

# Linux Server

"Proxy"

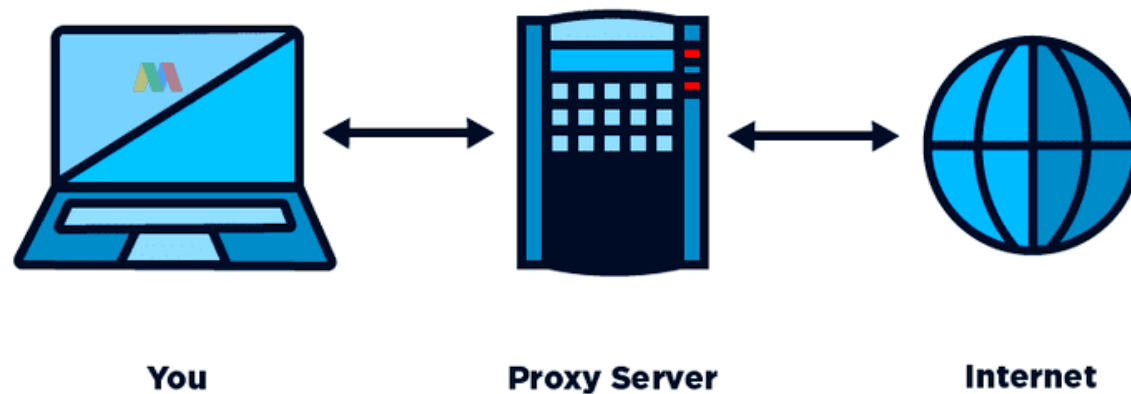
Pemateri : 1. Nama Kader  
2. Nama Kader



# Apa itu Proxy ?



Proxy Server adalah suatu server yang diletakkan diantara client dan server yang dihubungi client



# Fungsi Proxy

## 1. Filtering

Berfungsi sebagai firewall paket filtering yang digunakan untuk melindungi jaringan lokal.

## 2. Caching

Yaitu mekanisme penyimpanan objek-objek yang sudah diminta dari server, sehingga client tidak perlu lagi merequest dari server.



# Keuntungan Menggunakan Proxy Server

## 1. Meningkatkan kinerja jaringan

Objek-objek yang telah di request dari server akan tersimpan di proxy server, apabila client mengunjungi sebuah halaman yang pernah dikunjungi client tidak perlu lagi merequest dari server dan cukup mengambil dari proxy server sehingga tidak membebani jaringan.

## 2. Memfilter request

Proxy juga dapat bertindak sebagai tukang filter terhadap situs mana saja yang boleh diakses



# Kelemahan Menggunakan Proxy Server

1. Akses terhadap website yang belum pernah dibuka menjadi lebih lambat

Hal ini dikarenakan client harus merequest ke proxy server terlebih dahulu kemudian baru proxy server akan merequest ke server tujuan client

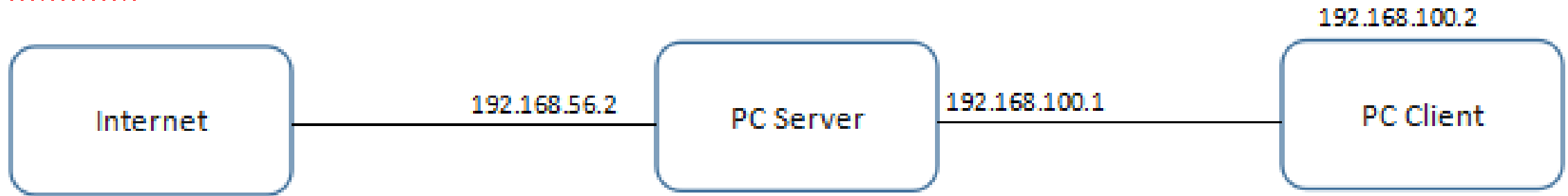
2. Apabila Proxy server terlambat update cache maka client akan mendapatkan konten yang lawas



# Instalasi Proxy Server



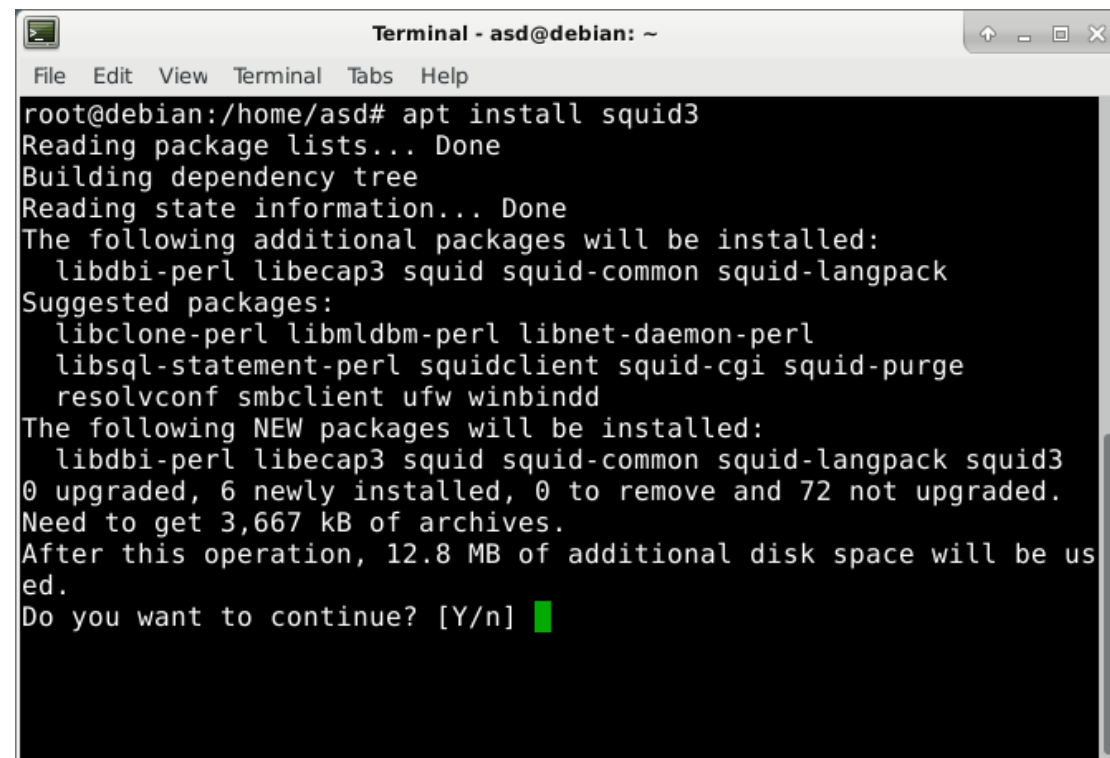
## Topologi





# Install Squid3

```
#apt install squid
```



```
Terminal - asd@debian: ~
File Edit View Terminal Tabs Help
root@debian:/home/asd# apt install squid3
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libdbi-perl libecap3 squid squid-common squid-langpack
Suggested packages:
  libclone-perl libmldbm-perl libnet-daemon-perl
  libsql-statement-perl squidclient squid-cgi squid-purge
  resolvconf smbclient ufw winbindd
The following NEW packages will be installed:
  libdbi-perl libecap3 squid squid-common squid-langpack squid3
0 upgraded, 6 newly installed, 0 to remove and 72 not upgraded.
Need to get 3,667 kB of archives.
After this operation, 12.8 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```



# Konfigurasi Squid3

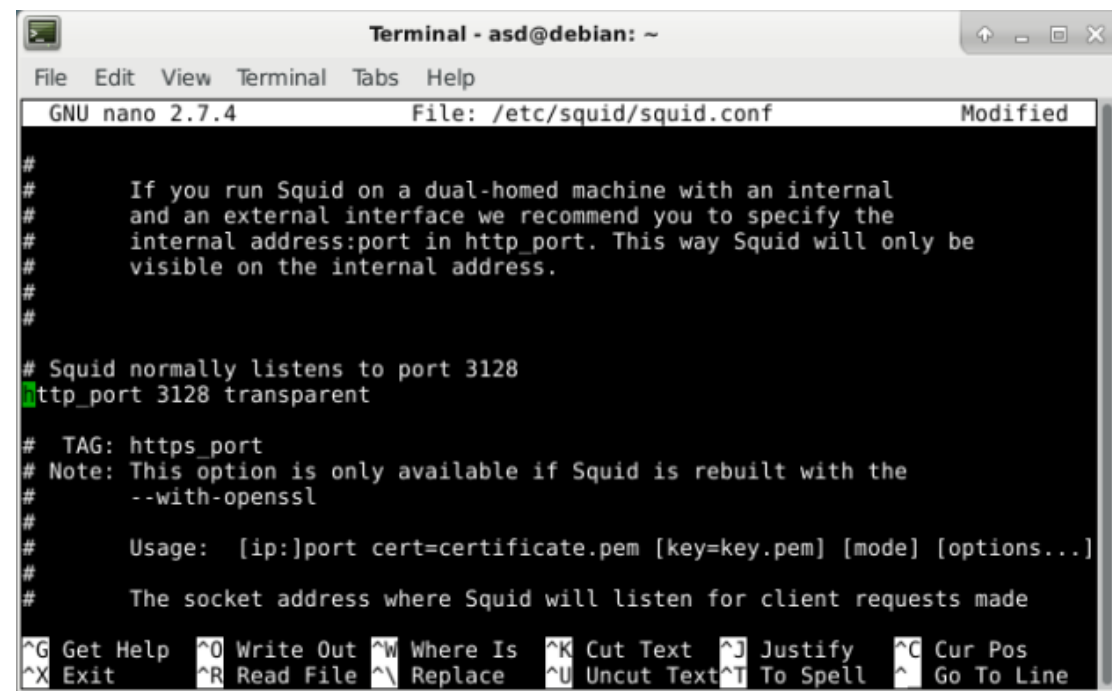
```
#nano /etc/squid/squid.conf
```

- Setelah masuk ke konfigurasi gunakan fasilitas search agar lebih mudah mencari konfigurasi dengan menekan CTRL+W dan edit bagian berikut

```
http_port 3128
```

menjadi

```
http_port 3128 transparent
```



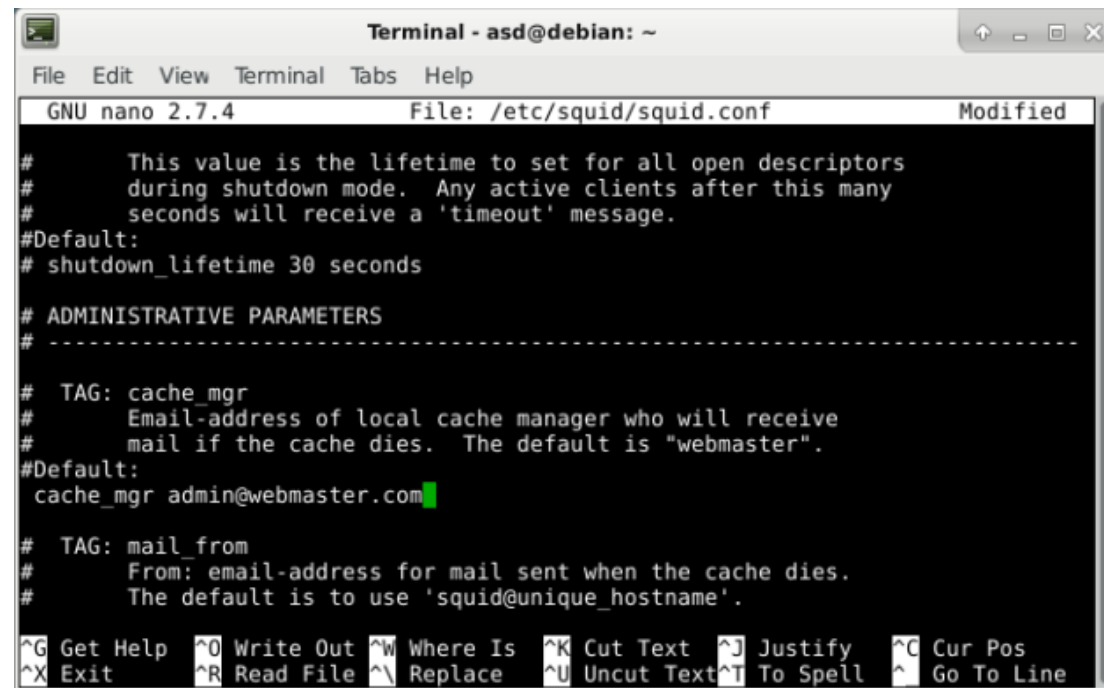
```

Terminal - asd@debian: ~
File Edit View Terminal Tabs Help
GNU nano 2.7.4 File: /etc/squid/squid.conf Modified
#
#   If you run Squid on a dual-homed machine with an internal
#   and an external interface we recommend you to specify the
#   internal address:port in http_port. This way Squid will only be
#   visible on the internal address.
#
# Squid normally listens to port 3128
http_port 3128 transparent
#
# TAG: https_port
# Note: This option is only available if Squid is rebuilt with the
#       --with-openssl
#
# Usage: [ip:]port cert=certificate.pem [key=key.pem] [mode] [options...]
#
# The socket address where Squid will listen for client requests made
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
  
```



# Konfigurasi Squid3

- Cari tulisan **cache\_mgr** dan tambahkan email admin proxy. Cache mgr ini berfungsi sebagai penunjuk admin ketika muncul pesan error pada client



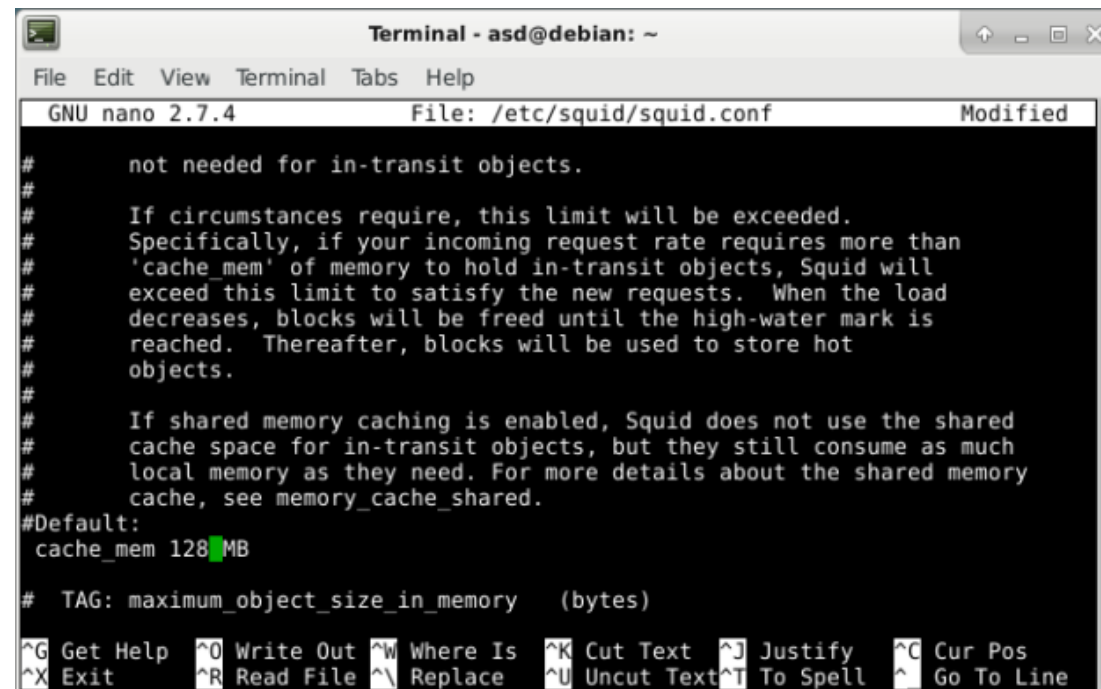
```

Terminal - asd@debian: ~
File Edit View Terminal Tabs Help
GNU nano 2.7.4 File: /etc/squid/squid.conf Modified
# This value is the lifetime to set for all open descriptors
# during shutdown mode. Any active clients after this many
# seconds will receive a 'timeout' message.
#Default:
# shutdown_lifetime 30 seconds
# ADMINISTRATIVE PARAMETERS
# -----
# TAG: cache_mgr
# Email-address of local cache manager who will receive
# mail if the cache dies. The default is "webmaster".
#Default:
cache_mgr admin@webmaster.com
# TAG: mail_from
# From: email-address for mail sent when the cache dies.
# The default is to use 'squid@unique_hostname'.
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
  
```



# Konfigurasi Squid3

- Cari **cache\_mem** dan tambahkan ukuran memory menjadi 128MB. Cache\_mem digunakan untuk ukuran memory cache yang akan digunakan pada proxy



```

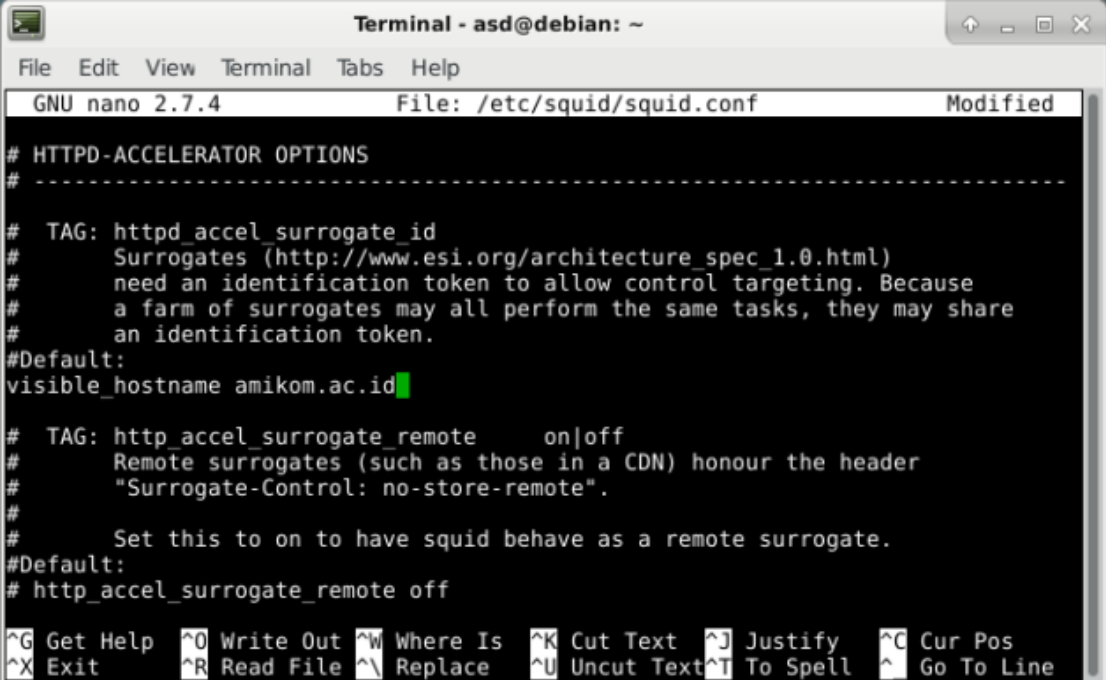
Terminal - asd@debian: ~
File Edit View Terminal Tabs Help
GNU nano 2.7.4 File: /etc/squid/squid.conf Modified

# not needed for in-transit objects.
#
# If circumstances require, this limit will be exceeded.
# Specifically, if your incoming request rate requires more than
# 'cache_mem' of memory to hold in-transit objects, Squid will
# exceed this limit to satisfy the new requests. When the load
# decreases, blocks will be freed until the high-water mark is
# reached. Thereafter, blocks will be used to store hot
# objects.
#
# If shared memory caching is enabled, Squid does not use the shared
# cache space for in-transit objects, but they still consume as much
# local memory as they need. For more details about the shared memory
# cache, see memory_cache_shared.
#Default:
cache_mem 128MB
# TAG: maximum_object_size_in_memory (bytes)
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
  
```



# Konfigurasi Squid3

- Cari tulisan **visible\_hostname** dan tambahkan alamat website. Ini digunakan ketika saat muncul pesan error dan alamat web ini akan ditampilkan.



```
Terminal - asd@debian: ~
File Edit View Terminal Tabs Help
GNU nano 2.7.4 File: /etc/squid/squid.conf Modified

# HTTPD-ACCELERATOR OPTIONS
# -----
# TAG: httpd_accel_surrogate_id
# Surrogates (http://www.esi.org/architecture_spec_1.0.html)
# need an identification token to allow control targeting. Because
# a farm of surrogates may all perform the same tasks, they may share
# an identification token.
#Default:
visible_hostname amikom.ac.id

# TAG: http_accel_surrogate_remote on|off
# Remote surrogates (such as those in a CDN) honour the header
# "Surrogate-Control: no-store-remote".
#
# Set this to on to have squid behave as a remote surrogate.
#Default:
# http_accel_surrogate_remote off

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



# Konfigurasi Squid3

- Cari tulisan **acl connect** dan tambahkan script sebagai berikut dibawah acl CONNECT method CONNECT

```
acl local src 192.168.100.0/24
acl urlblock dstdomain "/etc/squid/dstdomain"
acl keyblock url regex -i "/etc/squid/key"
```

```
http access deny urlblock
http access deny keyblock
http access allow local
```

```

Terminal - asd@debian: ~
File Edit View Terminal Tabs Help
GNU nano 2.7.4 File: /etc/squid/squid.conf
acl Safe_ports port 80      # http
acl Safe_ports port 21      # ftp
acl Safe_ports port 443     # 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 CONNECT method CONNECT

acl local src 192.168.100.0/24
acl urlblock dstdomain "/etc/squid/domain"
acl keyblock url_regex -i "/etc/squid/key"

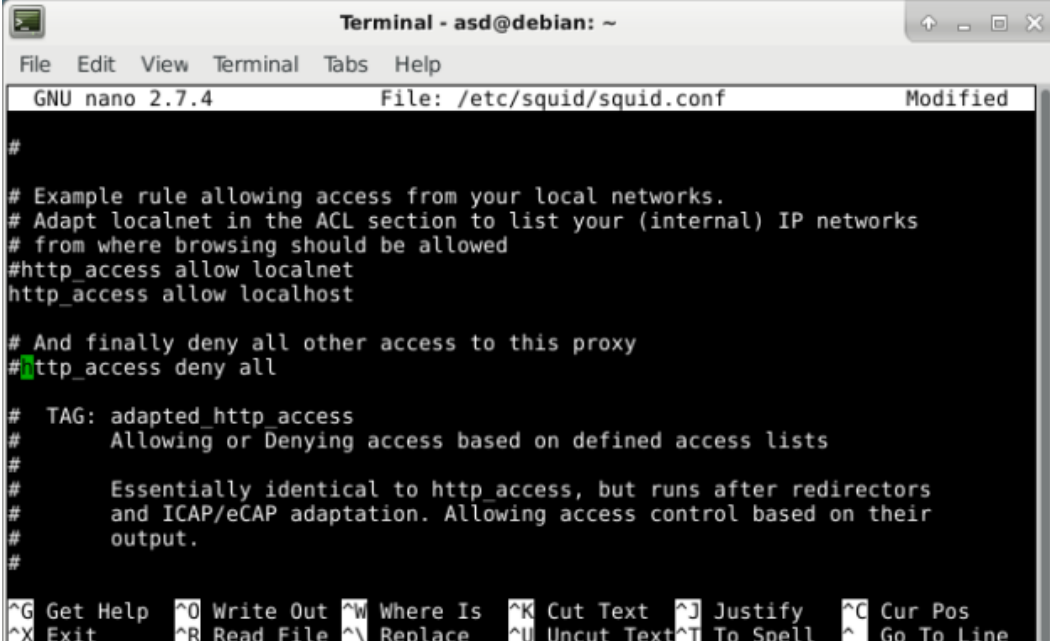
http_access deny urlblock
http_access deny keyblock
http_access allow local
^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^_ Replace   ^U Uncut Text ^T To Spell  ^_ Go To Line
  
```

<u>acl local src</u>	<u>berfungsi untuk daftar IP/NetId yang akan diblok</u>
<u>acl urlblock dstdomain</u>	<u>berfungsi untuk daftar blok domain yang disimpan di file "/etc/squid/domain"</u>
<u>acl keyblock url_regex</u>	<u>berfungsi untuk daftar kata kunci yang akan diblok</u>
<u>http_access deny urlblock</u>	<u>Berfungsi untuk menolak akses urlblock yaitu daftar domain yang telah ditulis di /etc/squid/domain</u>
<u>http_access deny keyblock</u>	<u>Berfungsi untuk menolak akses keyblock yaitu daftar key yang telah ditulis di /etc/squid/key</u>



# Konfigurasi Squid3

- Yang terakhir yaitu cari **http\_access deny all** dan tambahkan tanda **#** didepan agar squid tidak memblok semua situs
- Save konfigurasi dan buat file daftar blok domain



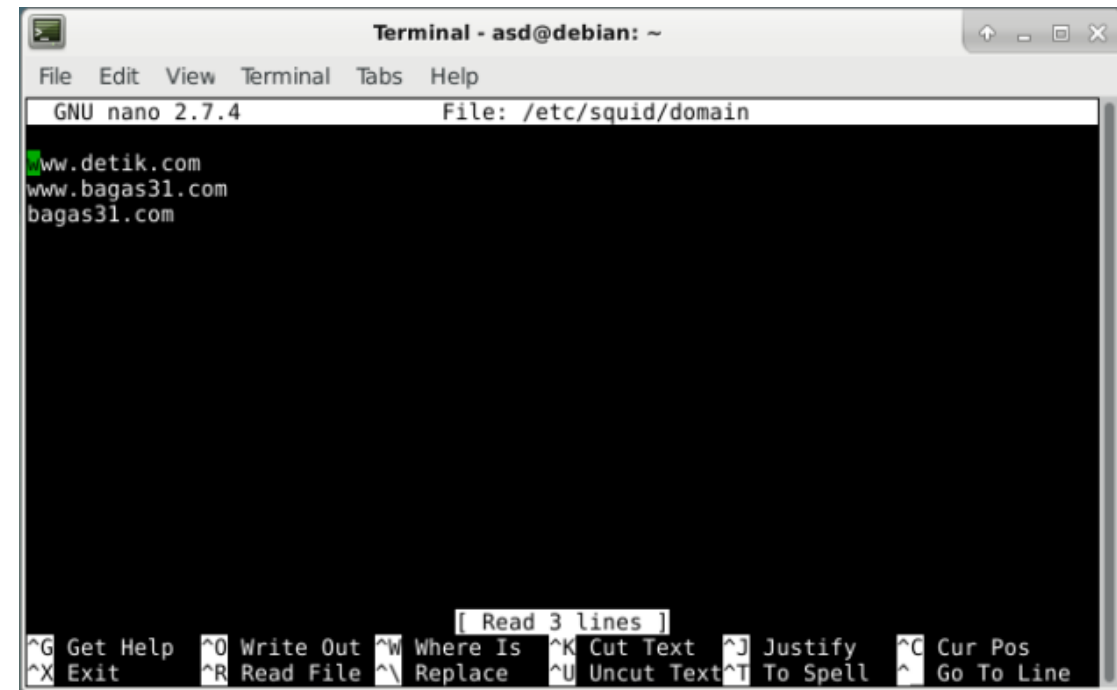
The screenshot shows a terminal window titled "Terminal - asd@debian: ~". Inside, the GNU nano 2.7.4 editor is open, editing the file /etc/squid/squid.conf. The configuration shows a comment for allowing access from local networks, followed by "http\_access allow localnet" and "http\_access allow localhost". Below this, the line "#http\_access deny all" is shown with a green cursor at the beginning, indicating it has been commented out. The terminal also shows a status bar at the bottom with various keyboard shortcuts.

```
Terminal - asd@debian: ~
File Edit View Terminal Tabs Help
GNU nano 2.7.4 File: /etc/squid/squid.conf Modified
#
# Example rule allowing access from your local networks.
# Adapt localnet in the ACL section to list your (internal) IP networks
# from where browsing should be allowed
#http_access allow localnet
http_access allow localhost
# And finally deny all other access to this proxy
#http_access deny all
#
# TAG: adapted_http_access
#   Allowing or Denying access based on defined access lists
#
#   Essentially identical to http_access, but runs after redirectors
#   and ICAP/eCAP adaptation. Allowing access control based on their
#   output.
#
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
```



# Membuat Daftar Blok Situs

```
#nano /etc/squid/domain
```



```
Terminal - asd@debian: ~
File Edit View Terminal Tabs Help
GNU nano 2.7.4 File: /etc/squid/domain
www.detik.com
www.bagas31.com
bagas31.com

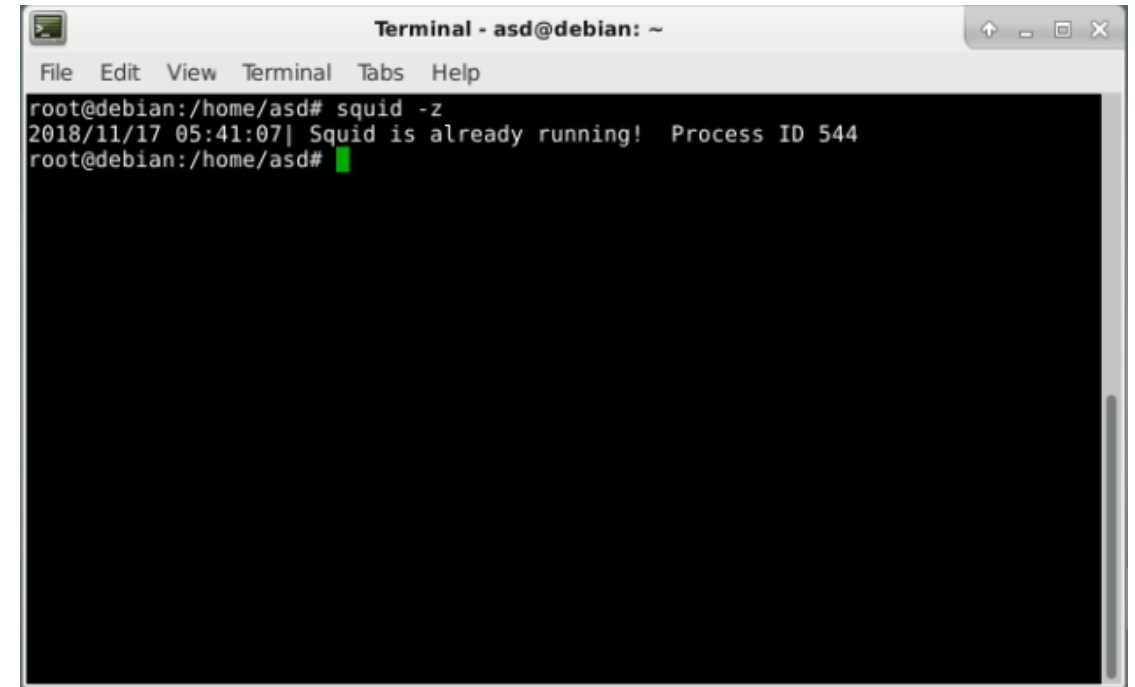
[ Read 3 lines ]
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
```





# Mengecek Service Squid3

- Untuk mengecek apakah konfigurasi squid berjalan, caranya ketikkan perintah `#squid -z`

A terminal window titled "Terminal - asd@debian: ~" with a menu bar (File, Edit, View, Terminal, Tabs, Help). The terminal shows the command "squid -z" being executed. The output is "2018/11/17 05:41:07| Squid is already running! Process ID 544". The prompt "root@debian:/home/asd#" is visible on both lines.

```
root@debian:/home/asd# squid -z
2018/11/17 05:41:07| Squid is already running! Process ID 544
root@debian:/home/asd#
```



# Setting Firewall

- Selanjutnya yaitu membuat firewall untuk meredirect port 80 ke 3128, Secara otomatis segala koneksi yang menggunakan protokol tcp dan port 80 akan redirect ke port 3128 yaitu proxy buatan kita

```
#iptables -t nat -A PREROUTING -s 192.168.56.0/24 -p tcp --dport 80 -j REDIRECT --to-port 3128
```



# Setting Firewall

- Tambahkan juga Firewall IP Forwarding agar koneksi internet dapat diakses oleh PC Client

```
#iptables -t nat -A POSTROUTING -o enp0s3 -j MASQUERADE
```

- Setting IP Forwarding

```
#nano /proc/sys/net/ipv4/ip_forward
```

- Ubah angka 0 menjadi 1 dan save



# Pengujian

- Buka PC client dan tes koneksi internet terlebih dahulu dan pastikan tersambung, jangan lupa menambahkan DNS server dengan cara

```
#nano /etc/resolv.conf
```

- Kemudian tuliskan

```
nameserver 8.8.8.8
```

