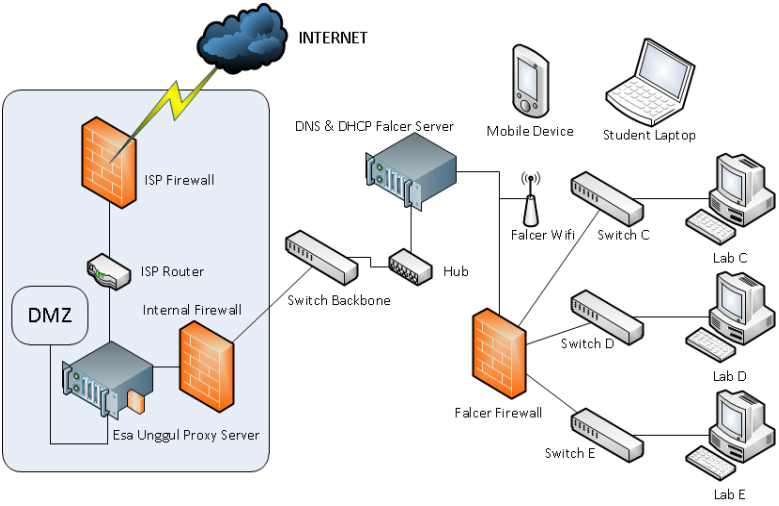
LAMPIRAN A :

Network Mapping

Gambaran infrastruktur jaringan pada Fakultas Ilmu Komputer Universitas Esa Unggul sebelum implementasi *proxy server* :

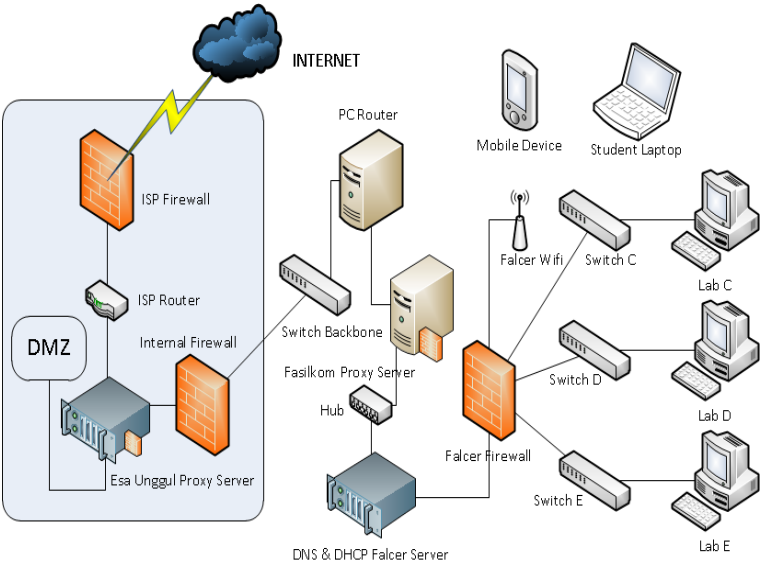
1. Cenderung lebih rentan tejadi kesalahan teknik ataupun dari segi fisik pada perangkat pendukung jaringan yang menjadi kendapa terputusnya akses internet
2. Limitasi langsung melalui BPSTI melalui akses untuk kegiatan akademik di setiap laboraturium
3. Seringnya terjadi penyalahgunaan pada akun tertentu untuk kegiatan di luar akademik yang memiliki akses lebih leluasa dibanding milik mahasiswa

Sebelum Implementasi



Gambar L1 Topologi Jaringan Sebelum Implementasi

Sesudah Implementasi



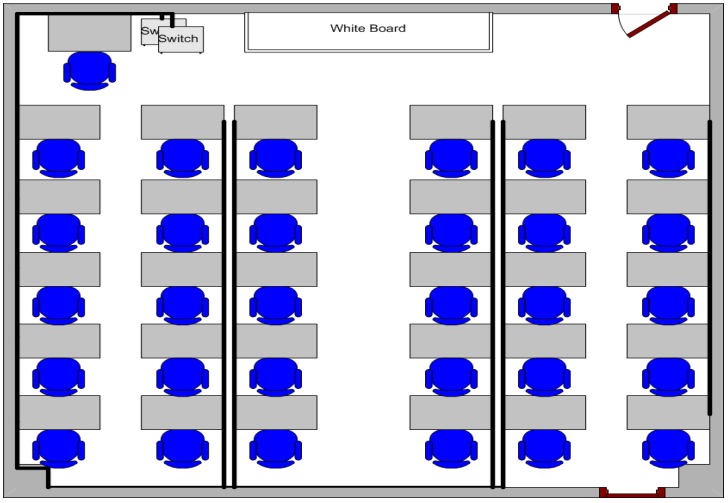
Gambar L2 Topologi Jaringan Sesudah Implementasi

LAMPIRAN B :

Berikut adalah denah kodisi laboraturium pada Fakultas Ilmu Komputer Universitas Esa Unggul

Lab C

31 unit komputer



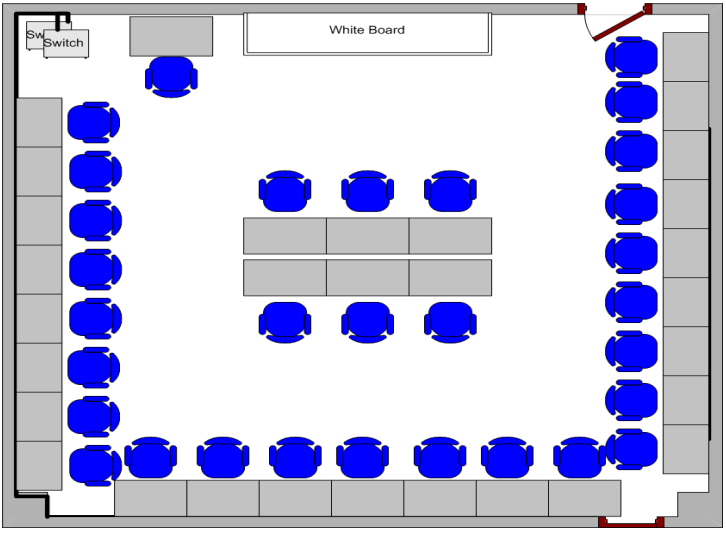
Gambar L3 Denah Ruangan Praktikum Lab C

INSTALLED HARDWARE	
Peripheral	**Details**
Processor	Intel P4 3.0Ghz LGA775
Mainboard	Wearnes 7890L-A1
Memory	Apogee 512MB DDR-II
Display Adapters	NVIDIA GeForce 7300LE PCI-E
Harddrive	Hitachi HDS728080PLA380 80GB SATA
Monitor	Wearnes VGA1781 17”
Keyboard / Mouse	Wearnes / Optical USB

INSTALLED SOFTWARE	
1	Adobe Photoshop CS
2	Adobe Reader 7
3	Boson NetSim
4	Corel Draw 12
5	Java SDK & JRE 6u1
6	Macromedia Studio MX 2004
7	Microsoft Office Prof. 2003
8	Microsoft SQL Server 2000
9	Microsoft Visual Studio 6 EE
10	Net Support Client
11	Rational Rose EE
12	VMWare Workstation
13	WinRAR
14	XAMPP

Lab D

31 unit komputer



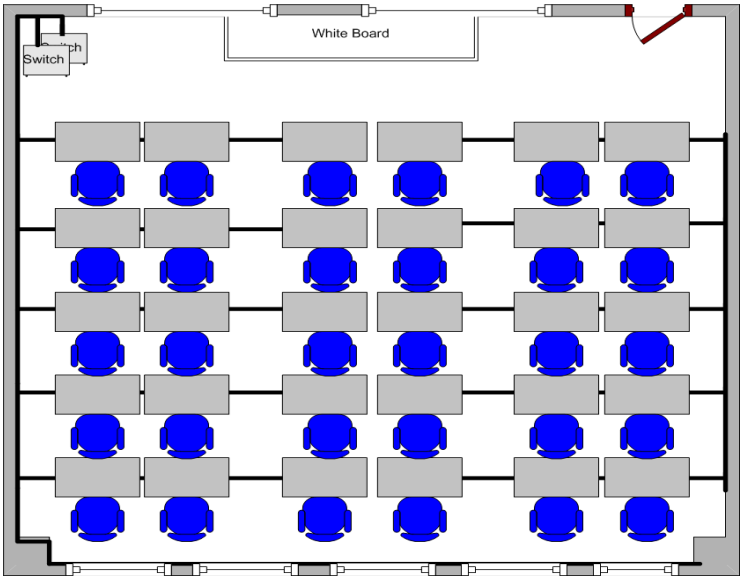
Gambar L4 Denah Ruangan Praktikum Lab D

INSTALLED HARDWARE	
Peripheral	**Details**
Processor	Intel P4 2.66Ghz socket478
Mainboard	Fujitsu Siemens D1522
Memory	Kingston 512MB DDR-I
Display Adapters	NVIDIA GeForce MX440 AGP
Harddrive	Seagate ST340014A 40GB IDE
Monitor	Samsung SyncMaster753s
Keyboard / Mouse	Logitech Y-SP29 / Ball

INSTALLED SOFTWARE	
1	Adobe Photoshop CS
2	Adobe Reader 7
3	Autodesk 3D Max 8
4	Boson NetSim
5	Java SDK & JRE 6u1
6	Macromedia Studio MX 2004
7	Microsoft Office Prof. 2003
8	Microsoft SQL Server 2000
9	Microsoft Visual Studio 6 EE
10	Net Support Client
11	Rational Rose EE
12	VMWare Workstation
13	WinRAR
14	XAMPP

Lab E

30 unit komputer



Gambar L5 Denah Ruangan Praktikum Lab E

INSTALLED HARDWARE	
Peripheral	**Details**
Processor	Intel P4 2.8Ghz socket478
Mainboard	Fujitsu Siemens D1675
Memory	Kingston 512MB DDR-I
Display Adapters	Gigabyte ATi Radeon 9200 AGP
Harddrive	Seagate ST340014A 40GB IDE
Monitor	ViewSonic E72f 17”
Keyboard / Mouse	Logitech Y-ST39 / Ball

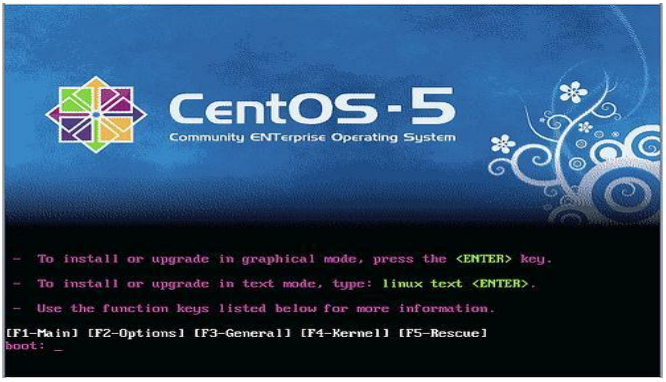
INSTALLED SOFTWARE	
1	Adobe Photoshop CS
2	Adobe Reader 7
3	Boson NetSim
4	Java SDK & JRE 6u1
5	Macromedia Studio MX 2004
6	Microsoft Office Prof. 2003
7	Microsoft SQL Server 2000
8	Microsoft Visual Studio 6 EE
9	Net Support Client
10	Rational Rose EE
11	VMWare Workstation
12	WinRAR
13	XAMPP

LAMPIRAN C :

Berikut adalah beberapa tahapan mengkonfigurasi proxy server dengan menggunakan CentOs 5.5

1. Tahap instalasi OS CentOs 5.5 sebagai proxy server

   Tampilan Screen Booting awal instalasi CentOs 5.5



Gambar L6 Menu Booting Instalasi Awal

Pilihan untuk memulai instalasis atau untuk mencoba CentOs melalui Live-CD

Gambar L7 Menu Pilihan Testing Live CD / Instalasi

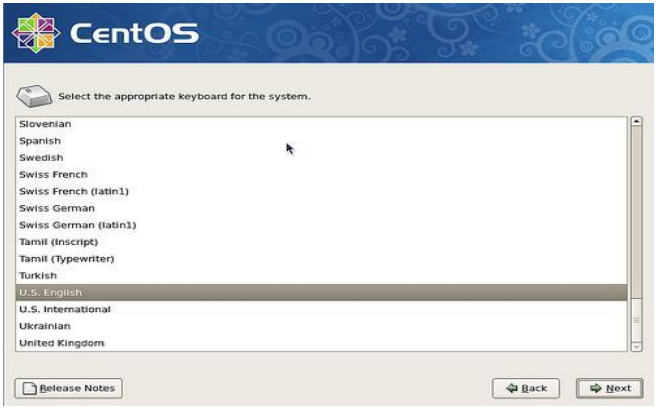
Screen awal instalasi CentOs 5.5

Gambar L8 Menu Konfirmasi Instalasi

Menu Screen Pilihan Bahasa

Gambar L12 Pilihan Default Bahasa

Menu Screen pilihan default keyboard

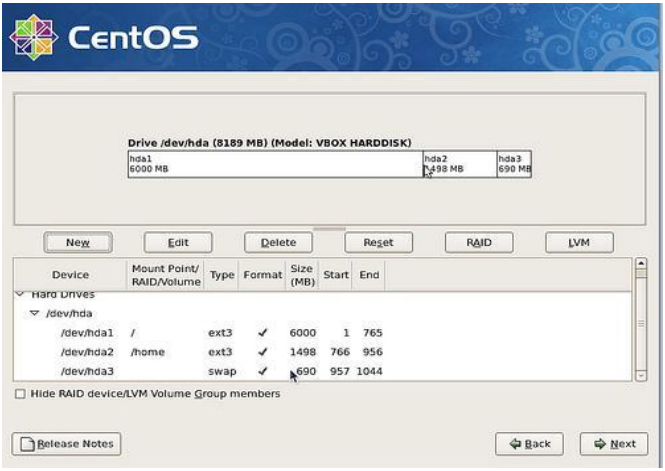


Gambar L13 Pilihan Default Keyboard

Menu Screen Pemilihan Partisi

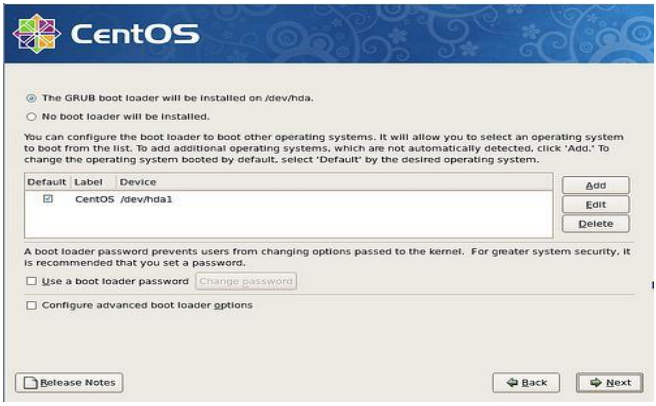
Gambar L14 Pemilihan Partisi

Menu Screen Kustomisasi Pembagian Partisi



Gambar L15 Kustomisasi Partisi

Menu Screen Kustomisasi Grub Loader



Gambar L16 Kustomisasi Grub Loader

Menu Screen Konfigurasi Perangkat Jaringan

Gambar L17 Kofigurasi Network

Menu Screen Pilihan Waktu Region

Gambar L18 Pilihan Zona Waktu

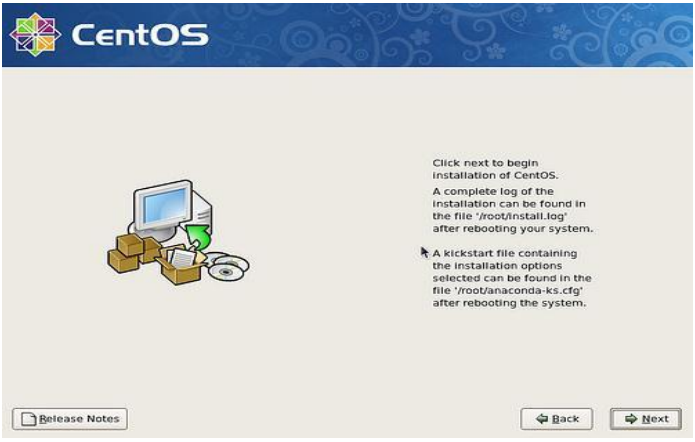
Menu Screen Root Password

Gambar L19 Seting Root Password

Menu Screen Pilihan Paket Pendukung

Gambar L20 Pilihan Paket Instalasi Pendukung

Menu Konfirmasi Instalasi



Gambar L21 Konfirmasi Instalasi

Menu Screen Proses Awal Format Partisi

Gambar L22 Screen Format Partisi

Screen Proses Instalasi

Gambar L23 Screen Proses Instalasi

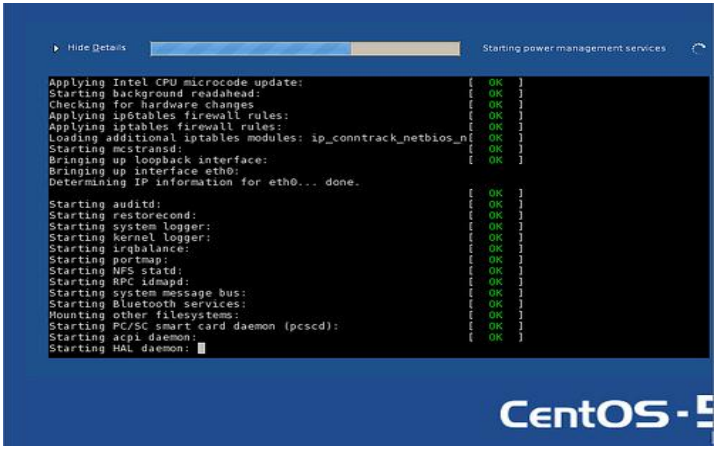
Menu Screen Konfirmasi Reboot

Gambar L24 Pilihan Konfirmasi Reboot

Menu Screen Proses Reboot

Gambar L25 Proses Reboot

Menu Screen Loading Modul Booting Awal

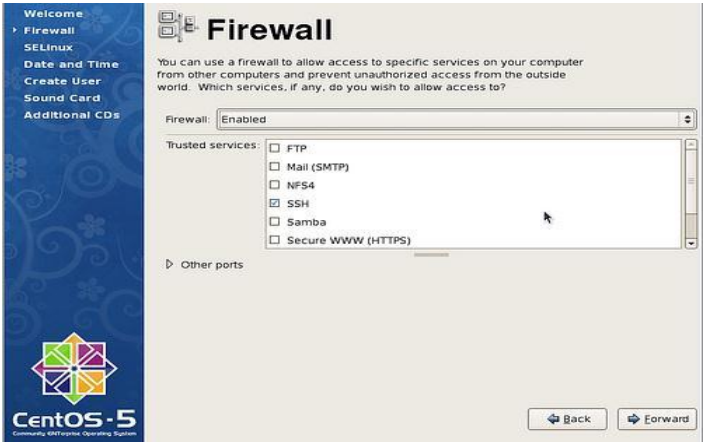


Gambar L26 Loading Modul

Menu Screen Proses Awal Instalasi Service

Gambar L27 Konfirmasi Instalasi Jaringan

Menu Screen Kustomisasi Firewall

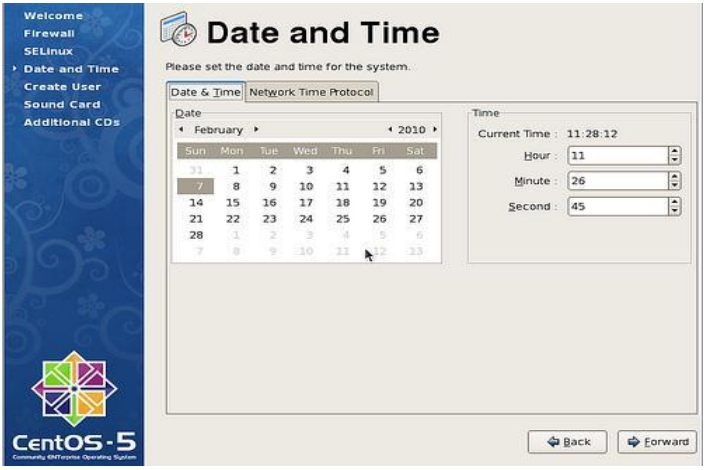


Gambar L28 Memilih Service Di Firewall

Menu Screen Pilihan SELinux

Gambar L29 Pilihan Aktifasi Jenis SElinux

Menu Screen Pengaturan Tanggal Dan Waktu



Gambar L30 Seting Tanggal dan Waktu

Menu Screen Pembuatan User

Gambar L31 Membuat User

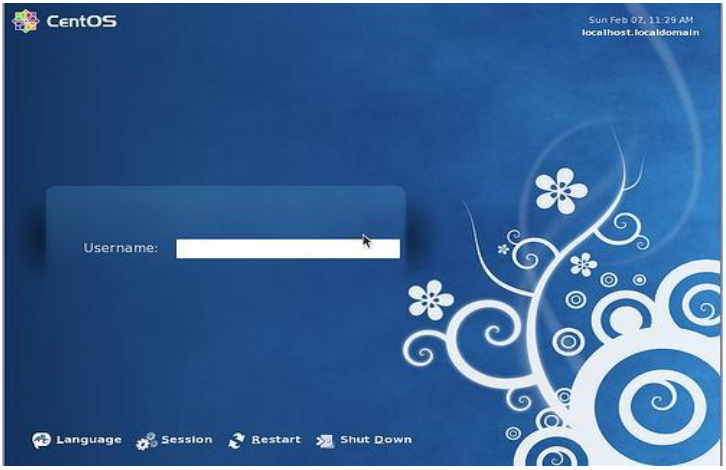
Menu Screen Testing Sound Card

Gambar L32 Tes Sound Card

Menu Pilihan Instalasi Paket Tambahan

Gambar L33 Instalasi Paket Tambahan

Menu Login Screen



Gambar L34 Screen Login

2. Tahap selanjutnya setelah proses sebelumnya selesai, yaitu mengkonfigurasikan IP table sebagai benteng pertahanan server demi menjaga dari hal yang tidak diinginkan dan menyimpan file konfigurasi tersebut dalam folder /sbin/iptables .

```
#!/bin/sh

###################################

# Falcer IP Tables Script with NAT

###################################

# Configuration Options

EXTERNAL_INTERFACE="eth1"
LOOPBACK_INTERFACE="lo"
```

```
LAN_INTERFACE_1="eth0"
IPTABLES_CMD="/sbin/iptables"

# Load needed Modules
/sbin/modprobe ip_tables
/sbin/modprobe ip_conntrack
/sbin/modprobe iptable_filter
/sbin/modprobe iptable_mangle
/sbin/modprobe iptable_nat
/sbin/modprobe ipt_LOG
/sbin/modprobe ipt_limit
/sbin/modprobe ipt_state
/sbin/modprobe ipt_REJECT
#/sbin/modprobe ipt_MASQUERADE
/sbin/modprobe ip_conntrack_ftp
/sbin/modprobe ip_conntrack_irc
/sbin/modprobe ip_nat_ftp
/sbin/modprobe ip_nat_irc
# /sbin/modprobe ipt_owner

# Get the IP Addresses for the network cards
IPADDR=`/sbin/ifconfig $EXTERNAL_INTERFACE | grep -i
"addr:" | cut -f2 -d: | cut -f1 -d " "`
LAN_IPADDR=`/sbin/ifconfig $LAN_INTERFACE_1 | grep -i
"addr:" | cut -f2 -d: | cut -f1 -d " "`
LOCALHOST_IP="127.0.0.1/32"
LAN_BCAST_ADDRESS=`/sbin/ifconfig
$LAN_INTERFACE_1 | grep -i "Bcast:" | cut -f3 -d: | cut -f1 -d "
"`

##########

echo "Starting Firewalling... "
echo "1" > /proc/sys/net/ipv4/ip_forward
# clear existing Tables/Chains
$IPTABLES_CMD -F
$IPTABLES_CMD -X
```

```
########## Set default policies
$IPTABLES_CMD -P INPUT DROP
$IPTABLES_CMD -P OUTPUT DROP
$IPTABLES_CMD -P FORWARD DROP
$IPTABLES_CMD -A INPUT -i $LOOPBACK_INTERFACE -j
ACCEPT
$IPTABLES_CMD -A OUTPUT -o
$LOOPBACK_INTERFACE -j ACCEPT


########## Port Forwarding in Prerouting Chain
# Example of Port Forwarding, first allow the specific
FORWARD connection, then reroute it
# $IPTABLES -t nat -A PREROUTING -i eth0 -p tcp -dport 80 -j
REDIRECT --to-port 3128

########## Drop certain bad packets
$IPTABLES_CMD -N bad_tcp_packets
$IPTABLES_CMD -A bad_tcp_packets -p tcp --tcp-flags
SYN,ACK Syn,ACK -m state --state NEW -j REJECT --reject-
with tcp-reset
$IPTABLES_CMD -A bad_tcp_packets -p tcp ! --syn -m state --
state NEW -j LOG --log-prefix "NEW not syn:"
$IPTABLES_CMD -A bad_tcp_packets -p tcp ! --syn -m state --
state NEW -j DROP
$IPTABLES_CMD -A INPUT -p tcp -j bad_tcp_packets

########## Ensure LAN ADDR aren't blocked
$IPTABLES_CMD -A INPUT -p ALL -i $LAN_INTERFACE_1
-d $LAN_BCAST_ADDRESS -j ACCEPT
$IPTABLES_CMD -A INPUT -p ALL -d $LOCALHOST_IP -j
ACCEPT
$IPTABLES_CMD -A INPUT -p ALL -d $LAN_IPADDR -j
ACCEPT
$IPTABLES_CMD -A INPUT -p ALL -d $IPADDR -m state --
state ESTABLISHED,RELATED -j ACCEPT

########## Open TCP rules (Transmission Control Protocol)
```

```
### FTP port
 $IPTABLES_CMD -A tcp_packets -p TCP -i
$EXTERNAL_INTERFACE -s 0/0 --dport 21 -j allowed
### SSH port
$IPTABLES_CMD -A tcp_packets -p TCP -i
$EXTERNAL_INTERFACE -s 0/0 --dport 22 -j allowed
### SMTP Mail Server port
# $IPTABLES_CMD -A tcp_packets -p TCP -i
$EXTERNAL_INTERFACE -s 0/0 --dport 25 -j allowed
### DNS port
$IPTABLES_CMD -A tcp_packets -p tcp -i
$EXTERNAL_INTERFACE -s 0/0 --dport 53 -j allowed
### HTTP port
# $IPTABLES_CMD -A tcp_packets -p tcp -i
$EXTERNAL_INTERFACE -s 0/0 --dport 80 -j allowed
### POP3 port
# $IPTABLES_CMD -A tcp_packets -p TCP -i
$EXTERNAL_INTERFACE -s 0/0 --dport 110 -j allowed
### IRC port
# $IPTABLES_CMD -A tcp_packets -p TCP -i
$EXTERNAL_INTERFACE -s 0/0 --dport 113 -j allowed
### IMAP port
# $IPTABLES_CMD -A tcp_packets -p TCP -i
$EXTERNAL_INTERFACE -s 0/0 --dport 143 -j allowed

########## Open UDP ports (User Datagram Protocol)
### DNS
$IPTABLES_CMD -A udpincoming_packets -p UDP -i
$EXTERNAL_INTERFACE -s 0/0 --source-port 53 -j ACCEPT
### NTP
$IPTABLES_CMD -A udpincoming_packets -p UDP -i
$EXTERNAL_INTERFACE -s 0/0 --source-port 123 -j ACCEPT
### IMAP
$IPTABLES_CMD -A udpincoming_packets -p UDP -i
$EXTERNAL_INTERFACE -s 0/0 --source-port 143 -j ACCEPT

#### Enable to log INPUT errors That didn't match anything
above
```

```
$IPTABLES_CMD -A INPUT -m limit --limit 3/minute --limit-
burst 3 -j LOG --log-level DEBUG --log-prefix "IPT INPUT
packet died: "

########## FORWARD RULES
$IPTABLES_CMD -A FORWARD -p tcp -j bad_tcp_packets
$IPTABLES_CMD -A FORWARD -i $LAN_INTERFACE_1 -j
ACCEPT
$IPTABLES_CMD -A FORWARD -m state --state
ESTABLISHED,RELATED -j ACCEPT
$IPTABLES_CMD -A FORWARD -m limit --limit 3/minute --
limit-burst 3 -j LOG --log-level DEBUG --log-prefix "IPT
FORWARD packet died: "

########## OUTPUT chain # Establish the basic Output chain
$IPTABLES_CMD -A OUTPUT -p tcp -j bad_tcp_packets
$IPTABLES_CMD -A OUTPUT -p ALL -s $LOCALHOST_IP -
j ACCEPT
$IPTABLES_CMD -A OUTPUT -p ALL -s $LAN_IPADDR -j
ACCEPT
$IPTABLES_CMD -A OUTPUT -p ALL -s $IPADDR -j
ACCEPT
$IPTABLES_CMD -A OUTPUT -m limit --limit 3/minute --
limit-burst 3 -j LOG --log-level DEBUG --log-prefix "IPT
OUTPUT packet died: "

########## Enable SNAT / Masquerading
# If you want to use Masquerading instead of SNAT
# $IPTABLES_CMD -t nat -A POSTROUTING -o
$EXTERNAL_INTERFACE -j MASQUERADE
$IPTABLES_CMD -t nat -A POSTROUTING -o
$EXTERNAL_INTERFACE -j SNAT --to-source $IPADDR
```

3. Setelah menyelesaikan tahap sebelumnya, setelah itu perlu di integrasikan dengan service dari squid yang dapat di tambahkan di dalam file squid.conf

   ```
   visible_hostname proxy.falcer.net
   ```

cache_mgr admin@falcer.net
cache_effective_user squid
cache_effective_group squid
maximum_object_size 3000 kb
cache_mem 2048 MB
minimum_object_size 4 KB
maximum_object_size_in_memory 2500 kb
cache_dir ufs /var/log/squid/squid.cache 60000 128 256
cache_access_log /var/log/squid/access.log
cache_log /var/log/squid/squid.log
cache_store_log /var/log/squid/store.log
http_port 3128 transparent
acl all src 0.0.0.0/0.0.0.0
acl manager proto cache_object
acl localhost src 127.0.0.1/255.255.255.0
acl falcer src 192.168.10.11-192.168.10.254/24
acl dmz src 192.168.10.1-192.168.10.10/24
acl falcer_wifi 192.168.100-192.168.254/24
http_access deny all
acl download url_regex -i ftp .exe .mp3 .mp4 .flv .avi .mpeg .3gp
acl blacklist url_regex -i http://www.youtube.com/
http://ww.vimeo.com/ http://www.redtube.com/
http://www.veoh.com/ http://www.metacafe.com/
http://www.dailymotion.com/ http://www.ustream.com/
http://www.redtube.com/ http://www.ovguide.com/
http://www.hulu.com/ http://www.freshpornclips.com/
http://www.absolutgirl.com/
reply_body_max_size 2048000 allow download

4. Langkah terakhir yaitu membuat service dansguardian dan squid berjalan secara otomatis setiap proxy server di nyalakan.