

PERSAMAAN PERFECTIF

Agar disini kita tidak salah mengasumsikan antara penulis dengan pembaca, maka sebelumnya kita samakan dahulu terutama untuk diagram jaringannya, diagramnya sebagai berikut:

```

INTERNET ==> MODEM ADSL =====> UBUNTU SERVER =====> SWITCH HUB => AP & CLIENT
                eth0 - DHCP                eth1 - 192.168.0.1/24

```

TAHAP I
INSTALL UBUNTU 8.10 SERVER

**MAAF, BELUM SEMPAT CAPTURE,
INSYA ALLAH BERLANJUT...**

TAHAP II

LOGIN

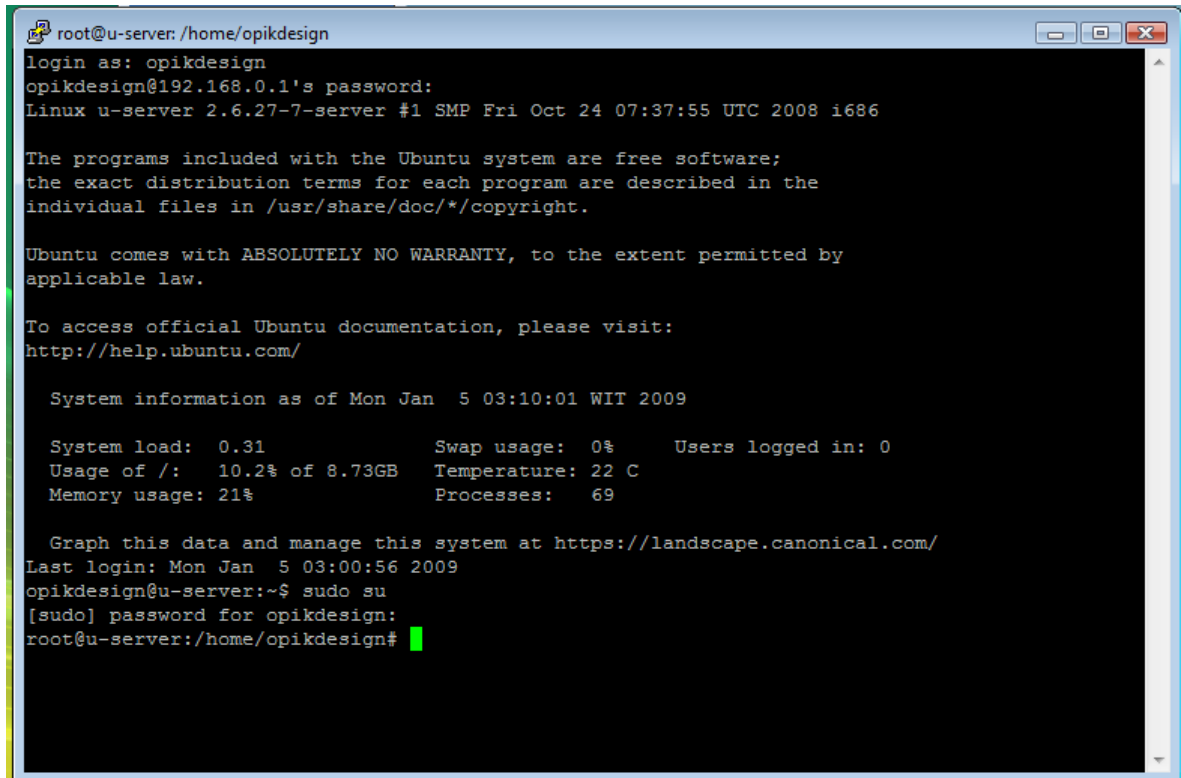
- Lakukan login.
- Kemudian masuk ke *root*, kemudian masukan password:

```
[user]@[host]:~$ sudo su
```

cirinya klo sudah masuk root maka prompt berubah menjadi

```
root@[host]:/home/[user]#
```

seperti ini:



```
root@u-server: /home/opikdesign
login as: opikdesign
opikdesign@192.168.0.1's password:
Linux u-server 2.6.27-7-server #1 SMP Fri Oct 24 07:37:55 UTC 2008 i686

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To access official Ubuntu documentation, please visit:
http://help.ubuntu.com/

System information as of Mon Jan  5 03:10:01 WIT 2009

System load:  0.31           Swap usage:  0%       Users logged in:  0
Usage of /:   10.2% of 8.73GB Temperature: 22 C
Memory usage: 21%           Processes:   69

Graph this data and manage this system at https://landscape.canonical.com/
Last login: Mon Jan  5 03:00:56 2009
opikdesign@u-server:~$ sudo su
[sudo] password for opikdesign:
root@u-server:/home/opikdesign#
```

TAHAP III

SETING KARTU JARINGAN

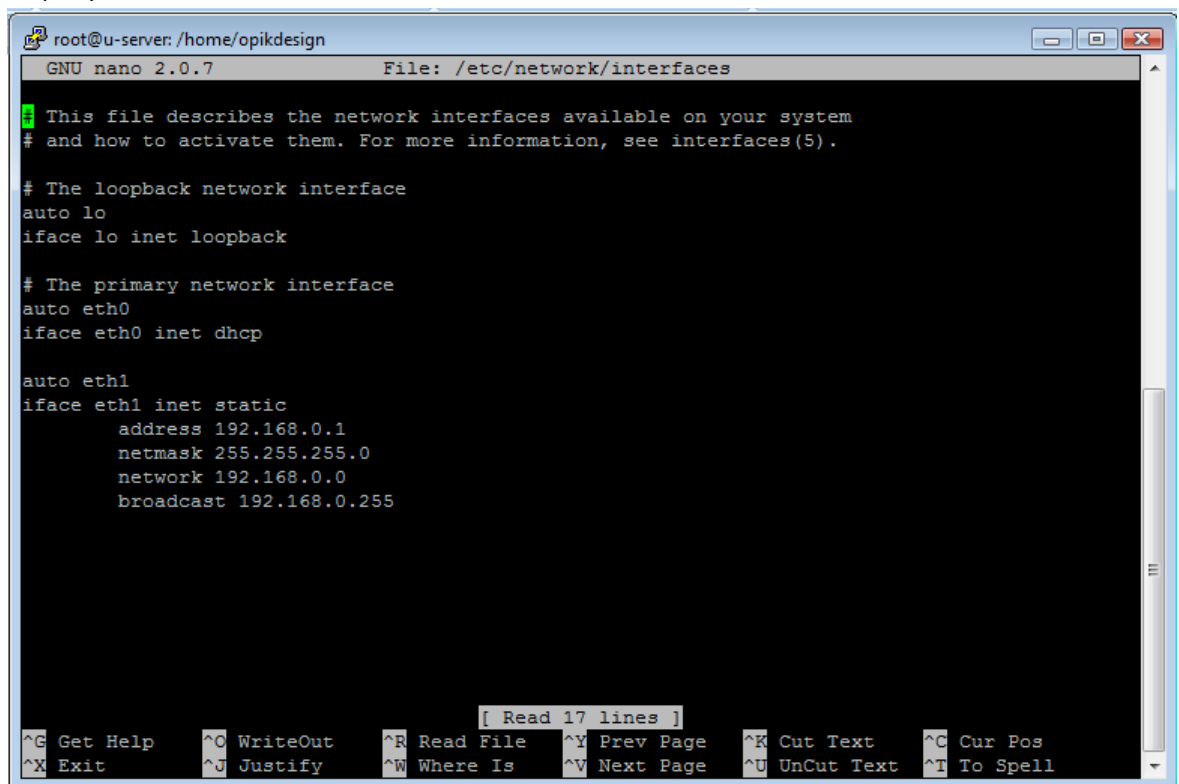
- Edit file `/etc/network/interfaces`, bisa menggunakan bantuan `vi` atau `pico` dan lainnya, tetapi disini penulis menggunakan `pico` karena sudah familiar.

```
root@[host]:/home/[user]# pico /etc/network/interfaces
```

Sebelumnya tentukan dahulu IPv4 untuk kartu jaringan `eth1`, misal IP `192.168.0.1` dan netmask `255.255.255.0`.

Dan perlu diingat, kartu jaringan `eth0` terhubung dengan modem ADSL dan IPv4 mengikuti DHCP dari modem jadi kita tidak perlu seting lagi karena sudah di seting saat peng-install-an tersebut diatas.

Script-nya:



```
root@u-server: /home/opikdesign
GNU nano 2.0.7 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).

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
auto eth0
iface eth0 inet dhcp

auto eth1
iface eth1 inet static
    address 192.168.0.1
    netmask 255.255.255.0
    network 192.168.0.0
    broadcast 192.168.0.255

[ Read 17 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
```

kemudian di-save.

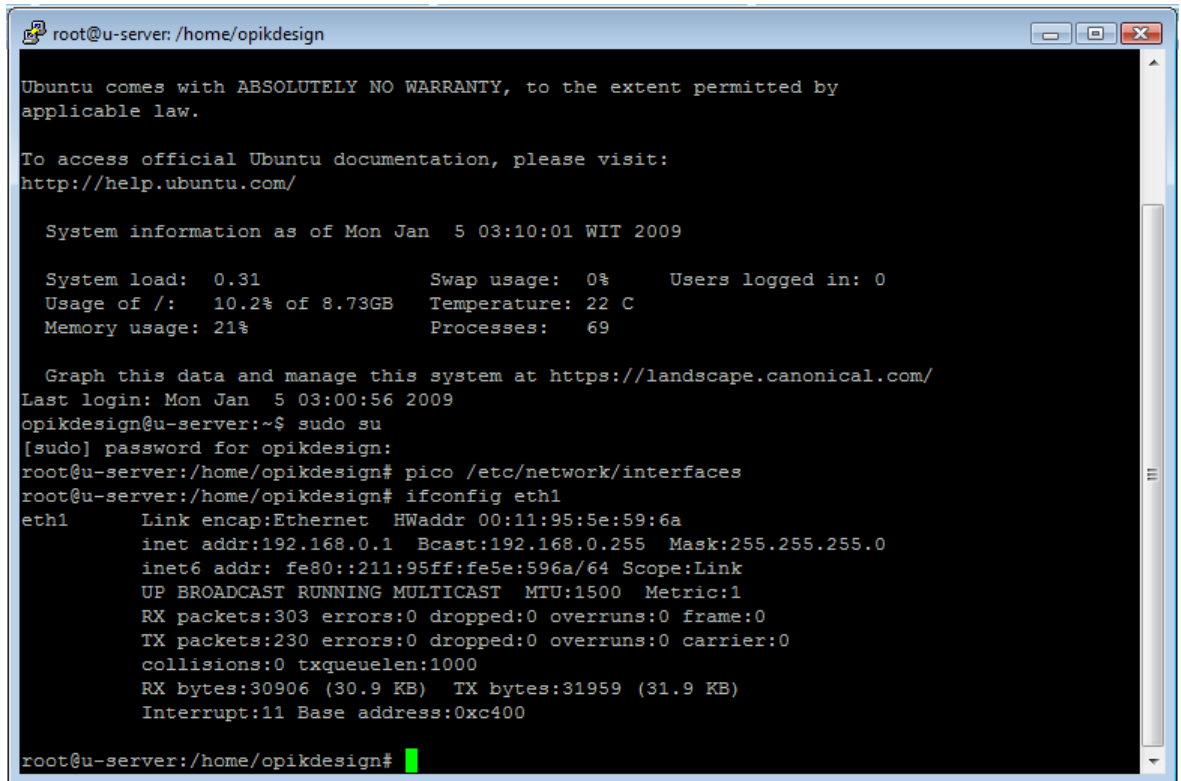
- Lakukan restart pada network:

```
root@[host]:/home/[user]# /etc/init.d/networking restart
```

- Lihat hasil seting kartu jaringan pada `eth1`:

```
root@[host]:/home/[user]# ifconfig eth1
```

seharusnya hasilnya:



```
root@u-server: /home/opikdesign

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To access official Ubuntu documentation, please visit:
http://help.ubuntu.com/

System information as of Mon Jan  5 03:10:01 WIT 2009

System load:  0.31           Swap usage:  0%       Users logged in:  0
Usage of /:   10.2% of 8.73GB Temperature: 22 C
Memory usage: 21%           Processes:  69

Graph this data and manage this system at https://landscape.canonical.com/
Last login: Mon Jan  5 03:00:56 2009
opikdesign@u-server:~$ sudo su
[sudo] password for opikdesign:
root@u-server:/home/opikdesign# pico /etc/network/interfaces
root@u-server:/home/opikdesign# ifconfig eth1
eth1      Link encap:Ethernet  HWaddr 00:11:95:5e:59:6a
          inet addr:192.168.0.1  Bcast:192.168.0.255  Mask:255.255.255.0
          inet6 addr: fe80::211:95ff:fe5e:596a/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:303 errors:0 dropped:0 overruns:0 frame:0
          TX packets:230 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:30906 (30.9 KB)  TX bytes:31959 (31.9 KB)
          Interrupt:11 Base address:0xc400

root@u-server:/home/opikdesign#
```

TAHAP IV

INSTALL DAN SETING

DHCP SERVER

Untuk server, mungkin perlu DHCP Server agar computer client yg terhubung langsung mendapat IP tanpa seting secara manual.

- Install dahulu DHCP Server, dan repositor tersebut sudah tersedia dalam CD yang bernama DHCP3 Server, cara mengaktifkan sebagai berikut:

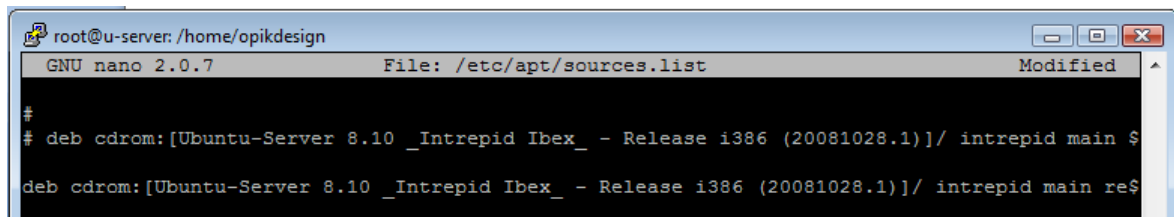
- o Edit file `/etc/apt/sources.list`,

```
root@[host]:/home/[user]# pico /etc/apt/sources.list
```

dan cari script :

```
# deb cdrom:[Ubuntu-Server 8.10 _Intrepid Ibex_ - Release i386 (20081028.1)]/
intrepid main restricted
```

kemudian tanda “#” dihilangkan kemudian di-save, script-nya:



- o Masukkan CD Distro Ubuntu 8.10 Server kemudian di- `Mount`:

```
root@[host]:/home/[user]# mount /dev/cdrom /cdrom
```

- o Lakukan up-date:

```
root@[host]:/home/[user]# apt-get update
```

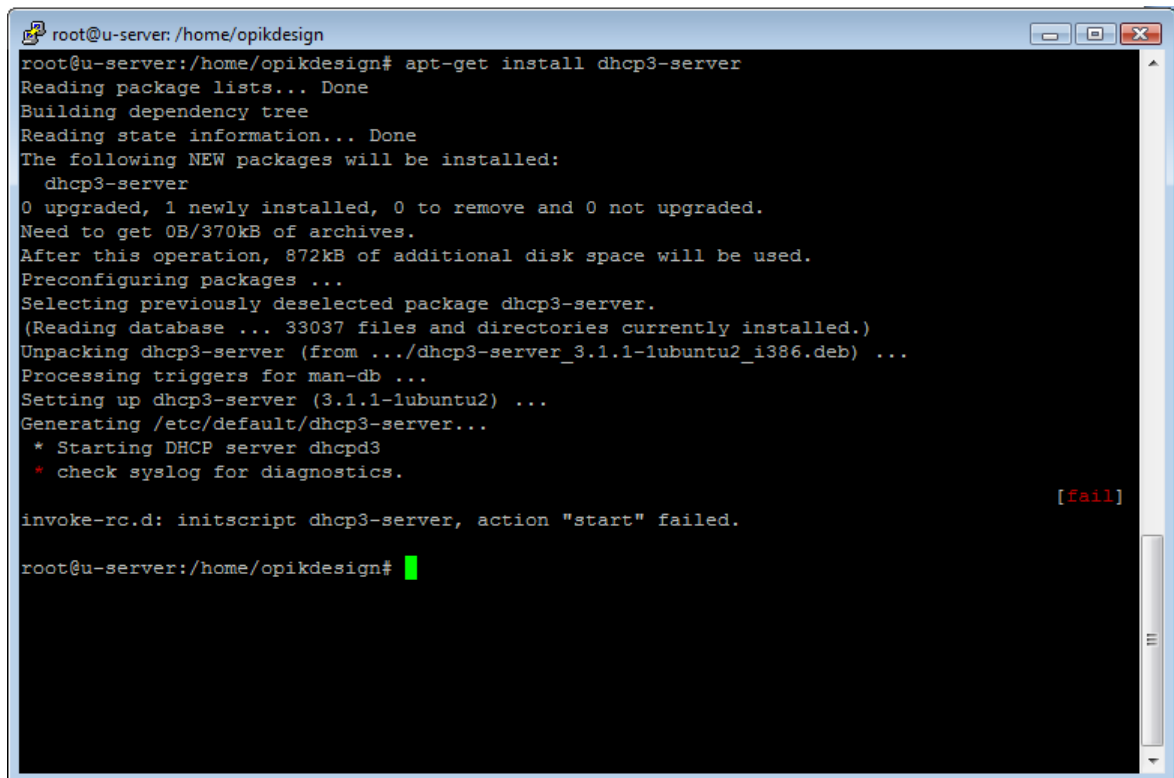
maka server akan meng-update termasuk download update dari mirror-mirror ubuntu, process download memang lama klo ingin cepat maka matikan fungsi-fungsi update yg bersifat download, caranya edit file `/etc/apt/sources.list` dan cari kemudian beri tanda “#”.

- o Barulah install dhcp3 server-nya,

```
root@[host]:/home/[user]# apt-get install dhcp3-server
```

hasilnya...

hasilnya:

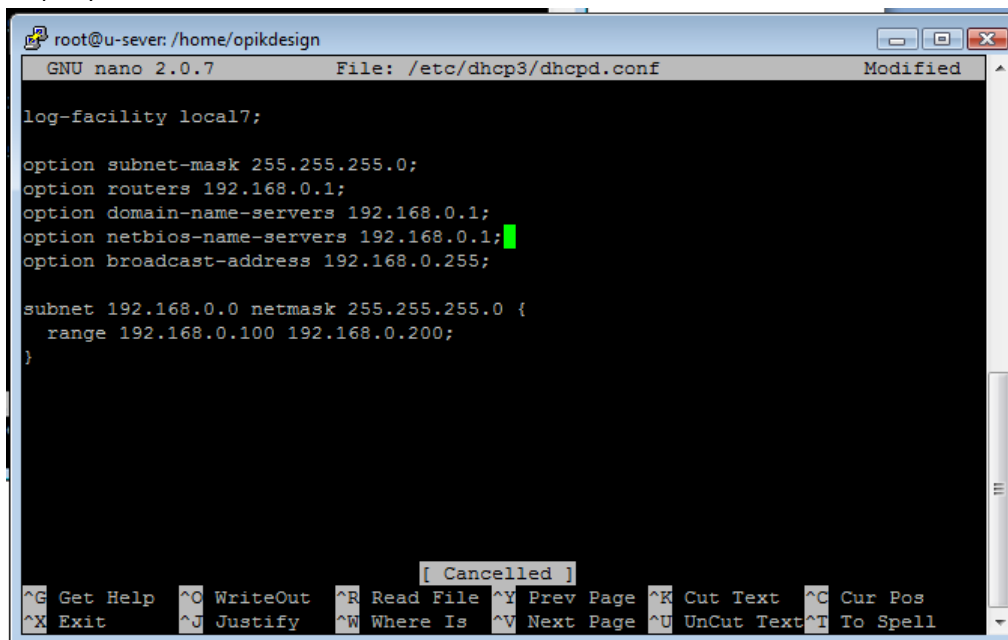


```
root@u-server: /home/opikdesign
root@u-server:/home/opikdesign# apt-get install dhcp3-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  dhcp3-server
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 0B/370kB of archives.
After this operation, 872kB of additional disk space will be used.
Preconfiguring packages ...
Selecting previously deselected package dhcp3-server.
(Reading database ... 33037 files and directories currently installed.)
Unpacking dhcp3-server (from ../dhcp3-server_3.1.1-1ubuntu2_i386.deb) ...
Processing triggers for man-db ...
Setting up dhcp3-server (3.1.1-1ubuntu2) ...
Generating /etc/default/dhcp3-server...
* Starting DHCP server dhcpd3
* check syslog for diagnostics.
[fail]
invoke-rc.d: initscript dhcp3-server, action "start" failed.
root@u-server:/home/opikdesign#
```

- Setelah diinstall, lakukan seting pada DHCP3 Server, misalnya dgn asumsi jaringan pada *eth1* pada range IP *192.168.0.100-192.168.0.200* dan Netmask *255.255.255.0*. Edit file conf pada DHCP3 yaitu file */etc/dhcp3/dhcpd.conf*,

```
root@[host]:/home/[user]# pico /etc/dhcp3/dhcpd.conf
```

Script-nya:



```
GNU nano 2.0.7 File: /etc/dhcp3/dhcpd.conf Modified
log-facility local7;

option subnet-mask 255.255.255.0;
option routers 192.168.0.1;
option domain-name-servers 192.168.0.1;
option netbios-name-servers 192.168.0.1;
option broadcast-address 192.168.0.255;

subnet 192.168.0.0 netmask 255.255.255.0 {
  range 192.168.0.100 192.168.0.200;
}

[ Cancelled ]
^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
```

- Lakukan restart DHCP3-server dengan:

```
root@[host]:/home/[user]# /etc/init.d/dhcpd3-server restart
```

- Akan muncul dilayar:

** Starting DHCP server dhcpd3 [OK]*

- Catatan, untuk *option domain-name-servers* nanti bisa diganti dgn DNS ISP yg bersangkutan, seandainya DNS lebih dari satu tinggal diberi tanda koma “,”.

TAHAP V

INSTALL NTP SERVER

Apa fungsi dari NTP Server?!, fungsinya agar semua PC Client mempunyai waktu yang sama dengan Server. Namun pengaktifan fungsi ini tidak terlalu penting. Cara install dan menjalankan:

```
root@[host]:/home/[user]# apt-get install ntp
```

```
root@[host]:/home/[user]# /etc/init.d/ntp restart
```

TAHAP VI

MEMBUAT NAT & FIREWALL

- Sebelum membuat router atau mengaktifkan IP Forwarding, dari `eth1` ke `eth0`, edit file `/etc/sysctl.conf`:

```
root@[host]:/home/[user]# pico /etc/sysctl.conf
```

cari teks `# net.ipv4.ip_forward=1`, Aktifkan dengan menghilangkan tanda `"#"` kemudian save. Dan lakukan `reboot`

- Membuat NAT dengan script `iptables`

```
root@[host]:/home/[user]# iptables -t nat -A POSTROUTING -o eth0 -j MASQUERADE
```

- Membuat firewall berserta log;

```
root@[host]:/home/[user]# iptables -F
```

```
root@[host]:/home/[user]# iptables -I INPUT 1 -i lo -j ACCEPT
```

```
root@[host]:/home/[user]# iptables -A INPUT -m state --state ESTABLISHED,RELATED -j ACCEPT
```

```
root@[host]:/home/[user]# iptables -A INPUT -i ! eth0 -j ACCEPT
```

```
root@[host]:/home/[user]# iptables -A INPUT -p tcp -i eth0 -j REJECT --reject-with tcp-reset
```

```
root@[host]:/home/[user]# iptables -A INPUT -p udp -i eth0 -j REJECT --reject-with icmp-port-unreachable
```

```
root@[host]:/home/[user]# iptables -A INPUT -p tcp -i eth0 --dport 25 -s ! 192.168.0.1 -j DROP
```

```
root@[host]:/home/[user]# iptables -A INPUT -p tcp -i eth1 --dport 25 -s ! 192.168.0.1 -j DROP
```

```
root@[host]:/home/[user]# iptables -A FORWARD -p tcp --dport 25 -s ! 192.168.0.1 -j DROP
```

```
root@[host]:/home/[user]# iptables -A INPUT -i eth0 -p tcp -s 0/0 --dport 25 -j ACCEPT
```

```
root@[host]:/home/[user]# iptables -A INPUT -p tcp --dport 80 -j ACCEPT
```

```
root@[host]:/home/[user]# iptables -A FORWARD -p icmp -m length --length 92 -j DROP
```

```
root@[host]:/home/[user]# iptables -A INPUT -j DROP
```

```
root@[host]:/home/[user]# iptables -t filter -A INPUT -p icmp --icmp-type echo-request -m length --length :100 -j ACCEPT
```

```
root@[host]:/home/[user]# iptables -t filter -A INPUT -p icmp --icmp-type echo-request -j DROP
```

```
root@[host]:/home/[user]# iptables -A INPUT -p tcp -m limit --limit 5/min -j LOG --log-prefix "Iptables: Denied TCP Port: " --log-level 7
```

```
root@[host]:/home/[user]# iptables -A INPUT -p udp -m limit --limit 5/min -j LOG --log-prefix "Iptables: Denied UDP Port: " --log-level 7
```

```
root@[host]:/home/[user]# iptables -A INPUT -p icmp -m limit --limit 5/min -j LOG --log-prefix "Iptables: Denied ICMP Port: " --log-level 7
```

```
root@[host]:/home/[user]# iptables -A INPUT -m state --state NEW -p tcp --dport 80 -j LOG --log-prefix "HTTP_CONN: "
```

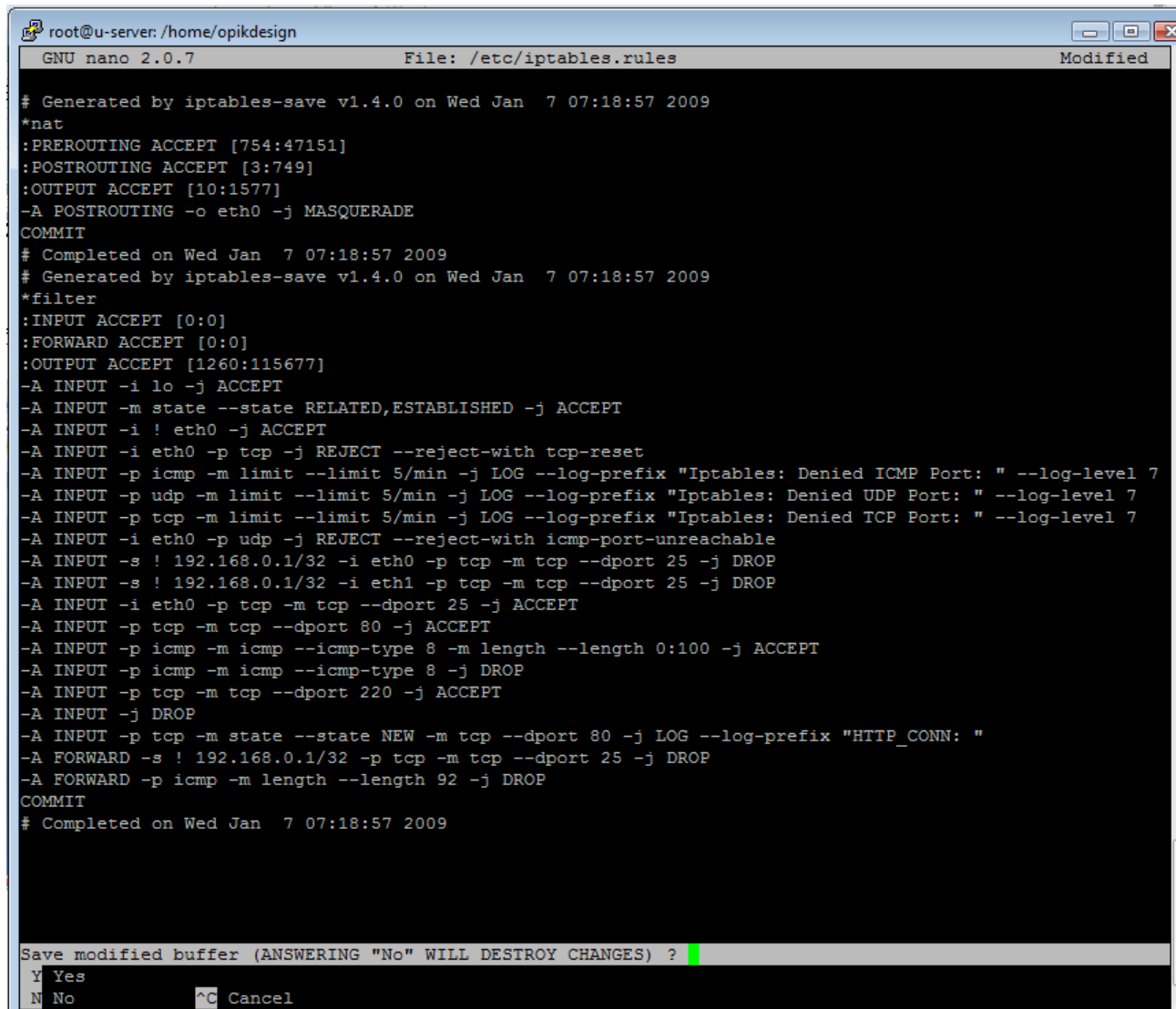
- Setelah seting `iptables`, karena ini sifatnya sementara maka disimpan agar tidak perlu lagi melakukan seting kembali.

```
root@[host]:/home/[user]# sh -c "iptables-save" > /etc/iptables.rules
```

setelah di save, maka akan menghasilkan file `/etc/iptables.rules`, nantinya file ini bisa di-edit klo ada penambahan ataupun mematikan salah satu firewall.

```
root@[host]:/home/[user]# pico /etc/iptables.rules
```

tampilan isi filenya seperti ini:



```
root@u-server: /home/opikdesign
GNU nano 2.0.7 File: /etc/iptables.rules Modified
# Generated by iptables-save v1.4.0 on Wed Jan 7 07:18:57 2009
*nat
:PREROUTING ACCEPT [754:47151]
:POSTROUTING ACCEPT [3:749]
:OUTPUT ACCEPT [10:1577]
-A POSTROUTING -o eth0 -j MASQUERADE
COMMIT
# Completed on Wed Jan 7 07:18:57 2009
# Generated by iptables-save v1.4.0 on Wed Jan 7 07:18:57 2009
*filter
:INPUT ACCEPT [0:0]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [1260:115677]
-A INPUT -i lo -j ACCEPT
-A INPUT -m state --state RELATED,ESTABLISHED -j ACCEPT
-A INPUT -i ! eth0 -j ACCEPT
-A INPUT -i eth0 -p tcp -j REJECT --reject-with tcp-reset
-A INPUT -p icmp -m limit --limit 5/min -j LOG --log-prefix "Iptables: Denied ICMP Port: " --log-level 7
-A INPUT -p udp -m limit --limit 5/min -j LOG --log-prefix "Iptables: Denied UDP Port: " --log-level 7
-A INPUT -p tcp -m limit --limit 5/min -j LOG --log-prefix "Iptables: Denied TCP Port: " --log-level 7
-A INPUT -i eth0 -p udp -j REJECT --reject-with icmp-port-unreachable
-A INPUT -s ! 192.168.0.1/32 -i eth0 -p tcp -m tcp --dport 25 -j DROP
-A INPUT -s ! 192.168.0.1/32 -i eth1 -p tcp -m tcp --dport 25 -j DROP
-A INPUT -i eth0 -p tcp -m tcp --dport 25 -j ACCEPT
-A INPUT -p tcp -m tcp --dport 80 -j ACCEPT
-A INPUT -p icmp -m icmp --icmp-type 8 -m length --length 0:100 -j ACCEPT
-A INPUT -p icmp -m icmp --icmp-type 8 -j DROP
-A INPUT -p tcp -m tcp --dport 220 -j ACCEPT
-A INPUT -j DROP
-A INPUT -p tcp -m state --state NEW -m tcp --dport 80 -j LOG --log-prefix "HTTP_CONN: "
-A FORWARD -s ! 192.168.0.1/32 -p tcp -m tcp --dport 25 -j DROP
-A FORWARD -p icmp -m length --length 92 -j DROP
COMMIT
# Completed on Wed Jan 7 07:18:57 2009

Save modified buffer (ANSWERING "No" WILL DESTROY CHANGES) ?
Y Yes
N No ^C Cancel
```

- Agar tiap kali server melakukan start/booting akan selalu memanggil setingan `iptables`/FIREWALL ini, dan bila saat dalam pengoperasian kita melakukan scripting terhadap `iptables` kemudian secara otomatis tersimpan, edit file `/etc/network/interfaces`

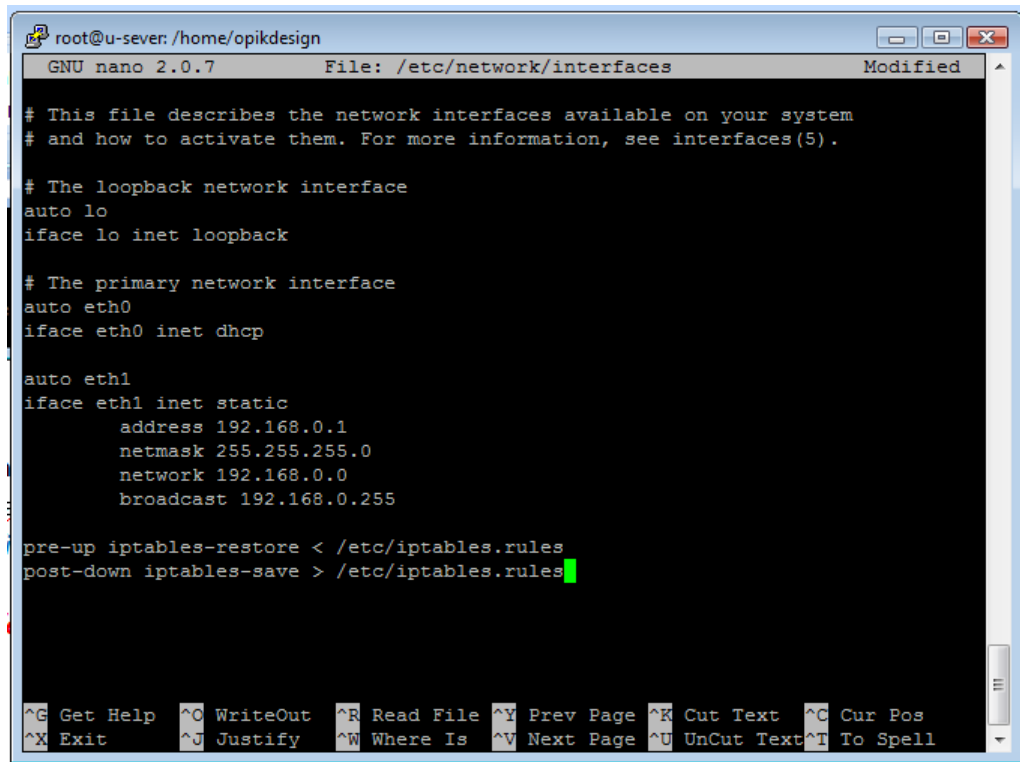
```
root@[host]:/home/[user]# pico /etc/network/interfaces
```

Penambahan Script-nya di baris terakhir.....

Penambahan Script-nya dibaris terakhir:

```
pre-up iptables-restore < /etc/iptables.rules  
pre-down iptables-save > /etc/iptables.rules
```

Seperti ini keseluruhannya:



The screenshot shows a terminal window with the title bar 'root@u-sever: /home/opikdesign'. The window displays the contents of the file '/etc/network/interfaces' using the GNU nano 2.0.7 editor. The file content is as follows:

```
# This file describes the network interfaces available on your system  
# and how to activate them. For more information, see interfaces(5).  
  
# The loopback network interface  
auto lo  
iface lo inet loopback  
  
# The primary network interface  
auto eth0  
iface eth0 inet dhcp  
  
auto eth1  
iface eth1 inet static  
    address 192.168.0.1  
    netmask 255.255.255.0  
    network 192.168.0.0  
    broadcast 192.168.0.255  
  
pre-up iptables-restore < /etc/iptables.rules  
post-down iptables-save > /etc/iptables.rules
```

The bottom of the window shows the nano editor's command palette with the following shortcuts: ^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, and ^T To Spell.

setelah di edit jangan lupa di save.

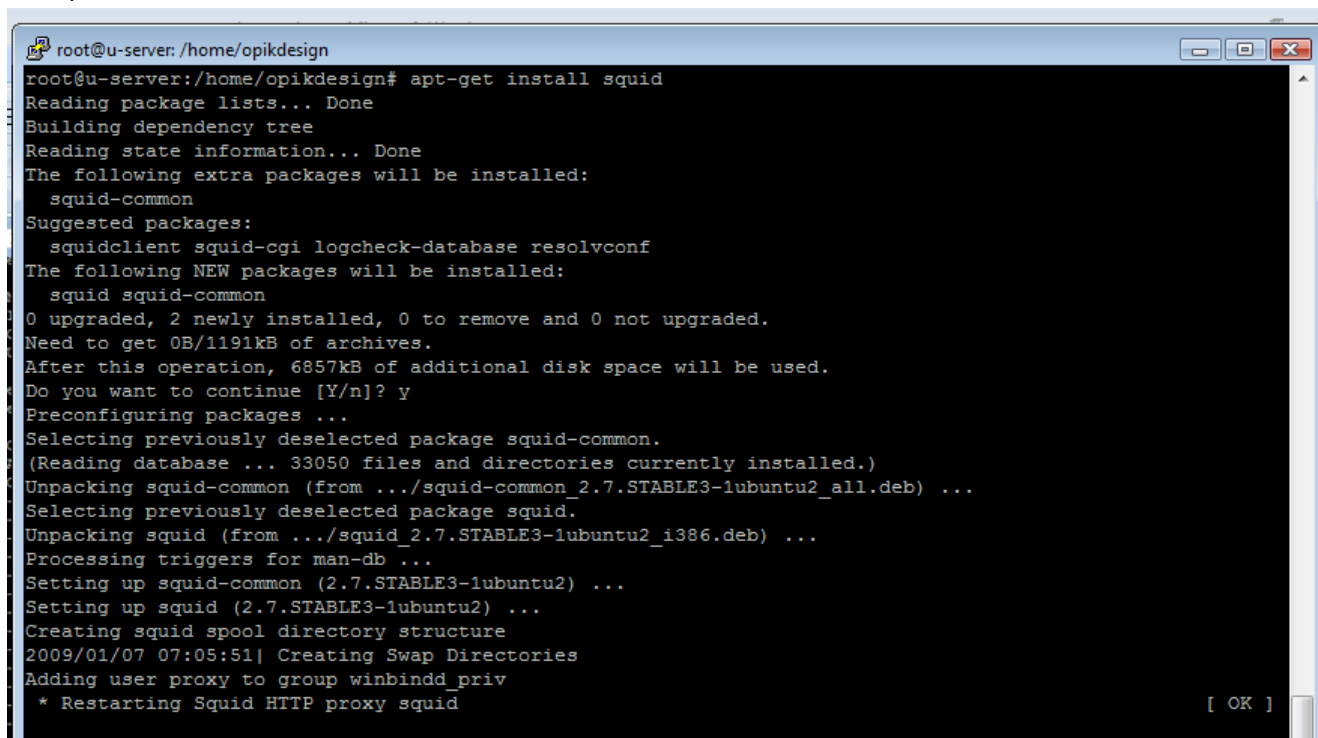
TAHAP VII

MEMBUAT PROXY SERVER DENGAN SQUID

- Proxy, bisa berfungsi sebagai firewall/site block, web cache bahkan bisa sedikit mengatur bandwidth. Fungsi ini ada yang memandang tidak perlu, tetapi bagi penulis Squid memegang peranan penting karena bisa diunggulkan semisal memblock packet yang tidak diinginkan dan membantu mengatur bandwidth karena adanya web-cache yang bisa diandalkan pada saat koneksi dari ISP bermasalah maupun bisa membatasi file yang di download oleh client.
- Sebelum install dahulu Squid.

```
root@[host]:/home/[user]# apt-get install squid
```

hasilnya:



```
root@u-server: /home/opikdesign
root@u-server:/home/opikdesign# apt-get install squid
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
  squid-common
Suggested packages:
  squidclient squid-cgi logcheck-database resolvconf
The following NEW packages will be installed:
  squid squid-common
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 0B/1191kB of archives.
After this operation, 6857kB of additional disk space will be used.
Do you want to continue [Y/n]? y
Preconfiguring packages ...
Selecting previously deselected package squid-common.
(Reading database ... 33050 files and directories currently installed.)
Unpacking squid-common (from .../squid-common_2.7.STABLE3-1ubuntu2_all.deb) ...
Selecting previously deselected package squid.
Unpacking squid (from .../squid_2.7.STABLE3-1ubuntu2_i386.deb) ...
Processing triggers for man-db ...
Setting up squid-common (2.7.STABLE3-1ubuntu2) ...
Setting up squid (2.7.STABLE3-1ubuntu2) ...
Creating squid spool directory structure
2009/01/07 07:05:51| Creating Swap Directories
Adding user proxy to group winbindd_priv
* Restarting Squid HTTP proxy squid [ OK ]
```

- Lakukan setting squid pada file `/etc/squid/squid.conf`, untuk sementara ini script sudah saya siapkan, namun tidak menuntut kemungkinan anda bisa merubahnya, script saya dapatkan dari berbagai sumber, script sebagai berikut :

```
#####$

#      Proxy Server Versi 2.6.Stable18

#

#      Dibuat: Faisal Reza @ Mutiara Access

#      Modifikasi: OPiKdesign

#####$

#

http_port 8080 transparent
```

```

hierarchy_stoplist cgi-bin ? .js .jsp

acl QUERY urlpath_regex cgi-bin \? .js .jsp

no_cache deny QUERY

cache_mem 32 MB

cache_swap_low 80

cache_swap_high 100

maximum_object_size 30 MB

minimum_object_size 0 KB

ipcache_size 8192

ipcache_low 98

ipcache_high 99

fqdn_cache_size 8192

cache_replacement_policy heap LFUDA

memory_replacement_policy heap GDSF

cache_dir aufs /webproxy 2800 32 256

cache_access_log /var/log/squid/access.log

cache_log /var/log/squid/cache.log

cache_store_log none

pid_filename /var/run/squid.pid

cache_swap_log /var/log/squid/swap.state

emulate_httpd_log on

hosts_file /etc/hosts

refresh_pattern ^ftp:      1440    20%    10080
refresh_pattern ^gopher:  1440     0%    1440
refresh_pattern .          0        20%    4320

negative_ttl 2 minutes

half_closed_clients off

#

acl snmpcommunity snmp_community public

acl all src all

acl manager proto cache_object

acl localhost src 127.0.0.1/255.255.255.255

acl to_localhost dst 127.0.0.0/8

#

acl SSL_ports port 443          # news
acl SSL_ports port 873          # rsync
acl Safe_ports port 80           # http

```

```

acl Safe_ports port 21          # ftp
acl Safe_ports port 563        # https
acl Safe_ports port 70         # gopher
acl Safe_ports port 210        # wais
acl Safe_ports port 1025-65535 # unregistered ports
acl Safe_ports port 280        # http-mgmt
acl Safe_ports port 488        # gss-http
acl Safe_ports port 591        # filemaker
acl Safe_ports port 777        # multiling http
acl Safe_ports port 631        # cups
acl Safe_ports port 873        # rsync
acl Safe_ports port 901        # SWAT

acl purge method PURGE

acl CONNECT method CONNECT

#

http_access allow manager localhost
http_access deny manager

http_access allow purge localhost
http_access deny purge

http_access deny !Safe_ports

http_access deny CONNECT !SSL_ports

#

#

#=====
#      Pembatasan B/W Download dgn mendeteksi extention file.
#
#      jika download lebih dari 5Mbyte kecepatan akan turun 1Kb/s
#      jika download lebih dari 2Mbyte kecepatan akan turun 10Kb/s
#      jika download lebih dari 1Mbyte kecepatan akan turun 20Kb/s
#
#      Dibuat: OPiKdesign
#=====
#

acl download url_regex -i ftp \.exe$ \.mp3$ \.mp4$ \.tar.gz$ \.gz$ \.tar.bz2$ \.rpm$
\.zip$ \.rar$

acl download url_regex -i \.avi$ \.mpg$ \.mpeg$ \.rm$ \.iso$ \.wav$ \.mov$ \.dat$ \.mpe$
\.mid$

acl download url_regex -i \.midi$ \.rmi$ \.wma$ \.wmv$ \.ogg$ \.ogm$ \.m1v$ \.mp2$ \.mpa$
\.wax$

```

```

acl download url_regex -i \.m3u$ \.asx$ \.wpl$ \.wmx$ \.dvr-ms$ \.snd$ \.au$ \.aif$
\.asf$ \.m2v$

acl download url_regex -i \.m2p$ \.ts$ \.tp$ \.trp$ \.div$ \.divx$ \.mod$ \.vob$ \.aob$
\.dts$

acl download url_regex -i \.ac3$ \.cda$ \.vro$ \.deb$ \.pdf$ \.com$ \.nrg$ \.vcd$

#

delay_pools 1

#

delay_class 1 1

delay_parameters 1 20000/1000000 10000/2000000 1000/5000000

delay_access 1 allow download

delay_access 1 deny all

```

- Setelah itu membuat folder `/webproxy`

```

root@[host]:/home/[user]# mkdir /webproxy
root@[host]:/home/[user]# chmod 777 /webproxy

```

- Kemudian restart squid-nya, agar konfigurasi di file `/etc/squid/squid.conf` berjalan

```

root@[host]:/home/[user]# /etc/init.d/squid restart

```

- Setelah itu agar semua yang melewati port 80 bisa dibelokkan ke port proxy (8080) kemudian memblock port 80.

```

root@[host]:/home/[user]# iptables -t nat -A PREROUTING -i eth0 -p tcp --dport 80 -j
REDIRECT --to-port 8080

root@[host]:/home/[user]# iptables -t nat -A PREROUTING -i eth1 -p tcp --dport 80 -j
REDIRECT --to-port 8080

root@[host]:/home/[user]# iptables -A INPUT -m state --state NEW -p tcp --dport 8080 -j
LOG --log-prefix "PROXY_CONN: "

```

- Jaringan kemudian di-restart agar settingan `iptables` tersimpan secara otomatis.

```

root@[host]:/home/[user]# /etc/init.d/networking restartat

```

TAHAP VIII
TO BE CONTINUE....