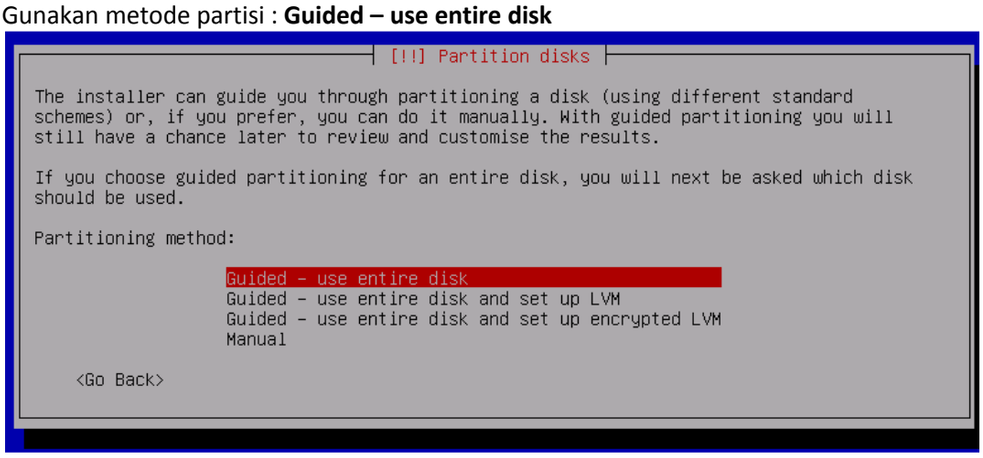
19. ***Write the changes to disk***, pilih ***Yes*** lalu *Enter* untuk memulai memformat.



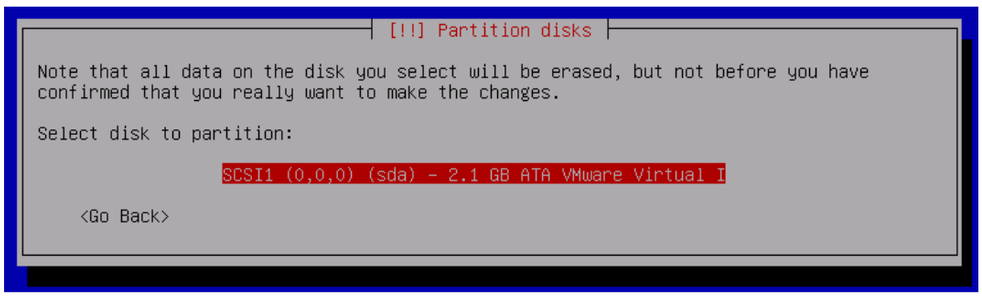
B. Cara ***Guided***

Cara kedua lebih *simple*, karena *Debian* akan memandu dan secara otomatis membagi dan memformat partisi sesuai kebutuhan umumnya. Perlu diperhatikan dalam cara kedua ini, jika diperhatiakn *space* yang tersedia adalah *2 GB* (sesuai total space pada saat pemilihan diawal).

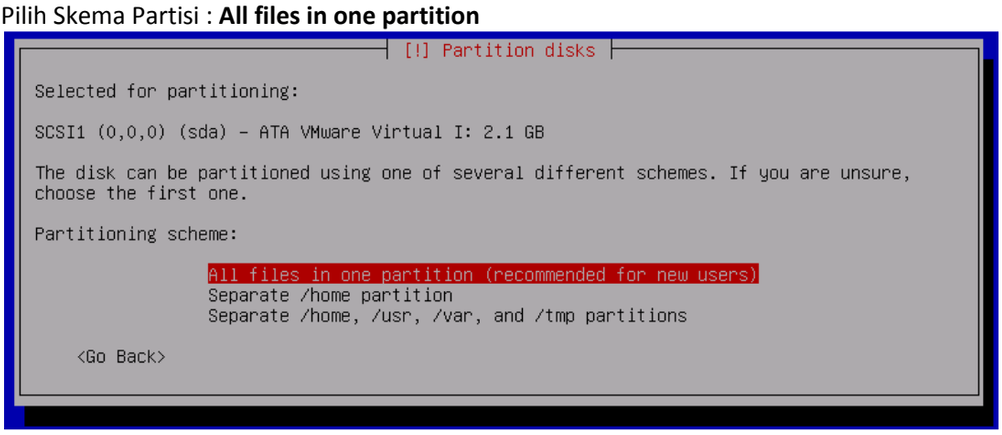
1. Gunakan metode partisi : **Guided – use entire disk**



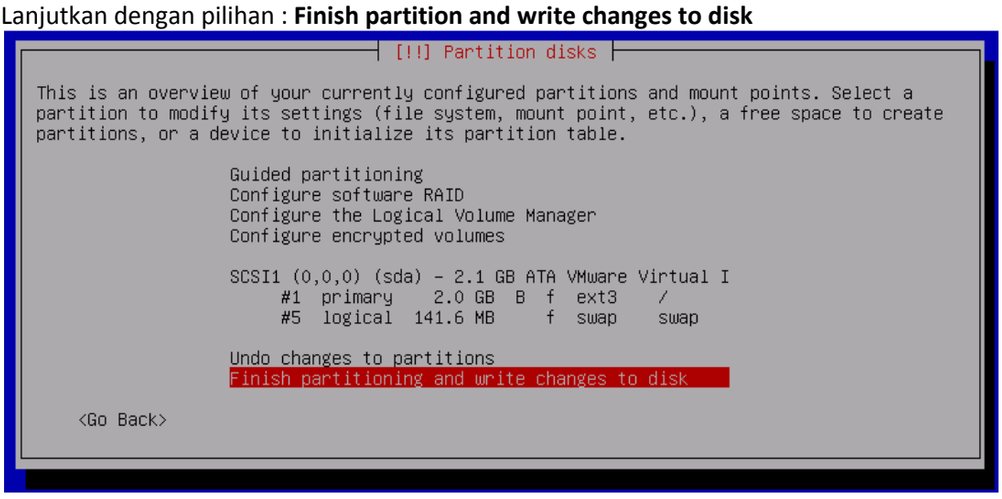
2. Pilih disk yang akan di partisi.



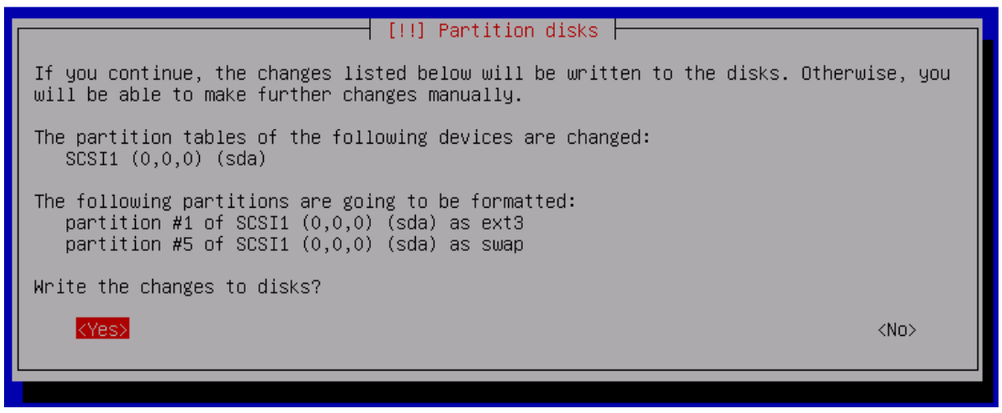
3. Pilih Skema Partisi : **All files in one partition**



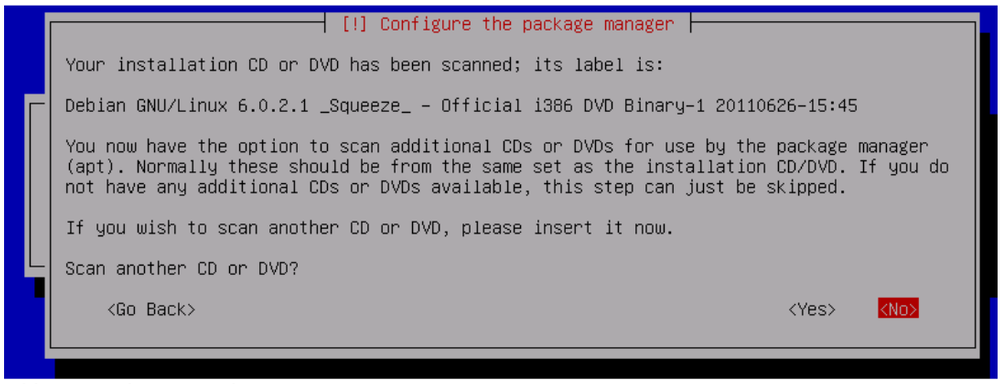
4. Lanjutkan dengan pilihan : **Finish partition and write changes to disk**



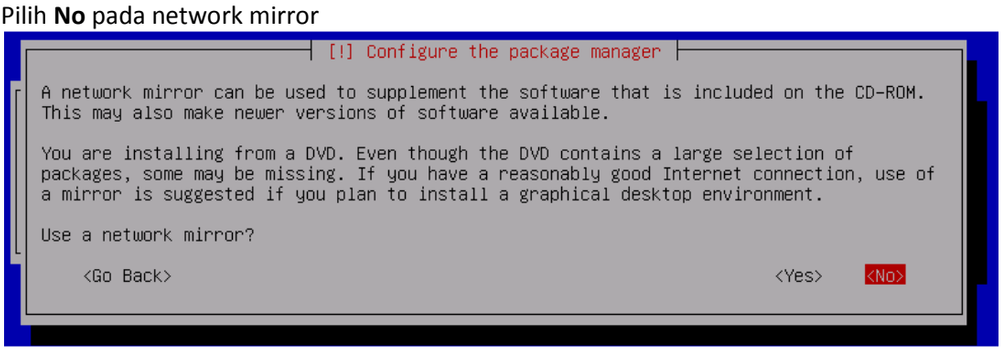
5. Konfirmasi untuk memulai partisi : **YES**



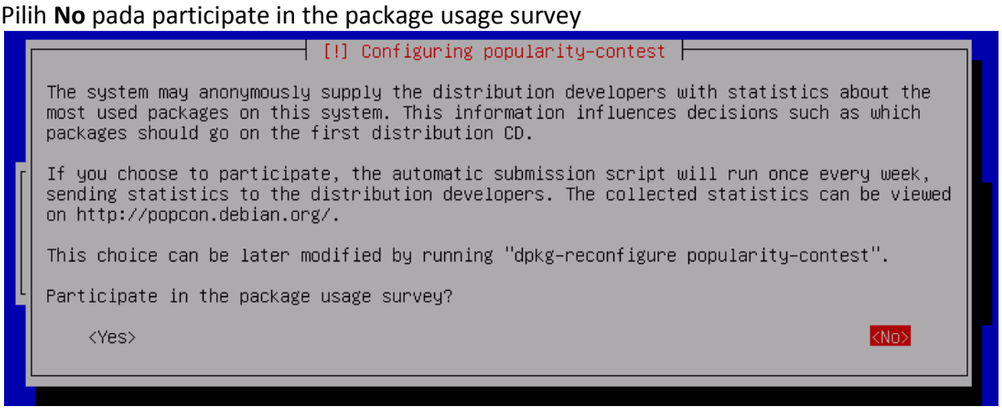
26. Pilih **No** untuk melanjutkan tanpa mengganti CD/DVD



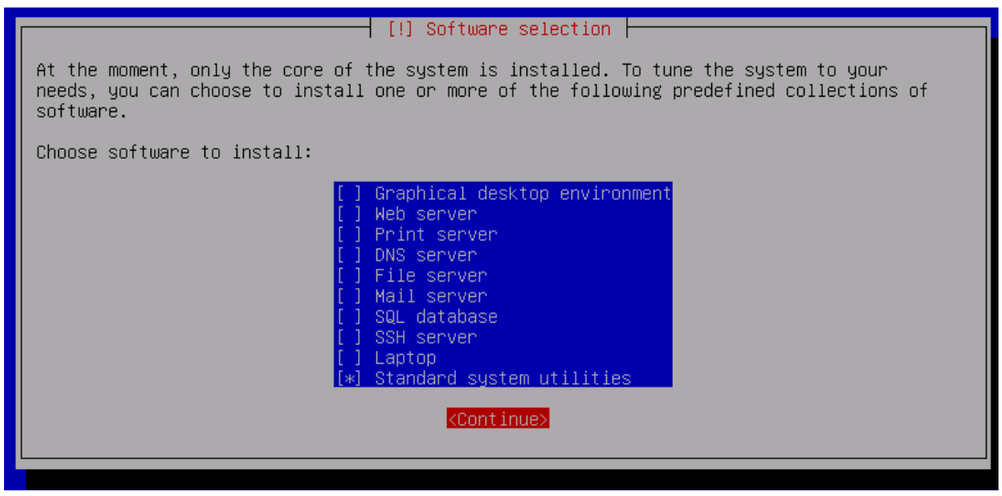
31. Pilih **No** pada network mirror



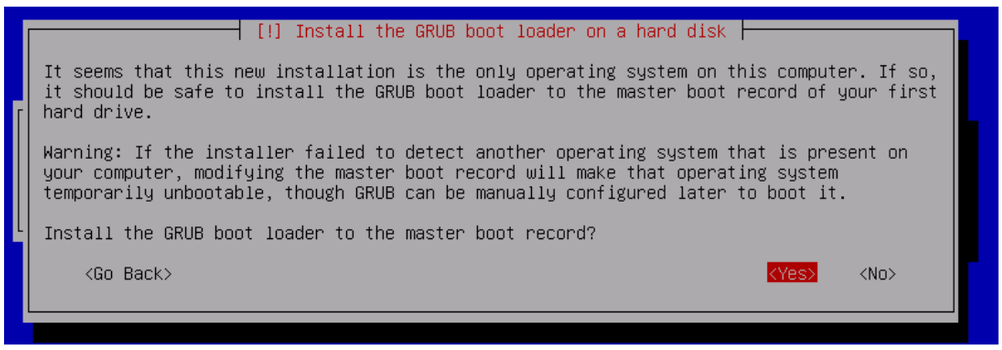
32. Pilih **No** pada participate in the package usage survey



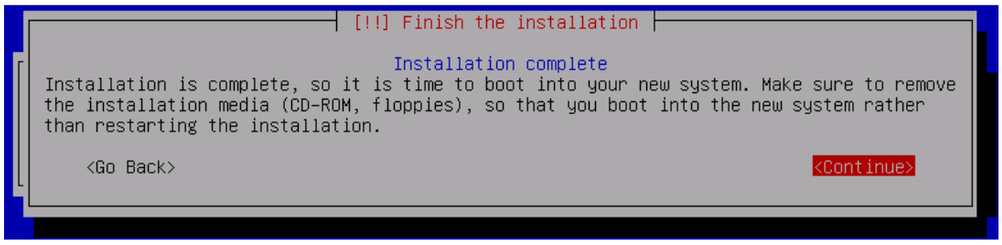
33. Pilih software yang di install hanya **Standard system utilities**



34. Pilih **YES** untuk instalasi GRUP boot loader pada master boot record

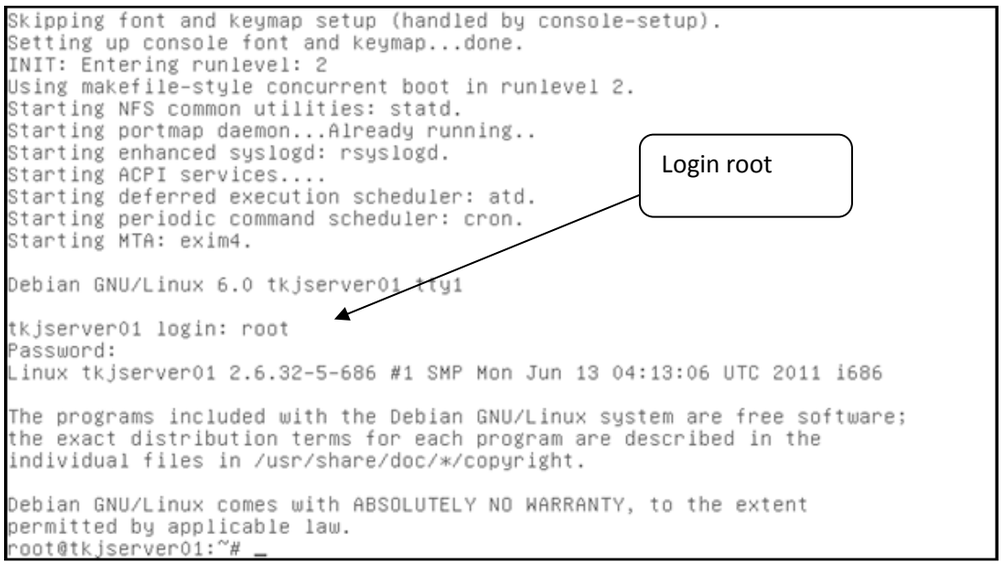


35. Tunggu instalasi selesai. Apabila sudah selesai, sebelum restart keluarkan DVD Debian dari DVD-ROM, atau dapat masuk ke menu BIOS sebelum booting untuk mengubah boot order.

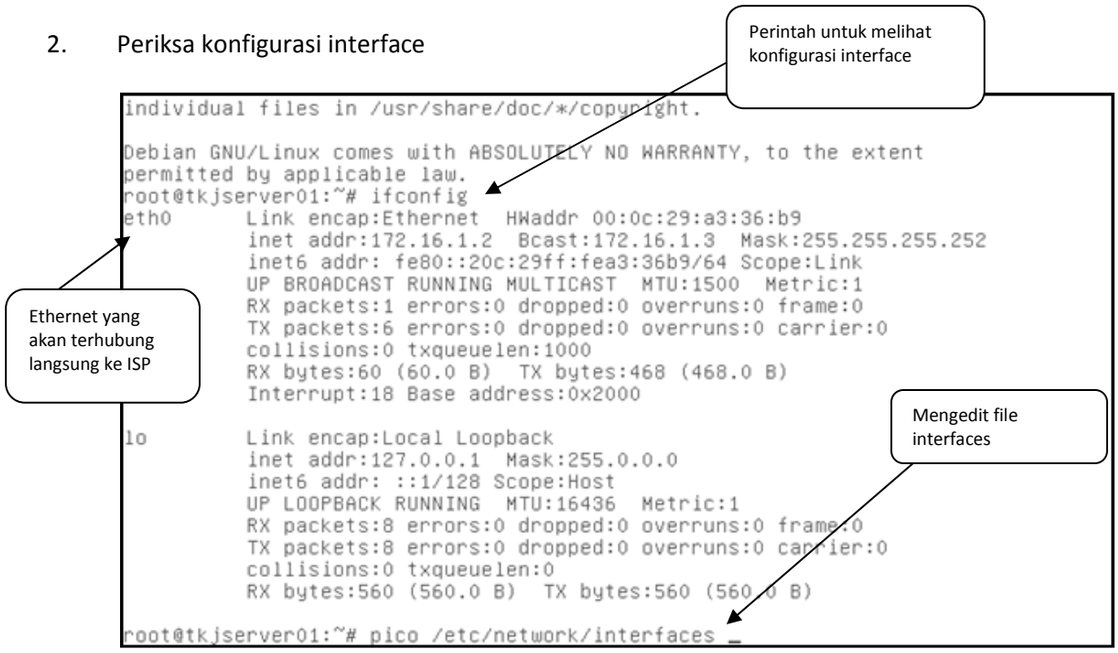


20. KONFIGURASI DEBIAN ROUTER

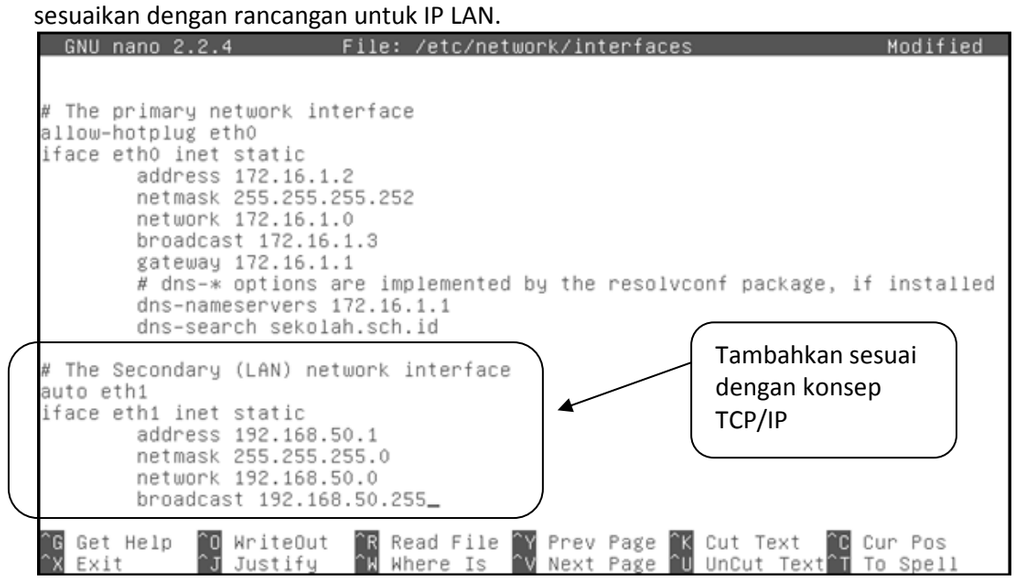
1. Gunakan login root untuk konfigurasi.



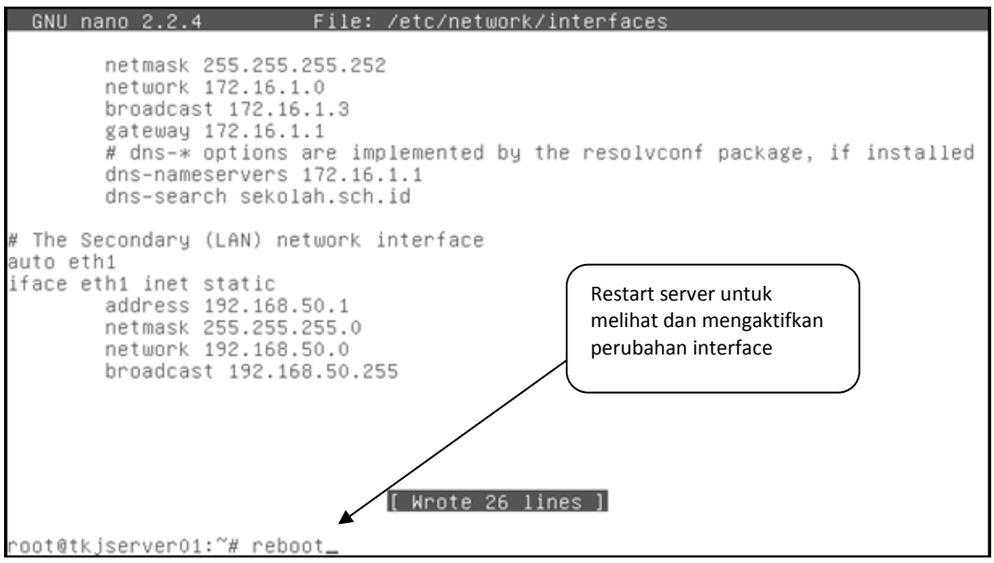
2. Periksa konfigurasi interface



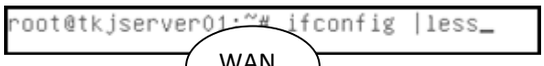
3. Tambahkan IP LAN pada eth1. Gunakan trik ***'cut- unCut'*** untuk mempercepat dan sesuaikan dengan rancangan untuk IP LAN.



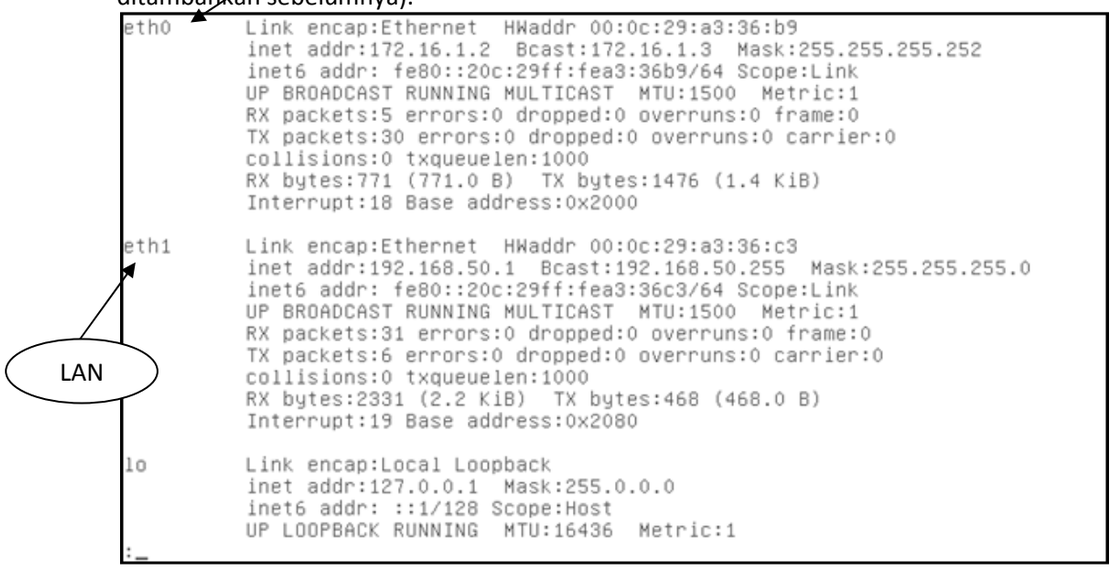
4. Simpan, dan restart



5. Setelah login, cek interface yang sudah diaktifkan



6. Konfigurasi sudah berhasil, maka akan terdapat eth1 (Ethernet LAN yang sudah ditambahkan sebelumnya).



```
          inet6 addr: fe80::20c:29ff:fea3:36b9/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:5 errors:0 dropped:0 overruns:0 frame:0
          TX packets:30 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:771 (771.0 B)  TX bytes:1476 (1.4 KiB)
          Interrupt:18 Base address:0x2000

eth1      Link encap:Ethernet  HWaddr 00:0c:29:a3:36:c3
          inet addr:192.168.50.1  Bcast:192.168.50.255  Mask:255.255.255.0
          inet6 addr: fe80::20c:29ff:fea3:36c3/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:31 errors:0 dropped:0 overruns:0 frame:0
          TX packets:6 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:2331 (2.2 KiB)  TX bytes:468 (468.0 B)
          Interrupt:19 Base address:0x2080

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:16436  Metric:1

[3]+  Stopped                 ifconfig | less
root@tkjserver01:~# _
```

7. Edit file **sysctl.conf** pada folder /etc/

```
root@tkjserver01:~# pico /etc/sysctl.conf _
```

8. Hapus tanda **#** untuk mengaktifkan ip forwarding

Setelah karakter **#** dihapus

```
  GNU nano 2.2.4            File: /etc/sysctl.conf                    ified

# See http://lwn.net/Articles/277146/
# Note: This may impact IPv6 TCP sessions too
#net.ipv4.tcp_syncookies=1

# Uncomment the next line to enable packet forwarding for IPv4
net.ipv4.ip_forward=1

# Uncomment the next line to enable packet forwarding for IPv6
#  Enabling this option disables Stateless Address Autoconfiguration
#  based on Router Advertisements for this host
#net.ipv6.conf.all.forwarding=1


###################################################################
# Additional settings - these settings can improve the network
# security of the host and prevent against some network attacks
# including spoofing attacks and man in the middle attacks through
# redirection. Some network environments, however, require that these
# settings are disabled so review and enable them as needed.
#
^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

9. Cek iptable untuk melihat routing.

```
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
root@tkjserver01:~# iptables -t nat -n -L
Chain PREROUTING (policy ACCEPT)
target     prot opt source               destination

Chain POSTROUTING (policy ACCEPT)
target     prot opt source               destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source               destination
root@tkjserver01:~# _
```

```
root@tkjserver01:~# nano /etc/rc.local _
```

```
  GNU nano 2.2.4              File: /etc/rc.local                       Modified

#!/bin/sh -e
#
# rc.local
#
# This script is executed at the end of each multiuser runlevel.
# Make sure that the script will "exit 0" on success or any other
# value on error.
#
# In order to enable or disable this script just change the execution
# bits.
#
# By default this script does nothing.
iptables -t nat -A POSTROUTING -o eth0 -j MASQUERADE_
exit 0

^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

10. Restart server

```
root@tkjserver01:~# reboot_
```

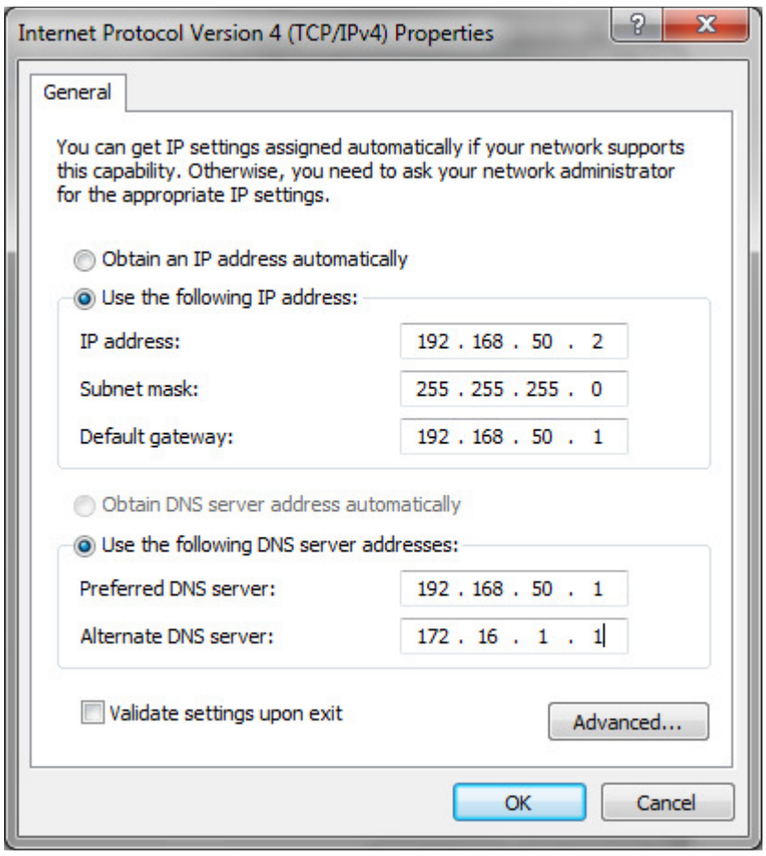
11. Periksa kembali iptables untuk memastikan setelah restart routing tables dan nat masih berfungsi.

Cek

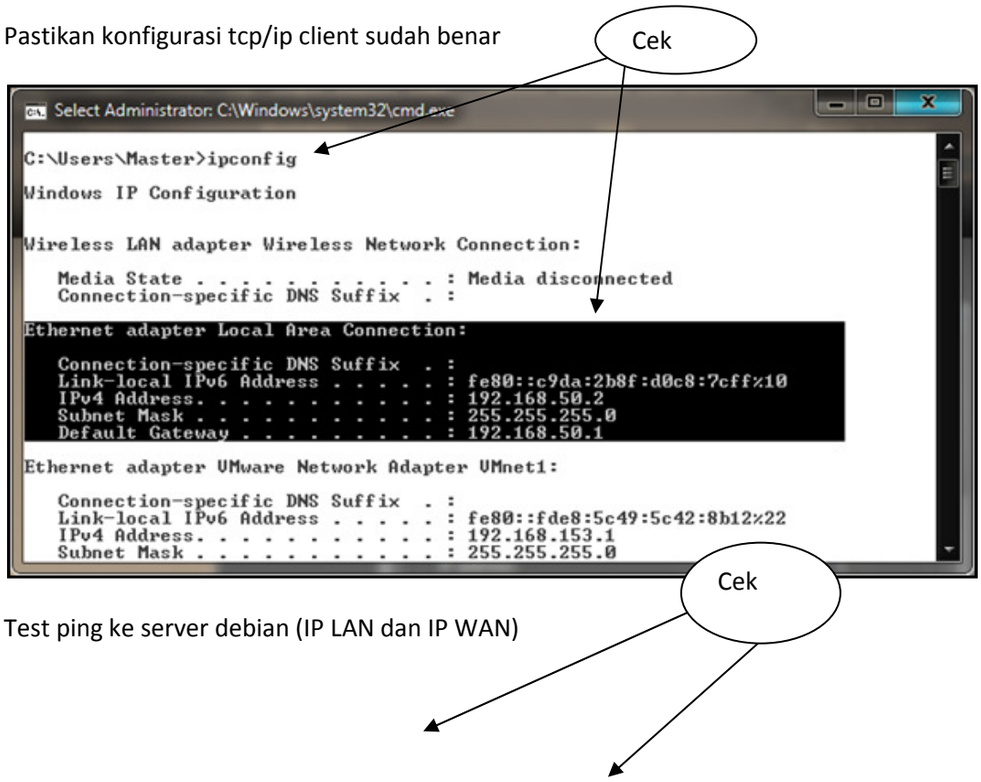
Ok

```
root@tkjserver01:~# iptables -t nat -n -L
Chain PREROUTING (policy ACCEPT)
target     prot opt source               destination

Chain POSTROUTING (policy ACCEPT)
target     prot opt source               destination
MASQUERADE  all  --  0.0.0.0/0            0.0.0.0/0

Chain OUTPUT (policy ACCEPT)
target     prot opt source               destination
root@tkjserver01:~# _
```

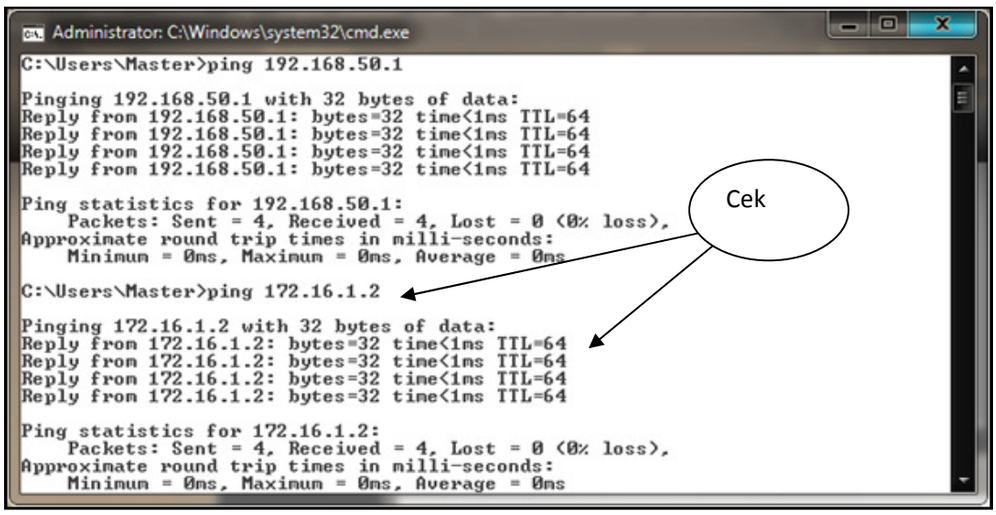
12. Saatnya menguji di Client (Windows). Sesuaikan dengan konfigurasi di bawa ini



13. Pastikan konfigurasi tcp/ip client sudah benar

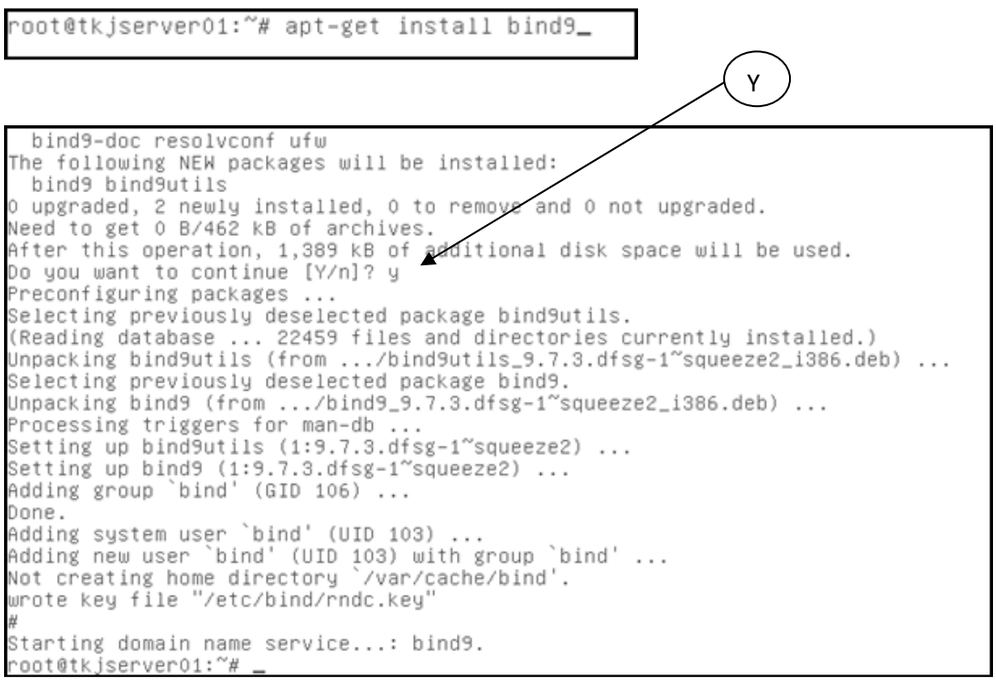


14. Test ping ke server debian (IP LAN dan IP WAN)



21. KONFIGURASI DEBIAN DNS

1. Masukan DVD Debian lalu Install paket DNS (BIND9)



2. Pada debian 6 (Squeeze), nama paket DNS dan servicenya adalah BIND9, namun nama folder yang terbentuk pada server adalah BIND

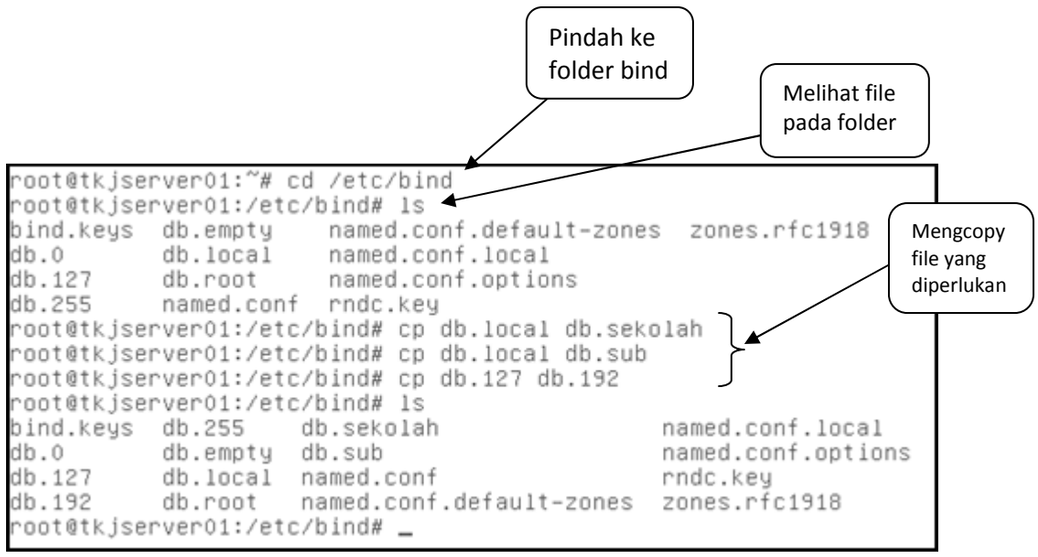
3. Masuk ke folder BIND, Periksa File yang ada pada Folder tersebut.

4. Copy file db.local → db.sekolah

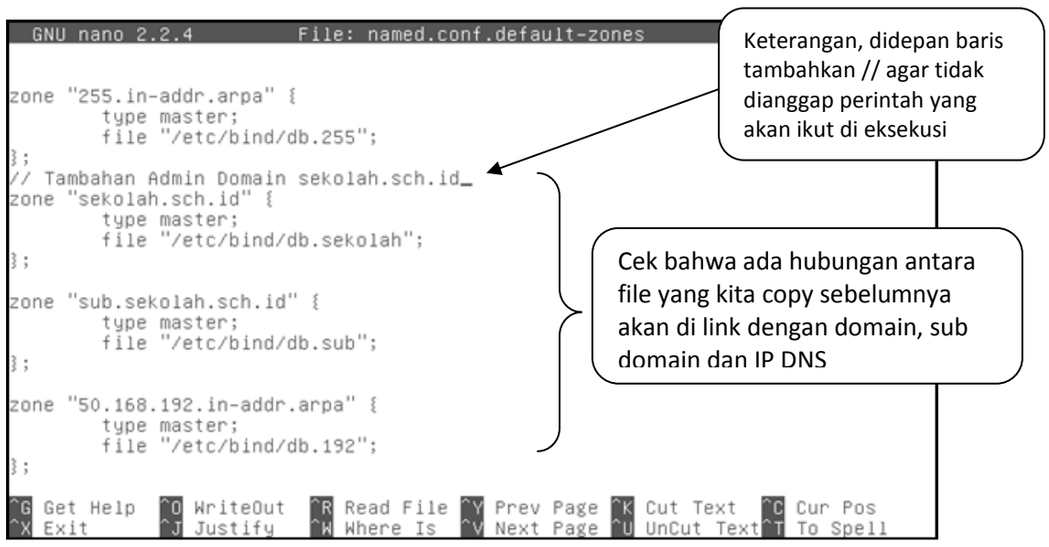
5. Copy file db.local → db.sub

6. Copy file db.127 → db.192

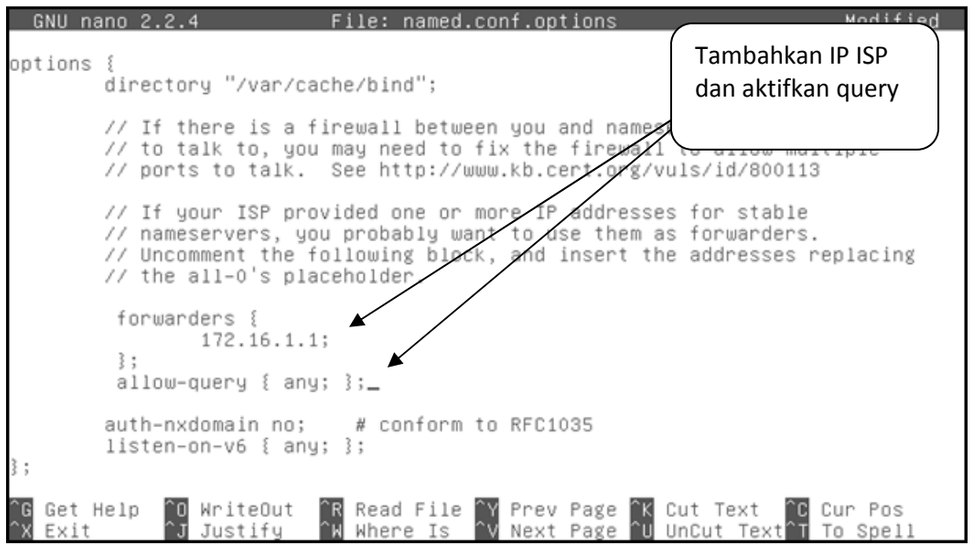
7. Periksa kembali file yang terdapat pada folder Bind untuk memastikan file sudah tercopy.



8. Edit dengan perintah ***pico*** atau ***nano*** pada folder bind file **named.conf.default-zones** gunakan trik 'cut-unCut'. Ingat baris yang ada jangan dihapus atau diedit. Tambahkan konfigurasi pada baris paling bawah.



9. Edit pada folder bind file **named.conf.options**



10. Masih pada folder Bind, edit file **resolv.conf**

```
root@tkjserver01:/etc/bind# pico /etc/resolv.conf _
```

11. Sesuaikan dan tambahkan IP Address name server sebagai berikut.

```
  GNU nano 2.2.4            File: /etc/resolv.conf                      Modified

search sekolah.sch.id
nameserver 127.0.0.1
nameserver 192.168.50.1_
nameserver 172.16.1.1

^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

12. Edit file db.sekolah

```
root@tkjserver01:/etc/bind# pico db.sekolah_
```

13. Sesuaikan dengan hostname, domain, subdomain dan IP pada rancangan (soal).

```
  GNU nano 2.2.4               File: db.sekolah

;
; BIND data file for local loopback interface
;
$TTL    604800
@       IN      SOA  tkjserver01.sekolah.sch.id. tkjserver01.sekolah.sch.id. (
                              2         ; Serial
                         604800         ; Refresh
                          86400         ; Retry
                        2419200         ; Expire
                         604800 )       ; Negative Cache TTL
;
@       IN      NS              tkjserver01.sekolah.sch.id.
@       IN      MX      10      mail.sekolah.sch.id.                    .
@       IN      A               192.168.50.1

tkjserver01     IN      A       192.168.50.1
www             IN      CNAME   tkjserver01
mail            IN      CNAME   tkjserver01
_

                              [ Read 18 lines ]
^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

14. Edit file db.sub

```
root@tkjserver01:/etc/bind# pico db.sub_
```

15. Sesuaikan dengan sub domain dan ip address pada rancangan (soal)

```
  GNU nano 2.2.4                File: db.sub

;
; BIND data file for local loopback interface
;
$TTL    604800
@       IN      SOA     sub.sekolah.sch.id. sub.sekolah.sch.id. (
                              2         ; Serial
                         604800         ; Refresh
                          86400         ; Retry
                        2419200         ; Expire
                         604800 )       ; Negative Cache TTL
;
@       IN      NS      sub.sekolah.sch.id.
@       IN      A       192.168.50.1

sub     IN      A       192.168.50.1




                              [ Wrote 16 lines ]

root@tkjserver01:/etc/bind# _
```

16. Edit file db.192

```
root@tkjserver01:/etc/bind# pico db.192_
```

17. Sesuaikan dengan hostname dan IP Address yang digunakan pada rancangan (soal)

```
  GNU nano 2.2.4                File: /etc/bind/db.192

;
; BIND reverse data file for local loopback interface
;
$TTL    604800
@       IN      SOA  tkjserver01.sekolah.sch.id. tkjserver01.sekolah.sch.id. (
                                1         ; Serial
                           604800         ; Refresh
                            86400         ; Retry
                          2419200         ; Expire
                           604800 )       ; Negative Cache TTL
;
@       IN      NS      tkjserver01.sekolah.sch.id.
1       IN      PTR     tkjserver01.sekolah.sch.id.
```

Angka ‘1’ di dapat dari angka terakhir pada IP DNS (192.168.50.**1**)

```
                            [ Read 14 lines ]
^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

18. Restart service DNS (Bind9)

```
root@tkjserver01:/etc/bind# /etc/init.d/bind9 restart
Stopping domain name service...: bind9 waiting for pid 1621 to die.
Starting domain name service...: bind9.
root@tkjserver01:/etc/bind# _
```

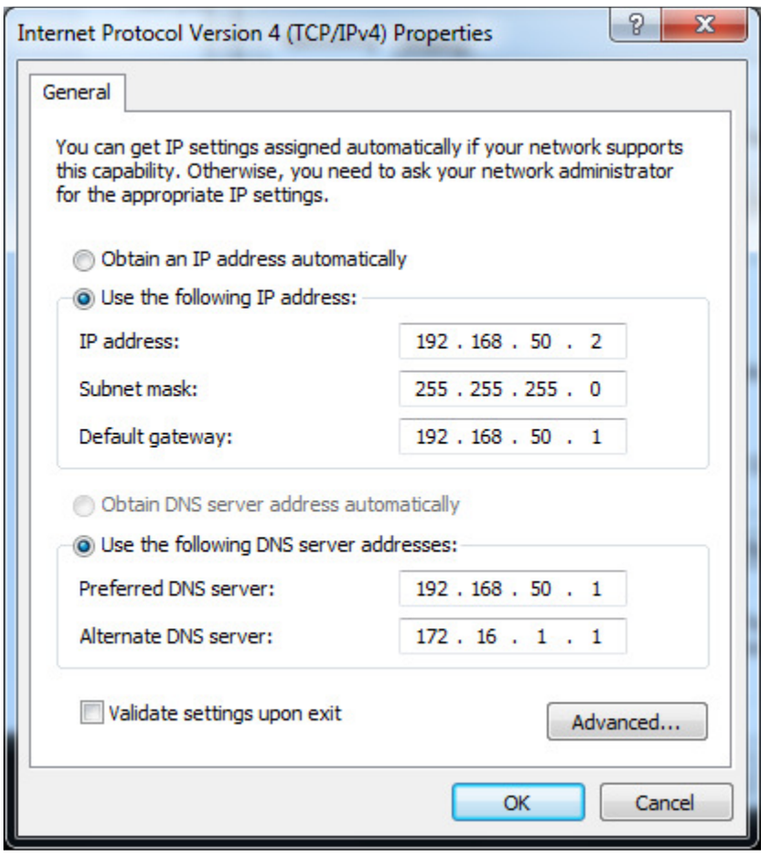
19. Periksa konfigurasi DNS di Server Debian

```
root@tkjserver01:/etc/bind# nslookup tkjserver01.sekolah.sch.id
Server:         127.0.0.1
Address:        127.0.0.1#53

Name:   tkjserver01.sekolah.sch.id
Address: 192.168.50.1

root@tkjserver01:/etc/bind# nslookup sub.sekolah.sch.id
Server:         127.0.0.1
Address:        127.0.0.1#53

Name:   sub.sekolah.sch.id
Address: 192.168.50.1

root@tkjserver01:/etc/bind# nslookup mail.sekolah.sch.id
Server:         127.0.0.1
Address:        127.0.0.1#53

mail.sekolah.sch.id     canonical name = tkjserver01.sekolah.sch.id.
Name:   tkjserver01.sekolah.sch.id
Address: 192.168.50.1

root@tkjserver01:/etc/bind# _
```

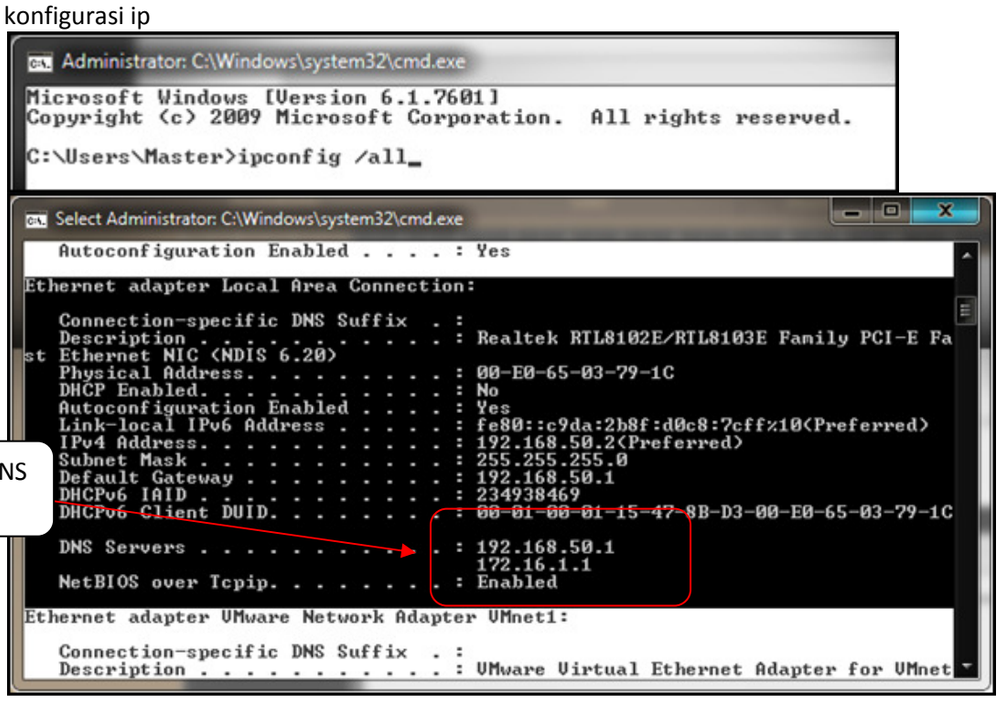
```
root@tkjserver01:/etc/bind# nslookup 192.168.50.1
Server:         127.0.0.1
Address:        127.0.0.1#53

1.50.168.192.in-addr.arpa       name = servertkj01.sekolah.sch.id.

root@tkjserver01:/etc/bind# nslookup tkjserver01
Server:         127.0.0.1
Address:        127.0.0.1#53

Name:   tkjserver01.sekolah.sch.id
Address: 192.168.50.1

root@tkjserver01:/etc/bind# nslookup sekolah.sch.id
Server:         127.0.0.1
Address:        127.0.0.1#53

Name:   sekolah.sch.id
Address: 192.168.50.1

root@tkjserver01:/etc/bind# _
```

```
root@tkjserver01:/etc/bind# nslookup www
Server:         127.0.0.1
Address:        127.0.0.1#53

www.sekolah.sch.id      canonical name = tkjserver01.sekolah.sch.id.
Name:   tkjserver01.sekolah.sch.id
Address: 192.168.50.1

root@tkjserver01:/etc/bind# nslookup sub
Server:         127.0.0.1
Address:        127.0.0.1#53

Name:   sub.sekolah.sch.id
Address: 192.168.50.1

root@tkjserver01:/etc/bind# nslookup mail
Server:         127.0.0.1
Address:        127.0.0.1#53

mail.sekolah.sch.id     canonical name = tkjserver01.sekolah.sch.id.
Name:   tkjserver01.sekolah.sch.id
Address: 192.168.50.1

root@tkjserver01:/etc/bind# _
```

20. Setelah sukses di server debian, kita harus menguji berfungsi tidaknya DNS di client.

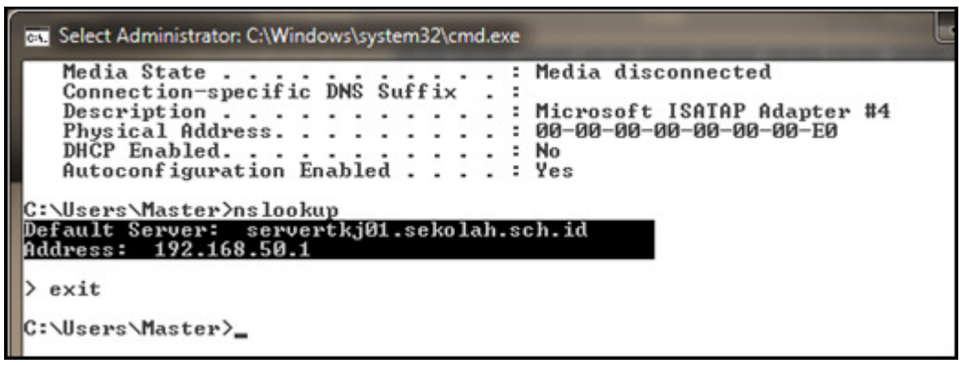


21. Pada Client (Windows) Gunakan perintah **ipconfig /all** untuk memeriksa semua konfigurasi ip

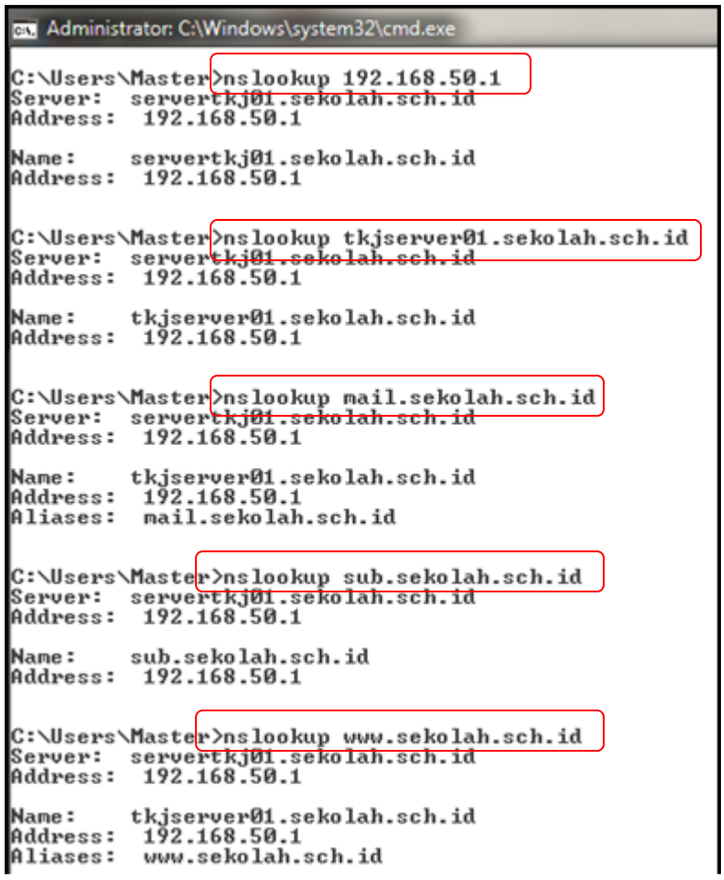


Pastikan IP DNS sudah benar

22. Gunakan perintah nslookup untuk memeriksa apakah client sudah berhasil mendapat DNS Server.



23. Lakukan pengujian satu persatu dari client. Apabila berhasil maka akan ditunjukkan sebagai berikut.



22. KONFIGURASI WEB SERVER

1. Masukan DVD Debian lalu Install paket **apache2** dan **php5**

```
root@tkjserver01:/etc/bind# apt-get install apache2 php5_
```

2. Edit file pada folder apache2/sites-available yaitu file **default** sesuaikan dengan nama admin, domain dan subdomain.

```
root@tkjserver01:/etc/bind# pico /etc/apache2/sites-available/default_
```

```
 GNU nano 2.2.4     File: /etc/apache2/sites-available/default       Modified

<VirtualHost *:80>
        ServerAdmin admin@sekolah.sch.id
        serverName  www.sekolah.sch.id
        ServerAlias sekolah.sch.id

        DocumentRoot /var/www
        <Directory />
                Options FollowSymLinks
                AllowOverride None
        </Directory>
        <Directory /var/www/>
                Options Indexes FollowSymLinks MultiViews
                AllowOverride None
                Order allow,deny
                allow from all
        </Directory>

        ScriptAlias /cgi-bin/ /usr/lib/cgi-bin/
        <Directory "/usr/lib/cgi-bin">
                AllowOverride None

^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

3. Restart service **apache2**, kemudian edit file pada folder **/var/www** file **index.html**

```
root@tkjserver01:/etc/bind# /etc/init.d/apache2 restart
Restarting web server: apache2 ... waiting .
root@tkjserver01:/etc/bind# pico /var/www/index.html_
```

```
 GNU nano 2.2.4          File: /var/www/index.html                Modified

<html><body><h1>www.sekolah.sch.id berhasil diakses</h1>
<p>This is the default web page for this server.</p>
<p>The web server software is running but no content has been added, yet.</p>
</body></html>

^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

Kalimat yang akan ditampilkan di browser ketika client berhasil mengakses web server

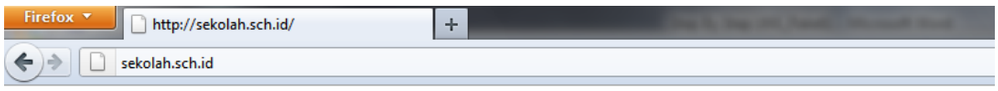
4. Pada client (windows), buka browser (internet explorer atau browser lain). Ketikan alamat **www.sekolah.sch.id**

www.sekolah.sch.id berhasil diakses

This is the default web page for this server.

The web server software is running but no content has been added, yet.

5. Atau karena sudah ada alias ketikan saja alamatnya : sekolah.sch.id

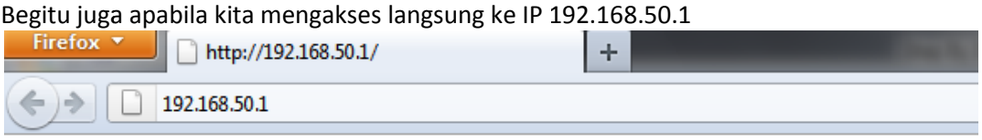


www.sekolah.sch.id berhasil diakses

This is the default web page for this server.

The web server software is running but no content has been added, yet.

6. Begitu juga apabila kita mengakses langsung ke IP 192.168.50.1



www.sekolah.sch.id berhasil diakses

This is the default web page for this server.

The web server software is running but no content has been added, yet.

KONFIGURASI DHCP SERVER

```
root@tkjserver01:~# apt-get install dhcp3-server
```

```
The following extra packages will be installed:
  isc-dhcp-server
Suggested packages:
  isc-dhcp-server-ldap
The following NEW packages will be installed:
  dhcp3-server isc-dhcp-server
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 0 B/403 kB of archives.
After this operation, 926 kB of additional disk space will be used.
Do you want to continue [Y/n]? y
Preconfiguring packages ...
Selecting previously deselected package isc-dhcp-server.
(Reading database ... 23213 files and directories currently installed.)
Unpacking isc-dhcp-server (from .../isc-dhcp-server_4.1.1-P1-15+squeeze3_i386.de
b) ...
Selecting previously deselected package dhcp3-server.
Unpacking dhcp3-server (from .../dhcp3-server_4.1.1-P1-15+squeeze3_all.deb) ...
Processing triggers for man-db ...
Setting up isc-dhcp-server (4.1.1-P1-15+squeeze3) ...
Generating /etc/default/isc-dhcp-server...
Starting ISC DHCP server: dhcpdcheck syslog for diagnostics. ... failed!
 failed!
invoke-rc.d: initscript isc-dhcp-server, action "start" failed.
Setting up dhcp3-server (4.1.1-P1-15+squeeze3) ...
root@tkjserver01:~# _
```

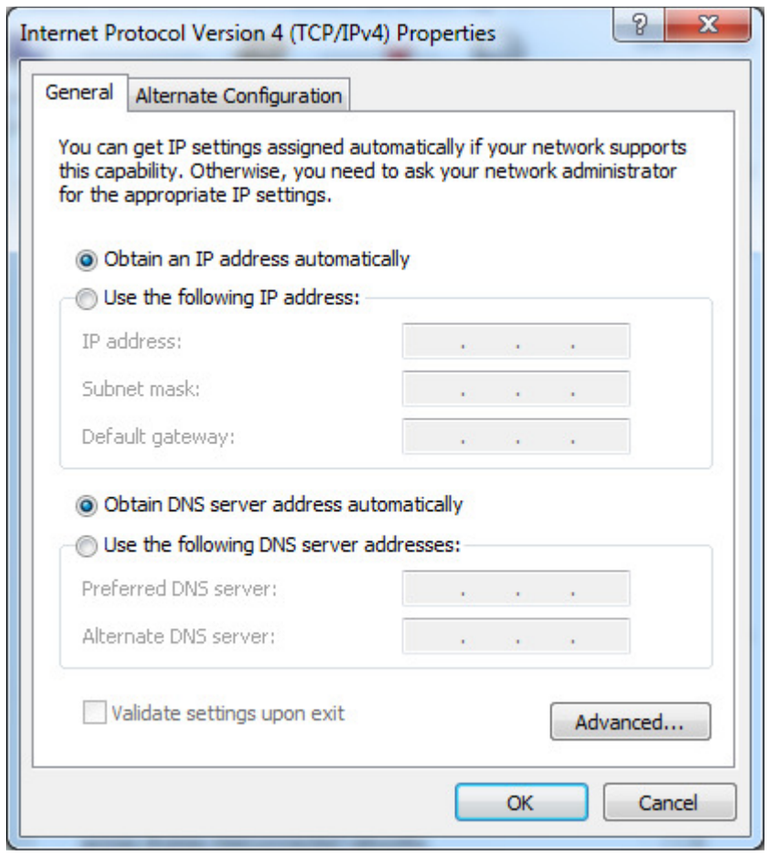
```
root@tkjserver01:~# cd /etc/dhcp/
root@tkjserver01:/etc/dhcp# ls
dhclient.conf  dhclient-enter-hooks.d  dhclient-exit-hooks.d  dhcpd.conf
root@tkjserver01:/etc/dhcp# cp dhcpd.conf dhcpd.conf.bak
root@tkjserver01:/etc/dhcp# ls
dhclient.conf           dhclient-exit-hooks.d  dhcpd.conf.bak
dhclient-enter-hooks.d  dhcpd.conf
root@tkjserver01:/etc/dhcp# _
```

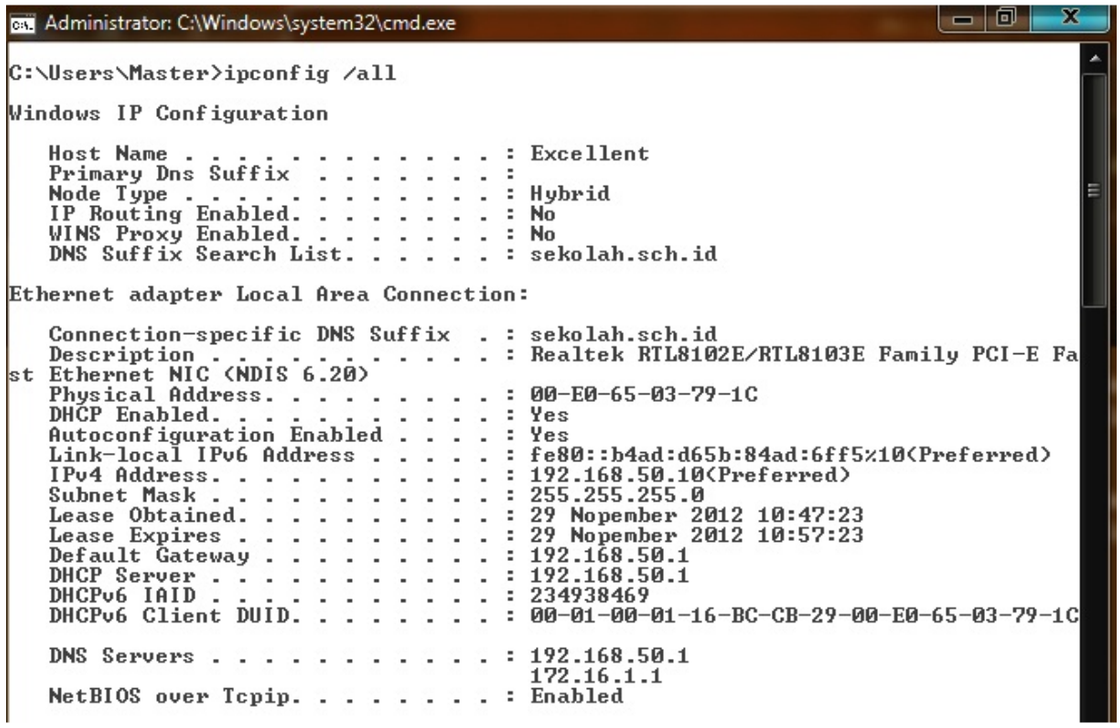
```
root@tkjserver01:/etc/dhcp# nano dhcpd.conf_
```

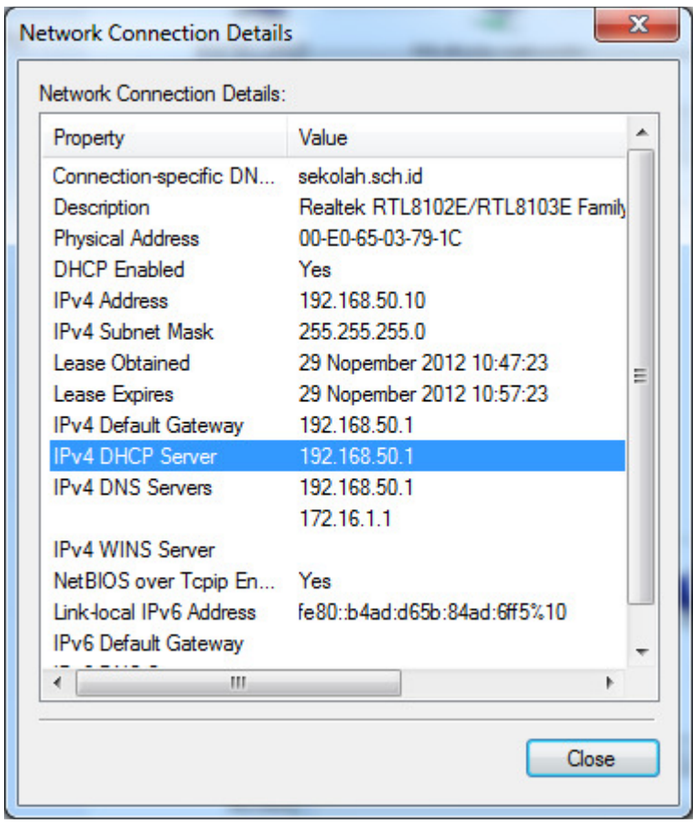
```
  GNU nano 2.2.4               File: dhcpd.conf                          Modified

# option definitions common to all supported networks...
# Menyesuaikan domain dan Nama Server by Admin
option domain-name "sekolah.sch.id";
option domain-name-servers tkjserver01.sekolah.sch.id;

default-lease-time 600;
max-lease-time 7200;

# If this DHCP server is the official DHCP server for the local
# network, the authoritative directive should be uncommented.
# Mengaktifkan official DHCP By Admin_
authoritative;

# Use this to send dhcp log messages to a different log file (you also
# have to hack syslog.conf to complete the redirection).
log-facility local7;

# No service will be given on this subnet, but declaring it helps the
# DHCP server to understand the network topology.


^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

```
  GNU nano 2.2.4               File: dhcpd.conf                          Modified

#subnet 10.254.239.32 netmask 255.255.255.224 {
#  range dynamic-bootp 10.254.239.40 10.254.239.60;
#  option broadcast-address 10.254.239.31;
#  option routers rtr-239-32-1.example.org;
#}

# A slightly different configuration for an internal subnet.
#       Menyesuaikan Konfigurasi untuk Client / LAN (eth1) by Admin
        subnet 192.168.50.0 netmask 255.255.255.0 {
        range 192.168.50.10 192.168.50.254;
        option domain-name-servers 192.168.50.1,172.16.1.1;
        option domain-name "sekolah.sch.id";
        option routers 192.168.50.1;
        option broadcast-address 192.168.50.255;
        default-lease-time 600;
        max-lease-time 7200;
        }

# Hosts which require special configuration options can be listed in
# host statements.   If no address is specified, the address will be

^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

```
root@tkjserver01:/etc/dhcp# /etc/init.d/isc-dhcp-server restart
Stopping ISC DHCP server: dhcpd failed!
Starting ISC DHCP server: dhcpd.
root@tkjserver01:/etc/dhcp# /etc/init.d/isc-dhcp-server restart
Stopping ISC DHCP server: dhcpd.
Starting ISC DHCP server: dhcpd.
root@tkjserver01:/etc/dhcp# _
```


Internet Protocol Version 4 (TCP/IPv4) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel


Administrator: C:\Windows\system32\cmd.exe
C:\Users\Master>ipconfig /all
Windows IP Configuration
Host Name . . . . . : Excellent
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : sekolah.sch.id
Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . : sekolah.sch.id
Description . . . . . : Realtek RTL8102E/RTL8103E Family PCI-E Fa
st Ethernet NIC (NDIS 6.20)
Physical Address. . . . . : 00-E0-65-03-79-1C
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::b4ad:d65b:84ad:6ff5%10(Preferred)
IPv4 Address. . . . . : 192.168.50.10(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : 29 Nopember 2012 10:47:23
Lease Expires . . . . . : 29 Nopember 2012 10:57:23
Default Gateway . . . . . : 192.168.50.1
DHCP Server . . . . . : 192.168.50.1
DHCPv6 IAID . . . . . : 234938469
DHCPv6 Client DUID. . . . . : 00-01-00-01-16-BC-CB-29-00-E0-65-03-79-1C
DNS Servers . . . . . : 192.168.50.1
172.16.1.1
NetBIOS over Tcpip. . . . . : Enabled




```
C:\Users\Master>nslookup
Default Server:  tkjserver01.sekolah.sch.id
Address:  192.168.50.1

>
```

```
root@tkjserver01:/etc/dhcp# tail -f /var/lib/dhcp/dhcpd.leases
lease 192.168.50.10 {
  starts 4 2012/11/29 10:56:07;
  ends 4 2012/11/29 11:06:07;
  cltt 4 2012/11/29 10:56:07;
  binding state active;
  next binding state free;
  hardware ethernet 00:e0:65:03:79:1c;
  uid "\001\000\340e\003y\034";
  client-hostname "Excellent";
}
lease 192.168.50.11 {
  starts 4 2012/11/29 10:57:11;
  ends 4 2012/11/29 11:07:11;
  cltt 4 2012/11/29 10:57:11;
  binding state active;
  next binding state free;
  hardware ethernet 00:23:7a:7e:03:8e;
  uid "\001\000#z~\003\216";
  client-hostname "BLACKBERRY-2D39";
}
```

```
named     1087        bind   22u  IPv4   3896      0t0  TCP 172.16.1.2:53 (LISTE
N)
named     1087        bind   23u  IPv4   3898      0t0  TCP 192.168.50.1:53 (LIS
TEN)
named     1087        bind   24u  IPv4   3901      0t0  TCP 127.0.0.1:953 (LISTE
N)
named     1087        bind   25u  IPv6   3902      0t0  TCP [::1]:953 (LISTEN)
named     1087        bind  512u  IPv6   3888      0t0  UDP *:53
named     1087        bind  513u  IPv4   3893      0t0  UDP 127.0.0.1:53
named     1087        bind  514u  IPv4   3895      0t0  UDP 172.16.1.2:53
named     1087        bind  515u  IPv4   3897      0t0  UDP 192.168.50.1:53
exim4     1369 Debian-exim    3u  IPv4   4539      0t0  TCP 127.0.0.1:25 (LISTEN
)
exim4     1369 Debian-exim    4u  IPv6   4540      0t0  TCP [::1]:25 (LISTEN)
apache2   2236        root    4u  IPv6   7280      0t0  TCP *:80 (LISTEN)
apache2   2240    www-data    4u  IPv6   7280      0t0  TCP *:80 (LISTEN)
apache2   2241    www-data    4u  IPv6   7280      0t0  TCP *:80 (LISTEN)
apache2   2242    www-data    4u  IPv6   7280      0t0  TCP *:80 (LISTEN)
apache2   2243    www-data    4u  IPv6   7280      0t0  TCP *:80 (LISTEN)
apache2   2244    www-data    4u  IPv6   7280      0t0  TCP *:80 (LISTEN)
apache2   2248    www-data    4u  IPv6   7280      0t0  TCP *:80 (LISTEN)
dhcpd     2458        root    7u  IPv4   7835      0t0  UDP *:67

[1]+  Stopped                 lsof -i -n -P | less
root@tkjserver01:/etc/dhcp# lsof -i -n -P |less_

udp        0      0 192.168.50.1:53         0.0.0.0:*
udp        0      0 172.16.1.2:53           0.0.0.0:*
udp        0      0 127.0.0.1:53            0.0.0.0:*
udp        0      0 0.0.0.0:58680           0.0.0.0:*
udp        0      0 0.0.0.0:67              0.0.0.0:*
udp        0    312 172.16.1.2:19155        199.7.83.42:53          ESTABLISHED
udp        0      0 0.0.0.0:111             0.0.0.0:*
udp        0      0 0.0.0.0:654             0.0.0.0:*
udp6       0      0 :::53                   :::*
raw        0      0 0.0.0.0:1               0.0.0.0:*               7
Active UNIX domain sockets (servers and established)
Proto RefCnt Flags       Type       State         I-Node   Path
unix  2      [ ]         DGRAM                    2330     @/org/kernel/udev/ude
vd
unix  2      [ ACC ]     STREAM     LISTENING     3827     /var/run/acpid.socket
unix  6      [ ]         DGRAM                    3793     /dev/log
unix  2      [ ]         DGRAM                    7828
unix  2      [ ]         DGRAM                    4603
unix  2      [ ]         DGRAM                    3870
unix  2      [ ]         DGRAM                    3824
unix  3      [ ]         DGRAM                    2335
unix  3      [ ]         DGRAM                    2334

[2]+  Stopped                 netstat -an | less
root@tkjserver01:/etc/dhcp# netstat -an |less_
```

INSTALASI SSH

```
root@tkjserver01:~# apt-get install ssh_
```

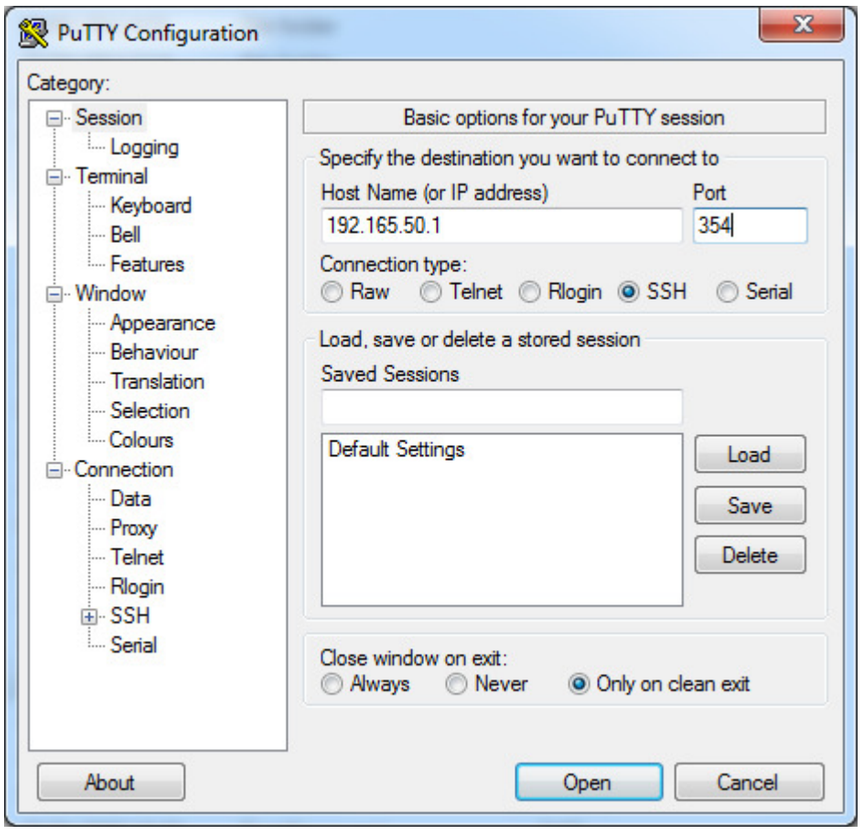
```
root@tkjserver01:~# cd /etc/ss
ssh/ ssl/
root@tkjserver01:~# cd /etc/ssh
root@tkjserver01:/etc/ssh# ls
moduli      sshd_config       ssh_host_dsa_key.pub  ssh_host_rsa_key.pub
ssh_config  ssh_host_dsa_key  ssh_host_rsa_key
root@tkjserver01:/etc/ssh# cp sshd_config sshd_config.bak
root@tkjserver01:/etc/ssh# ls
moduli      sshd_config      ssh_host_dsa_key      ssh_host_rsa_key
ssh_config  sshd_config.bak  ssh_host_dsa_key.pub  ssh_host_rsa_key.pub
root@tkjserver01:/etc/ssh# _
```

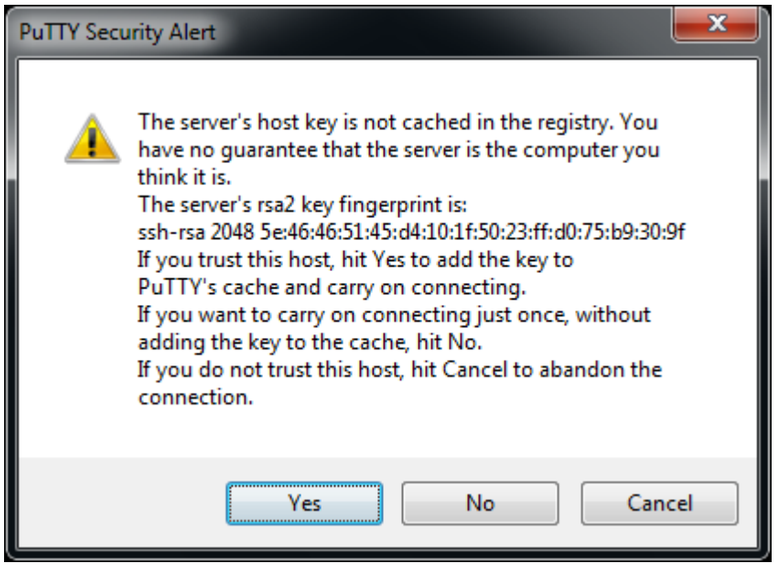
```
root@tkjserver01:/etc/ssh# nano sshd_config_
```

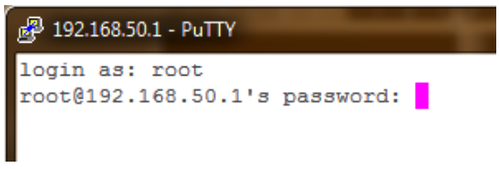
```
  GNU nano 2.2.4               File: sshd_config                          Modified

# Package generated configuration file
# See the sshd_config(5) manpage for details

# What ports, IPs and protocols we listen for
# Port 22
Port 354   #Menonaktifkan_Port Default ssh 22 menjadi 354
# Use these options to restrict which interfaces/protocols sshd will bind to
#ListenAddress ::
#ListenAddress 0.0.0.0
Protocol 2
# HostKeys for protocol version 2
HostKey /etc/ssh/ssh_host_rsa_key
HostKey /etc/ssh/ssh_host_dsa_key
#Privilege Separation is turned on for security
UsePrivilegeSeparation yes

# Lifetime and size of ephemeral version 1 server key
KeyRegenerationInterval 3600
ServerKeyBits 768


^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

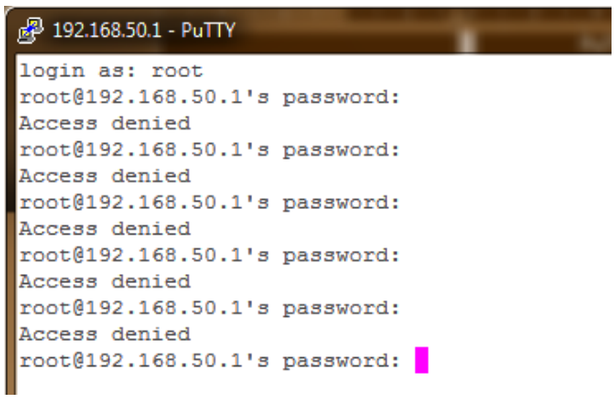
```
  GNU nano 2.2.4               File: sshd_config                          Modified

HostKey /etc/ssh/ssh_host_rsa_key
HostKey /etc/ssh/ssh_host_dsa_key
#Privilege Separation is turned on for security
UsePrivilegeSeparation yes

# Lifetime and size of ephemeral version 1 server key
KeyRegenerationInterval 3600
ServerKeyBits 768

# Logging
SyslogFacility AUTH
LogLevel INFO

# Authentication:
LoginGraceTime 120
# PermitRootLogin yes
  PermitRootLogin no   #Menonaktifkan login langsung root via ssh_
StrictModes yes

RSAAuthentication yes

^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

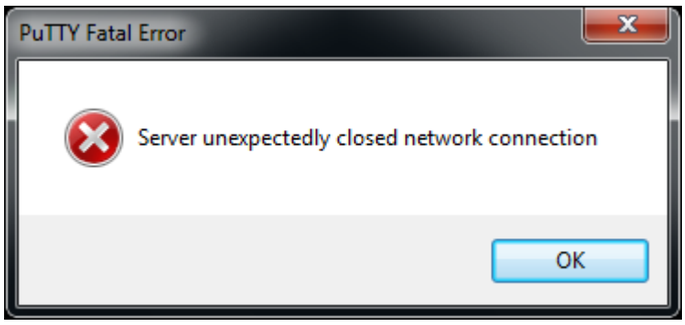
```
root@tkjserver01:/etc/ssh# /etc/init.d/ssh restart
Restarting OpenBSD Secure Shell server: sshd.
root@tkjserver01:/etc/ssh# _
```

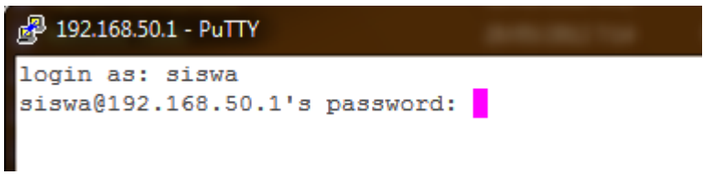

PuTTY Configuration
Category:
Session
Logging
Terminal
Keyboard
Bell
Features
Window
Appearance
Behaviour
Translation
Selection
Colours
Connection
Data
Proxy
Telnet
Rlogin
SSH
Serial
Basic options for your PuTTY session
Specify the destination you want to connect to
Host Name (or IP address)
Port
192.165.50.1
354
Connection type:
Raw
Telnet
Rlogin
SSH
Serial
Load, save or delete a stored session
Saved Sessions
Default Settings
Load
Save
Delete
Close window on exit:
Always
Never
Only on clean exit
About
Open
Cancel

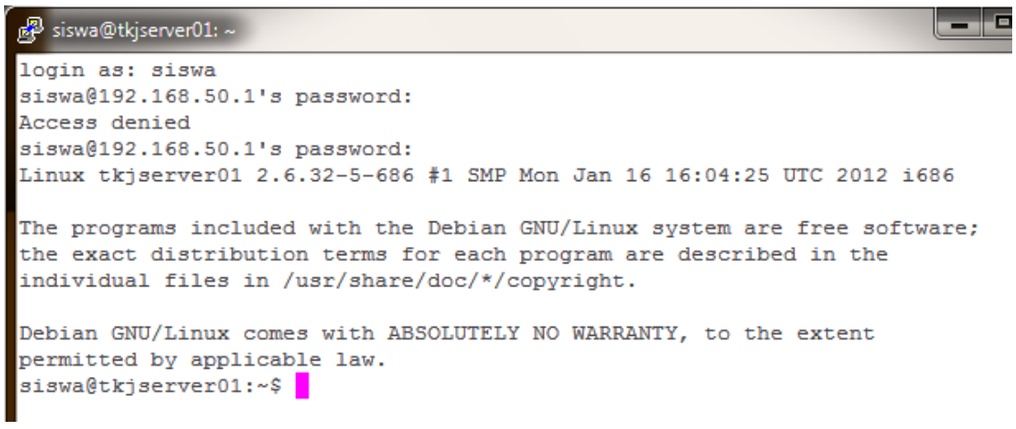

PuTTY Security Alert
The server's host key is not cached in the registry. You have no guarantee that the server is the computer you think it is.
The server's rsa2 key fingerprint is:
ssh-rsa 2048 5e:46:46:51:45:d4:10:1f:50:23:ff:d0:75:b9:30:9f
If you trust this host, hit Yes to add the key to PuTTY's cache and carry on connecting.
If you want to carry on connecting just once, without adding the key to the cache, hit No.
If you do not trust this host, hit Cancel to abandon the connection.
Yes
No
Cancel

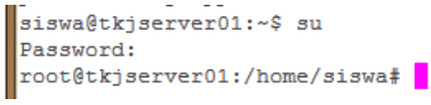

192.168.50.1 - PuTTY
login as: root
root@192.168.50.1's password:

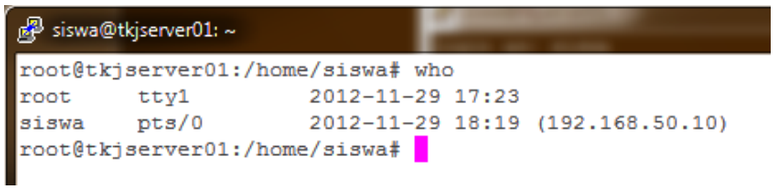












23. KONFIGURASI PROXY SERVER

1. Masukan DVD Debian lalu Install paket **squid**

```
root@tkjserver01:~# apt-get install squid_
```

2. Copy file **squid.conf ➔ squid.conf.bak** (bertujuan untuk membackup konfigurasi lama apabila sewaktu-waktu diperlukan - Perhatikan selalu dan pastikan letak file selalu di folder /etc/squid)

```
root@tkjserver01:~# cp /etc/squid/squid.conf /etc/squid/squid.conf.bak_
```

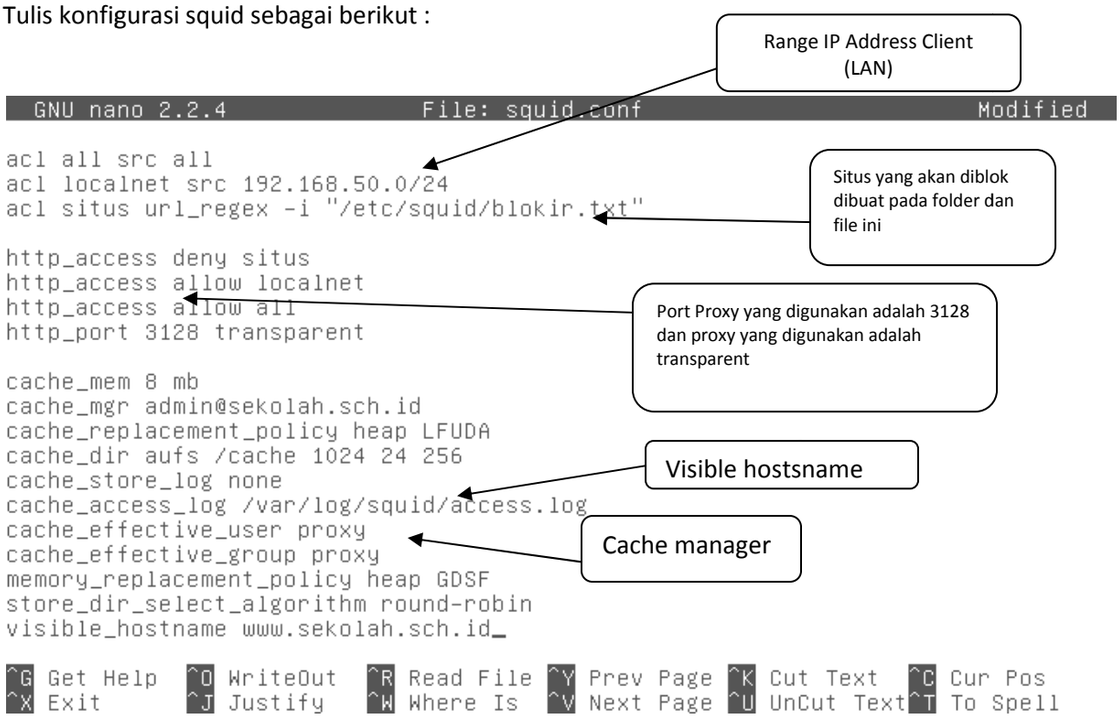
3. Menghapus file squid.conf

```
root@tkjserver01:~# rm /etc/squid/squid.conf_
```

4. Membuat file squid.conf

```
root@tkjserver01:~# pico /etc/squid/squid.conf_
```

5. Tulis konfigurasi squid sebagai berikut :



6. Membuat daftar situs yang akan diblokir

```
root@tkjserver01:~# pico /etc/squid/blokir.txt_
```

```
  GNU nano 2.2.4               File: blokir.txt

sub.sekolah.sch.id
www.facebook.com
www.youtube.com
_

                          [ Read 3 lines ]
^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

7. Buat Folder cache untuk proxy (ingat letaknya harus di folder root)

```
root@tkjserver01:~# mkdir /cache_
```

8. Lanjutkan dengan perintah chown (change owner) pada file blokir. Stop Proxy sementara untuk membuat swap directory proxy.

```
root@tkjserver01:~# chown -R proxy:proxy /etc/squid/blokir.txt
root@tkjserver01:~# chown -R proxy:proxy /cache
root@tkjserver01:~# /etc/init.d/squid stop
Stopping Squid HTTP proxy: squid.
root@tkjserver01:~# squid -z
2012/01/28 12:35:46| Creating Swap Directories
root@tkjserver01:~# _
```

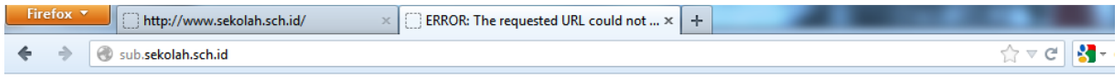
9. Jalankan kembali proxy dan edit file rc.local tambahkan routing

```
root@tkjserver01:~# /etc/init.d/squid start
Starting Squid HTTP proxy: squid.
root@tkjserver01:~# pico /etc/rc.local_
```

```
  GNU nano 2.2.4               File: /etc/rc.local                    Modified

#!/bin/sh -e
#
# rc.local
#
# This script is executed at the end of each multiuser runlevel.
# Make sure that the script will "exit 0" on success or any other
# value on error.
#
# In order to enable or disable this script just change the execution
# bits.
#
# By default this script does nothing.
iptables -t nat -A PREROUTING -p tcp --dport 80 -j REDIRECT --to-port 3128_
iptables -t nat -A POSTROUTING -o eth0 -j MASQUERADE

exit 0



^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

10. Restart proxy

```
root@tkjserver01:~# /etc/init.d/squid restart
Restarting Squid HTTP proxy: squid Waiting.....................done.
.
root@tkjserver01:~# _
```



ERROR

The requested URL could not be retrieved

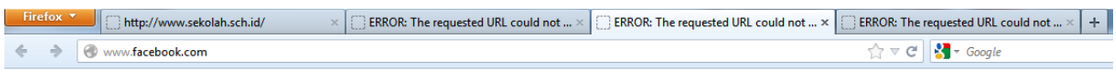
The following error was encountered while trying to retrieve the URL: http://sub.sekolah.sch.id/

Access Denied.

Access control configuration prevents your request from being allowed at this time. Please contact your service provider if you feel this is incorrect.

Your cache administrator is admin@sekolah.sch.id.

Generated Thu, 29 Nov 2012 14:09:51 GMT by www.sekolah.sch.id (squid/2.7.STABLE9)



ERROR

The requested URL could not be retrieved

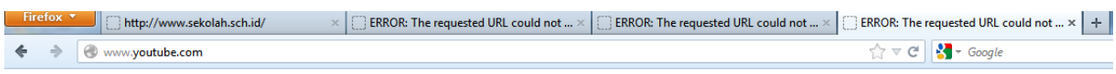
The following error was encountered while trying to retrieve the URL: http://www.facebook.com/

Access Denied.

Access control configuration prevents your request from being allowed at this time. Please contact your service provider if you feel this is incorrect.

Your cache administrator is admin@sekolah.sch.id.

Generated Thu, 29 Nov 2012 14:14:37 GMT by www.sekolah.sch.id (squid/2.7.STABLE9)



ERROR

The requested URL could not be retrieved

The following error was encountered while trying to retrieve the URL: http://www.youtube.com/

Access Denied.

Access control configuration prevents your request from being allowed at this time. Please contact your service provider if you feel this is incorrect.

Your cache administrator is admin@sekolah.sch.id.

Generated Thu, 29 Nov 2012 14:16:28 GMT by www.sekolah.sch.id (squid/2.7.STABLE9)

```
1354254020.225      0 192.168.50.10 TCP_DENIED/403 1560 GET http://www.youtube.c
om/favicon.ico - NONE/- text/html
^C
root@tkjserver01:~# tail -f /var/log/squid/access.log
1354198477.951      0 192.168.50.10 TCP_DENIED/403 1562 GET http://www.facebook.
com/favicon.ico - NONE/- text/html
1354198583.286      3 192.168.50.10 TCP_MISS/200 608 GET http://youtube.com/ - D
IRECT/192.168.50.1 text/html
1354198583.315      1 192.168.50.10 TCP_MISS/404 609 GET http://youtube.com/favi
con.ico - DIRECT/192.168.50.1 text/html
1354198588.822      0 192.168.50.10 TCP_DENIED/403 1538 GET http://www.youtube.c
om/ - NONE/- text/html
1354198588.849      0 192.168.50.10 TCP_DENIED/403 1560 GET http://www.youtube.c
om/favicon.ico - NONE/- text/html
1354254012.237      0 192.168.50.10 TCP_DENIED/403 1540 GET http://www.facebook.
com/ - NONE/- text/html
1354254012.419      0 192.168.50.10 TCP_DENIED/403 1562 GET http://www.facebook.
com/favicon.ico - NONE/- text/html
1354254020.173      0 192.168.50.10 TCP_DENIED/403 1538 GET http://www.youtube.c
om/ - NONE/- text/html
1354254020.220      0 192.168.50.10 TCP_DENIED/403 1560 GET http://www.youtube.c
om/favicon.ico - NONE/- text/html
1354254020.225      0 192.168.50.10 TCP_DENIED/403 1560 GET http://www.youtube.c
om/favicon.ico - NONE/- text/html
```

```
1354254012.237      0 192.168.50.10 TCP_DENIED/403 1540 GET http://www.facebook.
com/ - NONE/- text/html
1354254012.419      0 192.168.50.10 TCP_DENIED/403 1562 GET http://www.facebook.
com/favicon.ico - NONE/- text/html
1354254020.173      0 192.168.50.10 TCP_DENIED/403 1538 GET http://www.youtube.c
om/ - NONE/- text/html
1354254020.220      0 192.168.50.10 TCP_DENIED/403 1560 GET http://www.youtube.c
om/favicon.ico - NONE/- text/html
1354254020.225      0 192.168.50.10 TCP_DENIED/403 1560 GET http://www.youtube.c
om/favicon.ico - NONE/- text/html
^C
root@tkjserver01:~# tail -f /var/log/squid/
access.log  cache.log   store.log
root@tkjserver01:~# tail -f /var/log/squid/cache.log
2012/11/30 12:33:42|         0 Objects expired.
2012/11/30 12:33:42|         0 Objects cancelled.
2012/11/30 12:33:42|         0 Duplicate URLs purged.
2012/11/30 12:33:42|         0 Swapfile clashes avoided.
2012/11/30 12:33:42|   Took 0.3 seconds (  11.1 objects/sec).
2012/11/30 12:33:42| Beginning Validation Procedure
2012/11/30 12:33:42|   Completed Validation Procedure
2012/11/30 12:33:42|   Validated 3 Entries
2012/11/30 12:33:42|   store_swap_size = 12k
2012/11/30 12:33:42| storeLateRelease: released 0 objects
```

Catatan :