

Cara Setting MikroTik Jadi SSH Tunnel Server

Posted by: [Adam Rachmad](#) October 9, 2013 in [Mikrotik](#) [20 Comments](#)

Disini kita coba setting [mikrotik](#) jadi SSH server untuk tunneling, kalo agan punya server mikrotik yang mau dijadikan tunneling server. Simpelnya tunneling adalah teknik mengirimkan paket data melalui koneksi lain. Kenapa harus pake SSH tunnel gan ? auk deh **kabur ga pake sendal** hahaha

Kegunaannya apaan gan ?

- Jika agan mengakses sebuah webserver via tunneling, IP yang dicatat di log adalah koneksi IP SSH server yang agan koneksikan.
- Mempercepat koneksi internasional jika kebetulan agan tunneling ke server SSH mikrotik yang memiliki bandwidth internasional melimpah.
- Membypass segala lapis firewall dan aturan proxy yg ada di [jaringan](#) agan sebelumnya.

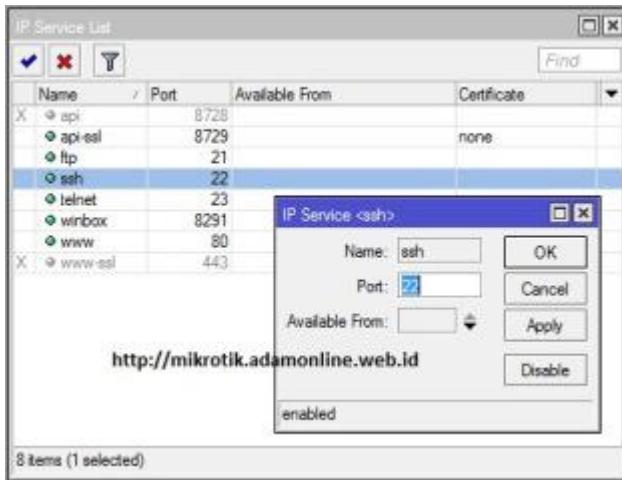
Syarat setting mikrotik jadi SSH server untuk tunneling :

- MikroTik router OS dengan Public IP dengan bandwidth melimpah ^_^, dan yg pasti agan adminnya.
- Service SSH aktif di mikrotik.
- Open port buat SSHnya di firewall.
- Bitvise SSH Client (Tunnelier) atau Putty.

Setting SSH Tunnel Server

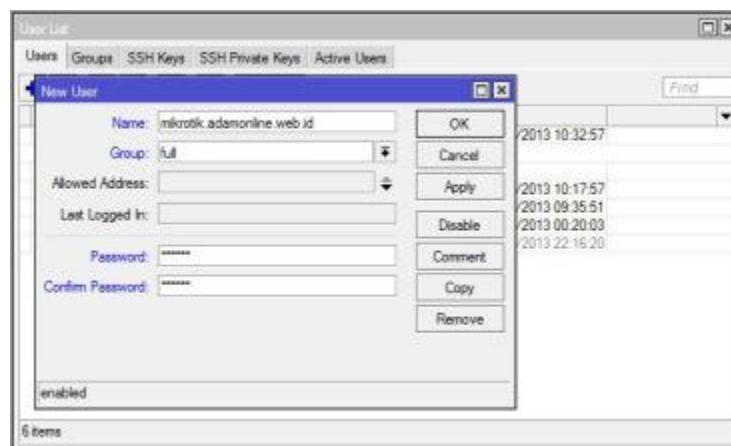
Pertama, kita pastiin dulu service SSHnya aktif dan open port di firewallnya.

Buka [winbox](#) **IP > Services** , cari service **SSH**

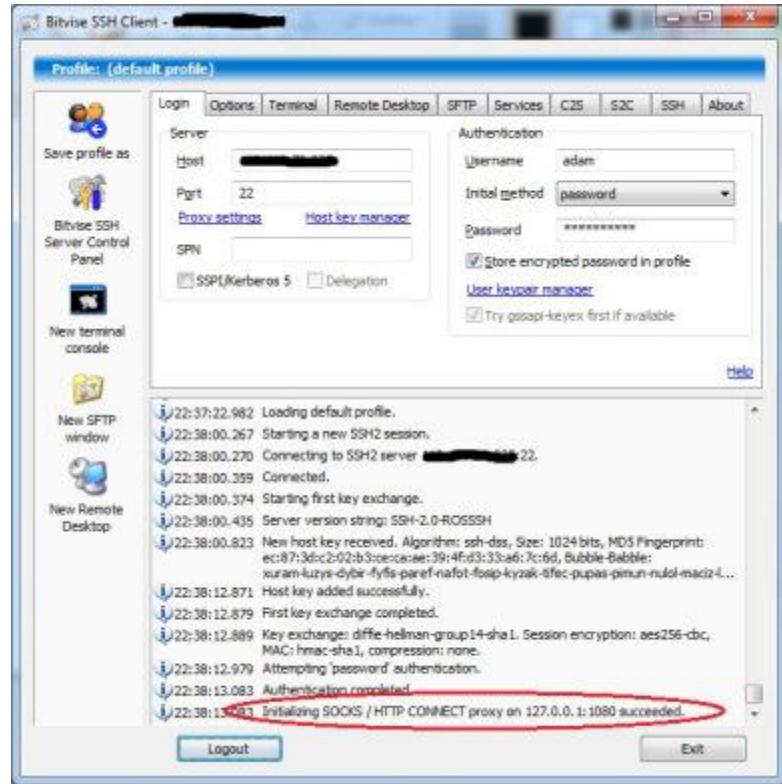


Pastiin posisi “enabled” untuk option **Port** bebas di isi, mao 22 kek, 143 kek, 443 kek, 109 kek.

Lanjut buat username password untuk client SSHnya, Buka winbox **System > Users** > klik “+” untuk tambah user.



Dah, sekarang kita test tunelling via SSH MikroTik, disini ane test pake Bitvise SSH Client (Tunnelier),



Host : isi IP Public mikrotik agan

Port : isi port yg di setting di winbox barusan

Username : isi username yg dibuat di winbox

Password : isi password yg dibuat di winbox

Klik “Login”

Dari status tersebut agan dah connect tuh, tinggal gabungin sama alat perang lainnya.

Cara Setting MikroTik Untuk Warnet Game Online

Posted by: [Adam Rachmad](#) October 15, 2013 in [Mikrotik](#) [46 Comments](#)

Sudah tidak jarang, warnet-warnet sudah menggunakan router [mikrotik](#). Banyak owner warnet yang sudah membuktikan bahwa dengan menggunakan mikrotik untuk [jaringan](#) warnet game online itu efektif dan efisien untuk menjaga omset dan pengunjung warnet game online mereka, walaupun tidak membantu 100% untuk mengurangi lag di game online. Kenapa saya bilang tidak 100% ? karena kembali lagi dari kualitas jaringan internet provider anda (ISP) dan jaringan lokal warnet Anda. Karena hal tersebut kita juga dituntut untuk menganalisa jaringan lebih teliti.

3 Alasan Warnet Game Online Menggunakan Mikrotik

- Perangkat Router yang harganya terbilang murah, mungkin anda sudah tidak asing dengan mikrotik routerboard RB750 dan RB750G atau harga yang tidak berbeda jauh di seri terbaru RB951-2n yang ditambahkan Wireless Built-in.
- Hemat tempat dan konsumsi listrik.
- Pengaturan dan monitoring bandwidth atau lalu lintas data terhadap aktifitas browsing, streaming, download, dan game online yang mudah dengan adanya [aplikasi winbox](#). Tutorial cara setting mikrotik untuk warnet game online pun sudah bertebaran.

Kenapa aktifitas aplikasi game online perlu ada pengaturannya atau “dijagain” dan diberikan prioritas lebih terhadap aktifitas internet lainnya? Karena cara kerja game online menggunakan komunikasi paket data realtime 2 arah antara client dan server game, dan membutuhkan latency / timing penerimaan dan pengiriman paket data game tanpa delay. Jika terjadi delay antara komunikasi paket data game tersebut maka terjadi “lagging” atau “lag/freeze/patah2” .

Artikel lanjutan yang dikembangkan dari tutorial sebelumnya [Optimasi Point Blank di Mikrotik](#)

3 Syarat Kualitas Jaringan Warnet Anda

Saat anda ingin mencoba settingan bandwidth management untuk warnet game online di mikrotik ini, ada kondisi jaringan yang harus anda pastikan terlebih dahulu. Agar setelah anda setting mikrotik anda, terasa efeknya.

- Berlangganan paket yang rasional disesuaikan jumlah pengguna atau jumlah komputer klien, contohnya anda berlangganan 1Mbps untuk 20 komputer, hampir tidak efek, browsing saja susah.
- Latency yang kecil atau bagus, pastikan ping time ke server game / situs lokal anda kecil. Anda bisa melihat kualitas latency atau ping time dengan mengunjungi situs

www.pingtest.net, pastikan Grade [kualitas jaringan speedy](#) warnet Anda “A” atau minimal “B”.

- Kapasitas total bandwidth lokal atau IIX stabil pada kecepatan tertentu sesuai paket internet anda, tidak naik turun.

Sekarang kita ke bagian cara settingnya di mikrotik.

Cara Setting MikroTik Untuk Warnet Game Online

Saya anggap warnet anda mempunyai kondisi jaringan seperti ini :

- Langganan paket Speedy Download 2Mbps dan Upload 512Kbps <– *kecepatan rata2 yang didapat*
- Ada 12 komputer klien.
- Pengaturan bandwidth untuk Game Point Blank, Lost Saga dan Ayodance.
- Ingin membatasi kecepatan download untuk browsing dan lain-lain 1,5Mbps, sisanya untuk game online.
- Ingin membatasi kecepatan upload untuk browsing dan lain-lain 128kbps, sisanya untuk game online.

Anda bisa copy paste langsung script ini ke terminal MikroTik Anda, syaratnya pastikan anda sudah mengganti nama port ether lokal menjadi “ether2-lan”, port ether internet/wan menjadi “ether1-wan” dan IP mikrotik anda 192.168.1.1/24 seperti di tutorial saya sebelumnya [Cara Setting Mikrotik RB750](#). Tapi saran saya dipelajari flow scriptnya agar anda mengerti betul dan bisa dikembangkan .

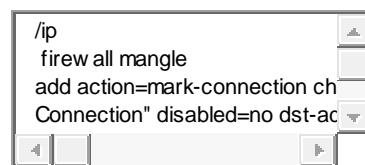
Pertama, Download dan Import Address List dari nice.rsc [mikrotik.co.id](#), copas script di bawah ke terminal mikrotik anda (skip ini jika address list nice sudah ada) :



```
/tool fetch address=ixp.mikrotik.
```

1 /tool fetch address=ixp.mikrotik.co.id src-path=/download/nice.rsc dst-path=/nice.rsc
mode=http;/import nice.rsc;

Kedua, Buat mangle / penandaan paket data dari masing-masing koneksi games (contoh disini Point Blank, Lost Saga dan Ayodance) dan mangle semua trafik (browsing, download, streaming dan lain-lain jadi satu)



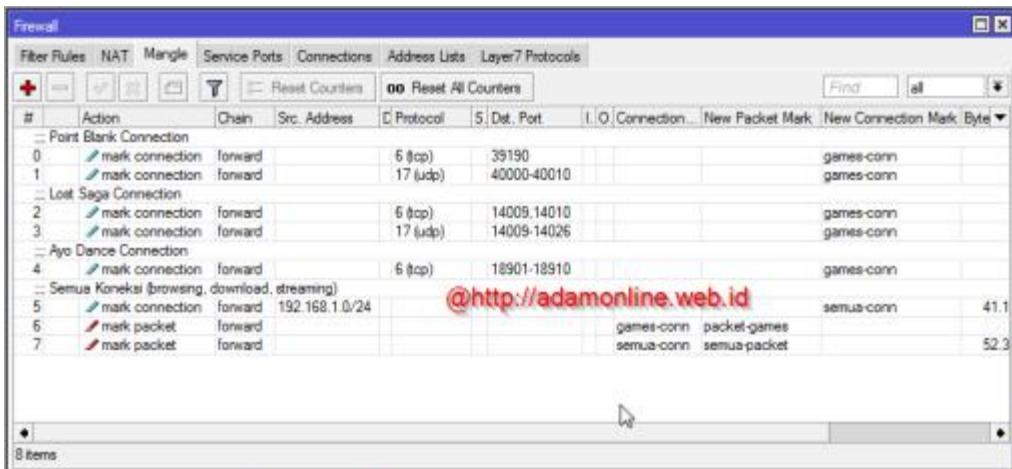
```
/ip  
firewall all mangle  
add action=mark-connection ch  
Connection" disabled=no dst-ac
```

```

/ip firewall mangle
add action=mark-connection chain=forward comment="Point Blank Connection" disabled=no
dst-address-list=nice dst-port=39190 new-connection-mark=games-conn passthrough=yes
protocol=tcp
add action=mark-connection chain=forward disabled=no dst-address-list=nice dst-port=40000-
40010 new-connection-mark=games-conn passthrough=yes protocol=udp
1 add action=mark-connection chain=forward comment="Lost Saga Connection" disabled=no
2 dst-address-list=nice dst-port=14009,14010 new-connection-mark=games-conn
3 passthrough=yes protocol=tcp
4 add action=mark-connection chain=forward disabled=no dst-address-list=nice dst-port=14009-
5 14026 new-connection-mark=games-conn passthrough=yes protocol=udp
6 add action=mark-connection chain=forward comment="Ayo Dance Connection" disabled=no
7 dst-address-list=nice dst-port=18901-18910 new-connection-mark=games-conn
8 passthrough=yes protocol=tcp
9 add action=mark-connection chain=forward comment="Semua Koneksi (browsing, download,
streaming)" disabled=no new-connection-mark=semua-conn passthrough=yes src-
address=192.168.1.0/24
add action=mark-packet chain=forward connection-mark=games-conn disabled=no new-
packet-mark=packet-games passthrough=no
add action=mark-packet chain=forward connection-mark=semua-conn disabled=no new-
packet-mark=semua-packet passthrough=no

```

Jika benar harusnya di [winbox](#) IP > Firewall > Mangle ada 7 baris mangle, seperti gambar di bawah :



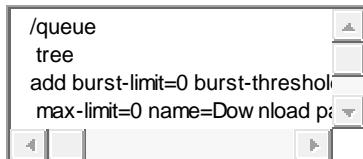
The screenshot shows the Winbox interface with the 'Firewall' tab selected. Under the 'Mangle' tab, there is a table listing 7 firewall rules:

#	Action	Chain	Src. Address	Protocol	Dst. Port	I.O Connection	New Packet Mark	New Connection Mark	Byte
0	mark connection	forward		6 (tcp)	39190		games-conn		
1	mark connection	forward		17 (udp)	40000-40010		games-conn		
2	mark connection	forward		6 (tcp)	14009,14010		games-conn		
3	mark connection	forward		17 (udp)	14009-14026		games-conn		
4	mark connection	forward		6 (tcp)	18901-18910		games-conn		
5	mark connection	forward	192.168.1.0/24				semua-conn		41.1
6	mark packet	forward				games-conn	packet-games		
7	mark packet	forward				semua-conn	semua-packet		52.3

Setting Mangle Mikrotik u/ Game Online

Yang perlu anda perhatikan adalah protocol (UDP atau TCP) dan dst-port yang digunakan masing-masing game online tersebut. Cara mengetahui port game online tersebut bisa menggunakan tool “Torch” di winbox. Atau anda bisa lihat [daftar port game online](#). Tapi baiknya anda coba analisa atau cari sendiri port dan protocol yang digunakan, takutnya berubah.

Ketiga, Sekarang, kita setting pengaturan bandwidthnya di Queue Tree.



```
/queue tree
add burst-limit=0 burst-threshold=0 max-limit=0 name=Dow nload pa
1 add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name=Download parent=ether2-lan priority=8
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=1500k
1 name="Semua Paket" packet-mark=semua-packet parent=Download priority=8 queue=default
2 add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
2 name="Games Online" packet-mark=packet-games parent=Download priority=8
3 queue=default
4 add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
5 name=Upload parent=ether1-wan priority=8
6 add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=128k
7 name="Semua Paket Upload" packet-mark=semua-packet parent=Upload priority=8
queue=default
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name="Games Online Upload" packet-mark=packet-games parent=Upload priority=8
queue=default
```

Seperti yang sebelumnya kita inginkan, membatasi kecepatan download untuk browsing dan lain-lain 1,5Mbps, sisanya untuk game online dan Kecepatan upload untuk browsing dan lain-lain 128kbps, sisanya untuk game online. Anda cukup merubah-rubah “max-limit” sesuai keinginan Anda. Hasilnya di winbox akan seperti gambar di bawah ini :

Name	Parent	Packet Marks	Max Limit	Avg. Rate	Queued Bytes	Bytes	Packets
Download	ether2-lan			808 bps	0 B	2640.4 ...	3 020
Games Online	Download	packet-games		0 bps	0 B	0 B	0
Semua Paket	Download	semua-packet	1500k	808 bps	0 B	2640.4 ...	3 020
Upload	ether1-wan			808 bps	0 B	264.9 ...	1 372
Games Online Upload	Upload	packet-games		0 bps	0 B	0 B	0
Semua Paket Upload	Upload	semua-packet	128k	808 bps	0 B	264.9 ...	1 372

Limit di Queue Tree Game Online

Pengaturan bandwidth di mikrotik untuk game online tersebut, adalah teknik “pengorbanan”. Anda bisa memutuskan mana yang lebih menguntungkan pengunjung game online apa pengunjung browsing / tukang download. Jika pengunjung game online anda lebih banyak, anda korbankan pengunjung browsing atau dalam arti di kasih jatah bandwidth lebih sedikit.

Tahap Akhir, Pengetesan !

Efek settingan tersebut harus anda analisa apakah membuat koneksi game online lebih baik. Caranya mudah, lakukan download atau video streaming yang terus-menerus di salah satu komputer. Dan di komputer lain coba bermain game online. Anda rubah “max-limit” untuk “Semua koneksi” sampai ketemu yang pas (game online tidak lag), karena kondisi jaringan internet berbeda-beda setiap daerah (beda tempat beda rasa).

Untuk koreksi, pendapat, kritik dan saran atas artikel ini... mongoooo ^_^

Cara Setting Server Proxy Untuk Warnet

Posted by: [Adam Rachmad](#) September 22, 2013 in [Linux](#) [15 Comments](#)

Cara setting server proxy untuk warnet, mungkin banyak pemilik warnet ingin memanjakan customer2nya. Biar makin betah di warnet, tetep duduk manis ga mandi-mandi. Setting proxy server adalah salah satu incaran owner warnet agar bisa mempertahankan atau menaikan omset warnet mereka.

Kelebihan menggunakan Proxy server

Kelebihan menggunakan server proxy adalah data yang diminta dari klien akan diarahkan ke server proxy kemudian dilanjutkan ke server internet. Pada saat data dari server datang, data tersebut akan diarahkan oleh server internet ke server proxy kemudian server proxy meneruskan data tsb ke klien yg memintanya. Selain memberikan data ke klien, server proxy juga menyimpan salinan data itu sebagai webcache di hardisk walaupun tidak semua website bisa tersimpan. Apabila ada user lain yg meminta data yg sama, maka server proxy akan mengambil data tersebut dari hardisk tanpa harus melakukan koneksi ke server internet yg menyediakan data tsb. Kalau permintaan yg sama dilakukan oleh user berkali-kali tentu akan mempengaruhi kecepatan akses internet secara signifikan, serasa koneksi warnetnya lebih ngaciir. Paling diharapkan oleh owner warnet :

- Bisa menghemat bandwidth.
- Loading game berbasis web menjadi lebih cepat, contoh game facebook.
- Nonton youtube tidak buffering.
- Update game online menjadi lebih cepat.

Cara Setting Server Proxy Squid di Linux

Di artikel ini kita menggunakan OS linux distro Trustix. Apa bedanya squid di distro lain? pengalaman ajah, entah kenapa saya lebih memilih trustix dibanding dengan distro lain. Lebih stabil, kebutuhan hardwarenya pun ga manja. (pendapat pribadi aja yah, kalo salah ya mangap). Tapi terkenal ribet settingnya. Saya anggap anda sudah mempunyai komputer server dengan OS trustix, atau anda bisa lihat [Instalasi Trustix Secure Linux 3.0.5](#) jika anda mau coba menggunakan OS trustix untuk server proxy anda.

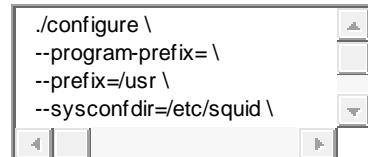
Cara install Squid Proxy Server Di Trustix

Kita ga pake squid bawaan Trustix, karena jadul. Jadi kita install squidnya manual.

```
root@adamonline ~# wget http://www.squid-cache.org/Versions/v2/2.7/squid-2.7.STABLE7.tar.gz
```

```
root@adamonline ~# tar -zvxf squid-2.7.STABLE7.tar.gz
root@adamonline ~# cd squid-2.7.STABLE7
```

Configure yg digunakan :



```
1 ./configure \
2 --program-prefix= \
3 --prefix=/usr \
4 --sysconfdir=/etc/squid \
5 --enable-async-io \
6 --enable-poll \
7 --enable-gnuregex \
8 --enable-carp \
9 --enable-storeio=aufs,diskd,ufs,null \
10 --enable-forw-via-db \
11 --enable-icmp \
12 --enable-cache-digests \
13 --enable-removal-policies=lru,heap \
14 --enable-delay-pools \
15 --enable-snmp \
16 --enable-truncate \
17 --enable-default-err-language=English \
18 --enable-err-languages=English \
19 --enable-linux-netfilter \
20 --disable-ident-lookups \
21 --disable-wccp \
22 --disable-wccpv2 \
23 --with-pthreads \
24 --with-aio \
25 --with-dl \
26 --with-maxfd=8192
```

Abis ntu kita jalankan proses instalasinya

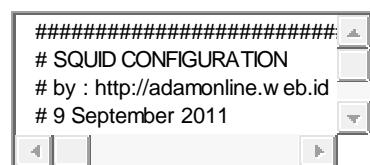


```
1 make
2 umask 022
3 make install
```

```
4 make clean  
5 chown squid.squid /usr/share/icons -R  
6 chown squid.squid /usr/share/errors -R
```

Edit file **/etc/squid/squid.conf** dengan contoh di bawah :

Contoh file konfigurasi **squid.conf** untuk awal anda setting server proxy



```
#####
# SQUID CONFIGURATION
# by : http://adamonline.web.id
# 9 September 2011
#####

1 #####
2 # SQUID CONFIGURATION      #
3 # by : http://adamonline.web.id      #
4 # 9 September 2011      #
5 #####
6
7 http_port 3128 transparent
8 icp_port 3130
9 server_http11 on
10 <strong>cache_dir aufs /cache 20000 16 256</strong>
11 access_log /var/log/squid/access.log squid
12 cache_store_log none
13 logfile_rotate 14
14 shutdown_lifetime 10 second
15 cache_mgr anakstress@gmail.com
16 visible_hostname http://www.adamonline.web.id
17 cache_effective_user squid
18 cache_effective_group squid
19 check_hostnames off
20 dns_timeout 30 seconds
21 <strong>dns_nameservers </strong>8.8.8.8 8.8.4.4
22 hosts_file /etc/hosts
23 acl all src all
24 acl manager proto cache_object
25 acl localhost src 127.0.0.1/32
26 acl to_localhost dst 127.0.0.0/8 0.0.0.0/32
27 acl localnet src 192.168.133.0/24 # RFC1918 possible internal network
28 acl SSL_ports port 443 # https
29 acl SSL_ports port 563 # snews
30 acl SSL_ports port 873 # rsync
31 acl Safe_ports port 80 # http
32 acl Safe_ports port 21 # ftp
33 acl Safe_ports port 443 # https
```

```
34 acl Safe_ports port 70 # gopher
35 acl Safe_ports port 210 # wais
36 acl Safe_ports port 1025-65535 # unregistered ports
37 acl Safe_ports port 280 # http-mgmt
38 acl Safe_ports port 488 # gss-http
39 acl Safe_ports port 591 # filemaker
40 acl Safe_ports port 777 # multiling http
41 acl Safe_ports port 631 # cups
42 acl Safe_ports port 873 # rsync
43 acl Safe_ports port 901 # SWAT
44 acl purge method PURGE
45 acl CONNECT method CONNECT
46 http_access allow manager localhost
47 http_access deny manager
48 http_access allow purge localhost
49 http_access deny purge
50 http_access deny !Safe_ports
51 http_access deny CONNECT !SSL_ports
52 http_access allow localhost
53 http_access allow localnet
54 http_access deny all
55 icp_access allow localnet
56 icp_access deny all
57 hierarchy_stoplist cgi-bin ?
58 refresh_pattern ^ftp: 1440 20% 10080
59 refresh_pattern ^gopher: 1440 0% 1440
60 refresh_pattern -i (/cgi-bin/|/?) 0 0% 0
61 refresh_pattern (Release|Packages(.gz)*)$ 0 20% 2880
62 refresh_pattern . 0 20% 4320
63 acl shoutcast rep_header X-HTTP09-First-Line ^ICY.[0-9]
64 upgrade_http0.9 deny shoutcast
65 acl apache rep_header Server ^Apache
66 broken_vary_encoding allow apache
67 extension_methods REPORT MERGE MKACTIVITY CHECKOUT
68 coredump_dir /var/spool/squid
```

Yg di bold sesuaikan dengan jaringan anda

Kok dikit amat gan, keren ga tuh settingannya? hahaha, sabar gan. Itu file config awal setting server proxy, agan bisa kembangkan dengan menambahkan atau bermain sama yang namanya “refresh_pattern” tergantung kebutuhan agan. Saya punya beberapa teknik setting proxy server yang saya contohkan tergantung kasus. Misalnya :

- *Sabar ya gan, artikelnya lagi dirapiin 😊*

Lanjut gan, karena kita telah membuat 1 partisi khusus untuk cache squid maka kita buat permisionnya dulu

```
root@adamonline ~# chown squid.squid /cache/ -R
```

Saya kurang tau deh, awalnya file access.log ataupun folder /var/log/squid itu ga ada. Jadi saya buat manual untuk folder log squidnya.

```
root@adamonline ~# mkdir /var/log/squid root@adamonline ~# chown squid.squid  
/var/log/squid/ -R
```

Yup , kita tinggal aktifkan service squidnya

```
root@adamonline ~# squid -z
```

Sebelum kita aktifin service squidnya, kita lakukan proses debugnya dulu. Biar keliatan kalo ada masalah.

```
root@adamonline ~# squid -N -d 1 -D
```

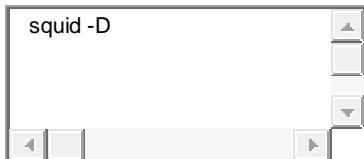
Kalo sudah tidak ada error dan Ready to Serve, ctrl-c untuk stop dan kita aktifkan lagi dengan

```
root@adamonline ~#squid -D
```

Agar squid berjalan otomatis pada proses booting tambahkan line di bawah pada file **rc.local**

```
root@adamonline ~# vi /etc/rc.local
```

Jika anda kesulitan menggunakan editor “vi” bisa lihat [Cara Menggunakan VI Editor Linux](#)
lalu tambahkan baris ini



1 squid -D

Penerapan Server Proxy di Jaringan Warnet

Trus gimana pasang ni server proxy di jaringan warnet ane gan? Karena kebanyakan warnet menggunakan MikroTik untuk routernya, agan bisa lihat [Cara Setting MikroTik Menggunakan Proxy External](#), proxy external yang dimaksud y komputer server proxy agan yang barusan agan setting.

Trus gimana cara lihat ni server proxy berjalan sebagaimana mestinya? Anda bisa lihat artikel saya di [Cara Monitoring LOG squid anda](#) atau [Cara Monitoring LOG Squid Dengan Squidmon.py](#)

Cara Setting User Manager di MikroTik

Posted by: [Adam Rachmad](#) September 13, 2014 in [Mikrotik](#) 3 Comments

User Manager adalah salah satu fitur user management di [mikrotik](#) atau yang disebut aplikasi RADIUS Server, yang bisa kita aplikasikan untuk managemen user :

- Hotspot user.
- PPP (PPtP/PPPoE) user.
- DHCP user.
- Wireless user.
- RouterOS user.

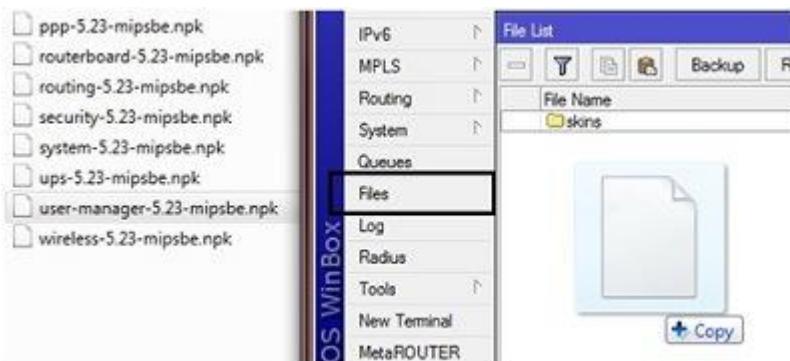
Management user yang memungkinkan kita melakukan limitasi akun user :

- Time Based (waktu)
- Quota Based (Total Byte download and upload)
- Rate Limits (speed)

Dengan usermanager kita bisa juga membuat Auto generate voucher template, kita dapat membuat voucher [internet](#) yang memberikan informasi username/password dan paket dalam bentuk voucher. Contohnya bisa lihat di [Voucher Template UserManager Hotspot MikroTik](#).

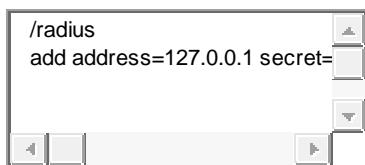
Cara Install User Manager Di MikroTik

Default usermanager belum terinstall pada mikrotik, download packagenya terlebih dahulu di <http://routeros.co.id> . Pilih versi yang sama dengan mikrotik anda dan download file package berbentuk zip “all_package-tipe-versi.zip”. Extract file tersebut dan didalamnya akan ada package “userman-versi-versi.npk”. Upload file “userman-versi-versi.npk” ke mikrotik menggunakan FTP, atau bisa juga drag n drop dari PC ke jendela menu FILES yang ada di [winbox](#) mikrotik anda. Jika proses upload selesai, reboot mikrotik Anda agar package diinstall oleh router.



Drag n Drop File Package Userman Ke Winbox

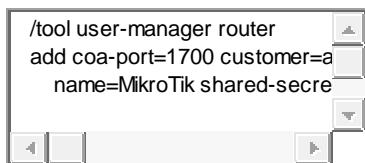
Setelah package userman sudah terinstall, sekarang adalah mengintegrasikan usermanager dengan mikrotik Anda. Agar service mikrotik dapat ber komunikasi dengan Usermanager / Radius Server.



1 /radius
2 add address=127.0.0.1 secret=123456 service=ppp,hotspot,wireless,dhcp

Karena kita mengintegrasikan **usermanager dalam 1 box/perangkat yang sama**. Pada option Address saya isi “address=127.0.0.1 . Dan option Secret adalah password yang digunakan untuk komunikasi antara mikrotik router dengan usermanager. Dan service ppp, hotspot, wireless, dhcp akan menggunakan otentifikasi pada usermanager.

Kemudian kita daftarkan router yang akan menggunakan Usermanager untuk proses otentifikasi dengan setting pada sisi usermanager.



1 /tool user-manager router
2 add coa-port=1700 customer=admin disabled=no ip-address=127.0.0.1 log=auth-fail \
3 name=MikroTik shared-secret=123456 use-coa=no

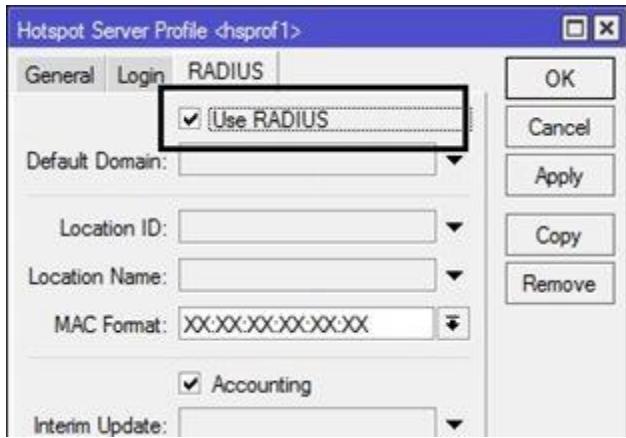
Login ke Web Interface User Manager

Untuk login ke customer web interface ketik alamat di web browser Anda :

http://Router_IP_address/userman, dimana “Router_IP_address” adalah IP Address router mikrotik Anda. Gunakan username dan password default “**user:admin pass:kosong**” untuk pertama kali. Untuk memberikan / mengganti password “admin” pada web klik menu kiri “Costumer” dan klik username yang akan mau diganti. Username disini adalah username admin yang digunakan untuk mengelola user/client pada usermanager.

Integrasi Hotspot MikroTik Dengan User Manager

Dengan salah satu fitur hotspot mikrotik, yang membatasi penggunaan koneksi internet dengan otentifikasi menggunakan halaman login dengan browser. Disini saya akan mencontohkan bagaimana setting hotspot mikrotik dengan usermanager. Dengan kata lain managemen user akan berada pada usermanager bukan pada user management winbox. Aktifkan “Use RADIUS” pada Server Profile Hotspot anda.



Anggap saja anda jualan koneksi internet menggunakan voucher internet, misalnya pada cafe, hotel, sekolah, rt/rw net atau tempat publik lainnya. Yang setiap voucher mempunyai batasan/limitasi dan harga yang berbeda.

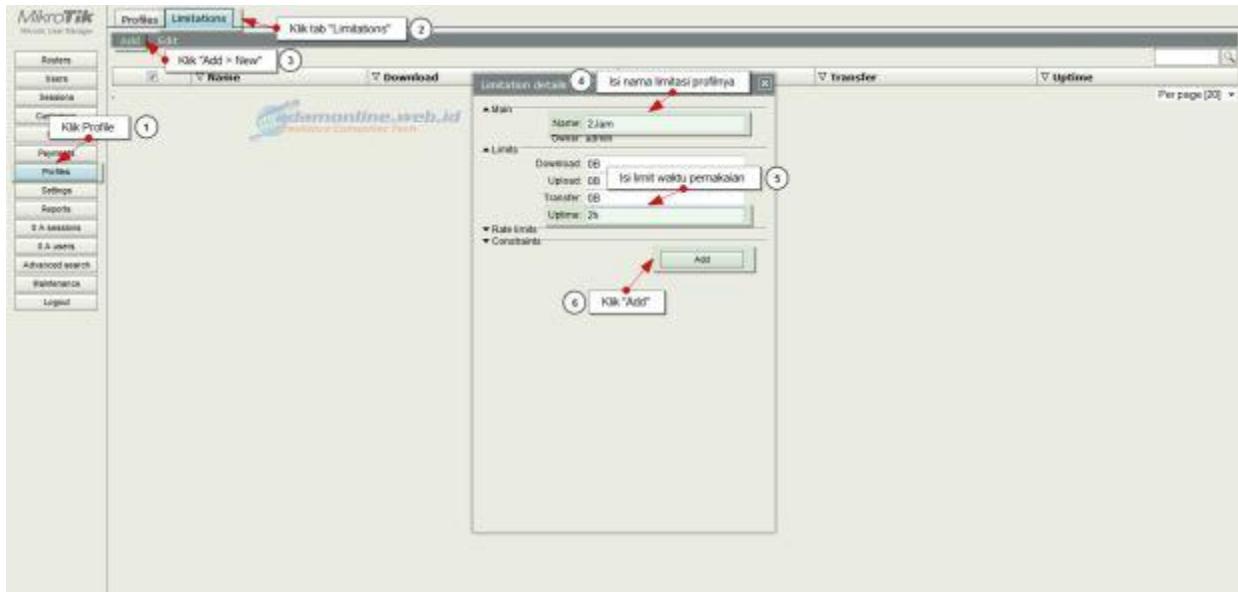
Pertama anda rencanakan paket voucher internet yang anda berikan.

#	Voucher	Harga	Quota	Waktu	Masa Aktif
1	V 50k	Rp. 50.000	30	Jam	15 Hari
2	V 20k	Rp. 20.000	12	Jam	7 Hari
3	V 10k	Rp. 10.000	4	Jam	2 Hari
4	V 5k	Rp. 5.000	2	Jam	1 Hari

Dengan paket voucher internet seperti yang anda rencanakan, step pada usermanager adalah :

Setting Profile Limitation

Kita akan membuat limitasi berdasarkan waktu, 30, 12, 4 dan 2 jam, dalam arti username password bisa digunakan selama waktu yang ditentukan.



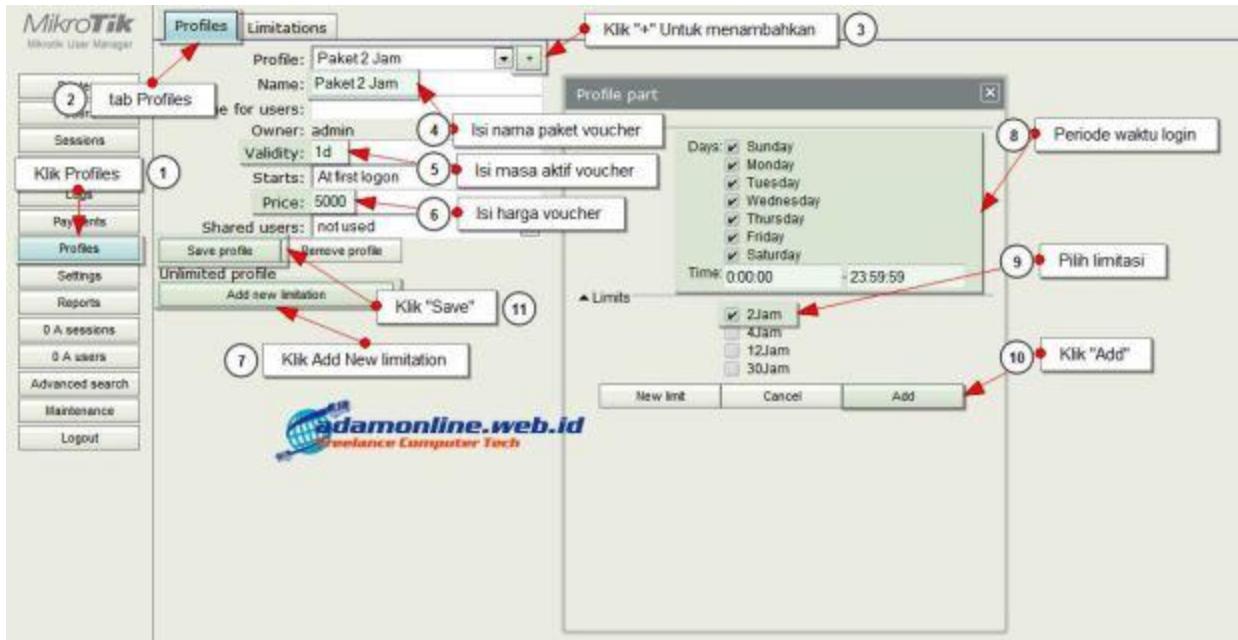
Pada web interfaces usermanager

1. Klik “**Profiles**” pada menu kiri.
2. Klik tab “**Limitation**“
3. Klik menu “**Add > New**“
4. Pada kolom “**Name:**” isi nama limitasinya, contoh disini isi “**2Jam**”
5. Pada kolom “**Uptime**” isi “**2h**” karena voucher bisa digunakan untuk login selama 2 jam.
6. Klik “**Add**“

Teruskan membuat kembali untuk limitasi waktu voucher lainnya.

Setting Profile Voucher

Setelah membuat profil limitasi kemudian kita membuat Profiles/Paket voucher yang nanti digunakan masing-masing kategori username.

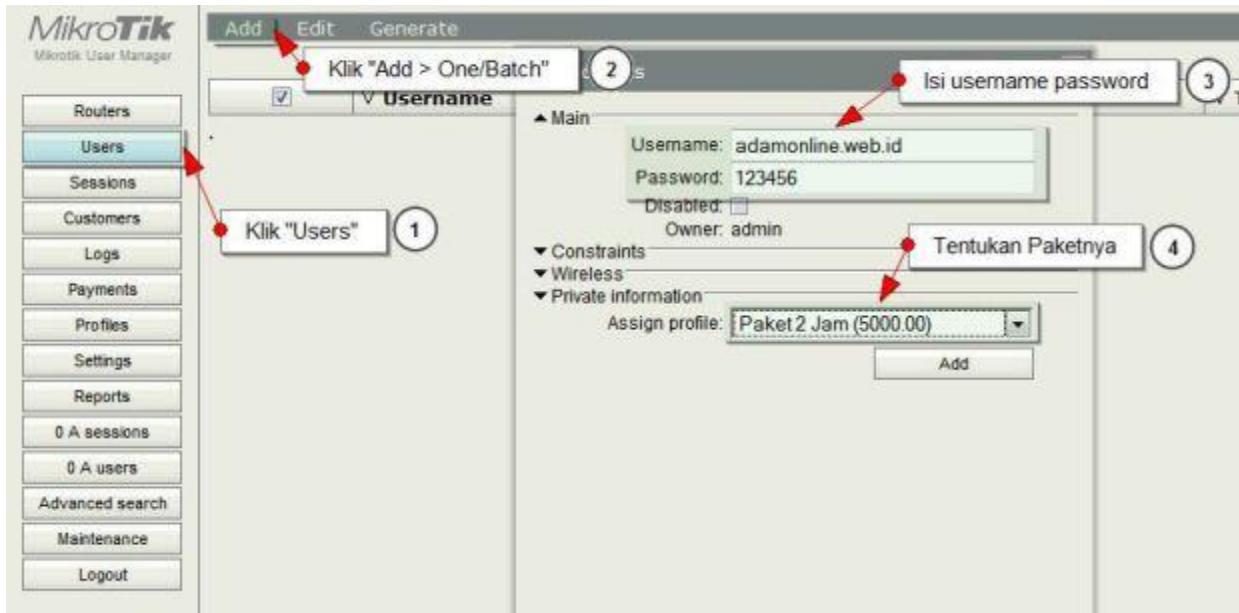


1. Klik “**Profiles**” pada menu kiri.
2. Klik tab “**Profiles**“
3. Klik tombol “+” untuk menambahkan.
4. Isi nama profiles/paket voucher, misalnya “**Paket 2Jam**“
5. Isi masa aktif voucher pada kolom “**Validity**“, misalnya “**1d**“/1 hari. Jadi voucher ini akan hangus dalam 1 hari terhitung dari saat pertama kali login (harus dihabiskan dalam 1 hari), walaupun masih ada sisa waktu.
6. Isi harga paket voucher pada kolom “**Price**“
7. Klik tombol “**Add new limitation**“
8. Tentukan periode waktu, paket ini bisa digunakan pada hari atau jam berapa. Opsi ini bisa digunakan bila anda mempunyai paket voucher seperti paket begadang, atau paket weekend.
9. Pilih limitasi yang sebelumnya anda buat sesuai nama profile/paket voucher Anda, misalnya **2Jam** dalam contoh ini.
10. Klik “**Add**“
11. Klik “**Save Profile**“

Klik tombol “+” kembali untuk menambahkan profile/paket voucher lainnya.

Membuat User Hotspot pada User Manager

Step terakhir, kita tambahkan informasi user hotspot di menu user. Klik tombol “Add – One” (untuk menambah username dan password secara manual) atau menggunakan “Add – Batch” (UserManager akan menggenerate banyak username dan password). Jangan lupa, tentukan profilnya dengan profil yang sudah kita buat.



Untuk Generate voucher untuk bisa di print, Pilih/centang username password yang mau dibuatkan voucher, klik menu “**Generate > Voucher**“

Instalasi Trustix Secure Linux 3.0.5

Posted by: [Adam Rachmad](#) September 9, 2011 in [Linux 11 Comments](#)

Kali ini kita coba distro yg satu nie untuk keperluan aplikasi server kita. Kok pake trustix ? ups, disini saya tidak membahas perbedaan trustix dengan distro yg lain. Awas, halaman ini teridentifikasi bandwidth killer alias banyak gambarnya 😊

Yg pasti dipersiapkan CD Instaler Trustixnya dulu donk, anda bisa download file ISOnya dimari



1 <http://ftp.heanet.ie/mirrors/trustix/releases/trustix-3.0.5/iso/>

Booting deh via CD Room.

1. Welcome Page



Itu buat test CD installer aja, skip aja yg ini

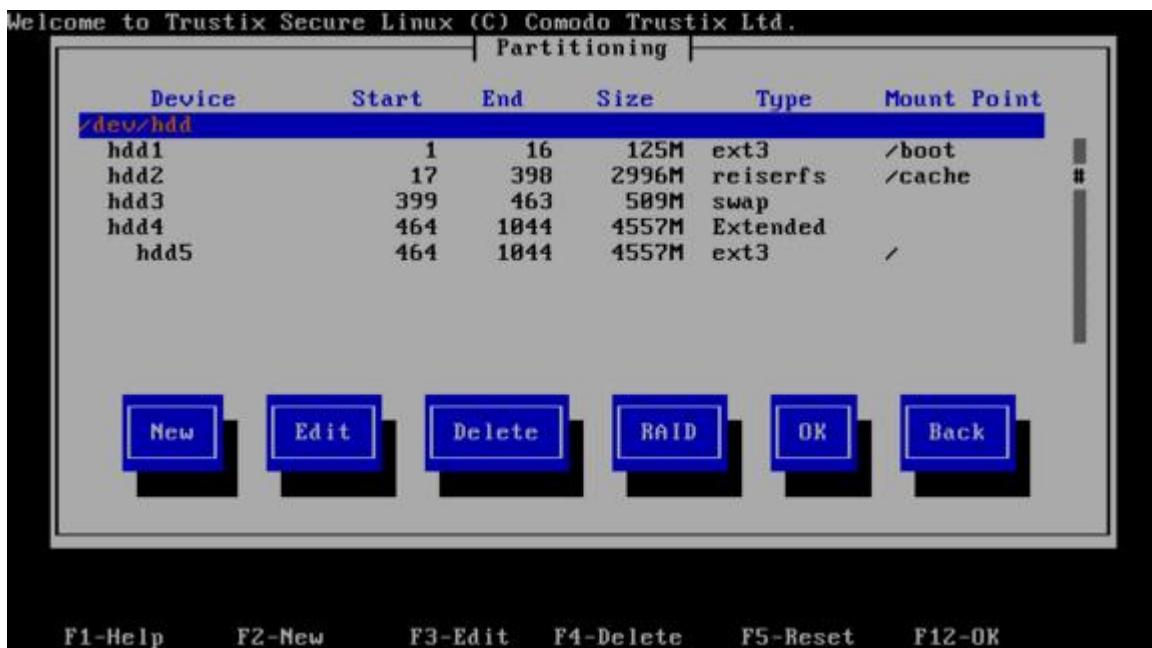
2. Pilih bahasa

3. Pilih Jenis keyboard

4. Proses Partisi



Kita pilih “Disk Druid” karena kita mau bikin partisinya manual.



Partisi versi Saya :

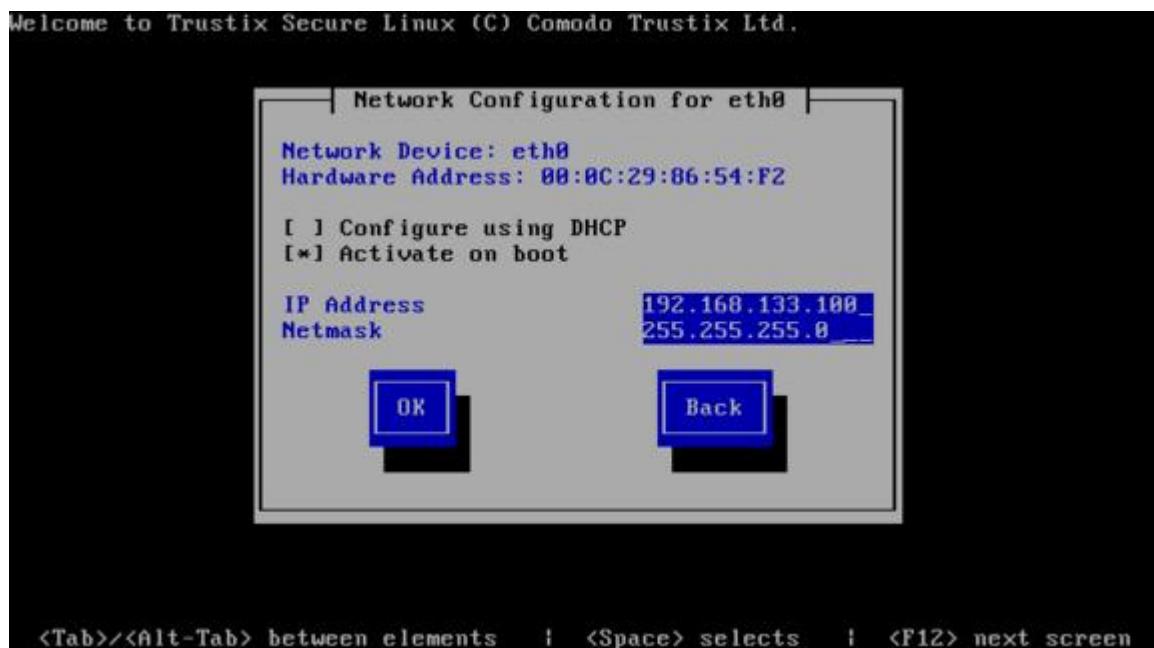
/boot	128MB
[sw ap]	512MB
/cache	3000MB << partis
/	sisanya...

1 /boot 128MB
 2 [swap] 512MB
 3 /cache 3000MB << partisi buat cache squid dgn FS ReiserFS
 4 / sisanya...

trus pilih OK atau pencet F12

5. Konfigurasi Jaringan

Laju lagi ke menu setting networknya



Kita bisa pilih untuk eth0 sebagai DHCP Client atau kita set statik IP. Jgn lupa centang “Activate on boot” trus OK



Disini kita masukan IP Gateway dan DNS server anda untuk koneksi internetnya.

Ketikan hostname server anda

Pilih time zone anda

6. Input Password Untuk ROOT

Masukan password ROOT anda

7. Instalasi Paket



Paket yang di install :

- Common local utilities
- Common network utilities (tekan F2 tambahan : mrtg, net-snmp, net-snmp libs, net-snmp-utils)
- Webserver with PHP
- Domain Name Server
- Firewall
- Development Libraries

Lalu klik OK 2x

8. Proses Instalasi

Nyalain rokok deh sama seduh kopi

9. Proses Instalasi Selesai



Reboot dah, trus login dengan user “Root” Passw “pass anda”

10. Setting SSH

Setelah instalasi service ssh tidak aktif, kita harus mengaktifkannya dulu

```
root@adamonline ~# vi /etc/ssh/sshd_config
```

Port 22 << uncomment baris ini
PermitRootLogin no
ganti jadi
PermitRootLogin yes

liat juga [Menggunakan VI Editor Linux](#)

```
root@adamonline ~# chkconfig sshd on  
root@adamonline ~# service sshd start
```

Next

- Instalasi Squid Proxy di Trustix
- Instalasi DNS Server di Trustix

```
/ip firewall mangle
add action=mark-connection chain=prerouting in-interface=ether2 \ layer7-protocol="Extension
\" .exe \" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \ layer7-protocol="Extension
\" .mp4 \" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \ layer7-protocol="Extension
\" .rar\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \ layer7-protocol="Extension
\" .zip\" new-connection-mark=download_conn

add action=mark-connection chain=prerouting in-interface=ether2 new-connection-
mark=all_conn
add action=mark-connection chain=prerouting in-interface=ether3 new-connection-
mark=all_conn

add action=mark-packet chain=prerouting connection-mark=download_conn new-packet-
mark=download_packet
add action=mark-packet chain=prerouting connection-mark=all_conn new-packet-
mark=all_packet
```

```
/queue simple
add comment=\
    "adamonline.web.id - Memisahkan bandwidth browsing & download file" \
max-limit=128k/1M name=Browsing packet-marks=all_packet target=\
192.168.20.0/24
add max-limit=512k/512k name="Download File" packet-marks=download_packet \
target=192.168.20.0/24
```

```
/queue simple
add comment=\
    "tkjdwiwarna.blogspot.com- Memisahkan bandwidth browsing & download file" \
max-limit=128k/1M name=Browsing1 packet-marks=all_packet target=\
192.168.21.0/24
add max-limit=512k/512k name="Download File1" packet-marks=download_packet \
target=192.168.21.0/24
```

```
/ip firewall mangle
add chain=forward action=mark-connection new-connection-mark=users-con passthrough=yes
src-address=192.168.2.0/24

add chain=forward action=mark-packet new-packet-mark=users passthrough=yes connection-
mark=users-con

add chain=prerouting action=mark-packet new-packet-mark=http-video passthrough=no layer7-
protocol=http-video

add chain=prerouting action=mark-connection new-connection-mark=7z DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".7z"

add chain=postrouting action=mark-packet new-packet-mark=7z passthrough=no protocol=tcp
connection-mark=7z

add chain=prerouting action=mark-connection new-connection-mark=asf DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".asf"

add chain=postrouting action=mark-packet new-packet-mark=asf passthrough=no protocol=tcp
connection-mark=asf

add chain=prerouting action=mark-connection new-connection-mark=avi DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".avi"

add chain=postrouting action=mark-packet new-packet-mark=avi passthrough=no protocol=tcp
connection-mark=avi

add chain=prerouting action=mark-connection new-connection-mark=bin DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".bin"

add chain=postrouting action=mark-packet new-packet-mark=bin passthrough=no protocol=tcp
connection-mark=bin

add chain=prerouting action=mark-connection new-connection-mark=flv DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".flv"

add chain=postrouting action=mark-packet new-packet-mark=flv passthrough=no protocol=tcp
connection-mark=flv

add chain=prerouting action=mark-connection new-connection-mark=iso DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".iso"

add chain=postrouting action=mark-packet new-packet-mark=iso passthrough=no protocol=tcp
connection-mark=iso
```

```
add chain=prerouting action=mark-connection new-connection-mark=mkv DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".mkv"

add chain=postrouting action=mark-packet new-packet-mark=mkv passthrough=no protocol=tcp
connection-mark=mkv

add chain=prerouting action=mark-connection new-connection-mark=exe DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".exe"

add chain=postrouting action=mark-packet new-packet-mark=exe passthrough=no protocol=tcp
connection-mark=exe

add chain=prerouting action=mark-connection new-connection-mark=mov DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".mov"

add chain=postrouting action=mark-packet new-packet-mark=mov passthrough=no protocol=tcp
connection-mark=mov

add chain=prerouting action=mark-connection new-connection-mark=mp3 DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".mp3"

add chain=postrouting action=mark-packet new-packet-mark=mp3 passthrough=no protocol=tcp
connection-mark=mp3

add chain=prerouting action=mark-connection new-connection-mark=mp4 DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".mp4"

add chain=postrouting action=mark-packet new-packet-mark=mp4 passthrough=no protocol=tcp
connection-mark=mp4

add chain=prerouting action=mark-connection new-connection-mark=mpeg DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".mpeg"

add chain=postrouting action=mark-packet new-packet-mark=mpeg passthrough=no
protocol=tcp connection-mark=mpeg

add chain=prerouting action=mark-connection new-connection-mark=mpg DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".mpg"

add chain=postrouting action=mark-packet new-packet-mark=mpg passthrough=no protocol=tcp
connection-mark=mpg

add chain=prerouting action=mark-connection new-connection-mark=nrg DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".nrg"
```

```
add chain=postrouting action=mark-packet new-packet-mark=nrg passthrough=no protocol=tcp  
connection-mark=nrg
```

- 31 ;;; ram DOWNS
chain=prerouting action=mark-connection new-connection-mark=ram DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".ram "
- 32 chain=postrouting action=mark-packet new-packet-mark=ram passthrough=no
protocol=tcp connection-mark=ram DOWNS
- 33 ;;; rar DOWNS
chain=prerouting action=mark-connection new-connection-mark=rar DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".rar "
- 34 chain=postrouting action=mark-packet new-packet-mark=rar passthrough=no
protocol=tcp connection-mark=rar DOWNS
- 35 ;;; rm DOWNS
chain=prerouting action=mark-connection new-connection-mark=rm DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".rm "
- 36 chain=postrouting action=mark-packet new-packet-mark=rm passthrough=no
protocol=tcp connection-mark=rm DOWNS
- 37 ;;; rmvb DOWNS
chain=prerouting action=mark-connection new-connection-mark=rmvb DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".rmvb "
- 38 chain=postrouting action=mark-packet new-packet-mark=rmvb passthrough=no
protocol=tcp connection-mark=rmvb DOWNS
- 39 ;;; wav DOWNS
chain=prerouting action=mark-connection new-connection-mark=wav DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".wav "
- 40 chain=postrouting action=mark-packet new-packet-mark=wav passthrough=no
protocol=tcp connection-mark=wav DOWNS
- 41 chain=postrouting action=mark-packet new-packet-mark=wma passthrough=no
protocol=tcp connection-mark=wma DOWNS
- 42 ;;; wmv DOWNS
chain=prerouting action=mark-connection new-connection-mark=wmv DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".wmv "

43 chain=postrouting action=mark-packet new-packet-mark=wmv passthrough=no
protocol=tcp connection-mark=wmv DOWNS

44 chain=forward action=mark-packet new-packet-mark=http_pkt passthrough=no
protocol=tcp connection-mark=http

45 ;;; zip DOWNS
chain=prerouting action=mark-connection new-connection-mark=zip DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".zip "

46 chain=postrouting action=mark-packet new-packet-mark=zip passthrough=no
protocol=tcp connection-mark=zip DOWNS

47 chain=postrouting action=mark-packet new-packet-mark=youtube passthrough=no
protocol=tcp connection-mark=youtube DOWNS

48 ;;; daa DOWNS
chain=prerouting action=mark-connection new-connection-mark=daa DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".daa "

49 chain=postrouting action=mark-packet new-packet-mark=daa passthrough=no
protocol=tcp connection-mark=daa DOWNS

50 ;;; dat DOWNS
chain=prerouting action=mark-connection new-connection-mark=dat DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".dat "

51 chain=postrouting action=mark-packet new-packet-mark=dat passthrough=no
protocol=tcp connection-mark=dat DOWNS

52 ;;; vcd DOWNS
chain=prerouting action=mark-connection new-connection-mark=vcd DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".vcd "

53 chain=postrouting action=mark-packet new-packet-mark=vcd passthrough=no
protocol=tcp connection-mark=vcd DOWNS

54 ;;; cab DOWNS
chain=prerouting action=mark-connection new-connection-mark=cab DOWNS
passthrough=yes protocol=tcp layer7-protocol=Extension ".cab "

55 chain=postrouting action=mark-packet new-packet-mark=cab passthrough=no
protocol=tcp connection-mark=cab DOWNS

```
56 ;;; bikin_cepat_ping_dan_dns
    chain=prerouting action=mark-connection new-connection-mark=icmp-con
    passthrough=yes protocol=icmp

57 ;;; bikin_cepat_ping_dan_dns
    chain=prerouting action=mark-connection new-connection-mark=icmp-con
    passthrough=yes protocol=icmp

58 chain=forward action=mark-packet new-packet-mark=YOUTUBE VIDEO LOKAL
    PACKET
    passthrough=no layer7-protocol=YOUTUBE VIDEO LOKAL

59 chain=forward action=mark-packet
    new-packet-mark=YOUTUBE VIDEO INTERNATIONAL PACKET passthrough=no
    layer7-protocol=YOUTUBE VIDEO INTERNATIONAL

60 ;;; LOST SAGA
    chain=prerouting action=mark-connection new-connection-mark=GAME KONEKSI
    passthrough=no protocol=tcp dst-port=14009-14010

61 ;;; LOST SAGA UDP
    chain=prerouting action=mark-connection new-connection-mark=GAME KONEKSI
    passthrough=no protocol=udp dst-port=14009-14010

62 ;;; Point_Bank
    chain=game action=mark-connection new-connection-mark=Game passthrough=yes
    protocol=tcp dst-address=203.89.146.0/23 dst-port=39190

63 chain=game action=mark-connection new-connection-mark=Game passthrough=yes
    protocol=udp dst-address=203.89.146.0/23 dst-port=40000-40010

64 chain=game action=mark-packet new-packet-mark=Game_pkt passthrough=no
    connection-mark=Game

65 chain=prerouting action=jump jump-target=game

66 ;;; BROWSE
    chain=forward action=mark-connection new-connection-mark=http
    passthrough=yes protocol=tcp in-interface=public out-interface=local
    packet-mark=!Game_pkt connection-mark=!Game connection-bytes=0-262146

67 chain=forward action=mark-packet new-packet-mark=http_pkt passthrough=no
    protocol=tcp connection-mark=http
```

```

68 ;;; ICMP KONEKSI
chain=prerouting action=mark-connection new-connection-mark=ICMP KONEKSI
passthrough=yes protocol=icmp

69 ;;; ICMP PAKET
chain=prerouting action=mark-packet new-packet-mark=ICMP PAKET
passthrough=no protocol=icmp connection-mark=ICMP KONEKSI

70 ;;; poker
chain=prerouting action=mark-connection new-connection-mark=poker
passthrough=yes connection-state=new protocol=tcp dst-port=9339

71 chain=prerouting action=mark-packet new-packet-mark=poker1 passthrough=no
connection-mark=poker

72 ;;; UPLOAD
chain=prerouting action=mark-packet new-packet-mark=Upload passthrough=no
protocol=tcp src-address=192.168.30.0/24 in-interface=local
packet-mark=!Game_pkt

```

Queue types

```

[riza@leriz] > que typ print
0 name="default" kind=pfifo pfifo-limit=50

1 name="ethernet-default" kind=pfifo pfifo-limit=50

2 name="wireless-default" kind=sfq sfq-perturb=5 sfq-allot=1514

3 name="synchronous-default" kind=red red-limit=60 red-min-threshold=10
red-max-threshold=50 red-burst=20 red-avg-packet=1000

4 name="hotspot-default" kind=sfq sfq-perturb=5 sfq-allot=1514

5 name="pcq-download" kind=pcq pcq-rate=0 pcq-limit=50
pcq-classifier=dst-address pcq-total-limit=2000 pcq-burst-rate=0
pcq-burst-threshold=0 pcq-burst-time=10s pcq-src-address-mask=32
pcq-dst-address-mask=32 pcq-src-address6-mask=128 pcq-dst-address6-mask=128

6 name="pcq-upload" kind=pcq pcq-rate=0 pcq-limit=50 pcq-classifie
pcq-total-limit=2000 pcq-burst-rate=0 pcq-burst-threshold=0

```

pcq-burst-time=10s pcq-src-address-mask=32 pcq-dst-address-mask=
pcq-src-address6-mask=128 pcq-dst-address6-mask=128

7 name="Game" kind=pcq pcq-rate=0 pcq-limit=50
pcq-classifier=src-address,dst-address,src-port,dst-port
pcq-total-limit=2000 pcq-burst-rate=0 pcq-burst-threshold=0
pcq-burst-time=10s pcq-src-address-mask=32 pcq-dst-address-mask=
pcq-src-address6-mask=128 pcq-dst-address6-mask=128

8 name="Http" kind=pcq pcq-rate=1700k pcq-limit=50 pcq-classifier=
pcq-total-limit=2000 pcq-burst-rate=0 pcq-burst-threshold=0
pcq-burst-time=10s pcq-src-address-mask=32 pcq-dst-address-mask=
pcq-src-address6-mask=128 pcq-dst-address6-mask=128

9 name="Upload" kind=pcq pcq-rate=0 pcq-limit=50 pcq-classifier=sr
pcq-total-limit=2000 pcq-burst-rate=0 pcq-burst-threshold=0
pcq-burst-time=10s pcq-src-address-mask=32 pcq-dst-address-mask=
pcq-src-address6-mask=64 pcq-dst-address6-mask=64

10 name="default-small" kind=pfifo pfifo-limit=10

Simple queue

```
[riza@leriz] > que sim print
Flags: X - disabled, I - invalid, D - dynamic
0 name="youtube" interface=all parent=none packet-marks=http-video direction=both
priority=8 queue=default-small/default-small limit-at=0/0 max-limit=32k/128k
burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

1 name="exe" interface=all parent=none packet-marks=exe direction=both priority=8
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

2 name="dat" interface=all parent=none packet-marks=dat direction=both priority=8
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

3 name="rar" interface=all parent=none packet-marks=rar direction=both priority=8
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

4 name="zip" interface=all parent=none packet-marks=zip direction=both priority=8
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

5 name="7z" interface=all parent=none packet-marks=7z direction=both priority=8
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

6 name="cab" interface=all parent=none packet-marks=cab direction=both priority=8
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

7 name="ASF" interface=all parent=none packet-marks=ASF direction=both priority=8
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

8 name="mov" interface=all parent=none packet-marks=mov direction=both priority=8
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

9 name="wmv" interface=all parent=none packet-marks=wmv direction=both priority=8
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
```

- 10 name="mpg" interface=all parent=none packet-marks=mpg direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
- 11 name="mpeg" interface=all parent=none packet-marks=mpeg direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
- 12 name="mkv" interface=all parent=none packet-marks=mkv direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
- 13 name="avi" interface=all parent=none packet-marks=avi direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
- 14 name="flv" interface=all parent=none packet-marks=flv direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
- 15 name="wav" interface=all parent=none packet-marks=wav direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
- 16 name="rm" interface=all parent=none packet-marks=rm direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
- 17 name="mp3" interface=all parent=none packet-marks=mp3 direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
- 18 name="mp4" interface=all parent=none packet-marks=mp4 direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
- 19 name="ram" interface=all parent=none packet-marks=ram direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
- 20 name="rmvb" interface=all parent=none packet-marks=rmvb direction=both priority=8 queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

```
21 name="daa" interface=all parent=none packet-marks=daa direction=both priority
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

22 name="iso" interface=all parent=none packet-marks=iso direction=both priority
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

23 name="nrg" interface=all parent=none packet-marks=nrg direction=both priority
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

24 name="bin" interface=all parent=none packet-marks=bin direction=both priority
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small

25 name="vcd" interface=all parent=none packet-marks=vcd direction=both priority
queue=default-small/default-small limit-at=0/0 max-limit=80k/80k burst-limit=
burst-threshold=0/0 burst-time=0s/0s total-queue=default-small
```

2 Ardy 2006 08-02-2012 11:03:39

- 6 dB
- Offline
- From: **bontang**
- Registered: **14-07-2008**
- Posts: **173**

coba l7nya bikin lebih simple lagi untuk mengurangi resource seperti ini :

```
/ip firewall layer7-protocol
add comment="" name=download regexp="^.*get.+\\.(exe|rar|zip|7z|cab|ASF|mov|wmv|
|mpg|mpeg|mkv|avi|flv|pdf|wav|rm|mp3|mp4|ram|rmvb|dat|daa|iso|nrg|bin|vcd|\
|mp2|3gp|mpe|qt|raw|wma|ogg|doc|deb|tar|bzip|gzip|gzip2|0[0-9][0-9]).*$"
```

tangkap / tandai packet :

```
/ip firewall mangle
add action=mark-packet chain=forward comment=download disabled=no \
layer7-protocol=download new-packet-mark=download passthrough=no protocol=tcp
```

setelah itu atur di queuenya. terserah mau pake simple queue atau queue tree.

Yang lain macam youtube & video streaming bisa juga menggunakan cara seperti diatas.

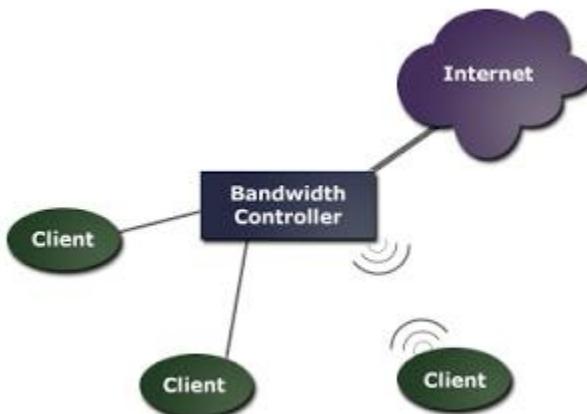
semoga membantu

[MIKROTIK] Membagi Bandwidth Sama Rata Metode PCQ Mikrotik

Eko Apriadi

[1 Comment](#)

[Mikrotik](#), [Tutorial](#)



Keutungan kita memakai pembagian bandwidth dengan metode queue type pcq ini adalah, bila klien kita terdapat 10 klien dengan koneksi 1 MB, jika klien aktif hanya 1 klien, maka semua bandwidth sebesar 1 MB bisa dirasakan oleh klien tersebut, tapi jika jumlah klien aktif 10, maka bandwidth 1 MB tersebut akan dibagi secara merata 1MB/10Klien. Metode ini cocok untuk hotspot biasa, namun menurut saya, diaplikasikan untuk warnet kurang cocok, karena bandwidth masih bisa tersedot oleh download IDM klien.

Tanpa panjang lebar, saya akan memberikan beberapa rules yang harus diketikan pada terminal/konsol mikrotik sobat. Berikut saya asumsikan Interface untuk klien adalah local dengan ip address 192.168.100.0/24 dan interface untuk akses internet adalah public.

Ketikan perintah berikut pada terminal/konsol sobat. Pada IP+Firewall-Mangle

```
/ip firewall mangle add chain=forward src-address=192.168.100.0/24 action=mark-connection new-connection-mark=users-con
```

```
/ip firewall mangle add connection-mark=users-con action=mark-packet new-packet-mark=users chain=forward
```

Kemudian ketikan perintah berikut ini untuk queue type nya.

```
/queue type add name=pcq-download kind=pcq pcq-classifier=dst-address  
/queue type add name=pcq-upload kind=pcq pcq-classifier=src-address
```

Ketikan perintah berikut untuk Queue Tree nya.

```
/queue tree add name=Download parent=local max-limit=2048000  
/queue tree add parent=Download queue=pcq-download packet-mark=users  
/queue tree add name=Upload parent=public max-limit=1024000  
/queue tree add parent=Upload queue=pcq-upload packet-mark=users  
/queue tree add parent=local queue=pcq-download packet-mark=users  
/queue tree add parent=public queue=pcq-upload packet-mark=users
```

Oke, saya terangkan sedikit. Maksimum download rate yang didapat klien adalah 2MB dan maksimum Upload klien adalah 1MB, silahkan ganti sesuai dengan kondisi bandwidth sobat. Dan jangan lupa ganti nama interface/samakan dengan perintah di atas.

Terima Kasih, Semoga bermanfaat bagi sobat. :)

Sumber: Mr.Eko Apriadi - <http://www.mediacomptech.com/2013/04/tutorial-membagi-bandwidth-sama-rata.html#ixzz3PmhNagZf>

MEMBATASI BANDWIDTH DOWNLOAD DENGAN MIKROTIK AGAR GAMES & BROWSING TIDAK TERGANGGU.

Yang Sering Membuat Kita Jengkel Jika Ada Yg Download Tidak Peduli Orang Lain.

Kita sering jengkel pada saat mau browsing internet atau bermain games Online jadi **NGELEG** gara-gara diComputer lain ada yang sedang Download atau bermain Youtube seenaknya. Itu sering dilakukan anak-anak atau ABG yang tidak peduli, yang penting bayar murah, bisa main sambil dengan youtube dan Download file Videonya melalui IDM.

Untuk mengatasi hal tersebut yang paling sederhana serta praktis, kita menggunakan perangkat MIKROTIK, hal itu bisa diatasi dengan baik.

Ada banyak cara dengan Mikrotik ini, salah satunya melalui **LAYER 7 Protocols** yang dibatasi Quota Bandwidthnya atau per Extensen File yang dibatasi Downloadnya, Pewrtama kita coba dengan “ **Layer 7 Protocols** ”. Yang saya anggap paling ampuh.

LAYER 7 PROTOCOLS

Tripologinya seperti ini. (Mikrotik bisa PC ataupun UNIT)

MODEM --- MIKROTIK -- SWITHUB --- UNIT COMPUTER

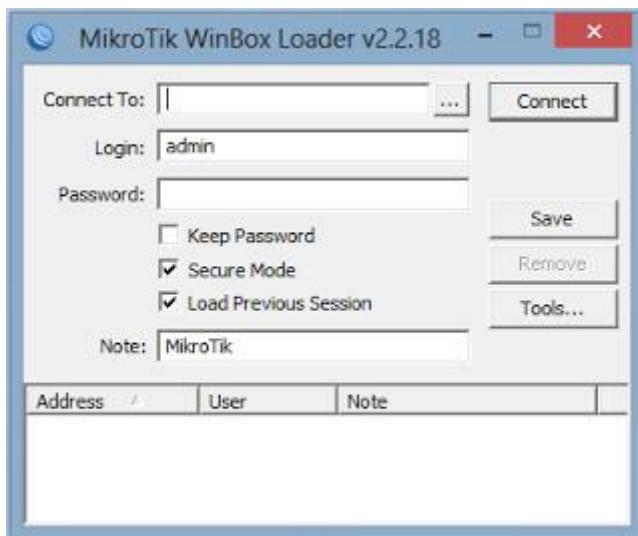
Untuk mengsetting atau pengatur Mikrotik seperti ini.

Sebelum kita set Mikrotiknya, Download dulu di Google atau situs Mikrotik “ **WINBOX** ”

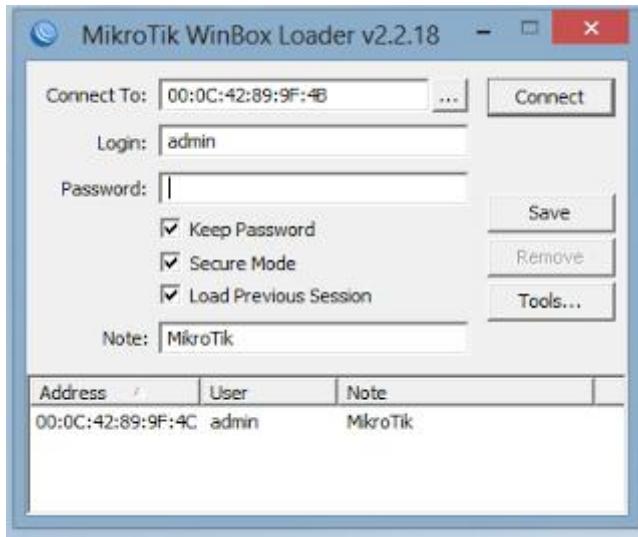
Versinya silahkan yang mana saja.

Sesudah memasang Mikrotik sesuai tripologi diatas, buka WINBOX yang tadi sudah di download.

Akan seperti ini :



Lalu Klik Tanda “...” agar Mac address Mikrotik outmatis terbaca , Jika sudah terbaca, klik Kode mac Addressnya. Dan akan seperti ini:



Tinggal klik Connect, anda akan masuk pada Jendela Mikrotik.

Catatan :

Jika Mikrotik beli baru kita tinggal isikan datanya, tapi jika Mikrotiknya beli seken atau bekas orang lain, kita harus memastikan datanya ter RESET (hilang scriptnya), Caranya:

Klik New Terminal, Ketik: “ SYSTEM RESET” – ketik “Y”, mikrotik akan disconnect, tunggu beberapa saat, biasanya 12 detik, Buka WINBOX ulang seperti diatas tadi. Sudah terbuka Klik “ Remove Script”

MIKROTIK akan sama dengan yang baru.

Kita Mulai membuat atau memanagement Bandwidth kita memalui mikrotik yang kita punya. Ada banyak macam cara untuk memanagement Bandwidth melalui mikrotik ini. Tapi ini yang sederhana dan paling praktis, hasilnya cukup baik untuk menangani Warnet ataupun Trumahan yang menggunakan computer lebih dari 1.

“ MIKROTIK rencananya akan diseting BRIDGE agar IP di computer diatur oleh ModemRouter yg ada “

KITA MULAI !!!!!

Sesudah Buka Winbox, jendela Mikrotik akan terbuka.

Klik Menu “Bridge” Klik tanda “+” >>> nama akan Auto tertulis “ Bridge1” >> ok saja.

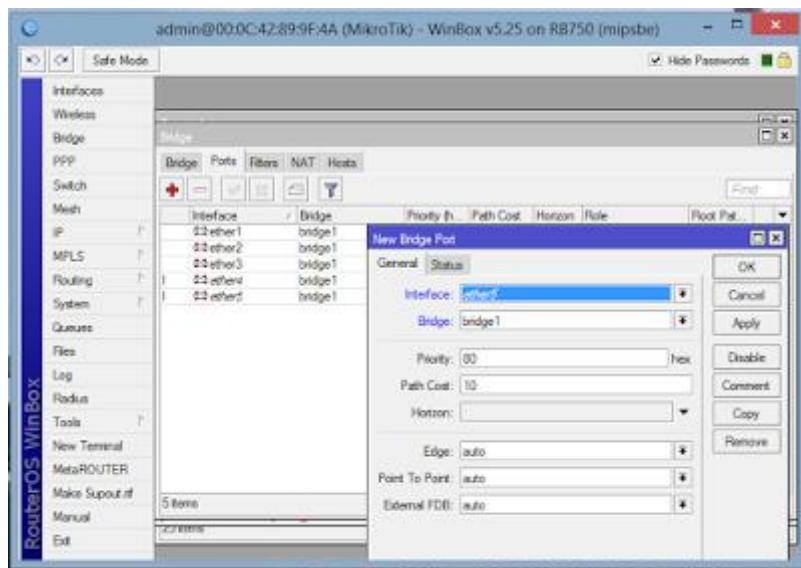
Setting Portnya.

Klik “ Port “ >> Klik “ +” pada Interface tertulis “ Ether1” pada Bridge akan tertulis Bridge1, klik OK

Klik “ + “ lagi pada interface pada Simbol Down pilih Ether2 – Klik – OK-.

Ulang sampai Ether5

Hasilnya akan seperti ini :



Lalu Klik menu “ BRIDGE” > Pilih “ SETING” >> centang yang tertulis “IP USE IP FIREWALL”

Anda sekarang sudah bisa Berinternetan melalui MIKROTIK ini.

Untuk Tes... Buka Browser anda...atau melalui System Dos computer anda. Coba Ping ke Google,

Ping www.google.com > jika sudah reply.. semua sudah berjalan baik pengaturan bridgenya.

UNTUK MEMBATASI LIMIT DOWNLOADNYA KITA BUAT MELALUI SCRIPT,
Kita Limit setiap keluar Extensen File yang sering di Download orang, contohnya seperti File “RAR, ZIP, MP3 dan lainnya yg sering didownload umum nya. Agar Browsing tidak terganggu Limitnya.

Pertama Masuk script untuk Streaming Youtube (Video), melalui “ LAYER 7 PROTOCOLS”

Pilih Menu “IP” di WINBOX anda, lalu > Firewall,> pilih “ LAYER 7 PROTOCOLS” > Jendela terbuka, isikan :

- Name : **Youtube** (atau apa saja boleh)
- Regexp: **http/(0\.9|1\.0|1\.1)[\x09-\x0d][1-5][0-9][0-9][\x09-\x0d ~~]*(content-type: video)**

Klik Oke.....

Untuk Menangani Managemen Bandwidthnya kita coba daftar Extensen file yg sering di download, (kita bisa tambah atau kurangi data Extensen File nya nantinya)

MULAI !!!!

Buat Scriptnya, pada Menu WINBOX anda, Pilih **New Terminal**.

Isikan scrip dibawah ini, atau Copy Pastekan agar cepat, silah....pilih maunya...

```
/ip firewall layer7-protocol  
add name="EXE" regexp="\.(exe)"  
add name="RAR" regexp="\.(rar)"  
add name="ZIP" regexp="\.(zip)"  
add name="7z" regexp="\.(7z)"  
add name="CAB" regexp="\.(cab)"  
add name="ASF" regexp="\.(ASF)"  
add name="MOV" regexp="\.(mov)"  
add name="WMV" regexp="\.(wmv)"  
add name="MPG" regexp="\.(mpg)"  
add name="MPEG" regexp="\.(mpeg)"  
add name="MKV" regexp="\.(mkv)"  
add name="AVI" regexp="\.(avi)"  
add name="FLV" regexp="\.(flv)"  
add name="WAV" regexp="\.(wav)"  
add name="RM" regexp="\.(rm)"  
add name="MP3" regexp="\.(mp3)"  
add name="MP4" regexp="\.(mp4)"  
add name="RAM" regexp="\.(ram)"  
add name="RMVB" regexp="\.(rmvb)"  
add name="DAT" regexp="\.(dat)"  
add name="DAA" regexp="\.(daa)"  
add name="ISO" regexp="\.(iso)"  
add name="NRG" regexp="\.(nrg)"  
add name="BIN" regexp="\.(bin)"  
add name="001" regexp="\.(001)"  
add name="002" regexp="\.(002)"  
add name="003" regexp="\.(003)"
```

UNTUK MEMBUAT MANGLE NYA COPY PASTE KAN SCRIPT INI PADA NEW TERMINAL,

```
/ip firewall mangle  
add action=mark-packet \ chain=prerouting comment="YOUTUBE MARK PACKET " disabled=no \layer7-protocol=YOUTUBE new-packet-mark=YOUTUBE passthrough=no  
  
add action=mark-packet \ chain=prerouting comment="EXE MARK PACKET " disabled=no \layer7-protocol=EXE new-packet-mark=EXE passthrough=no  
  
add action=mark-packet \ chain=prerouting comment="RAR MARK PACKET " disabled=no \layer7-protocol=RAR new-packet-mark=RAR passthrough=no  
  
add action=mark-packet \ chain=prerouting comment="ZIP MARK PACKET " disabled=no \layer7-protocol=ZIP new-packet-mark=ZIP passthrough=no
```

add action=mark-packet \ chain=prerouting comment="7z MARK PACKET " disabled=no \
layer7-protocol=7z new-packet-mark=7z passthrough=no

add action=mark-packet \ chain=prerouting comment="CAB MARK PACKET " disabled=no \
layer7-protocol=CAB new-packet-mark=CAB passthrough=no

add action=mark-packet \ chain=prerouting comment="ASF MARK PACKET " disabled=no \
layer7-protocol=ASF new-packet-mark=ASF passthrough=no

add action=mark-packet \ chain=prerouting comment="MOV MARK PACKET " disabled=no \
layer7-protocol=MOV new-packet-mark=MOV passthrough=no

add action=mark-packet \ chain=prerouting comment="WMV MARK PACKET " disabled=no \
layer7-protocol=WMV new-packet-mark=WMV passthrough=no

add action=mark-packet \ chain=prerouting comment="MPG MARK PACKET " disabled=no \
layer7-protocol=MPG new-packet-mark=MPG passthrough=no

add action=mark-packet \ chain=prerouting comment="MPEG MARK PACKET " disabled=no \
layer7-protocol=MPEG new-packet-mark=MPEG passthrough=no

add action=mark-packet \ chain=prerouting comment="MKV MARK PACKET " disabled=no \
layer7-protocol=MKV new-packet-mark=MKV passthrough=no

add action=mark-packet \ chain=prerouting comment="AVI MARK PACKET " disabled=no \
layer7-protocol=AVI new-packet-mark=AVI passthrough=no

add action=mark-packet \ chain=prerouting comment="FLV MARK PACKET " disabled=no \
layer7-protocol=FLV new-packet-mark=FLV passthrough=no

add action=mark-packet \ chain=prerouting comment="WAV MARK PACKET " disabled=no \
layer7-protocol=WAV new-packet-mark=WAV passthrough=no

add action=mark-packet \ chain=prerouting comment="RM MARK PACKET " disabled=no \
layer7-protocol=RM new-packet-mark=RM passthrough=no

add action=mark-packet \ chain=prerouting comment="MP3 MARK PACKET " disabled=no \
layer7-protocol=MP3 new-packet-mark=MP3 passthrough=no

add action=mark-packet \ chain=prerouting comment="MP4 MARK PACKET " disabled=no \
layer7-protocol=MP4 new-packet-mark=MP4 passthrough=no

add action=mark-packet \ chain=prerouting comment="RAM MARK PACKET " disabled=no \
layer7-protocol=RAM new-packet-mark=RAM passthrough=no

```
add action=mark-packet \ chain=prerouting comment="RMVB MARK PACKET " disabled=no \
layer7-protocol=RMVB new-packet-mark=RMVB passthrough=no
```

```
add action=mark-packet \ chain=prerouting comment="DAT MARK PACKET " disabled=no \
layer7-protocol=DAT new-packet-mark=DAT passthrough=no
```

```
add action=mark-packet \ chain=prerouting comment="DAA MARK PACKET " disabled=no \
layer7-protocol=DAA new-packet-mark=DAA passthrough=no
```

```
add action=mark-packet \ chain=prerouting comment="ISO MARK PACKET " disabled=no \
layer7-protocol=ISO new-packet-mark=ISO passthrough=no
```

```
add action=mark-packet \ chain=prerouting comment="NRG MARK PACKET " disabled=no \
layer7-protocol=NRG new-packet-mark=NRG passthrough=no
```

```
add action=mark-packet \ chain=prerouting comment="BIN MARK PACKET " disabled=no \
layer7-protocol=BIN new-packet-mark=BIN passthrough=no
```

```
add action=mark-packet \ chain=prerouting comment="001 MARK PACKET " disabled=no \
layer7-protocol=001 new-packet-mark=BIN passthrough=no
```

```
add action=mark-packet \ chain=prerouting comment="002 MARK PACKET " disabled=no \
layer7-protocol=002 new-packet-mark=BIN passthrough=no
```

```
add action=mark-packet \ chain=prerouting comment="003 MARK PACKET " disabled=no \
layer7-protocol=003 new-packet-mark=BIN passthrough=no
```

DAN UNTUK MEMBATASI LIMIT DOWNLOADNYA, KITA ATUR PADA 512KB.
Scriptnya seperti ini :

```
/queue tree
add name="LIMIT FILE EXTENTION" parent=global-out \ limit-at=0 priority=3 max-
limit=512000 burst-limit=\ 0 burst-threshold=0 burst-time=0s
```

```
add name="YOUTUBE" parent="LIMIT FILE EXTENTION" \ packet-mark=YOUTUBE limit-
at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

```
add name="7z" parent="LIMIT FILE EXTENTION" \ packet-mark=7z limit-at=0
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

```
add name="ASF" parent="LIMIT FILE EXTENTION" \ packet-mark=ASF limit-at=0
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

add name="AVI" parent="LIMIT FILE EXTENTION" \ packet-mark=AVI limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="BIN" parent="LIMIT FILE EXTENTION" \ packet-mark=BIN limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="CAB" parent="LIMIT FILE EXTENTION" \ packet-mark=CAB limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="DAA" parent="LIMIT FILE EXTENTION" \ packet-mark=DAA limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="DAT" parent="LIMIT FILE EXTENTION" \ packet-mark=DAT limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="EXE" parent="LIMIT FILE EXTENTION" \ packet-mark=EXE limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="FLV" parent="LIMIT FILE EXTENTION" \ packet-mark=FLV limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="ISO" parent="LIMIT FILE EXTENTION" \ packet-mark=ISO limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="MKV" parent="LIMIT FILE EXTENTION" \ packet-mark=MKV limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="MOV" parent="LIMIT FILE EXTENTION" \ packet-mark=MOV limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="MP3" parent="LIMIT FILE EXTENTION" \ packet-mark=MP3 limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="MP4" parent="LIMIT FILE EXTENTION" \ packet-mark=MP4 limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="MPEG" parent="LIMIT FILE EXTENTION" \ packet-mark=MPEG limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="MPG" parent="LIMIT FILE EXTENTION" \ packet-mark=MPG limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="NRG" parent="LIMIT FILE EXTENTION" \ packet-mark=NRG limit-at=0 queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s

```
add name="RAM" parent="LIMIT FILE EXTENTION" \ packet-mark=RAM limit-at=0  
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

```
add name="RAR" parent="LIMIT FILE EXTENTION" \ packet-mark=RAR limit-at=0  
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

```
add name="RM" parent="LIMIT FILE EXTENTION" \ packet-mark=RM limit-at=0  
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

```
add name="RMVB" parent="LIMIT FILE EXTENTION" \ packet-mark=RMVB limit-at=0  
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

```
add name="WAV" parent="LIMIT FILE EXTENTION" \ packet-mark=WAV limit-at=0  
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

```
add name="WMV" parent="LIMIT FILE EXTENTION" \ packet-mark=WMV limit-at=0  
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

```
add name="ZIP" parent="LIMIT FILE EXTENTION" \ packet-mark=ZIP limit-at=0  
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

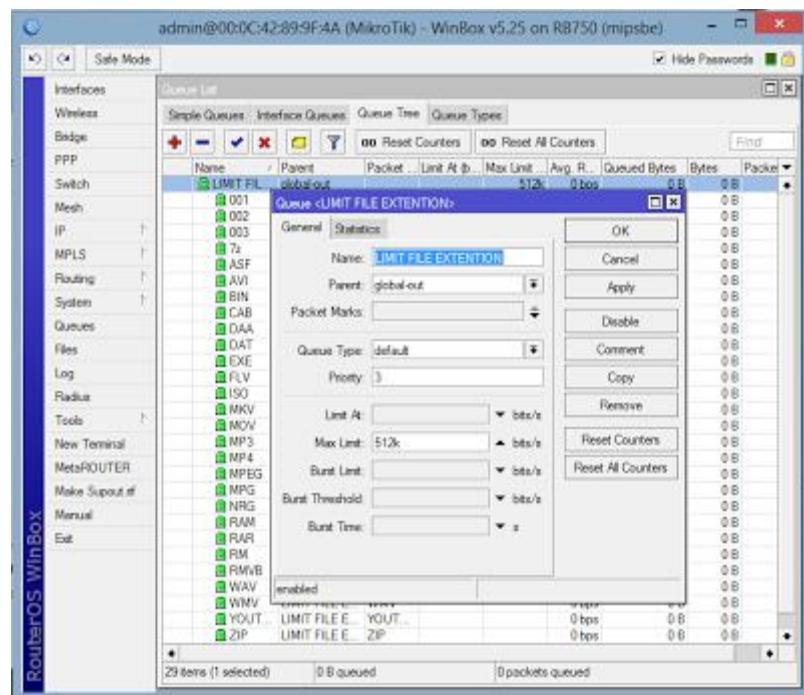
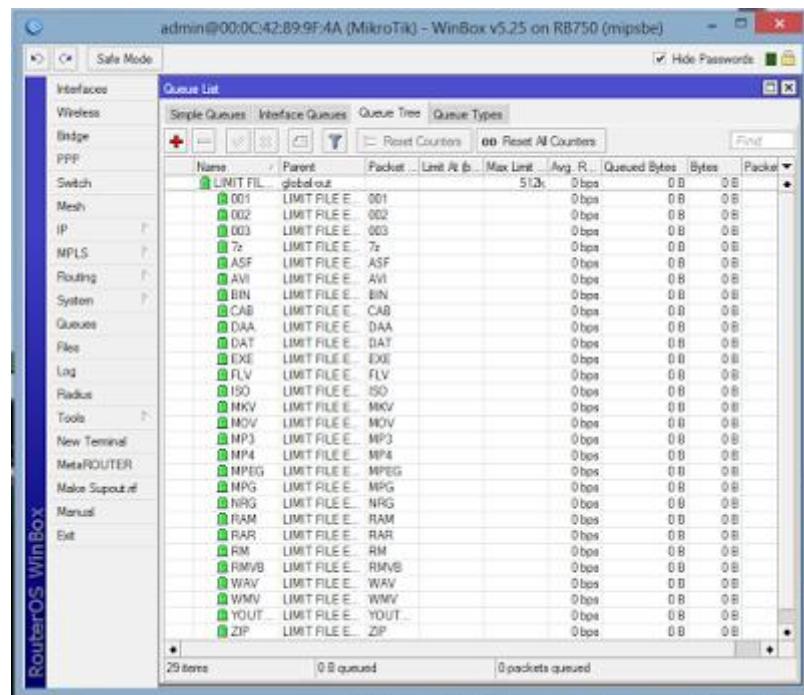
```
add name="001" parent="LIMIT FILE EXTENTION" \ packet-mark=001 limit-at=0  
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

```
add name="002" parent="LIMIT FILE EXTENTION" \ packet-mark=002 limit-at=0  
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

```
add name="003" parent="LIMIT FILE EXTENTION" \ packet-mark=003 limit-at=0  
queue=default priority=1 max-limit=\ 0 burst-limit=0 burst-threshold=0 burst-time=0s
```

< SELESAI SUDAH >

Dalam pengaturan Limit Bandwidth berdasarkan Extention File yg di Download selesai sudah,
Lihat pad QUEUES >> QUEUES TREE > akan terlihat seperti ini.

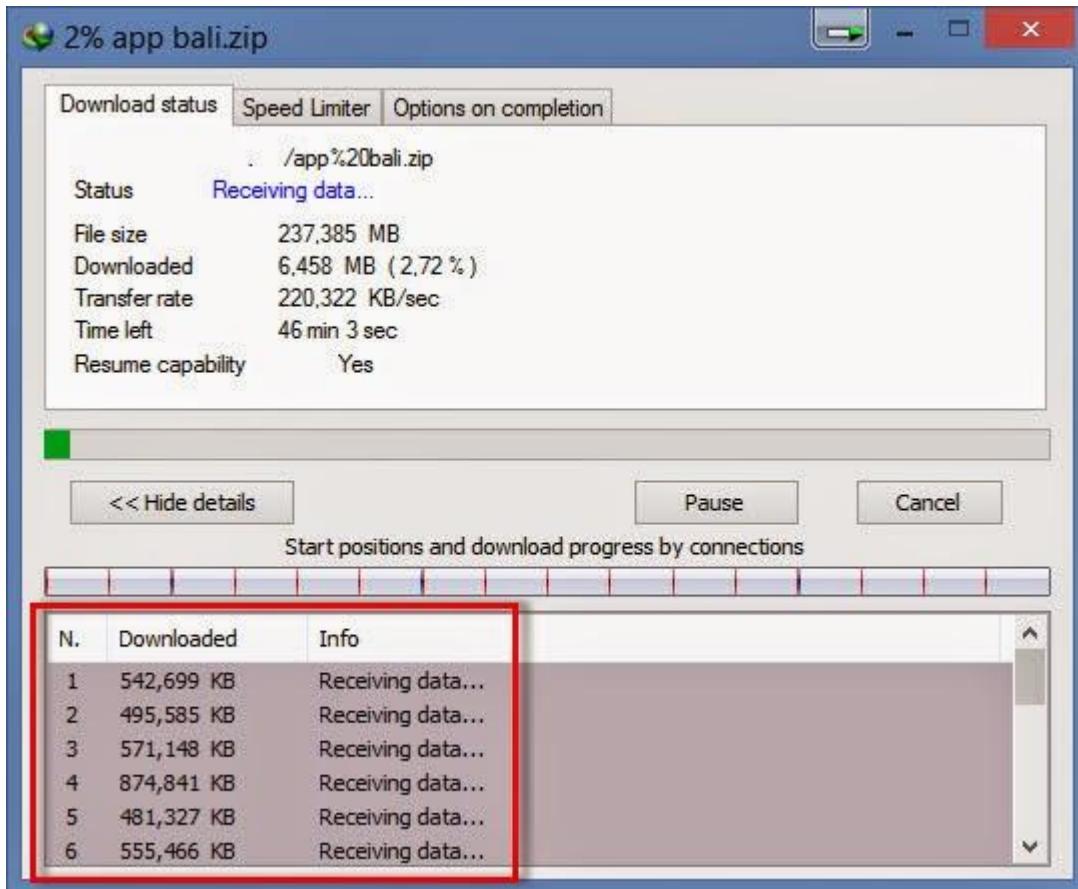


Untuk Batasan Bandwidth Download di batasi sampai 512KB, jika ingin mengatur batasan Limit Downloadnya, anda bisa klik saja Max Limitnya, Lalu ganti dengan sesuka anda.

Memblokir/Membatasi koneksi Internet Download Manager (IDM) di Mikrotik dapat dilakukan menggunakan Layer7 protocol. Jika seorang user melakukan download menggunakan IDM, maka ia dapat menggunakan 16 koneksi sekaligus untuk mendownload file. Hal ini tentunya akan menguras bandwidth yang sudah dialokasikan, sehingga user lain yang tidak download akan terganggu karena koneksi yang lemot.

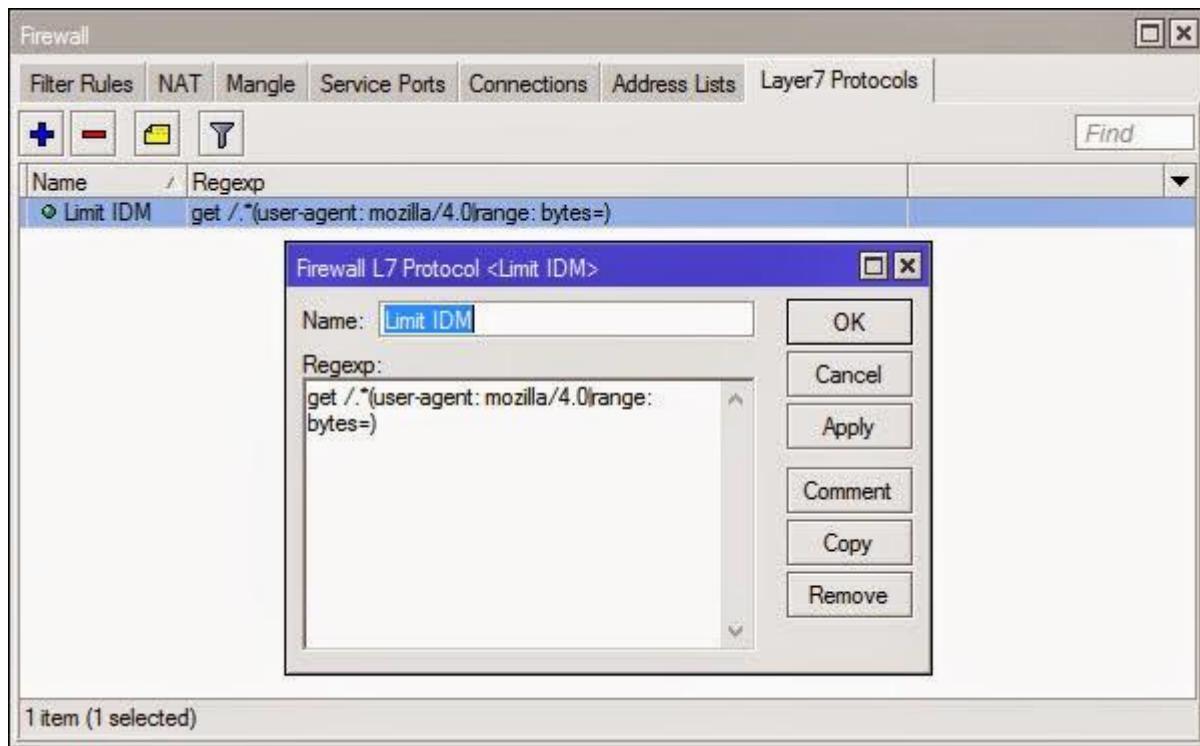
Nah, untuk mengatasi hal itu, kita dapat [**membatasi koneksi Internet Download Manager \(IDM\) menggunakan Layer7 Mikrotik**](#). Caranya dengan menggabungkan fitur [Layer7 protocol](#) dengan [Firewall filter Mikrotik](#). Silakan simak caranya berikut ini :

1. Sebelum mulai, kita coba mendownload sebuah file menggunakan IDM dengan 16 koneksi.



2. Selanjutnya, Buka Winbox, masuk ke menu IP --> Firewall --> Tab Layer7. Tambahkan rule baru.

Silakan masukkan settingan seperti berikut ini :



Name : Limit IDM

Regexp :

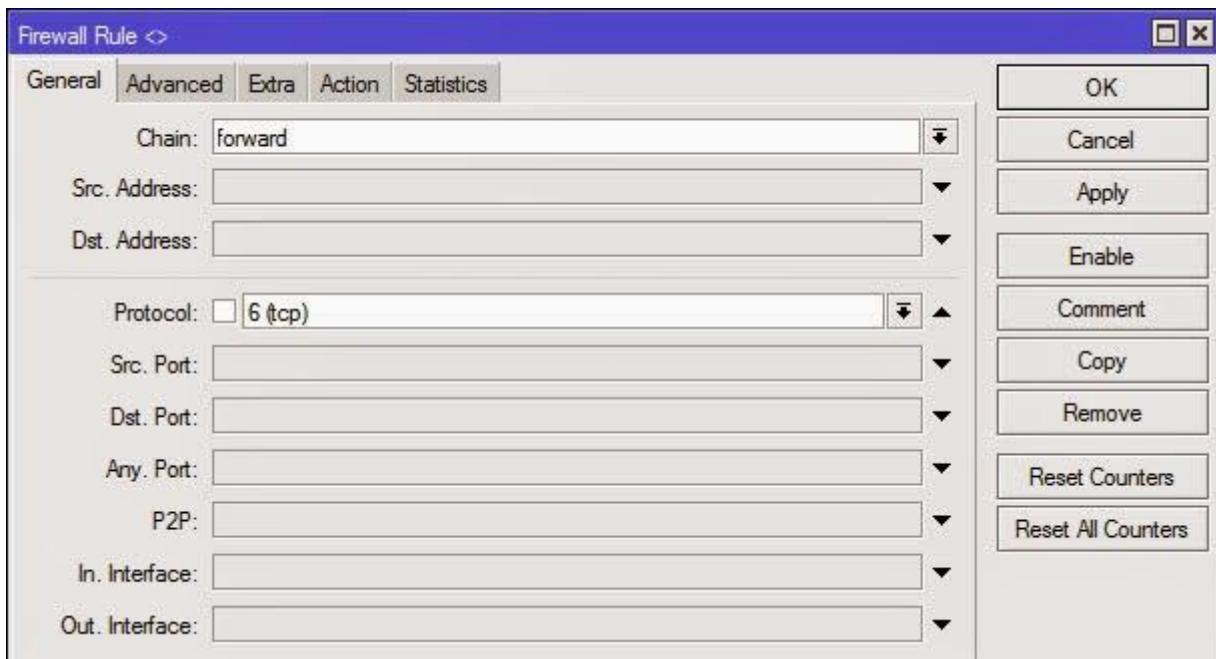
get .*(user-agent: mozilla/4.0|range: bytes=)

3. Masuk ke tab Filter. Tambah rule baru.

=> Pada tab General :

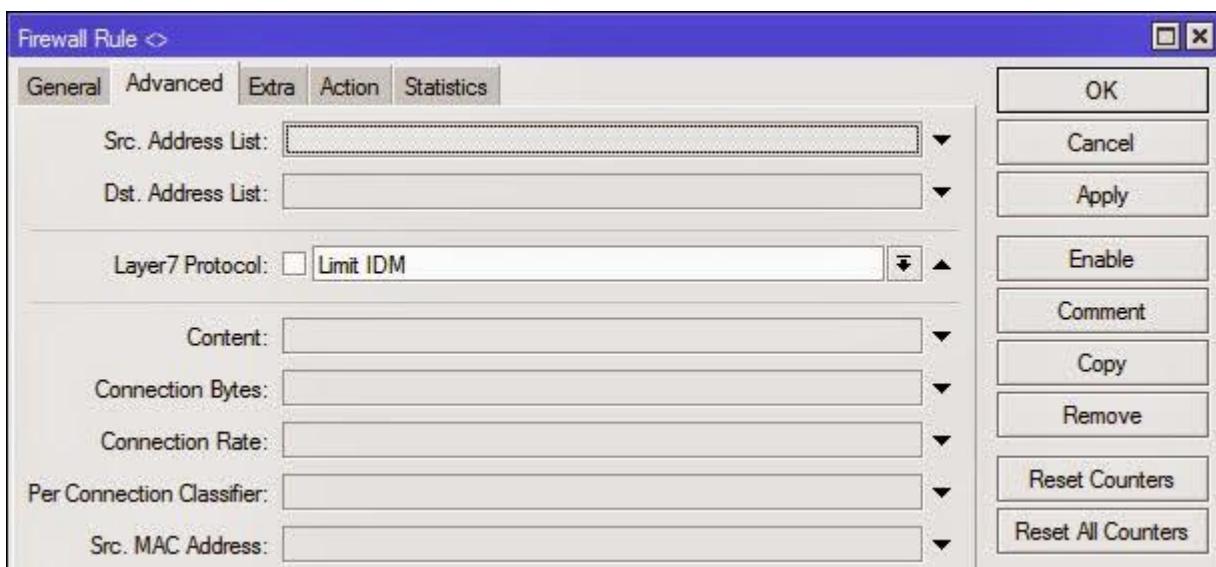
- Chain : Forward

- Protocol : TCP



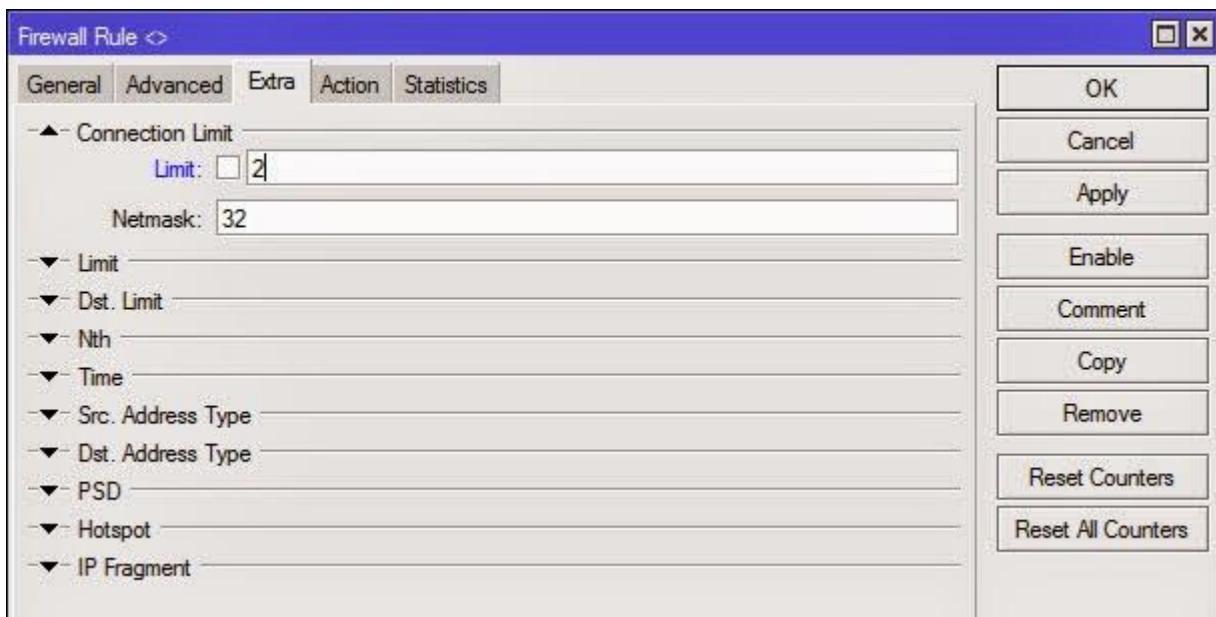
=> Pada tab Advanced :

- Layer7 Pilih nama Layer7 yang sebelumnya dibuat.



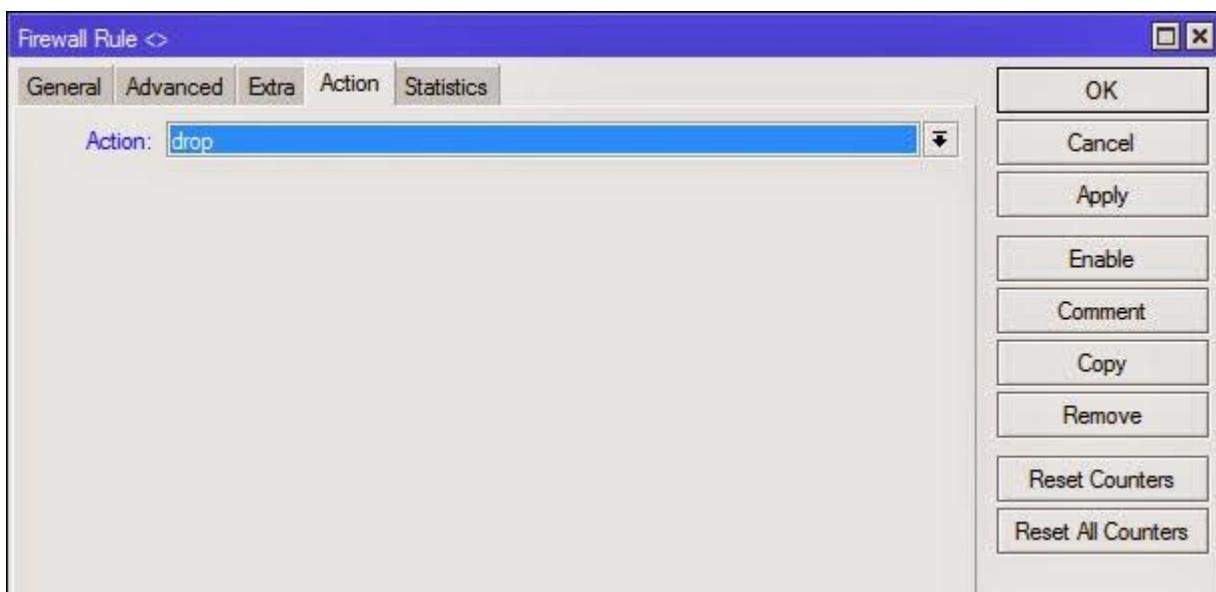
=> Pada tab Action :

- Limit : 2 (berapa koneksi yang mau dibuka)
- Netmask : 32



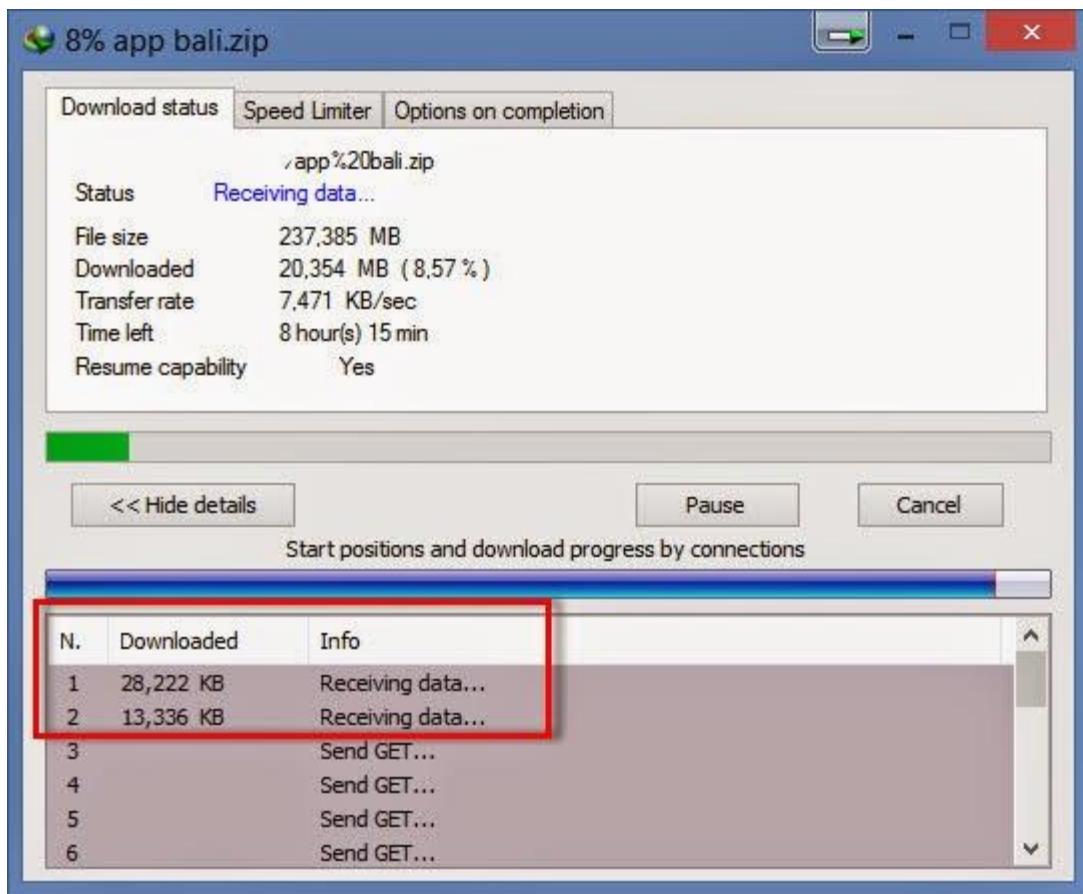
=> Pada tab Action :

- Action : drop



4. Setelah settingan dibuat dan dijalankan pada Mikrotik, silakan coba download lagi.

5. Hasilnya, koneksi yang digunakan oleh IDM akan berkurang menjadi 2 koneksi saja.



Oke sekian dulu [tutorial mikrotik Indonesia](#) tentang Cara Memblokir/Membatasi Koneksi IDM di Mikrotik. Selamat mencoba :)

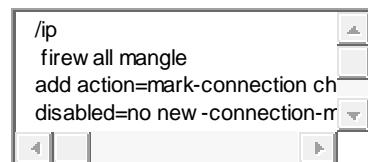
```
/ip fi la add name="UA-IDM" regexp="get /.*(user-agent: mozilla/4.0|range: bytes=)"  
/ip fi fi add chain=forward action=drop layer7-protocol=UA-IDM
```

Optimasi Point Blank di Mikrotik

Posted by: [Adam Rachmad](#) September 8, 2010 in [Mikrotik](#) [19 Comments](#)

Di sini saya coba sharing bagaimana optimasi koneksi games online point blank dengan [mikrotik](#). Banyakkan yang teriak2 LAG, lemot lah. Di teknik ini anda bisa mengoptimalkan koneksi games online yang rata-rata memerlukan latency yang bagus dengan mikrotik.

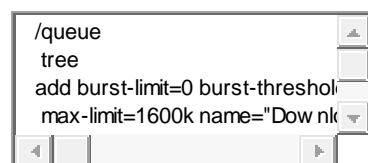
Kita buat manglenya(tandain/marking) dulu untuk semua koneksi dan koneksi Point Blank



```
/ip firewall mangle
add action=mark-connection chain=forward comment="Trafik Mark" disabled=no new-
connection-mark=all_con passthrough=yes src-address=192.168.1.0/24
add action=mark-connection chain=forward comment="" connection-mark=all_con
1 disabled=no dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes
2 protocol=tcp src-address=192.168.1.0/24
3 add action=mark-connection chain=forward comment="" connection-mark=all_con
4 disabled=no dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes
5 protocol=udp src-address=192.168.1.0/24
6 add action=mark-packet chain=forward comment="" connection-mark=pb-con disabled=no
new-packet-mark=point-blank passthrough=no
add action=mark-packet chain=forward comment="" disabled=no new-packet-
mark=all_packet passthrough=no
```

Connection Mark yg dinamain “all_con” marking semua koneksi. Dan “pb_con” marking koneksi yang menggunakan port 39190-49100 protocol tcp/udp, karena pb menggunakan port itu

Trus kita lari ke Queue Tree



```
/queue tree
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=1600k
1 name="Download" parent=ether2-lan priority=8
2 add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
3 name=HTTP packet-mark=all_packet parent="Download" priority=8 queue=default
4 add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name="Point Blank" packet-mark=point-blank parent="Download" priority=7 queue=default
```

Optimasi Point Blank di Mikrotik

```
/ip firewall mangle
add action=mark-connection chain=forward comment="Trafik Mark" disabled=no new-
connection-mark=all_con passthrough=yes src-address=192.168.1.0/24

add action=mark-connection chain=forward comment="" connection-mark=all_con disabled=no
dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes protocol=tcp src-
address=192.168.1.0/24

add action=mark-connection chain=forward comment="" connection-mark=all_con disabled=no
dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes protocol=udp src-
address=192.168.1.0/24

add action=mark-packet chain=forward comment="" connection-mark=pb-con disabled=no new-
packet-mark=point-blank passthrough=no

add action=mark-packet chain=forward comment="" disabled=no new-packet-mark=all_packet
passthrough=no

/queue tree
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=2000k
name="Download" parent=ether2 priority=8

add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name=HTTP packet-mark=all_packet parent="Download" priority=8 queue=default

add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name="Point Blank" packet-mark=point-blank parent="Download" priority=7 queue=default
```

Cara Membatasi Youtube di MikroTik

```
/ip firewall layer7-protocol
add name=video_stream regexp="(get_video\|\|?videoplayback\|\|?videodownload\|\|
\?\|\|.flv\|\|?.fid\|\|?)"

/ip firewall mangle
add action=mark-connection chain=prerouting disabled=no in-interface=ether1 new-connection-
mark=\"
"all_conn[adamonl]" passthrough=yes

add action=mark-connection chain=prerouting disabled=no in-interface=ether1 layer7-protocol=
video_stream new-connection-mark="video_conn[tkjdwarna.blogspot.com]" passthrough=yes
```

```

add action=mark-packet chain=prerouting connection-
mark="video_conn[tkjdwiwarna.blogspot.com]" disabled=no new-packet-
mark="video_packet[tkjdwiwarna.blogspot.com]" passthrough=no

add action=mark-packet chain=prerouting connection-
mark="all_conn[tkjdwiwarna.blogspot.com]" disabled=no new-packet-
mark="all_packet[tkjdwiwarna.blogspot.com]" passthrough=no

/queue simple

add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s direction=both disabled=no
interface=all limit-at=\ 
0/0 max-limit=128k/512k name="Video Streaming/Youtube" packet-
marks="video_packet[tkjdwiwarna.blogspot.com]" \
parent=none priority=8 queue=default-small/default-small target-addresses=192.168.2.0/24
total-queue=\ 
default-small

```

ketik pada terminal “**/import nice.rsc**” – Lihat pada **ip > firewall > address-list**, disitu akan bertambah ip-ip yang buanyak
– Sekarang kita buat packet marknya di **IP > Firewall > Mangle**

```

/ip firewall mangle
add chain=prerouting src-address=192.168.100.0/24 action=mark-connection new-connection-
mark="Koneksi Semua Trafik" passthrough=yes comment="Mark-connection Semua Trafik"
disabled=no
add chain=prerouting src-address=192.168.100.0/24 connection-mark="Koneksi Semua Trafik"
dst-address-list=!nice action=mark-connection new-connection-mark="Koneksi Internasional"
passthrough=yes comment="Mark-connection Koneksi Internasional" disabled=no
add chain=prerouting connection-mark="Koneksi Internasional" action=mark-packet new-
packet-mark="Koneksi Internasional" passthrough=no comment="Mark-packet koneksi
internasional" disabled=no
add chain=prerouting action=mark-packet new-packet-mark="Koneksi IIX" passthrough=no
comment="Mark-packet Koneksi IIX" disabled=no

/ queue simple
add name="Internasional" target-addresses=192.168.100.0/24 dst-address=0.0.0.0/0 interface=all
parent=none packet-marks="Koneksi Internasional" direction=both priority=8 queue=default-
small/default-small limit-at=0/0 max-limit=256000/256000 total-queue=default-small
disabled=no
add name="IIX" target-addresses=192.168.100.0/24 dst-address=0.0.0.0/0 interface=all

```

```
/ip firewall mangle
add action=mark-connection chain=forward comment="Point Blank Connection" disabled=no
dst-address-list=nice dst-port=39190 new-connection-mark=games-conn passthrough=yes
protocol=tcp
add action=mark-connection chain=forward disabled=no dst-address-list=nice dst-port=40000-
40010 new-connection-mark=games-conn passthrough=yes protocol=udp
add action=mark-connection chain=forward comment="Lost Saga Connection" disabled=no dst-
address-list=nice dst-port=14009,14010 new-connection-mark=games-conn passthrough=yes
protocol=tcp
add action=mark-connection chain=forward disabled=no dst-address-list=nice dst-port=14009-
14026 new-connection-mark=games-conn passthrough=yes protocol=udp
add action=mark-connection chain=forward comment="Ayo Dance Connection" disabled=no
dst-address-list=nice dst-port=18901-18910 new-connection-mark=games-conn passthrough=yes
protocol=tcp
add action=mark-connection chain=forward comment="Semua Koneksi (browsing, download,
streaming)" disabled=no new-connection-mark=semua-conn passthrough=yes src-
address=192.168.1.0/24
add action=mark-packet chain=forward connection-mark=games-conn disabled=no new-packet-
mark=packet-games passthrough=no
add action=mark-packet chain=forward connection-mark=semua-conn disabled=no new-packet-
mark=semua-packet passthrough=no
```

```
/queue tree
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name=Download parent=ether2 priority=8
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=1500k
name="Semua Paket" packet-mark=semua-packet parent=Download priority=8 queue=default

add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name="Games Online" packet-mark=packet-games parent=Download priority=8 queue=default

add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name=Upload parent=ether1-wan priority=8

add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=128k
name="Semua Paket Upload" packet-mark=semua-packet parent=Upload priority=8
queue=default

add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name="Games Online Upload" packet-mark=packet-games parent=Upload priority=8
queue=default
```

```
/ip firewall mangle
```

```
add action=mark-connection chain=forward comment="Trafik Mark" disabled=no new-connection-mark=all_con passthrough=yes src-address=192.168.1.0/24
add action=mark-connection chain=forward comment="" connection-mark=all_con disabled=no dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes protocol=tcp src-address=192.168.1.0/24
add action=mark-connection chain=forward comment="" connection-mark=all_con disabled=no dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes protocol=udp src-address=192.168.1.0/24
add action=mark-packet chain=forward comment="" connection-mark=pb-con disabled=no new-packet-mark=point-blank passthrough=no
add action=mark-packet chain=forward comment="" disabled=no new-packet-mark=all_packet passthrough=no
```

```
/queue tree
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=1600k name="Download" parent=ether2 priority=8
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0 name=HTTP packet-mark=all_packet parent="Download" priority=8 queue=default
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0 name="Point Blank" packet-mark=point-blank parent="Download" priority=7 queue=default
```

```
/ip address
add address=10.10.10.2/30 interface=ether1 comment=ISP 1 for IIX disabled=no
add address=20.20.20.2/30 interface=ether2 comment=ISP 2 for Internasional disabled=no
add address=192.168.0.1/24 interface=ether3 disabled=no
```

```
/ip firewall mangle
add chain=prerouting src-address=192.168.0.0/24 dst-address=nice action=mark-routing
```

```
/ip route
add gateway=20.20.20.1
add gateway=10.10.10.1 routing-mark=iix
```

```
/ip firewall nat
add chain=srcnat action=masquerade disabled=no
```

```
/ip firewall mangle
add chain=prerouting src-address=192.168.0.0/24 dst-address-list=nice action=mark-routing new-routing-mark=iix disabled=no comment=Routing Mark for IIX
```

```
/ip route
```

```
add gateway=20.20.20.1  
add gateway=10.10.10.1 routing-mark=iix
```

```
/ip firewall nat  
add chain=srcnat action=masquerade disabled=no
```

Samba adalah server adalah suatu layanan sharing data antara linux dan windows. Pengertian dari samba itu sendiri adalah aplikasi mesin unix/linux yang mengimplementasikan protokol SMB (server message block). Fungsi dari samba adalah sebagai penyedia layanan sharing berbagai data di linux untuk bisa di akses oleh client-client windows untuk saling bisa bertukar data satu sama lain antara server dan client.

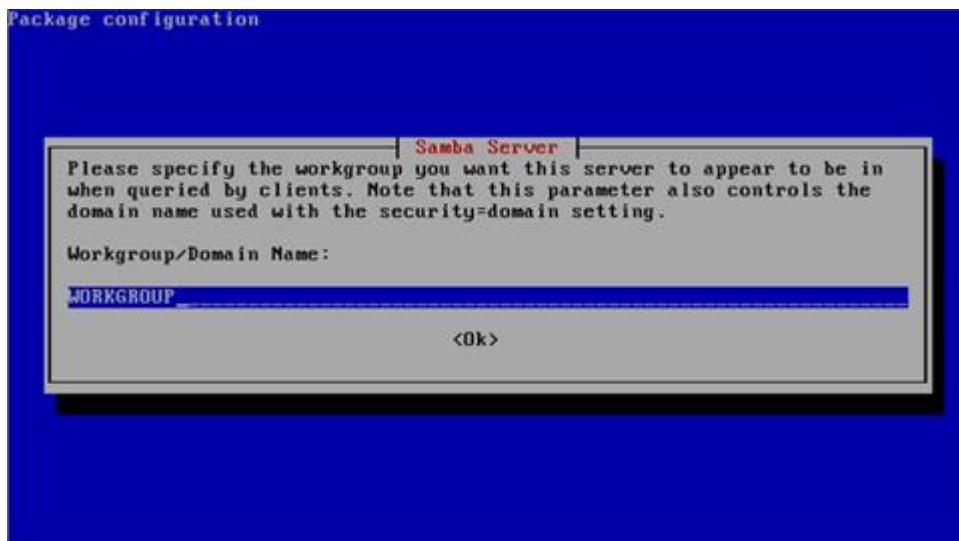
1. Mount cd debian 1 yg memiliki paket samba
2. Setelah cd debian1 telah di mounting ketikkanlah perintah untuk menginstall paket yaitu aptitude install

Dan paket yang perlu di install dalam pembuatan samba server adalah paket samba seperti gambar di bawah

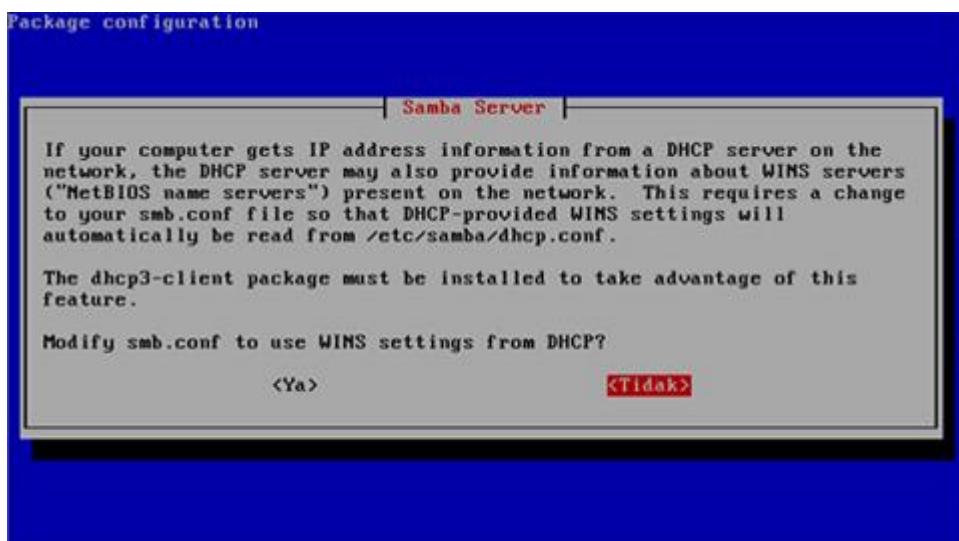
```
# bby:/# mount cdrom  
mount: block device /dev/hdc is write-protected, mounting read-only  
# bby:/# aptitude install samba_
```



3. Saat menjalankan instalasi pilih Y untuk melanjutkan kemudian keluar perintah untuk memasukkan workgroup / domain komputer anda yang sama dengan nama workgroup yang ada di OS Windows



4. Saat keluar konfigurasi dhcp untuk samba server Anda pilih TIDAK karena jika menggunakan DHCP di samba kita akan kesulitan untuk mencari ip client atau ip kita sendiri untuk berbagi file sharing



5. Setelah penginstallan samba selesai sekarang kita konfigurasi file smb.conf yang berada di direktori /etc/samba ketikkanlah perintah nano untuk membaca file seperti contoh di bawah

```
Importing account for root...ok
Importing account for daemon...ok
Importing account for bin...ok
Importing account for sys...ok
Importing account for sync...ok
Importing account for games...ok
Importing account for man...ok
Importing account for lp...ok
Importing account for mail...ok
Importing account for news...ok
Importing account for uucp...ok
Importing account for proxy...ok
Importing account for www-data...ok
Importing account for backup...ok
Importing account for list...ok
Importing account for irc...ok
Importing account for gnats...ok
Importing account for nobody...ok
Importing account for Debian-exim...ok
Importing account for statd...ok
Importing account for identd...ok
Importing account for febby...ok
Starting Samba daemons: nmbd smbd.

febby:/# nano /etc/samba/smb.conf _
```

6. Carilah tulisan ##### Authentication ##### kemudian tambahkan tulisan security = share di bawah tulisan security = user jika sudah tambahkanlah tanda pagar(#) di depan tulisan security = user.

7. Turun ke bawah dari file tersebut cari tulisan =====Share Definitions===== kemudian berilah tanda pagar(#) di bawah tulisan [homes] sampai tulisan directory mask = 0700

```

GNU nano 2.0.2           File: /etc/samba/smb.conf          Modified

; performance issues in large organizations
; See #368251 for some of the consequences of *not* having
; this setting and smb.conf(5) for all details

; winbind enum groups = yes
; winbind enum users = yes

===== Share Definitions =====

[homes]
# comment = Home Directories
# browseable = no

# By default, the home directories are exported read-only. Change next
# parameter to 'yes' if you want to be able to write to them.
# writable = no

# File creation mask is set to 0700 for security reasons. If you want to
# create files with group=rw permissions, set next parameter to 0775.
# create mask = 0700

[G Bantuan   ^O Tulis   ^R Baca File ^Y Hlm sebelu^K Png Teks ^C Pos Kursor
^X Keluar   ^J Justifikasi^W Di mana   ^U Hlm beriku^U UnCut Text^T Mengeja

```

8. Tambahkanlah tulisan di paling bawah dari file tersebut seperti contoh di bawah, setelah selesai mengedit semua isi dari file smb.conf tersebut kemuadian save dan exit segala perubahan yg terjadi di file tersebut

```

GNU nano 2.0.2           File: /etc/samba/smb.conf          Modified

; If you don't want to use auto-mounting/unmounting make sure the CD
; is mounted on /cdrom

; pexec = /bin/mount /cdrom
; postexec = /bin/umount /cdrom

[sambail]
comment = belajar samba server
browseable = yes
writable = no
public = yes
path = /home/sambail
guest ok = yes

[G Bantuan   ^O Tulis   ^R Baca File ^Y Hlm sebelu^K Png Teks ^C Pos Kursor
^X Keluar   ^J Justifikasi^W Di mana   ^U Hlm beriku^U UnCut Text^T Mengeja

```

9. Buatlah folder di dalam direktori home sama seperti nama yg anda buat di file smb.conf paling bawah sendiri, setelah membuat folder, buatlah file-file di dalam direktori tadi seperti contoh di bawah

Kemudian tinggal memberikan perintah chmod –R 777 /home/(nama folder yg di buat tadi) lalu tekan enter tujuan dari chmod –R 777 ini adalah untuk mengenalkan nama folder tadi ke suatu jaringan

```
writable = no
public = yes
path = /home/sambai
guest ok = yes

[ Wrote 313 lines ]

febby:/# cd /home
febby:/home# ls
febby
febby:/home# mkdir sambai
febby:/home# cd sambai
febby:/home/sambai# ls
febby:/home/sambai# touch index.txt
febby:/home/sambai# touch index.docx
febby:/home/sambai# touch index.ppt
febby:/home/sambai# cd /
febby:/# chmod -R 777 /home/sambai
febby:/# _
```

10. Jika folder tadi sudah bisa di baca oleh suatu jaringan anda tinggal merestart konfigurasi samba server yang telah anda lakukan tadi, dengan perintah /etc/init.d/samba restart seperti gambar di bawah

```
guest ok = yes

[ Wrote 313 lines ]

febby:/# cd /home
febby:/home# ls
febby
febby:/home# mkdir sambai
febby:/home# cd sambai
febby:/home/sambai# ls
febby:/home/sambai# touch index.txt
febby:/home/sambai# touch index.docx
febby:/home/sambai# touch index.ppt
febby:/home/sambai# cd /
febby:/# chmod -R 777 /home/sambai
febby:/# /etc/init.d/samba restart
Stopping Samba daemons: nmbd smbd.
Starting Samba daemons: nmbd smbd.
febby:/# _
```

11. Lihat hasil konfigurasi yang Anda lakukan pada file smb.conf dengan menggunakan perintah testparm

```

log file = /var/log/samba/log.xm
max log size = 1000
dns proxy = No
panic action = /usr/share/samba/panic-action xd
invalid users = root

[homes]
valid users = %S

[printers]
comment = All Printers
path = /var/spool/samba
create mask = 0700
printable = Yes
browseable = No

[print$]
comment = Printer Drivers
path = /var/lib/samba/printers

[samba1]
comment = belajar samba server
path = /home/samba1
guest ok = Yes
febbg:/# 

```

12. Cek status samba server anda menggunakan perintah smbstatus seperti contoh gambar di bawah. Jika sudah muncul tulisan no locked files berarti file sharing dari samba anda tidak terkunci. Jadi anda bebas saling bertukar data antara server dan client

```

path = /var/spool/samba
create mask = 0700
printable = Yes
browseable = No

[print$]
comment = Printer Drivers
path = /var/lib/samba/printers

[samba1]
comment = belajar samba server
path = /home/samba1
guest ok = Yes
febbg:/# smbstatus

Samba version 3.8.24
PID      Username      Group      Machine
-----
Service      pid      machine      Connected at
-----
No locked files
febbg:/# 

```

```

log file = /var/log/samba/log.xm
max log size = 1000
dns proxy = No
panic action = /usr/share/samba/panic-action xd
invalid users = root

[homes]
valid users = %S

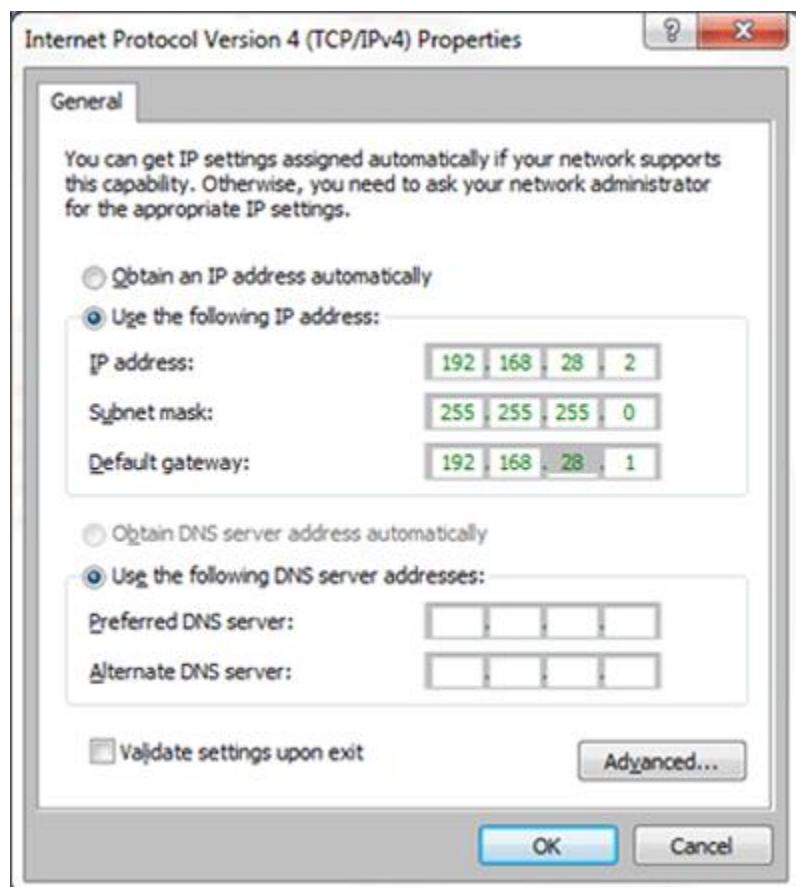
[printers]
comment = All Printers
path = /var/spool/samba
create mask = 0700
printable = Yes
browseable = No

[print$]
comment = Printer Drivers
path = /var/lib/samba/printers

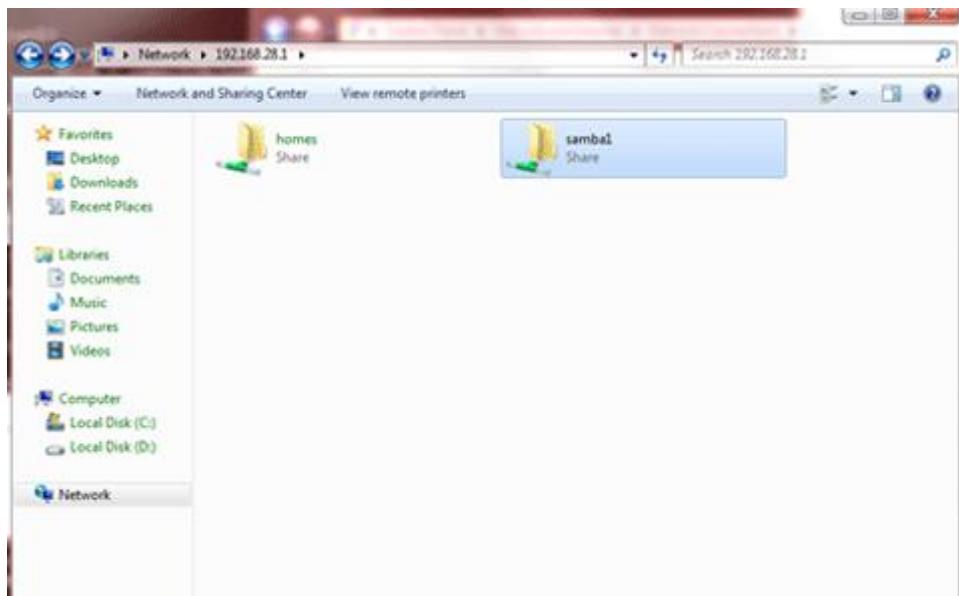
[samba1]
comment = belajar samba server
path = /home/samba1
guest ok = Yes
febbg:~_

```

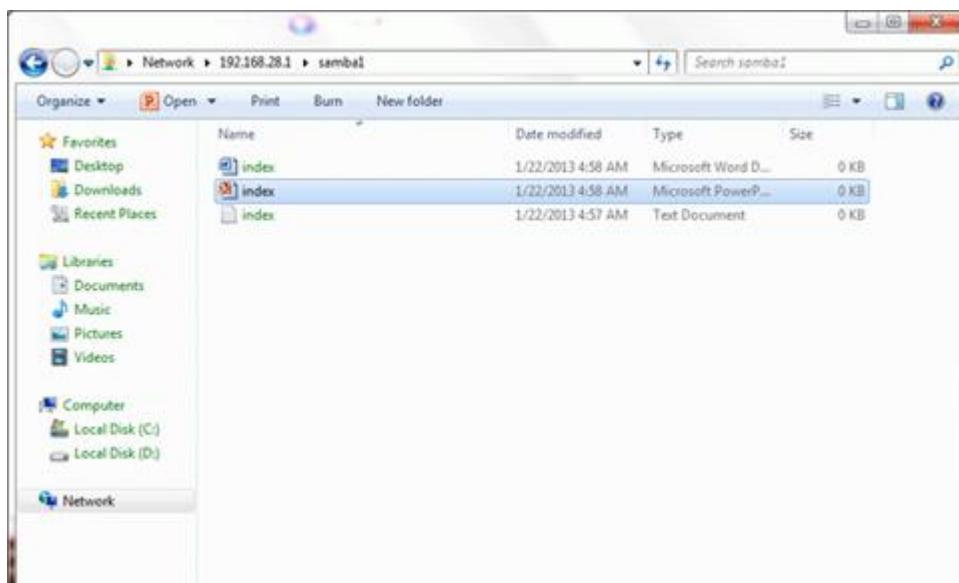
13. Menguji pada windows cocokkanlah antara ip server debian text dengan ip di windows anda agar saling terhubung



14. Langkah terakhir uji pada komputer client masuklah ke windows exploler lalu ketikkanlah ip address server anda contoh: \\192.168.28.1 lalu tekan enter. Jika sudah masuk dan saling bertukar data berarti samba server anda telah berhasil dan siap di coba



15. Di bawah adalah contoh gambar dari kita yang membuat file file di dalam direktori sambal tadi. File ini sudah bisa untuk di copy ke komputer Anda.



Setting Mikrotik Sebagai Windows File Server

Posted by: [Adam Rachmad](#) August 20, 2013 in [Mikrotik](#) [5 Comments](#)

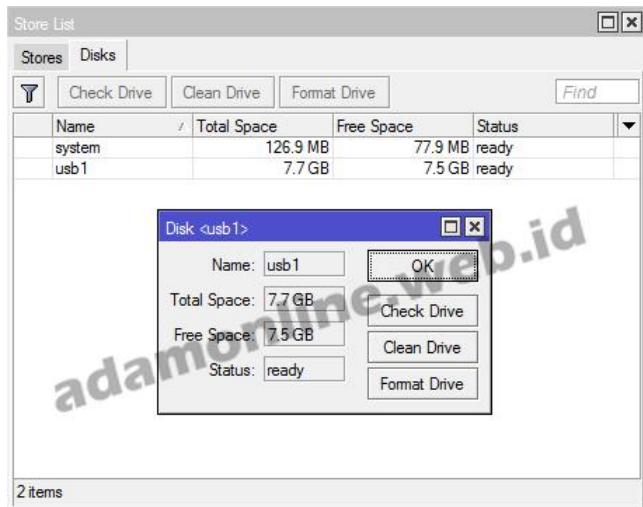
[Mikrotik](#) Sebagai Windows File Server ([samba](#)). Kasus ini jika mikrotik anda mempunyai storage yang besar untuk di jadikan windows file server atau samba. Salah satu feature mikrotik yang nongol di atas versi 5.12.

Skenario :

- Menjadi kan mikrotik sebagai windows file server (samba) sharing folder dan file dalam 1 [jaringan](#) LAN.
- Tutorial ini menggunakan RB751U dan Flash disk 8GB hanya sebagai contoh.

Setting Mikrotik Sebagai Windows File Server

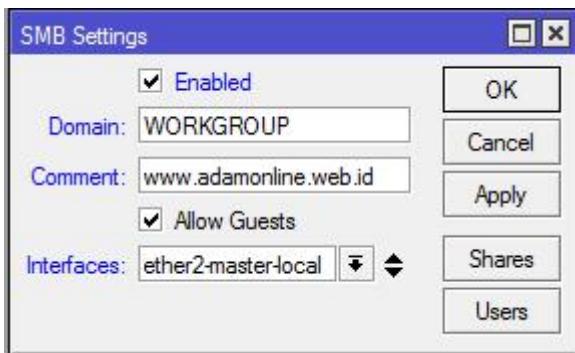
Pertama, pastikan storage ke detek di mikrotik anda. di [Winbox](#) klik **System > Stores > tab Disks**



Storage List Mikrotik

Dari contoh diatas, karena saya plug in flash disk 8GB ke routerboardnya maka terdeteksi menjadi USB1. Pastikan **Status : Ready** dengan klik **Format Drive**.

Lanjut mengaktifkan feature Samba di mikrotik anda. Di winbox klik **IP > SMB**

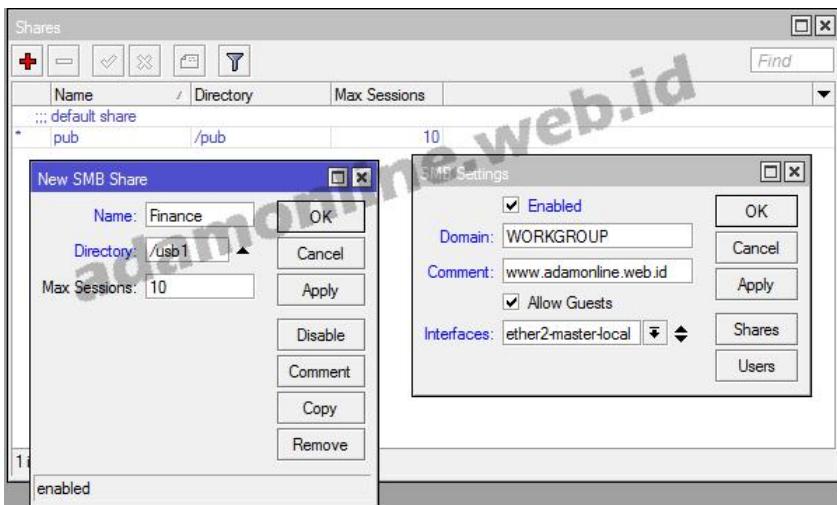


Enabling Samba Mikrotik

Isi option di winbox dengan :

- **Enabled** = centang gan untuk mengaktifkannya
- **Domain** = isi dengan nama domain workgroup di jaringan anda.
- **Comment** = bebas, isi keterangan aja.
- **Allow Guest** = centang jika anda ingin semua komputer dalam jaringan anda bisa mengakses (tanpa username password) file server mikrotik anda.
- **Interfaces** = Pilih interface lokal LAN anda.

Klik **Shares**, untuk setting folder/storage mikrotik yang akan di sharing.



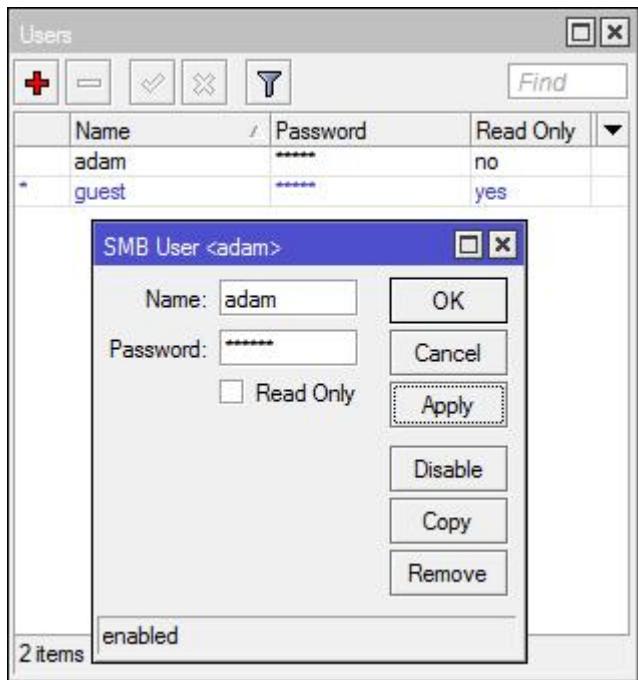
Setting folder sharing samba mikrotik

Isi option di jendela “New SMB Share”

- **Name** : bebas, isi dengan nama folder yang diinginkan
- **Directory** : karena saya pakai flashdisk dan terdeteksi di **System > Stores** > tab **Disks** dengan nama “**usb1**” maka isi dengan “**/usb1**“

- **Max Session** : isi maksimal jumlah komputer/sesion yang dapat mengakses mikrotik file server anda.
- Klik **OK**

Lanjut setting username untuk mengakses file server anda, klik “**Users**”



Setting username file server mikrotik

Klik “+” untuk menambahkan username baru

- **Name** : isi dengan username anda
- **Password** : isi dengan password anda
- **Read Only** : centang jika username tersebut hanya bisa baca (tidak bisa delete/menambahkan file)

Done, anda sudah berhasil setting Mikrotik Sebagai Windows File Server (samba). Cara mencobanya adalah Klik **Start > Run** > isi **\ip_mikrotik_anda** di windows client anda. Contoh anda akses file server mikrotik anda dengan ketik di Windows Explorer **\192.168.88.1**

Jika berhasil akan seperti ini :



Anda akan ditanyakan password jika **Allow Guest** anda tidak di centang, isi dengan username password yang sudah anda buat.

Setting VPN Server Di Mikrotik

Posted by: [Adam Rachmad](#) October 5, 2011 in [Mikrotik](#) [27 Comments](#)

Setting VPN Server Di [Mikrotik](#), sedikit berbagi bagaimana cara setting VPN server di mikrotik dengan [winbox](#). Apa itu VPN? mungkin di artikel ini saya ga bahas secara detail apa itu vpn. Jika anda landing ke halaman ini via google saya anggap anda sudah tau fungsi vpn.. hehehee

Lanjut nyok...

Setting VPN Server Di Mikrotik

Pertama, kita aktifkan fungsi vpn/pptp di mikrotik. Klik menu “**PPP**” trus klik tombol “**PPTP Server**” Centang pada menu option “**enable**”

Klik Gambar Tuk Perbesar

Kedua, kita buat interface vpn/pptp servernya. Klik tanda “+” lalu pilih PPTP Server. Isi kolom “Name” terserah anda, itu untuk identitas interfaces vpn anda di mikrotik.

Ketiga, kita buat setting profile untuk vpn servernya. Klik tab “**Profile**” Klik 2x “**default-encryption**”

Isi Option Diatas :

Local Address : 192.168.89.1 (isi terserah anda ip nya, ip ini adalah ip gateway yang digunakan client vpn anda. IP ini secara dynamic menjadi IP Address VPN Server Anda)

Remote Address : 192.168.89.2 (isi terserah anda yg penting 1 class yeh. IP ini yang diterima di komputer client VPN server anda, jika lebih dari 1 komputer client vpn, anda bisa gunakan IP > Pool untuk membuat range IP. Klik dropdownnya nanti ada list Pool yang anda buat)

DNS Server : 192.168.89.1 (isi ip DNS server yang akan diterima client vpn server anda)

Setelah selesai klik OK

Keempat, kita buat username password yang digunakan untuk koneksi ke server VPN anda. Klik tab “**Secrets**” trus klik tanda “+”

Isi Option :

Name : adam (isi username bwt login)

Password : biji (isi password bwt login)

Service : pptp (karena username password ini kita pakai untuk otentifikasi service pptp)

Kalo udah klik OK

Sekarang sih anda sudah berhasil setting VPN server di mikrotik. Anda bisa mencoba setting VPN server di mikrotik anda dengan dial VPN server anda dengan windows xp atau windows 7. Cara buat koneksi/dial vpn pake windows sementara coba muter2 sama mbah google yak...

Om, gimane kalo ane pengen koneksi ke vpn ane dari luar jaringan ?

Mikrotik anda mempunyai IP publik langsung pada interface WAN anda, jadi anda dial menggunakan IP publik yang diberikan ISP. Dan pastinya IP publik ntu exist di cloud internet.

Kalo ane pake speedy gimane ?

Buat modem adsl anda mode bridge, dial pppoe/username speedy anda via mikrotik. Untuk tutornya bisa lihat di [Dial ADSL Speedy dengan MikroTik](#)

Emang buat apaan sih ntu VPN Server ?

Kalo anda mempunyai warnet di rusia, dan rumah anda di indonesia. VPN server ini menjembatani jaringan lokal disana dengan komputer anda. Jadi anda bisa terkoneksi dengan PC dalam jaringan LAN disana . Sebenarnya buanyak fungsi VPN sie, salah satunya ntu deh.

Test Kecepatan dan Test Kualitas Koneksi Internet

Banyak situs yang menyediakan layanan test kecepatan internet. Di Indonesia terkenal dengan perbedaan kecepatan untuk domestic (lokal/IIX) dan global (internasional/IX). Dari 2 perbedaan kecepatan tersebut kita bisa melakukan test uji kecepatan koneksi internet ke lokasi yang berbeda.

[Speedtest.Net](#)

Sebuah situs test kecepatan koneksi internet yang mempunyai target uji ke berbagai negara. Anda bisa memilih lokasi di Indonesia, singapore atau USA. Situs menggunakan flash player dan tentu saja browser Anda harus support.

[DSLReport.com Speedtest](#)

Cara simple untuk test koneksi internet Anda, dan support hampir semua browser (Java, Flash and iPhone speed test) Uji kecepatan maksimum upload dan kecepatan download dari beberapa lokasi yang tersebar secara geografis.

[Smokeping](#)

Salah satu layanan untuk memonitor alamat IP Anda selama 24 jam atau lebih untuk meninjau packet loss dan / atau variabilitas latensi yang berlebihan.

[Pingtest.net](#)

Gunakan Pingtest.net untuk menentukan kualitas koneksi internet broadband Anda. Streaming media, voice, komunikasi video, dan game online yang membutuhkan lebih dari sekedar kecepatan koneksi internet. Ini adalah salah satu test kualitas koneksi internet yang jangan anda lewatkan.



```
/ip firewall layer7-protocol
add name=video_stream regexp="(get_video\|\|?videoplayback\|\|?videodownload\|\|
\?\|\|.flv\|\|?|\|.fid\|\|?)"

/ip firewall mangle
add action=mark-connection chain=prerouting disabled=no in-interface=ether1 new-
connection-mark= \ "all_conn[tkjdwiwarna.blogspot.com]" passthrough=yes

add action=mark-connection chain=prerouting disabled=no in-interface=ether1 layer7-
protocol= \ video_stream new-connection-mark="video_conn[tkjdwiwarna.blogspot.com]""
passthrough=yes

add action=mark-packet chain=prerouting connection-
mark="video_conn[tkjdwiwarna.blogspot.com]" disabled=no \ new-packet-
mark="video_packet[tkjdwiwarna.blogspot.com]" passthrough=no

add action=mark-packet chain=prerouting connection-
mark="all_conn[tkjdwiwarna.blogspot.com]" disabled=no \ new-packet-
mark="all_packet[tkjdwiwarna.blogspot.com]" passthrough=no

/queue simple
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s comment= \ "Membatasi video
streaming (ex: youtube) - [tkjdwiwarna.blogspot.com]" direction=both disabled=no
interface= \ all limit-at=0/0 max-limit=128k/1M name="Browsing, DLL" packet-
marks="all_packet[tkjdwiwarna.blogspot.com]" \ parent=none priority=8 queue=default-
small/default-small target-addresses=192.168.12.0/24 total-queue= \ default-small

add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s direction=both disabled=no
interface=all limit-at= \ 0/0 max-limit=128k/128k name="Video Streaming/Youtube"
packet-marks="video_packet[tkjdwiwarna.blogspot.com]" \ parent=none priority=8
queue=default-small/default-small target-addresses=192.168.12.0/24 total-queue= \ 
default-small

/ip firewall layer7-protocol
add name="Extension \".exe\""" regexp="^.*get.+\\.exe.*$"
add name="Extension \".mp4\""" regexp="^.*get.+\\.mp4.*$"
add name="Extension \".rar\""" regexp="^.*get.+\\.rar.*$"
add name="Extension \".zip\""" regexp="^.*get.+\\.zip.*$"
add name="Extension \".mkv\""" regexp="^.*get.+\\.mkv.*$"
add name="Extension \".3gp\""" regexp="^.*get.+\\.3gp.*$"
add name="Extension \".wmp\""" regexp="^.*get.+\\.wmp.*$"
add name="Extension \".iso\""" regexp="^.*get.+\\.iso.*$"
add name="Extension \".mp3\""" regexp="^.*get.+\\.mp3.*$"
add name="Extension \".7z\""" regexp="^.*get.+\\.7z.*$"
add name="Extension \".cab\""" regexp="^.*get.+\\.cab.*$"
add name="Extension \".asf\""" regexp="^.*get.+\\.asf.*$"
add name="Extension \".mov\""" regexp="^.*get.+\\.mov.*$"
add name="Extension \".mpg\""" regexp="^.*get.+\\.mpg.*$"
```

```
add name="Extension \" .mpeg\"" regexp="^.*get.+\\.mpeg.*$"
add name="Extension \" .avi\"" regexp="^.*get.+\\.avi.*$"
add name="Extension \" .flv\"" regexp="^.*get.+\\.flv.*$"
add name="Extension \" .wav\"" regexp="^.*get.+\\.wav.*$"
add name="Extension \" .rm\"" regexp="^.*get.+\\.rm.*$"
add name="Extension \" .ram\"" regexp="^.*get.+\\.ram.*$"
add name="Extension \" .rmvb\"" regexp="^.*get.+\\.rmvb.*$"

add name="Extension \" .dat\"" regexp="^.*get.+\\.dat.*$"
add name="Extension \" .daa\"" regexp="^.*get.+\\.daa.*$"
add name="Extension \" .nrg\"" regexp="^.*get.+\\.nrg.*$"
add name="Extension \" .bin\"" regexp="^.*get.+\\.bin.*$"
add name="Extension \" .001\"" regexp="^.*get.+\\.001.*$"
add name="Extension \" .002\"" regexp="^.*get.+\\.002.*$"
add name="Extension \" .003\"" regexp="^.*get.+\\.003.*$"

/ip firewall mangle
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .exe\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .mp4\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .rar\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .zip\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .mkv\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .3gp\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .wmp\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .iso\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .mp3\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .7z\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .cab\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .asf\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .mov\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .mpg\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .mpeg\"" new-connection-mark=download_conn
```

```
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .avi\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .flv\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .wav\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .m3u\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .ram\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .rmvb\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .dat\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .daa\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .nrg\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .001\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .002\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
    layer7-protocol="Extension \" .003\" new-connection-mark=download_conn

add action=mark-packet chain=prerouting connection-mark=download_conn new-packet-
mark=download_packet
add action=mark-packet chain=prerouting connection-mark=all_conn new-packet-mark=all_packet

/queue simple
add comment=\ "tkjdwiarina.blogspot.com - Memisahkan bandwidth browsing & download file"
\ max-limit=128k/1M name=Browsing packet-marks=all_packet target=\ 192.168.20.0/24

add max-limit=512k/512k name="Download File" packet-marks=download_packet \
target=192.168.20.0/24
```

Drop IDM

```
/ip firewall filter
add action=drop chain=forward connection-limit=4,32 in-interface=ether2 \ layer7-
protocol="Extension \" .mp4\" protocol=tcp

add action=drop chain=forward connection-limit=4,32 in-interface=ether2 \ layer7-
protocol="Extension \" .3gp\" protocol=tcp

add action=drop chain=forward connection-limit=4,32 in-interface=ether2 \ layer7-
protocol="Extension \" .flv\" protocol=tcp

add action=drop chain=forward connection-limit=4,32 in-interface=ether2 \ layer7-
protocol="Extension \" .avi\" protocol=tcp
```

Drop FACEBOOK

```
/ip firewall mangle  
add action=add-dst-to-address-list address-list=facebook \ address-list-timeout=1m  
chain=prerouting comment="" content=facebook.com \ disabled=no
```

```
/ip firewall mangle  
add action=add-dst-to-address-list address-list=youtube \ address-list-timeout=1m  
chain=prerouting comment="" content=youtube.com \ disabled=no
```

```
/ip firewall mangle  
add action=add-dst-to-address-list address-list=twitter \ address-list-timeout=1m  
chain=prerouting comment="" content=twitter.com \ disabled=no
```

```
/ip firewall mangle  
add action=add-dst-to-address-list address-list=terlarang \ address-list-timeout=1m  
chain=prerouting comment="" content=terlarang.net \ disabled=no
```

```
/ip firewall mangle  
add action=add-dst-to-address-list address-list=reymovies \ address-list-timeout=1m  
chain=prerouting comment="" content=reymovies.com \ disabled=no
```

```
/ip firewall filter  
add action=drop chain=forward comment="Drop Facebook" disabled=no \ dst-address-list=facebook
```

```
/ip firewall filter  
add action=drop chain=forward comment="Drop Youtube" disabled=no \ dst-address-list=youtube
```

```
/ip firewall filter  
add action=drop chain=forward comment="Drop Twitter" disabled=no \ dst-address-list=twitter
```

```
/ip firewall filter  
add action=drop chain=forward comment="Drop terlarang" disabled=no \ dst-address-list=terlarang
```

```
/ip firewall filter  
add action=drop chain=forward comment="Drop reymovies" disabled=no \ dst-address-list=reymovies
```

Optimasi Point Blank di Mikrotik

```
/ip firewall mangle  
add action=mark-connection chain=forward comment="Trafik Mark" disabled=no new-connection-mark=all_con passthrough=yes src-address=192.168.2.0/24
```

```
add action=mark-connection chain=forward comment="" connection-mark=all_con disabled=no dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes protocol=tcp src-address=192.168.2.0/24

add action=mark-connection chain=forward comment="" connection-mark=all_con disabled=no dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes protocol=udp src-address=192.168.2.0/24

add action=mark-packet chain=forward comment="" connection-mark=pb-con disabled=no new-packet-mark=point-blank passthrough=no

add action=mark-packet chain=forward comment="" disabled=no new-packet-mark=all_packet passthrough=no

/queue tree
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=1000k name="Download" parent=ether2 priority=8

add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0 name=HTTP packet-mark=all_packet parent="Download" priority=8 queue=default

add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0 name="Point Blank" packet-mark=point-blank parent="Download" priority=7 queue=default
```

Cara Blokir User Dengan DHCP Mikrotik

Blokir user dengan DHCP Mikrotik, dalam arti user yang menggunakan ip statik tidak dapat menggunakan koneksi internet kita. Hanya yang mendapatkan IP address melalui DHCP Server mikrotik kita yang bisa menggunakan koneksi internet, alias yang dapat ipnya secara otomatis.

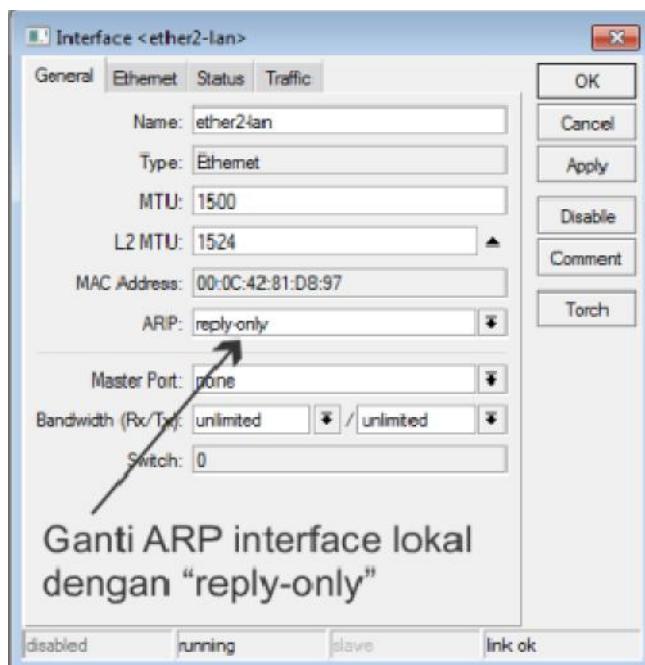
Saya anggap DHCP Server dalam mikrotik router Kamu sudah berjalan baik.

Lanjut Cara Blokir User Dengan Mikrotik

Pertama, kita hanya merubah settingan yang sudah ada. Masuk menu **IP > DHCP Server** klik 2x pada DHCP server Kamu. Centang “**Add ARP For Lease**”

Kedua, kita masuk ke menu “**Interfaces**” klik 2x pada interface lokal Kamu atau interface dimana Kamu aplikasikan DHCP Server. Ganti option “**ARP**” menjadi “**reply-only**”

Pengertian ARP adalah sebuah protokol dalam TCP/IP yang bertanggung jawab dalam melakukan resolusi alamat IP ke dalam alamat Media Access Control (MAC Address). Jadi Client yang tidak masuk dalam ARP List di mikrotik tidak bisa akses jaringan internet.



DONE ! Sekarang Kamu coba menggunakan IP Statik pada komputer kamu, koneksi ke router tidak akan berjalan kecuali jika kamu menggunakan “Obtain an IP Address Automaticaly” alias DHCP pada interfaces/ethernet komputer Kamu.

```
/ip firewall mangle  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .exe\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .mp4\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .rar\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .zip\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .mkv\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .3gp\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .wmp\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .iso\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .mp3\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .7z\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .cab\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .asf\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .mov\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .mpg\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .mpeg\" new-connection-mark=download_conn  
  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .avi\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .flv\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .wav\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .rm\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .ram\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .rmvb\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .dat\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .daa\" new-connection-mark=download_conn  
add action=mark-connection chain=prerouting in-interface=ether2 \  
    layer7-protocol="Extension \" .nrg\" new-connection-mark=download_conn
```

```
add action=mark-connection chain=prerouting in-interface=ether2 \
    layer7-protocol="Extension \" .001\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
    layer7-protocol="Extension \" .002\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
    layer7-protocol="Extension \" .003\"" new-connection-mark=download_conn

add action=mark-packet chain=prerouting connection-mark=download_conn new-packet-
mark=download_packet
add action=mark-packet chain=prerouting connection-mark=all_conn new-packet-mark=all_packet

/queue simple
add comment=\ "tkjdwiarina.blogspot.com - Memisahkan bandwidth browsing1 & download
file1" \ max-limit=128k/1M name=Browsing1 packet-marks=all_packet target=\ 192.168.21.0/24

add max-limit=128k/512k name="Download File1" packet-marks=download_packet \
target=192.168.21.0/24
```

```
/ ip firewall filter
add chain=forward protocol=tcp dst-port=135-139 action=drop comment="" disabled=no
add chain=forward protocol=udp dst-port=135-139 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=445 action=drop comment="" disabled=no
add chain=forward protocol=udp dst-port=445 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=593 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=1024-1030 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=1080 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=1214 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=1363 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=1364 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=1368 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=1373 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=1377 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=1433-1434 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=2745 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=2283 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=2535 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=3127 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=3410 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=4444 action=drop comment="" disabled=no
add chain=forward protocol=udp dst-port=4444 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=5554 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=8866 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=10000 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=10080 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=12345 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=17300 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=27374 action=drop comment="" disabled=no
add chain=forward protocol=tcp dst-port=65506 action=drop comment="" disabled=no
```

BIOGRAFI PENULIS

FOTO PENULIS	KETERANGAN
	<p>Dilahirkan di Sawit Seberang, 19 September 1989, anak ke-2 dari dua bersaudara. Pendidikan yang telah diambil :</p> <p>Tahun 2004- 2007 SMA Negeri 1 Padang Tualang mengambil jenjang jurusan IPA.</p> <p>Tahun 2007 – 2011, menyelesaikan study di Pendidikan Teknologi Kimia Industri (PTKI) Medan.</p> <p>Tahun 2008 – 2012, menyelesaikan study di Sekolah Tinggi Manajemen Informatika Komputer (STMIK) Budidarma Medan.</p> <p>Tahun 2012 – Sekarang, sedang menyelesaikan study di S2-Teknik Informatika di Universitas Sumatera Utara.</p> <p>Bekerja di PT. Medan Informatika Teknologi</p> <p style="padding-left: 40px;">Ketua Jurusan TKJ di SMK Dwiwarna Medan</p> <p style="padding-left: 40px;">Ketua Jurusan TKJ di SMK-3 Al-Washliyah Pasar Senen Medan</p> <p>Contact Person : diankurnia68@gmail.com</p> <p>http://tkjdwiwarna.blogspot.com</p> <p>http://tkjpasarsenen.blogspot.com</p> <p>https://www.facebook.com/pages/Dian-Kurnia/161722130593897?ref=hl</p>

Voucher Template UserManager Hotspot MikroTik

Posted by: [Adam Rachmad](#) July 25, 2014 in [Mikrotik](#) [Leave a comment](#)

Di kesempatan kali ini saya akan coba sharing custom voucher template UserManager hotspot [MikroTik](#). Dalam membuat custom voucher template memerlukan pengetahuan tentang HTML. Karena default voucher yang di hasilkan oleh usermanager, biasa aja, ga enak dilihat. Nah disini kita akan mencoba dengan membuat voucher template dengan design kita sendiri. Saya anggap anda mengerti HTML, copy paste dari voucher template yang beredar di google pun harus tau sedikit tentang HTML.

```
Prepaid time: Unlimited
Login: dad
After attempting to open a web page, you should enter this login information
Login: dad      (login name that you enter at the HotSpot login page)
Password: 7ij    (password that you enter at the HotSpot login page)

If you want to extend time, please contact reception
```

Default Voucher Template

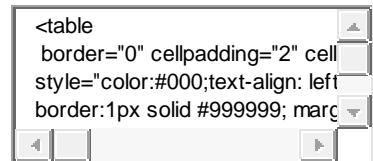
Cara Edit Voucher Template UserManager Hotspot MikroTik

Dibawah ini adalah design voucher usermanager pribadi saja, simple, elegant, dan rapih. Pokoknya lumayan lah.

adamonline.web.id Jln. Mampang Kesuksesan No.1, Jakarta Tlp. 08999-0251-97 <table><tr><td>Paket</td><td>Harga</td></tr><tr><td>Voucher 1 Jam</td><td>4000.00</td></tr><tr><td>UserName</td><td>Password</td></tr><tr><td>dad</td><td>7ij</td></tr></table> Gunakan informasi account ini untuk menikmati layanan hotspot kami, Terima Kasih. (c)adamanline.web.id	Paket	Harga	Voucher 1 Jam	4000.00	UserName	Password	dad	7ij	adamonline.web.id Jln. Mampang Kesuksesan No.1, Jakarta Tlp. 08999-0251-97 <table><tr><td>Paket</td><td>Harga</td></tr><tr><td>Voucher 2 Jam</td><td>8000.00</td></tr><tr><td>UserName</td><td>Password</td></tr><tr><td>t9a</td><td>k36</td></tr></table> Gunakan informasi account ini untuk menikmati layanan hotspot kami, Terima Kasih. (c)adamanline.web.id	Paket	Harga	Voucher 2 Jam	8000.00	UserName	Password	t9a	k36	adamonline.web.id Jln. Mampang Kesuksesan No.1, Jakarta Tlp. 08999-0251-97 <table><tr><td>Paket</td><td>Harga</td></tr><tr><td>Voucher 3 Jam</td><td>10000.00</td></tr><tr><td>UserName</td><td>Password</td></tr><tr><td>2x2</td><td>c6i</td></tr></table> Gunakan informasi account ini untuk menikmati layanan hotspot kami, Terima Kasih. (c)adamanline.web.id	Paket	Harga	Voucher 3 Jam	10000.00	UserName	Password	2x2	c6i
Paket	Harga																									
Voucher 1 Jam	4000.00																									
UserName	Password																									
dad	7ij																									
Paket	Harga																									
Voucher 2 Jam	8000.00																									
UserName	Password																									
t9a	k36																									
Paket	Harga																									
Voucher 3 Jam	10000.00																									
UserName	Password																									
2x2	c6i																									
adamonline.web.id Jln. Mampang Kesuksesan No.1, Jakarta Tlp. 08999-0251-97 <table><tr><td>Paket</td><td>Harga</td></tr><tr><td>Voucher 1 Jam</td><td>4000.00</td></tr><tr><td>UserName</td><td>Password</td></tr><tr><td>ydy</td><td>dcr</td></tr></table> Gunakan informasi account ini untuk menikmati layanan hotspot kami, Terima Kasih. (c)adamanline.web.id	Paket	Harga	Voucher 1 Jam	4000.00	UserName	Password	ydy	dcr	adamonline.web.id Jln. Mampang Kesuksesan No.1, Jakarta Tlp. 08999-0251-97 <table><tr><td>Paket</td><td>Harga</td></tr><tr><td>Voucher 2 Jam</td><td>8000.00</td></tr><tr><td>UserName</td><td>Password</td></tr><tr><td>tim</td><td>rpd</td></tr></table> Gunakan informasi account ini untuk menikmati layanan hotspot kami, Terima Kasih. (c)adamanline.web.id	Paket	Harga	Voucher 2 Jam	8000.00	UserName	Password	tim	rpd	adamonline.web.id Jln. Mampang Kesuksesan No.1, Jakarta Tlp. 08999-0251-97 <table><tr><td>Paket</td><td>Harga</td></tr><tr><td>Voucher 3 Jam</td><td>10000.00</td></tr><tr><td>UserName</td><td>Password</td></tr><tr><td>gcp</td><td>jn3</td></tr></table> Gunakan informasi account ini untuk menikmati layanan hotspot kami, Terima Kasih. (c)adamanline.web.id	Paket	Harga	Voucher 3 Jam	10000.00	UserName	Password	gcp	jn3
Paket	Harga																									
Voucher 1 Jam	4000.00																									
UserName	Password																									
ydy	dcr																									
Paket	Harga																									
Voucher 2 Jam	8000.00																									
UserName	Password																									
tim	rpd																									
Paket	Harga																									
Voucher 3 Jam	10000.00																									
UserName	Password																									
gcp	jn3																									

Custom Design Voucher Template Usermanager MikroTik – Design By : Saya Donk!

Dibawah ini adalah source kode HTML voucher template usermanagernya, bisa di modif / edit. Kalau mau dipakai mentah-mentah, anda bisa tinggal edit nama usaha/hotspot, alamat dan no telp.



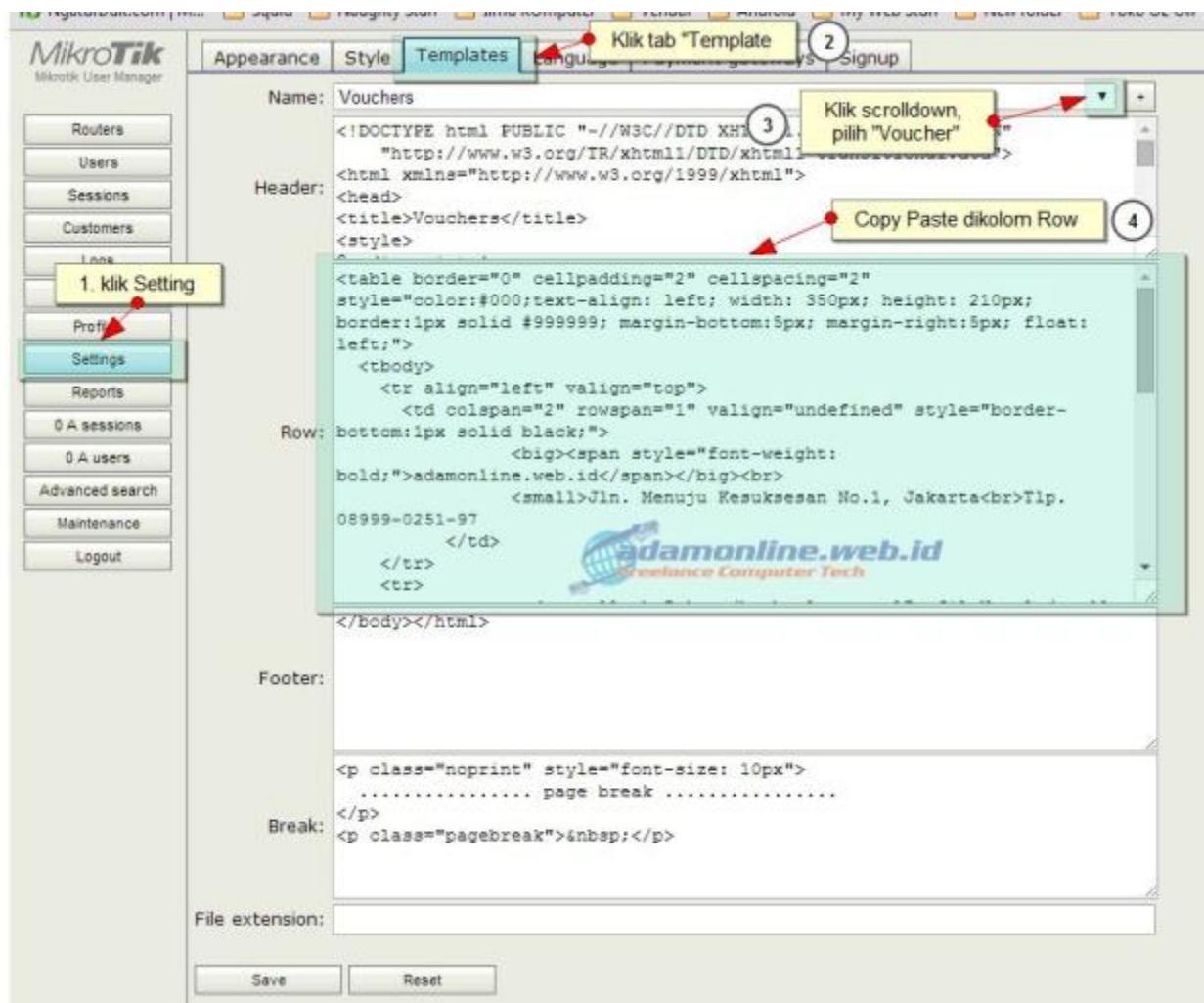
```
<table border="0" cellpadding="2" cellspacing="2" style="color:#000;text-align: left; width: 350px; height: 210px; border:1px solid #999999; margin-bottom:5px; margin-right:5px; float: left;">
1   <tbody>
2     <tr align="left" valign="top">
3       <td colspan="2" rowspan="1" valign="undefined" style="border-bottom:1px solid black;">
4         <big><span style="font-weight: bold;">adamonline.web.id</span></big><br>
5         <small>Jln. Menuju Kesuksesan No.1, Jakarta<br>Tlp. 08999-0251-97
6       </td>
7     </tr>
8   <tr>
9     <td>
10    <small><b>Paket</b><br>%u_actualProfileName%</small></td>
11    <td style="text-align: left;"><small><b>Harga</b><br>%u_moneyPaid%</small></td>
12    </tr>
13   <tr>
14    <td><small><b>UserName</b></small><br>%u_username%</td>
15    <td style="text-align: left;"><small><b>Password</b></small><br>%u_password%</td>
16    </tr>
17   <tr align="left">
18     <td colspan="2" rowspan="1" valign="top" style="border-top:1px solid black;"><small>
19       <span style="font-weight: bold;">Gunakan informasi account ini untuk menikmati layanan
20       hotspot kami, Terima Kasih</span></small>
21     </td>
22   </tr>
23   <tr align="right">
24     <td colspan="2" rowspan="1" style="font-weight:
25       bold;">(c)adamonline.web.id</td>
26   </tr>
</tbody>
</table>
```

Trus dimana masukinnya gan ?

Cara Mengganti Voucher Template UserManager Hotspot MikroTik

Sekarang kita mau mengganti voucher template usermanagernya dengan design template kita sendiri. Bagaimana caranya ?

- Login ke usermanager mikrotik Anda
- Pilih “**Setting**“
- Klik tab “**Template**“
- Klik scrolldown kolom “**Name**” dan Pilih “**Voucher**“
- Copy paste deh didalam kolom “**Row**“
- Lalu klik “**Save**“



Cara Ganti Voucher Template

Tinggal anda coba **Generate Voucher** pada menu **User** pada usermanager Anda.

Kode Variable / Character Constants

Saya ga tahu ini disebut apa, setau ini sih variable yang bisa digunakan di kode html kita untuk mengambil data dari profile di radius managernya. Misalnya di voucher template usermanager saya memakai :

%u_actualProfileName% -> *Profile Name*

%u_moneyPaid% -> *Harga voucher*

%u_username% -> *username*

%u_password% -> *password*

MikroTik
Mikrotik User Manager

Profiles Limitations

Profile: Voucher 3 Jam

Name: Voucher 3 Jam

Name for users: 1 %u_actualProfileName%

Owner: admin

Valid until: 2 %u_moneyPaid%

Starts: At first logon

Price: 10000.00

Shared users: not used

Profile limitations

<input type="checkbox"/>	Active
<input type="checkbox"/>	Always

Add new limitation Remove selected limitations

Save profile Remove www.adamonline.web.id

User Manager/Character constants

Untuk variable lebih lengkapnya bisa lihat disini [User Manager/Character constants](#).

5 Perintah Dasar Command Prompt Pada Jaringan

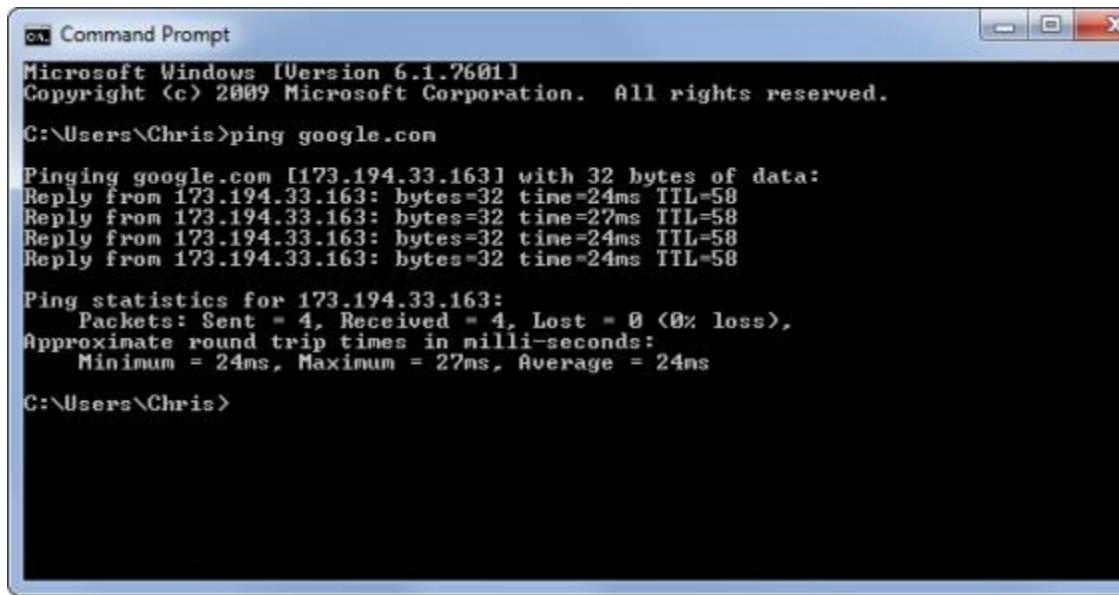
Posted by: [Adam Rachmad](#) June 28, 2014 in [Internet Dan Jaringan](#) Leave a comment

Tools seperti ping, traceroute, lookup, netstat dan ipconfig, tersedia di hampir setiap sistem operasi yang Anda bisa gunakan. Tools tersebut dapat memberikan informasi yang digunakan untuk pemecahan masalah / troubleshooting [jaringan](#). Fasilitas ini tersedia di [Windows](#), [Linux](#) atau Mac OS X.

5 Perintah Dasar Command Prompt Pada Jaringan

ping

Perintah “**ping**” mengirim ICMP echo request packets ke tujuan. Contohnya, anda bisa **ping google.com** atau **ping 172.195.33.174** untuk **ping** domain atau IP address. Paket tersebut akan “bertanya” ke tujuan agar membalas. Jika tujuan dikonfigurasi untuk bisa membalas, tujuan akan merespon packet tersebut. Anda akan dapat melihat berapa lama waktu round-trip/perjalanan antara komputer Anda dan tujuan (dibaca: Latency). Anda akan melihat “request timed out” jika packet loss terjadi/tidak terhubung dengan tujuan, dan Anda akan melihat pesan kesalahan jika komputer Anda tidak dapat berkomunikasi dengan host tujuan.



```
cmd Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Chris>ping google.com

Pinging google.com [173.194.33.163] with 32 bytes of data:
Reply from 173.194.33.163: bytes=32 time=24ms TTL=58
Reply from 173.194.33.163: bytes=32 time=27ms TTL=58
Reply from 173.194.33.163: bytes=32 time=24ms TTL=58
Reply from 173.194.33.163: bytes=32 time=24ms TTL=58

Ping statistics for 173.194.33.163:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 24ms, Maximum = 27ms, Average = 24ms

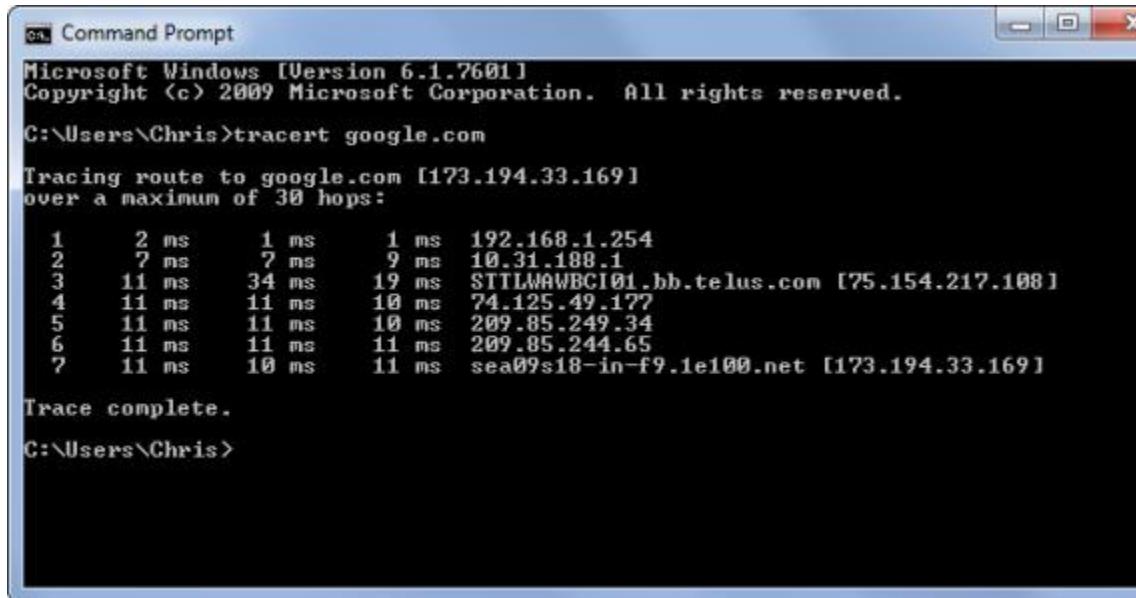
C:\Users\Chris>
```

traceroute / tracert / tracepath

Salah satu perintah dasar command prompt pada jaringan adalah **traceroute** persis dengan perintah **ping**, tapi perintah ini dapat memberikan informasi jalur paket tujuan melewati mana saja. **traceroute** mengirimkan paket ke tujuan, dan sepanjang jalan meminta setiap router

Internet untuk membalas ketika dilewati. Ini akan menunjukan jalur koneksi antara komputer Anda dan tujuan.

Tool ini dapat membantu untuk troubleshoot masalah koneksi. Contohnya, jika Anda tidak dapat terhubung dengan server, menjalankan **traceroute** akan menunjukan jalur/hop yang bermasalah antara komputer Anda dan tujuan.



```
Windows Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Chris>tracert google.com

Tracing route to google.com [173.194.33.169]
over a maximum of 30 hops:
1  2 ms    1 ms    1 ms  192.168.1.254
2  7 ms    7 ms    9 ms  10.31.188.1
3  11 ms   34 ms   19 ms  STILMAWBCI01.bb.telus.com [75.154.217.108]
4  11 ms   11 ms   10 ms  74.125.49.177
5  11 ms   11 ms   10 ms  209.85.249.34
6  11 ms   11 ms   11 ms  209.85.244.65
7  11 ms   10 ms   11 ms  sea09s18-in-f9.1e100.net [173.194.33.169]

Trace complete.

C:\Users\Chris>
```

ipconfig / ifconfig

Perintah **ipconfig** bisa digunakan di Windows, sementara perintah **ifconfig** bisa digunakan di Linux, Mac OS x dan Unix. Perintah ini memungkinkan Anda untuk mengkonfigurasi interface jaringan dan melihat informasi interface/LAN Card di komputer Anda. Sebagai contoh, anda bisa gunakan perintah **ipconfig /all** di Windows untuk melihat konfigurasi interface jaringan di komputer Anda, IP Address Anda, DNS server dan informasi lainnya. Atau, Anda bisa gunakan perintah **ipconfig /flushdns** untuk [Reset, Clear, Refresh, Flush DNS Cache di Windows](#).

Memaksa windows untuk mendapatkan alamat baru dari DNS server setiap anda mengakses situs baru. Perintah lainnya bisa memaksa komputer anda untuk memperbarui IP address dan mendapatkan ip address baru dari DHCP server. Tools ini dapat dengan cepat menampilkan alamat IP komputer atau membantu Anda memecahkan masalah koneksi.

```
Windows Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Chris>ipconfig /all

Windows IP Configuration

Host Name . . . . . : Laptop
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : telus

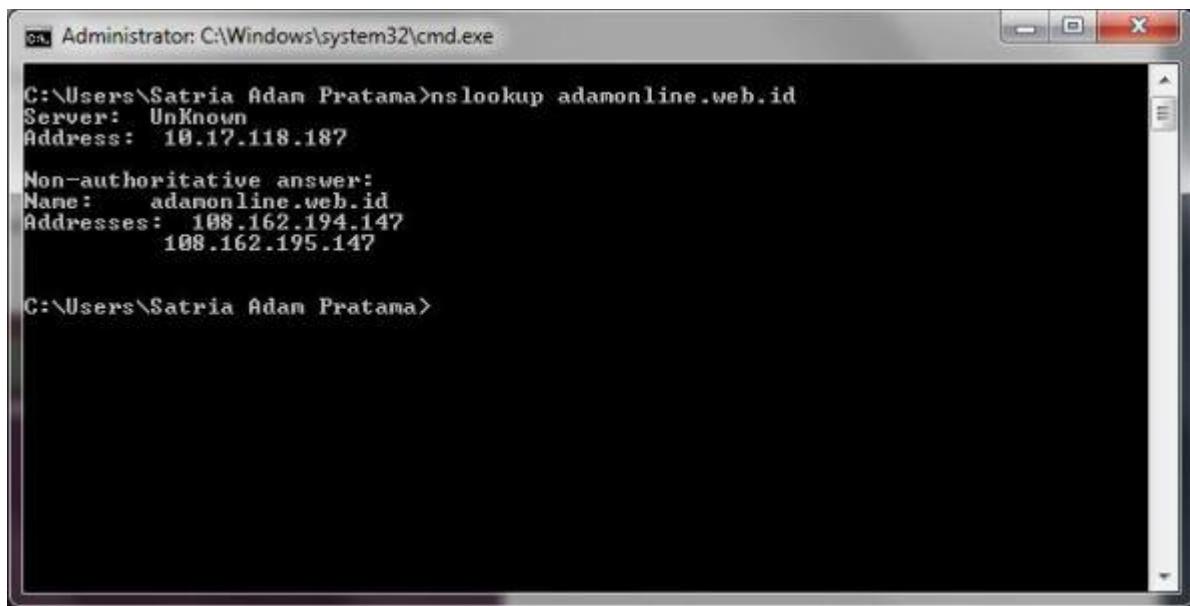
Wireless LAN adapter Wireless Network Connection:

Connection-specific DNS Suffix . . . . . : telus
Description . . . . . : Intel(R) Centrino(R) Wireless-N 2230
Physical Address . . . . . : 68-5D-43-66-0B-0C
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::799d:c5a7:c72:b925%11<Preferred>
IPv4 Address . . . . . : 192.168.1.66<Preferred>
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : June-01-14 12:41:11 PM
Lease Expires . . . . . : June-03-14 12:41:11 AM
Default Gateway . . . . . : 192.168.1.254
DHCP Server . . . . . : 192.168.1.254
DNS Servers . . . . . : 8.8.8.8
                           8.8.4.4
NetBIOS over Tcpip. . . . . : Enabled
```

nslookup

Perintah dasar command prompt pada jaringan lainnya adalah perintah **nslookup** akan mencari alamat IP yang terkait dengan nama domain. Contohnya, anda bisa menjalankan perintah **nslookup** untuk melihat IP address blog ini adamonline.web.id.

Komputer Anda terus query server DNS untuk menerjemahkan nama domain ke alamat IP. Perintah ini hanya memungkinkan Anda untuk melakukannya secara manual. **nslookup** juga memungkinkan Anda untuk melakukan reverse lookup untuk menemukan nama domain yang terkait dengan alamat IP. Misalnya, **nslookup 108.162.195.147** akan menunjukkan bahwa alamat IP ini dikaitkan dengan **adamonline.web.id**.



```
C:\> Administrator: C:\Windows\system32\cmd.exe
C:\> nslookup adamonline.web.id
Server: Unknown
Address: 10.17.118.187

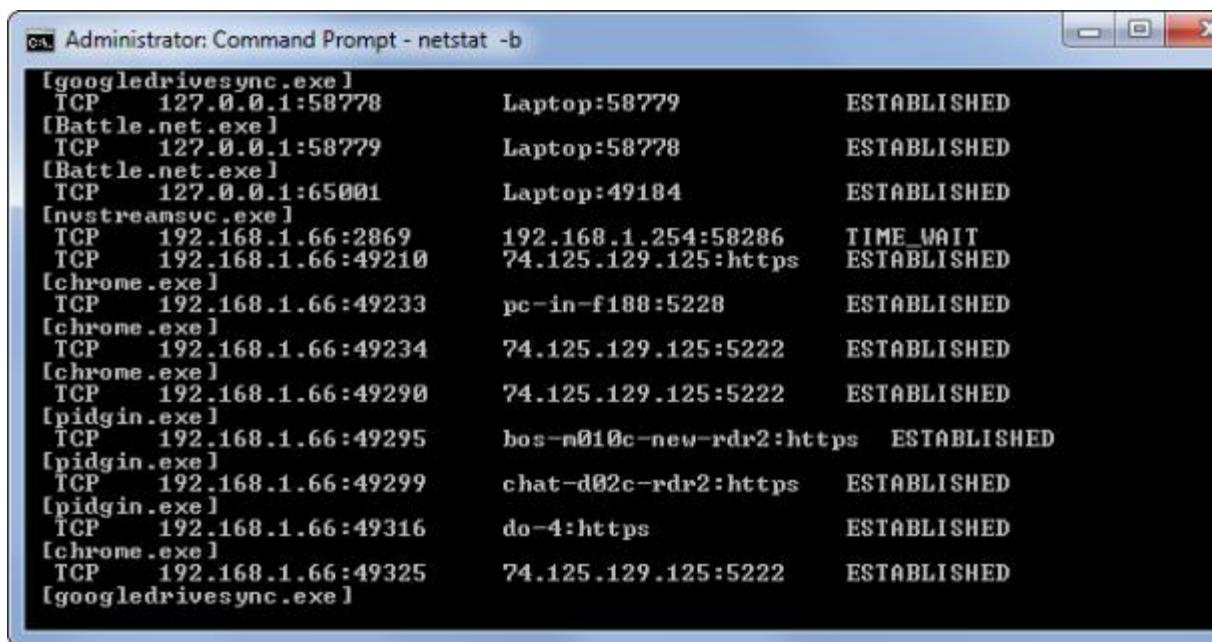
Non-authoritative answer:
Name: adamonline.web.id
Addresses: 108.162.194.147
108.162.195.147

C:\>
```

netstat

netstat singkatan dari statistik jaringan. Perintah ini menampilkan koneksi jaringan yang masuk dan keluar serta informasi jaringan lain. Ini tersedia di Windows, Mac, dan Linux – setiap versi memiliki opsi baris perintah sendiri Anda dapat men-tweak untuk melihat berbagai jenis informasi.

Utilitas **netstat** dapat menunjukkan koneksi yang open di komputer Anda, program mana yang membuat koneksi, berapa banyak data sedang dikirim, dan informasi lainnya.



```
C:\> Administrator: Command Prompt - netstat -b
[googledrivesync.exe]
  TCP 127.0.0.1:58778      Laptop:58779      ESTABLISHED
[Battle.net.exe]
  TCP 127.0.0.1:58779      Laptop:58778      ESTABLISHED
[Battle.net.exe]
  TCP 127.0.0.1:65001      Laptop:49184      ESTABLISHED
[invstreamsvc.exe]
  TCP 192.168.1.66:2869    192.168.1.254:58286   TIME_WAIT
  TCP 192.168.1.66:49210    74.125.129.125:https  ESTABLISHED
[chrome.exe]
  TCP 192.168.1.66:49233    pc-in-f188:5228     ESTABLISHED
[chrome.exe]
  TCP 192.168.1.66:49234    74.125.129.125:5222  ESTABLISHED
[chrome.exe]
  TCP 192.168.1.66:49290    74.125.129.125:5222  ESTABLISHED
[pidgin.exe]
  TCP 192.168.1.66:49295    bos-m010c-new-rdr2:https ESTABLISHED
[pidgin.exe]
  TCP 192.168.1.66:49299    chat-d02c-rdr2:https  ESTABLISHED
[pidgin.exe]
  TCP 192.168.1.66:49316    do-4:https        ESTABLISHED
[chrome.exe]
  TCP 192.168.1.66:49325    74.125.129.125:5222  ESTABLISHED
[googledrivesync.exe]
```

Ini bukan satu-satunya Perintah Dasar Command Prompt Pada Jaringan yang berhubungan dengan jaringan, tetapi itu adalah beberapa yang paling umum.



[Apa itu Mikrotik? Pengertian Mikrotik & Penjelasannya](#)

Mikrotik adalah sebuah perusahaan yang bergerak di bidang produksi perangkat keras (hardware) dan perangkat lunak (Software) yang berhubungan dengan sistem jaringan komputer yang berkantor pusat di Latvia, bersebelahan dengan Rusia. Mikrotik didirikan pada tahun 1995 untuk mengembangkan router dan sistem ISP (Internet Service Provider) nirkabel.

[Sejarah Mikrotik](#)

Tahun 1996 John dan Arnis memulai dengan sistem Linux dan MS DOS yang dikombinasikan dengan teknologi Wireless LAN (W-LAN) Aeronet berkecepatan 2Mbps di Moldova. Barulah kemudian melayani lima pelanggannya di Latvia, karena ambisi mereka adalah membuat satu peranti lunak router yang handal dan disebarluaskan ke seluruh dunia. Prinsip dasar MikroTik bukan membuat Wireless ISP (WISP), tapi membuat program router yang handal dan dapat dijalankan di seluruh dunia. Hingga kini, MikroTik telah melayani sekitar empat ratusan pelanggannya.

Linux yang mereka gunakan pertama kali adalah Kernel 2.2 yang dikembangkan secara bersama-sama dengan bantuan 5 - 15 orang staf R&D Mikrotik yang sekarang menguasai dunia routing di negara-negara berkembang. Selain staf di lingkungan Mikrotik, menurut Arnis, mereka merekrut juga tenaga-tenaga lepas dan pihak ketiga yang dengan intensif mengembangkan Mikrotik secara maraton.

Jenis-Jenis Mikrotik

Berikut ini jenis-jenis dari MikroTik:

1. [Mikrotik RouterOS™](#)

MikroTik RouterOS™ merupakan [sistem operasi](#) yang diperuntukkan sebagai network [router](#). MikroTik routerOS sendiri adalah sistem operasi dan perangkat lunak yang dapat digunakan untuk menjadikan komputer biasa menjadi router network yang handal, mencakup berbagai fitur yang dibuat untuk ip network dan jaringan wireless. Fitur-fitur tersebut diantaranya: Firewall & Nat, Routing, Hotspot, Point to Point Tunneling Protocol, DNS server, DHCP server, Hotspot, dan masih banyak lagi fitur lainnya. MikroTik routerOS merupakan sistem operasi Linux base yang diperuntukkan sebagai network router. Didesain untuk memberikan kemudahan bagi penggunanya. Administrasinya bisa dilakukan melalui Windows Application (WinBox). Selain itu instalasi dapat dilakukan pada Standard komputer PC (Personal Computer). PC yang akan dijadikan router mikrotik pun tidak memerlukan resource yang cukup besar untuk penggunaan standard, misalnya hanya sebagai gateway. Untuk keperluan beban yang besar (network yang kompleks, routing yang rumit)

disarankan untuk mempertimbangkan pemilihan sumber daya PC yang memadai. Ini adalah versi MikroTik dalam bentuk perangkat lunak yang dapat dipasang pada komputer rumahan (PC) melalui [CD](#). File image MikroTik RouterOS bisa diunduh dari website resmi MikroTik, www.mikrotik.com. Namun, file image ini merupakan versi *trial* MikroTik yang hanya dapat digunakan dalam waktu 24 jam saja. Untuk dapat menggunakannya secara *full time*, anda harus membeli *lisensi key* dengan catatan satu lisensi hanya untuk satu [harddisk](#).

Fitur - Fitur Mikrotik

Berikut fitur dari MikroTik Penanganan Protokol [TCP/IP](#):

- [Firewall](#) dan [NAT](#)
- Routing - Static routing
- Data Rate Management
- [Hotspot](#)
- Point-to-Point tunneling protocols
- Simple tunnels
- IPsec
- Web proxy
- Caching DNS client
- [DHCP](#)
- Universal Client
- VRRP
- UPhP
- NTP
- Monitoring/Accounting
- [SNMP](#)
- M3P
- MNDP
- Tools
- Aneka Ragam

Layer 2 konektivitas

- [Wireless](#)
- [Bridge](#)
- [Virtual LAN](#)
- [Synchronous](#)

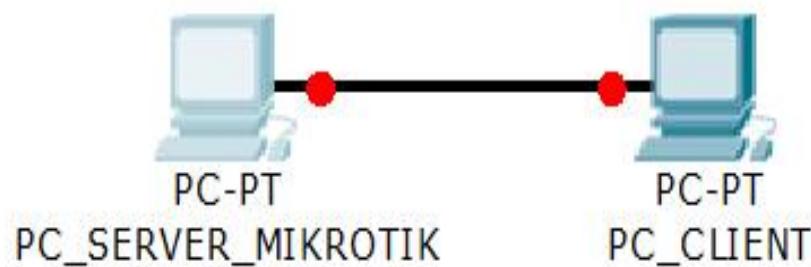
- [Asynchronous](#)
- ISDN
- SDSL

Level RouterOS dan Kemampuannya

Mikrotik RouterOS hadir dalam berbagai level.^[4] Tiap level memiliki kemampuannya masing-masing, mulai dari level 3, hingga level 6.^[4] Secara singkat, level 3 digunakan untuk router berinterface [ethernet](#), level 4 untuk wireless client atau serial interface, level 5 untuk wireless AP, dan level 6 tidak mempunyai limitasi apapun.^[4] Untuk aplikasi hotspot, bisa digunakan level 4 (200 pengguna), level 5 (500 pengguna) dan level 6 (tidak terbatas).

A. KONSEP TOPOLOGI JARINGAN YANG AKAN DIRANCANG BAGUN

Adapun Topologi yang akan dirancang seperti topologi [peer to peer](#) akan tetapi dalam hal ini server dan client tidak sama kedudukan adalah sebagai berikut :



Pada [ether1](#)

IP Address = 192.168.0.2 / 24

Gateway = 192.168.0.1

DNS = 192.168.0.1

Pada [LAN CLIENT](#)

IP ADDRESS MANUAL

IP Address = 192.168.2.2

Subnet Mask = 255.255.255.0

Gateway = 192.168.2.1

Pada [ether2](#)

IP Address – 192.168.2.1/24

DNS = 192.168.2.1

IP ADDRESS OTOMATIS

Pilih dan klik obtain an Ip Address Automatically

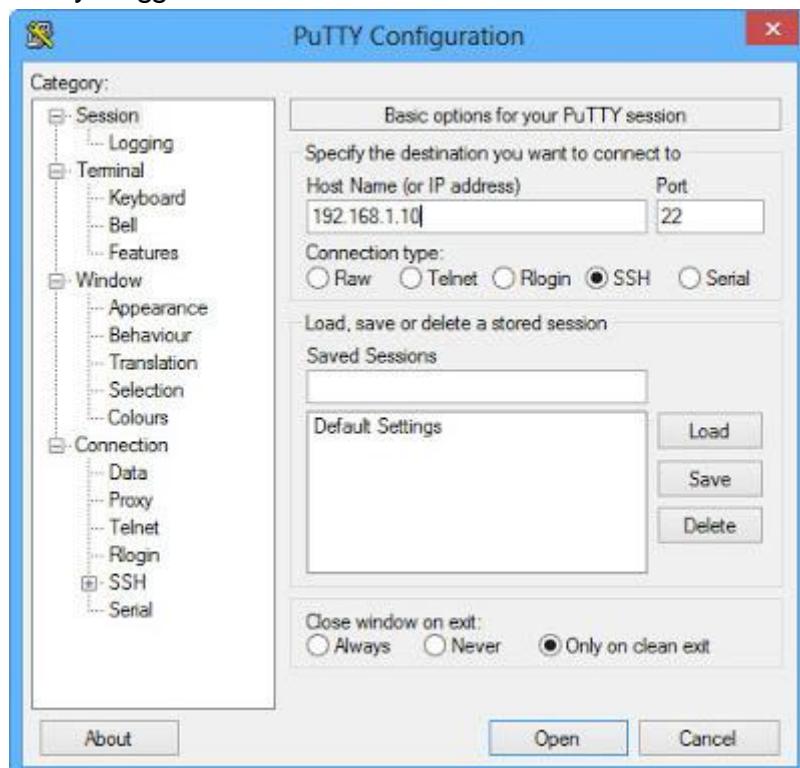
Pada modul praktik Administrasi Server tutorial ini akan dibahas mengenai konfigurasi mikrotik berupa setting DNS SERVER, DHCP SERVER, HOTSPOT, Blokir Situs Dengan Transparent Mikrotik, membagi Bandwidth dengan Simple Queue serta Quard Tree.

Belajar Mikrotik : Cara Akses Mikrotik

Belajar Mikrotik : Cara Akses Mikrotik - Perangkat Mikrotik dapat diakses dengan menggunakan berbagai media, dan [cara akses Mikrotik](#) nya pun berbeda-beda. Ada 4 [cara mengakses MikroTik Router](#), antara lain :

1. Via Console/Command Mikrotik

Mikrotik bisa kita akses langsung via console/shell maupun remote akses menggunakan PUTTY (www.putty.nl). Caranya tinggal masukkan alamat IP Mikrotik ke kolom Host Name nya PuTTY.



Tips Command : "Manfaatkan auto complete" (mirip bash auto complete di linux) Tekan Tombol TAB di keyboard untuk mengetahui/melengkapi daftar perintah selanjutnya. Jadi perintah yang panjang tidak perlu kita ketik lagi, cukup ketikkan awal perintah itu, lalu tekan TAB-TAB maka otomatis Shell akan menampilkan/melengkapi daftar perintah yang kita maksud.

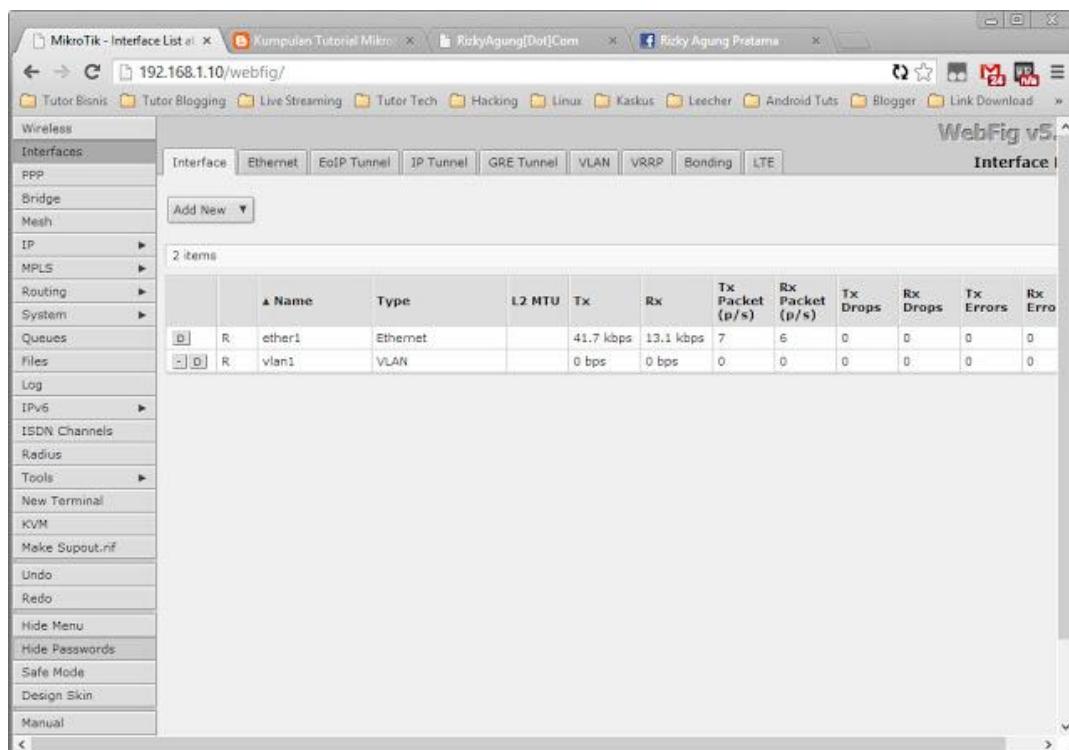
Contoh:

```
[admin@MikroTik] > ip address print
Flags: X - disabled, I - invalid, D - dynamic
#  ADDRESS          NETWORK           INTERFACE
0  192.168.1.10/24  192.168.1.0    ether1
1  10.10.10.1/24   10.10.10.0    vland1
[admin@MikroTik] >
```

Cukup ketikkan Ip Fir >>> lalu tekan TAB >>> maka otomatis shell akan melengkapi menjadi Ip Firewall. Lalu ketik “..” (titik dua) untuk kembali ke sub menu diatasnya, dan ketik “/“ untuk kembali ke root menu.

2. Via Web Browser

Mikrotik bisa juga diakses via web/port 80 pada browser. Contoh : ketik di browser IP mikrotik kita: 192.168.1.10.

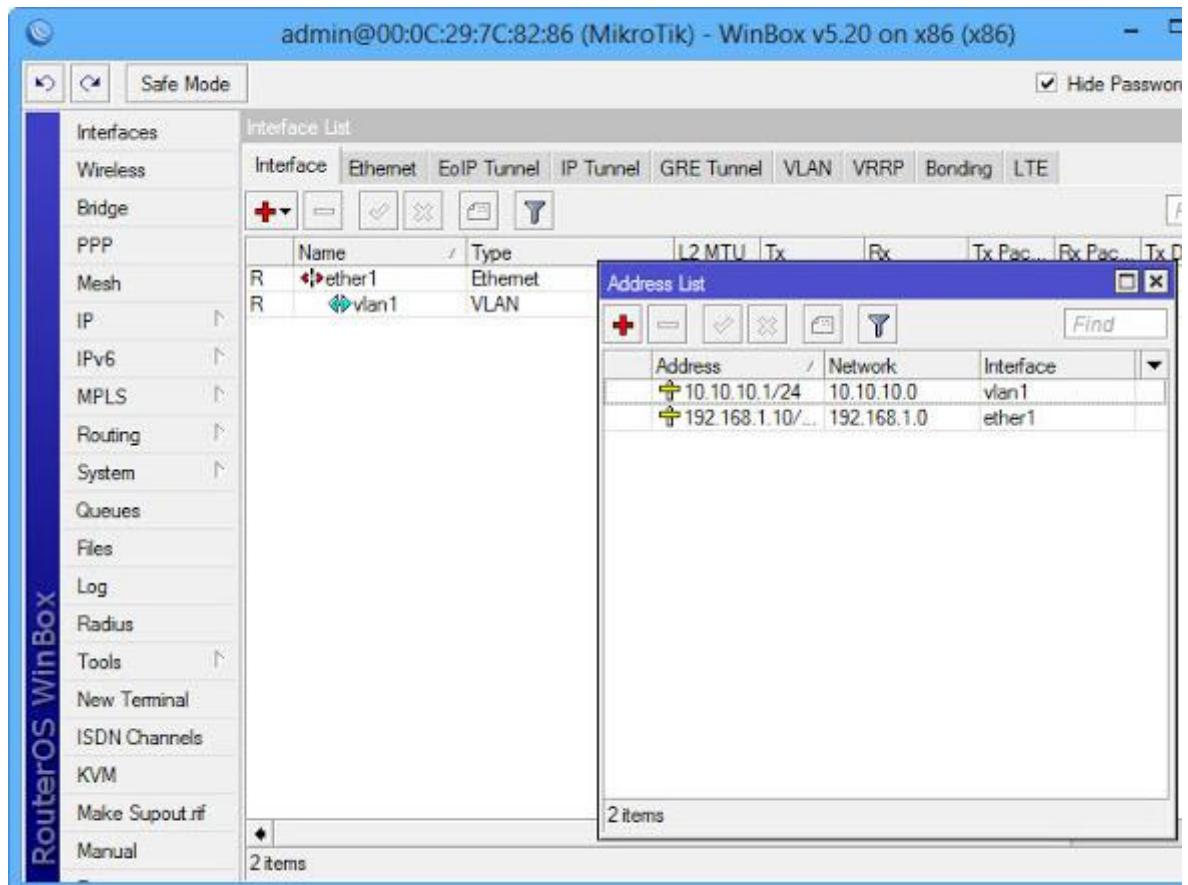


3. Via Winbox

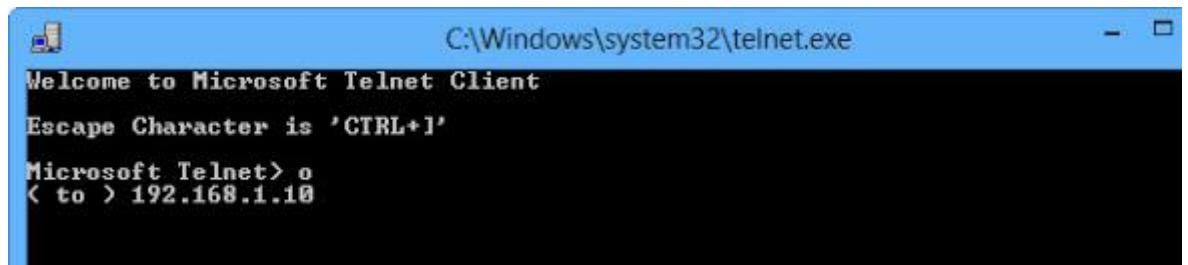
Mikrotik bisa juga diakses/remote menggunakan tool winbox (utility kecil di windows yang sangat praktis dan cukup mudah digunakan). Winbox merupakan tool untuk meremote Mikrotik yang paling populer karena selain mudah juga dapat menampilkan menu-menu pada Mikrotik secara GUI. Tampilan awal mengaktifkan winbox seperti ini :



Winbox bisa mendeteksi mikrotik yang sudah di install asal masih dalam satu network, yaitu dengan mendeteksi MAC address dari ethernet yang terpasang di Mikrotik. Untuk bisa mengakses mikrotik menggunakan winbox bisa dengan menggunakan IP Address Mikrotik maupun MAC Address nya.



4. Via Telnet



Kita dapat me-remote MikroTik menggunakan telnet melalui program aplikasi "command prompt" (cmd) yang ada pada windows yang fitur Telnet nya sudah diaktifkan. Namun, penggunaan telnet tidak dianjurkan dalam jaringan karena masalah keamanannya.

Contoh :



I tutulah tadi [4 cara dalam mengakses Mikrotik.](#)

Kumpulan Perintah-perintah Dasar Mikrotik RouterOS

Berikut ini merupakan perintah-perintah dasar Mikrotik yang umum digunakan :

1. Perintah untuk shutdown dan restart computer , ketikkan :

[admin@MikroTik]>system shutdown (Untuk shutdown komputer)

[admin@MikroTik]>system reboot (Untuk restart computer)

[admin@MikroTik]>system reset (Untuk meret konfigurasi yang sudah dibuat sebelumnya).
Dan perlu diperhatikan bahwa perintah – perintah tersebut harus dilakukan pada direktori admin.

2. Perintah untuk merubah nama mesin Mikrotik , ketikkan :

[admin@MikroTik]>/system identity

[admin@MikroTik]>system identity > set name=proxy

Untuk melihat hasil konfigurasi , ketikkan “print” atau “pr”

Contoh [admin@MikroTik]system identity>pr name:”proxy”

Lalu console berubah menjadi [admin@proxy]

3. Perintah merubah password mesin MikroTik , ketikkan

[admin@proxy]>/password

[admin@proxy]password>old password (jika sebelumnya anda belum mengeset password maka ketikkan kosong)

[admin@proxy]password>new password :.....(ketikkan password yang baru)

[admin@proxy]password>retry new password:(masukkan sekali lagi passowrdnya)

Sebagai contoh :

Jika password lama kosong dan password baru ABCD, maka perintahnya adalah sebagai berikut :

[admin@proxy]>/password

[admin@proxy]password>old password

[admin@proxy]password>new password ABCD

[admin@proxy]password>retry new password ABCD

4. Perintah untuk melihat kondisi interface pada Mikrotik Router :

[admin@Mikrotik] > interface print

Flags: X – disabled, D – dynamic, R – running

#	NAME	TYPE	RX-RATE	TX-RATE	MTU
0	R ether1	ether	0	0	1500
1	R ether2	ether	0	0	1500

[admin@Mikrotik]>

Jika interfacenya ada tanda X (disabled) setelah nomor (0,1), maka periksa lagi ethermed cardnya, seharusnya R (running).

a. Mengganti nama interface

[admin@Mikrotik] > interface(enter)

b. Untuk mengganti nama Interface ether1 menjadi Public (atau tersenamanya), maka:

[admin@Mikrotik] interface> set 0 name=Public

c. Begitu juga untuk ether2, misalkan namanya diganti menjadi Local, maka

[admin@Mikrotik] interface> set 1 name=Local

d. atau langsung saja dari posisi root direktori, memakai tanda "/", tanpa tanda kutip

[admin@Mikrotik] > /interface set 0 name=Public

e. Cek lagi apakah nama interface sudah diganti.

[admin@Mikrotik] > /interface print

Flags: X – disabled, D – dynamic, R – running

#	NAME	TYPE	RX-RATE	TX-RATE	MTU
0	R Local	ether	0	0	1500
1	R Public	ether	0	0	1500

5. Perintah untuk melihat paket software MikroTik OS :

[admin@proxy]>/system package

[admin@proxy]system package><ketikkan print atau pr>

Dengan perintah diatas maka akan tampil paket softwore yang ada dalam MikroTik Os Contoh:

[admin@MikroTik system package> pr

Flags : x – disabled

#	Name	VERSION	SCHEDULED
0	X routing-test	2.9.27	
1	dhcp	2.9.27	
2	radiolan	2.9.27	
3	user-menejer	2.9.27	
4	X webproxy-test	2.9.27	
5	arlan	2.9.27	
6	isdn	2.9.27	
7	hotspot-fix	2.9.27	
8	ppp	2.9.27	
9	wireless	2.9.27	
10	web-proxy	2.9.27	
11	hotspot	2.9.27	
12	advanced-tools	2.9.27	
13	security	2.9.27	
14	Telephony	2.9.27	
15	routing	2.9.27	
16	synchronous	2.9.27	
17	system	2.9.27	
18	routerboard	2.9.27	
19	rstp-bridge-test	2.9.27	
20	X wireless-legency	2.9.27	

Untuk melihat lebih detailnya, ketikan :

```
[admin@proxy]system package > pr detail fl      gs : x - disabled
```

- ```
0 x name="routing-test" version="2.9.27" build-time=jul/03/2006 10:57:53 scheduled
1 name ="system"version ="2.9.27" build-time=jul/03/2006 10 :56:37 schedule
```

```
2 name = "system" version = "2.9.27" build-time=jul/03/2006 10:56:44 schedule
3 name = "web-proxy" version = "2.9.27" build-time=jul/03/2006 10:58:03 schedule
4 name = "advanced-tools" version = "2.9.27" build-time=jul/03/2006 10:56:41
 scheduled = ""
5 name = "dhcp" version = "2.9.27" build-time=jul/03/2006 10:56:45 scheduled = ""
6 name = "hotspot" version = "2.9.27" build-time=jul/03/2006 10:56:58 scheduled = ""
7 x name = "webproxy-test" version = "2.9.27" build-time=jul/03/2006 10:57:52 scheduled
8 name = "routerboard" version = "2.9.27" build-time=jul/03/2006 10:57:17 -[q quit] D
 dump up down]
```

6. Perintah untuk mengupgrade paket software router :

[admin@Mikrotik] system upgrade>

To upgrade chosen packages :

Download 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14

7. Perintah mengaktifkan paket software yang ada dalam MikroTik OS :

[admin@Mikrotik] system package>

Enable <ketikan paket yang dikehendaki>

Contoh :

[admin@proxy] system package> enable dhcp

8. Perintah merubah nama ethernet pada mesin MikroTik OS:

[admin@proxy]>/interface

[admin@proxy] interface> ethernet set ether1 name=public

Atau dengan menggunakan perintah

[admin@proxy] interface> set<ketikan number ethernet yang terpasang>

name=<nama ethernet yang baru>

contoh :

[admin@proxy] interface> set 0 name=public

[admin@proxy] interface> set 1 name=lan

Atau

[admin@proxy] interface>

set 0 name=public; set 1 name=lan

9. Perintah setting IP address pada mesin MikroTik OS :

[admin@proxy]> ip address

[admin@proxy] ip address>

**Add interface=<nama interface>address=**

(ketikkan IP address/subnet mask interface)

Contoh :

Jika nama interfacenya “lan” dan IP address yang dikehendaki : 192.168.01 dan subnet mask :

255.255.255.0, maka perintahnya sebagai berikut

[admin@proxy]>/ ip address

[admin@proxy]ip address >

**Add interface=lan address = 192.168.0.1/24**

10. Perintah setting IP DNS primaty dan Secondary :

[admin@proxy]./ip dns

[admin@proxy]ip dns>

**Set nama-dns=<ip dns dari ISP>**

Contoh :

Jika IP DNS primary ISP : 202.134.1.10 dan secondary:

202.134.0.0155, maka perintahnya adalah sebagai berikut :

[admin@proxy]./ip dns

[admin@proxy]ip dns>

**Set primary-dns= 202.134.1.10**

[admin@proxy]ip dns>

**Set secondary-dns=202.134.0.155**

11. Perintah setting IP Gateway pada mesin MikroTik OS

[admin@proxy]>/ip route

[admin@proxy]ip route >add gateway=<ip gateway>

Contoh IP gateway dari ISP : 202.134.1.1, maka perintahnya :

[admin@proxy]>/ ip route

[admin@proxy] ip route>

**add gateway=202.134.1.1**

12. Perintah Network address Translate (NAT) pada mesin MikroTik OS

[admin@proxy]>/ip firewall nat

[admin@proxy]ip firewall nat>

**add chain=srcnat out-interface=<etherface yang terhubung**

dengan jaringan WAN> scr-address=

<network-id interface yang terhubung dengan LAN / subnet mask interface

LAN> action=masquerade

Contoh :

jika network-id interface LAN :"192.168.0.0" dan subnet

Mask :"255.255.255.0". untuk interface mesin MikroTik OS yang terhubung ke jaringan

WAN : "pubilk", maka perintahnya sebagai berikut :

[admin@proxy] >/ip firewall nat

[admin@proxy] ip firewall nat>

Add chain=srcnat out-interface=public  
Scr-address=192.168.0.0/24 action=masquerade

#### CARA MENAMPAILKAN IP ADDRESS

```
[admin@MikroTik] > ip address print
Flags: X - disabled, I - invalid, D - dynamic
ADDRESS NETWORK INTERFACE
0 192.168.0.2/24 192.168.0.0 ether1
1 192.168.2.1/24 192.168.2.0 ether2
line 3 of 3> _
```

#### CARA MENAMPAILKAN IP DNS

```
+-----+-----+-----+
line 2 of 2> ip dns print
 servers: 192.168.0.1
 dynamic-servers:
allow-remote-requests: yes
max-udp-packet-size: 4096
 cache-size: 2048KiB
cache-max-ttl: 1w
 cache-used: 8KiB
```

#### CARA MENGHAPUS IP ADDRESS

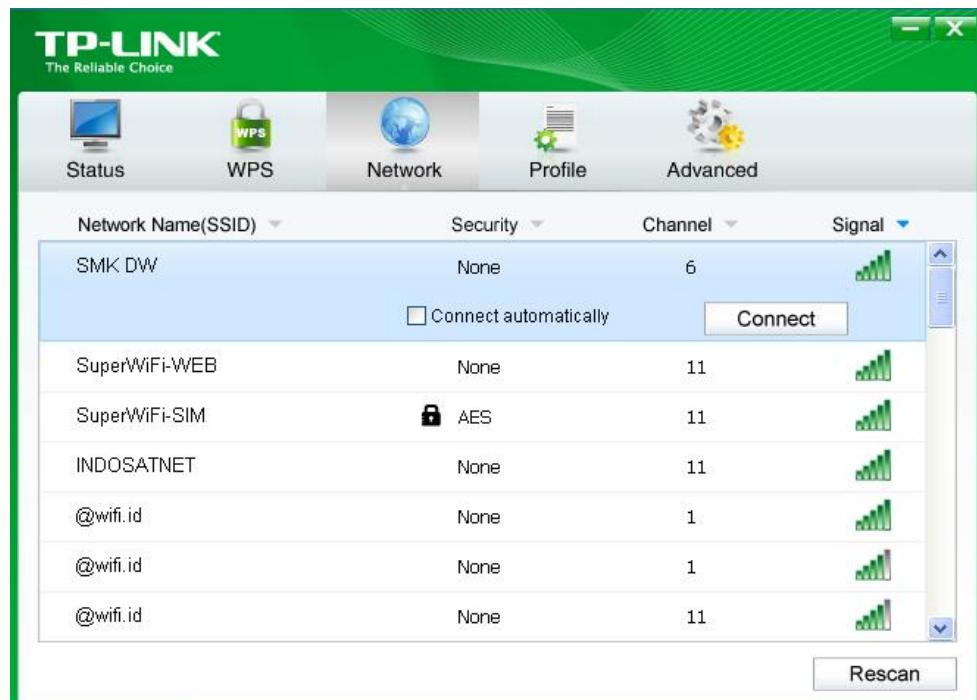
```
 cache used: 0KiB
[admin@MikroTik] > ip address print
Flags: X - disabled, I - invalid, D - dynamic
ADDRESS NETWORK INTERFACE
0 192.168.0.2/24 192.168.0.0 ether1
1 192.168.2.1/24 192.168.2.0 ether2
[admin@MikroTik] > ip address remove 0
[admin@MikroTik] > ip address print
Flags: X - disabled, I - invalid, D - dynamic
ADDRESS NETWORK INTERFACE
0 192.168.2.1/24 192.168.2.0 ether2
[admin@MikroTik] > _
```

## **CARA SETTING SERVER MIKROTIK OS DENGAN MENGGUNAKAN VIRTUAL BOX**

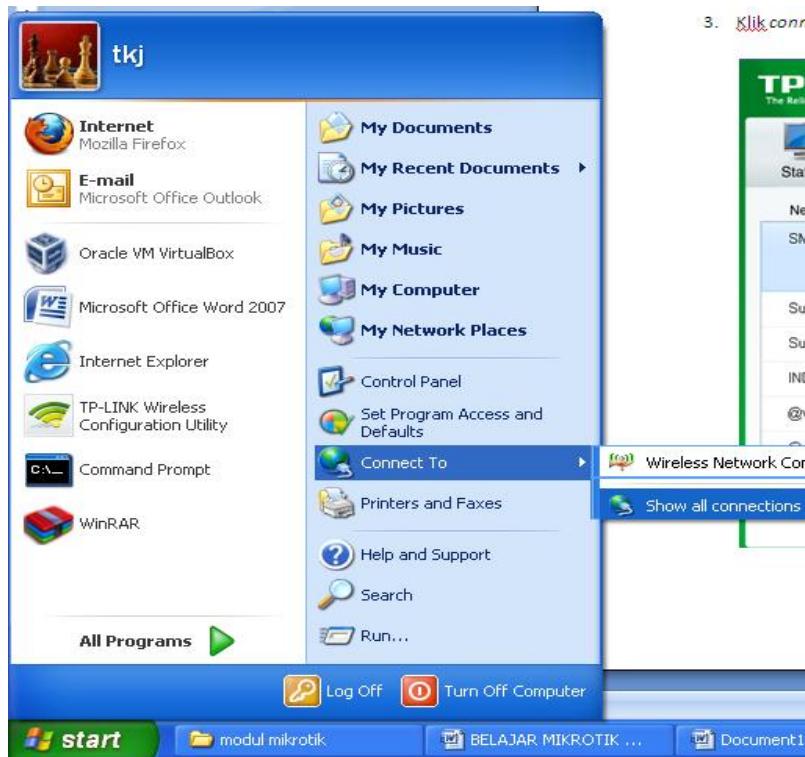
Koneksikan wireless ke **SMK DW**, **SMK DW2** atau **SMK TKJ DWIWARNA**



Klik connect pada Acces point dengan naman SSID **SMK DW** atau **SMK DW2**

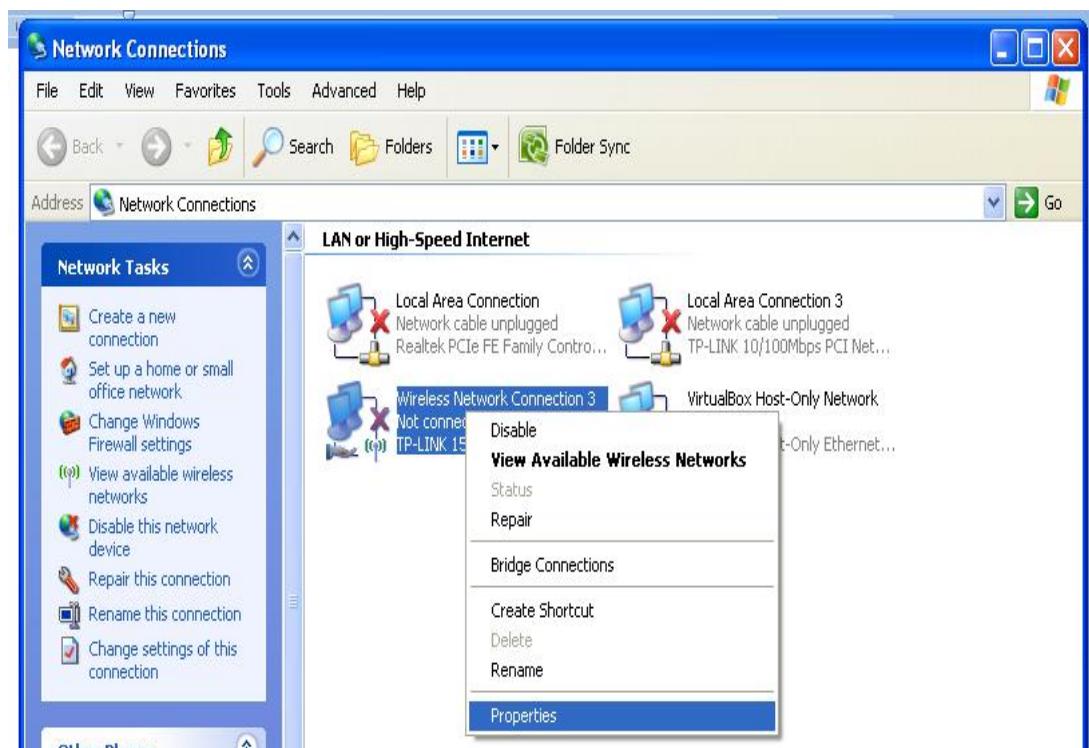


Klik **Start, Connect To**, pilih **Show All Connections**

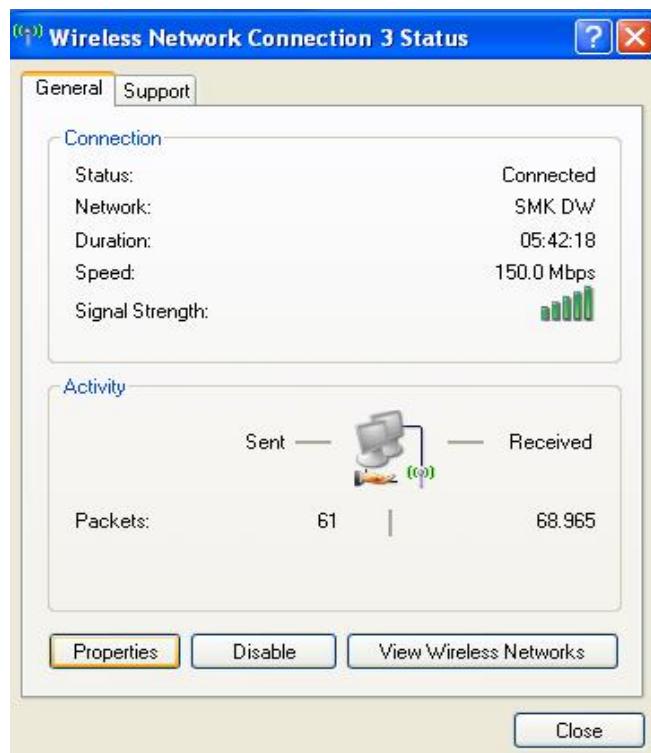


### **MENGATUR SHARING INTERNET DARI WIRELESS KE VIRTUALBOX**

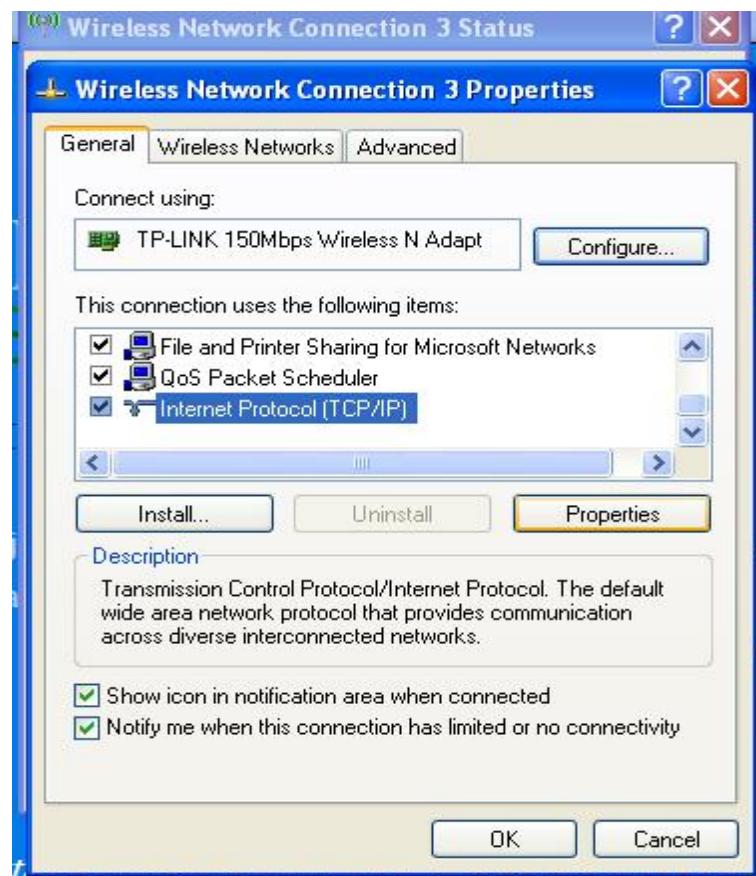
Pilih wireless, klik kanan, pilih properties, kemudian jalankan dengan langkah-langkah selanjutnya.



Kemudian klik **properties**

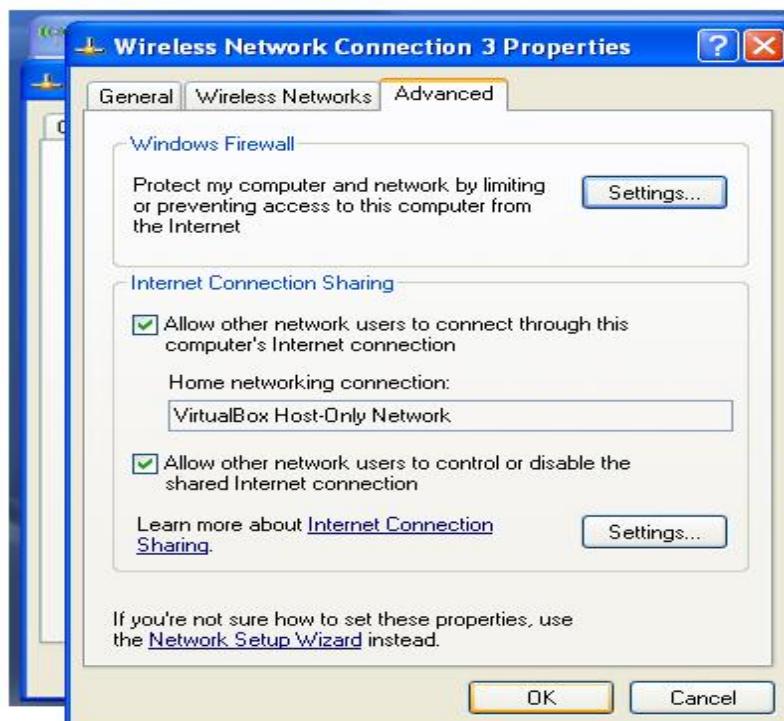
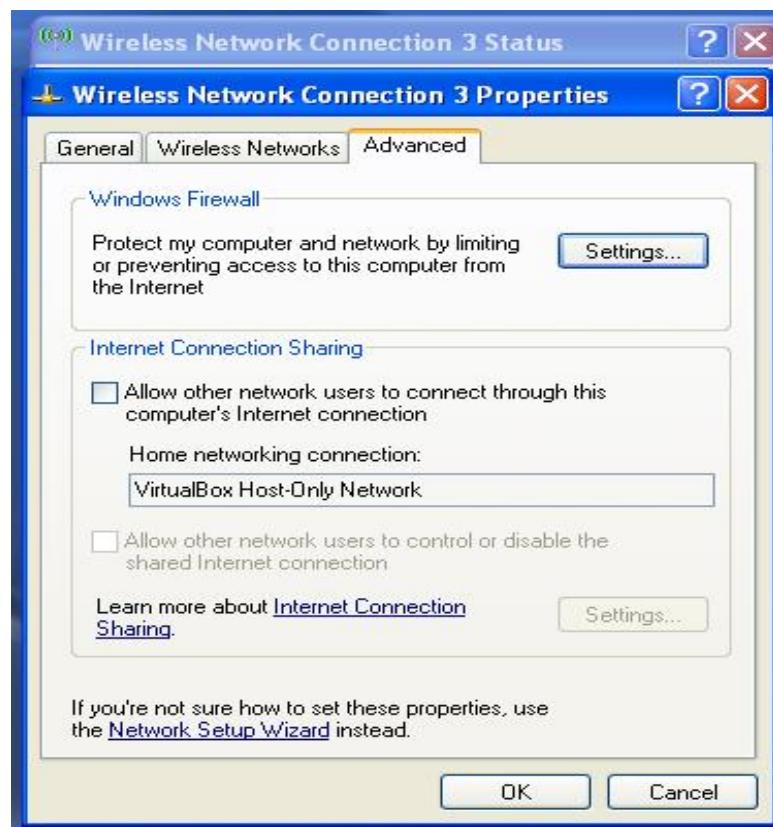


Pada Tab **General** pilih **internet Protocol (TCP/IP)**, kemudian klik **Properties**.



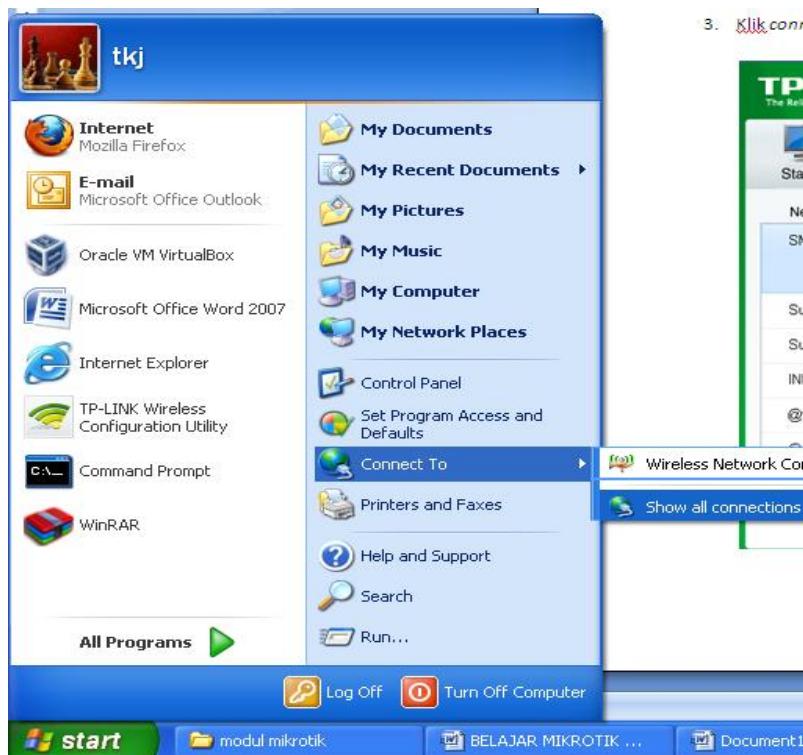
Kemudian Pada Tab **Advanced**, Pilih **VirtualBox Host-Only Network**, kemudian checklis

- [V] Allow other network users to connect through this computer's internet connection  
[V] Allow other network users to control or disable the shared Internet Connection

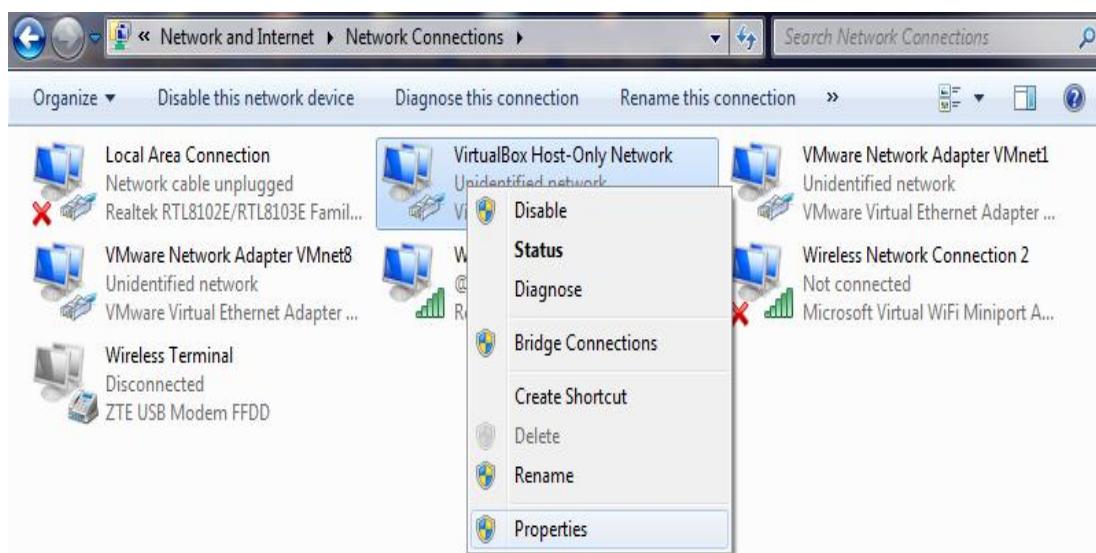


## MENGATUR IP ADDRESS PADA VIRTUAL BOX

Apabila sudah disharing Network WiFi nya, sekarang kita atur ip address untuk virtual boxnya terlebih dahulu dengan **Klik Start, Network Connections,**

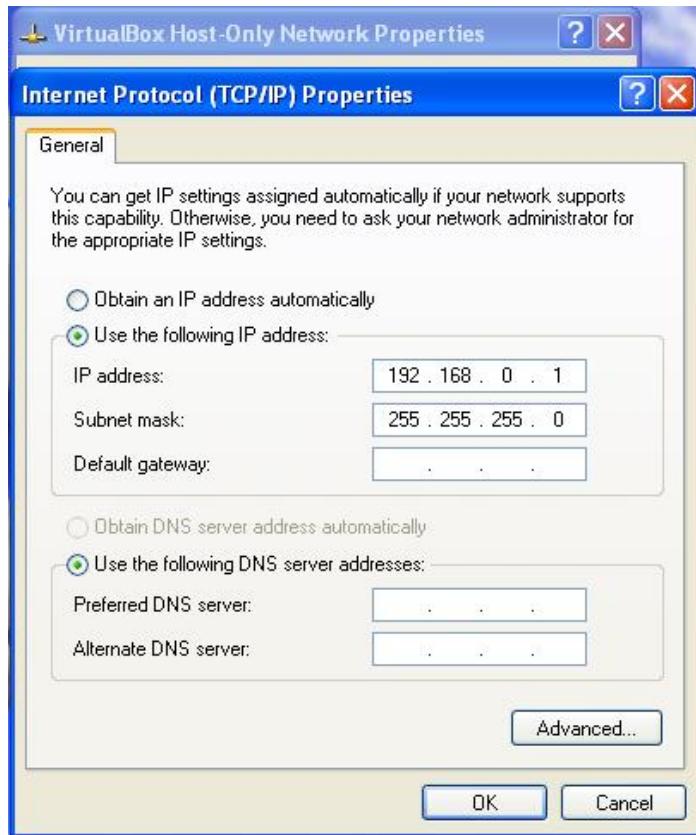


Pilih dan klik kanan virtual box, pilih **Properties**,



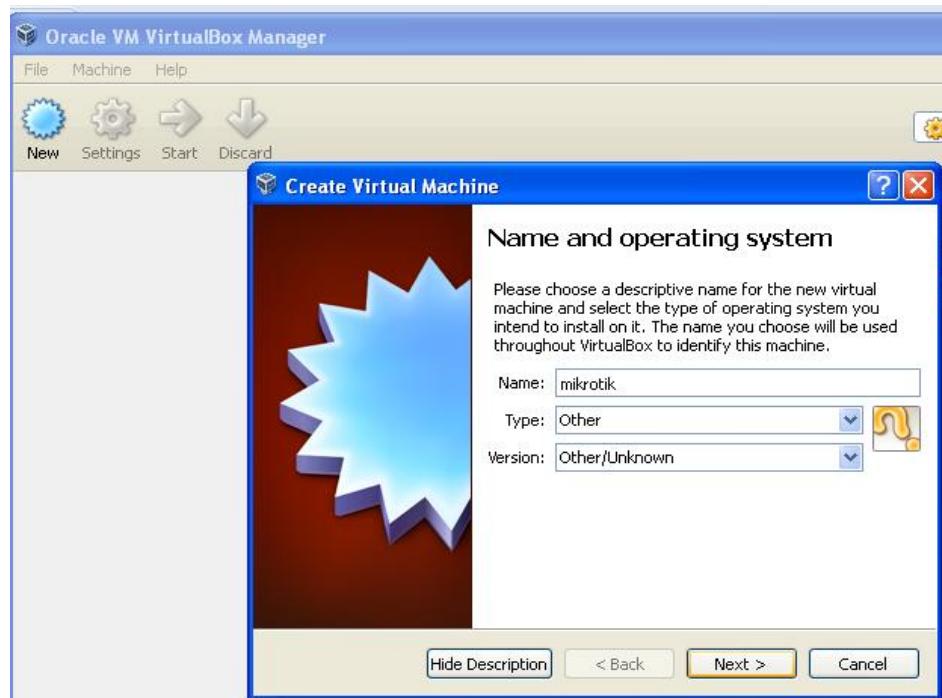
klik **Internet Protocol TCP-IP** dan klik **properties** dan atur ip addressnya seperti dibawah ini :

IP address : 192.168.0.1  
Subnet Mask : 255.255.255.0

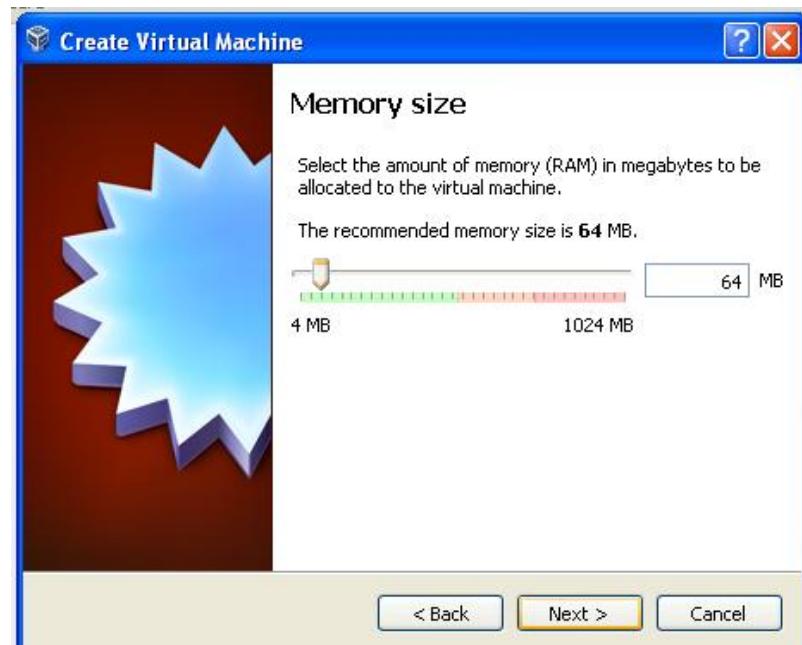


## **MENGINTALL OS MIKROTIK DENGAN ORACLE VM VIRTUALBOX MANAGER**

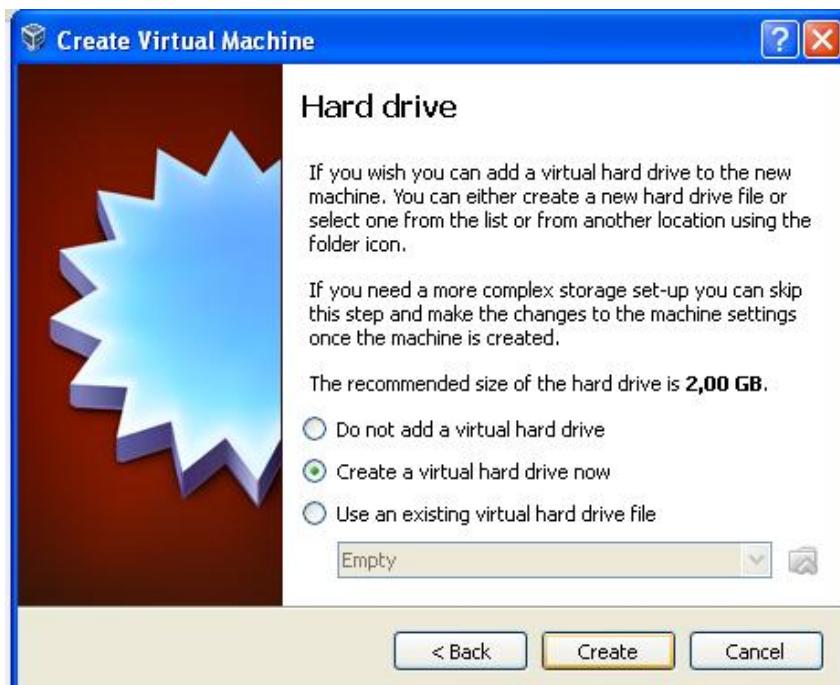
Klik **New**, ketikan pada **Name** = Mikrotik, jika terjadi **error**, buat nama lain contohnya : **mikrotik22**, kemudian klik **Next**.



Kemudian pada **Memory Size** tidak perlu diatur ukurannya, dan klik **Next**.



Kemudian klik **Create**



Kemudian pilih **VDI (VirtualBox Disk Image)**, Kemudian klik **Next**



Kemudian pilih **Dynamically allocated**, dan klik **Next**.



Selanjutnya kita akan install mikrotik tetapi sebelumnya kita setting terlebih dahulu setting networknya.

## **MENSETTING NETWORK PADA MIKROTIK SEBELUM PENGINSTALAN**

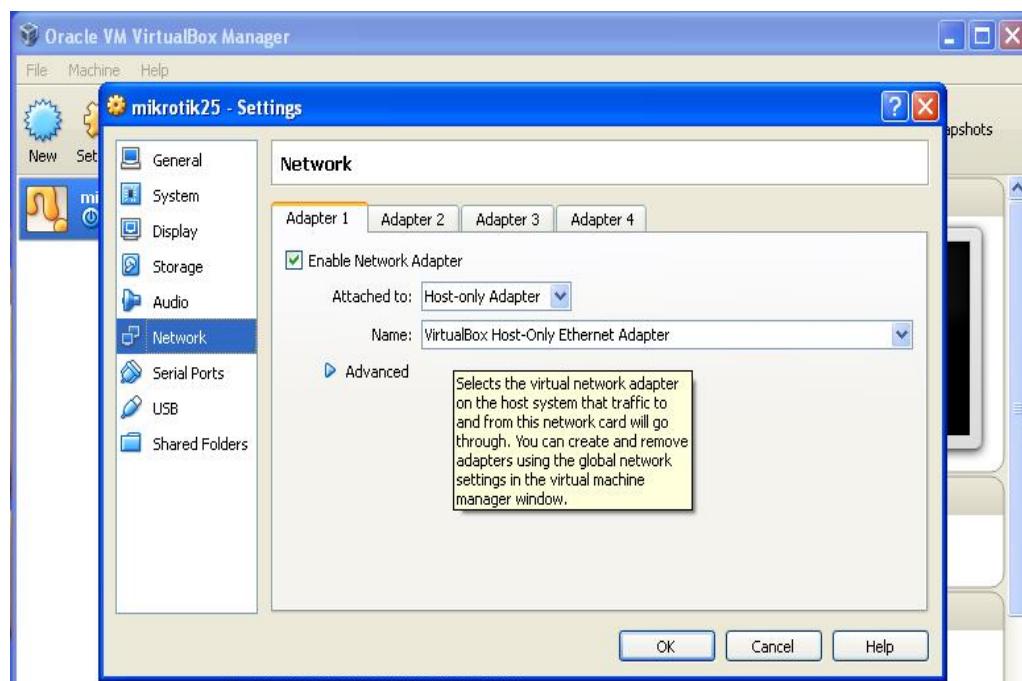


Klik mikrotik 25, kemudian klik kanan, pilih **Setting**, Apabila sudah masuk ke menu setting kemudian pada :

Adapter1 yaitu pilih dan klik :

**Attach to = Host –only Adapter**

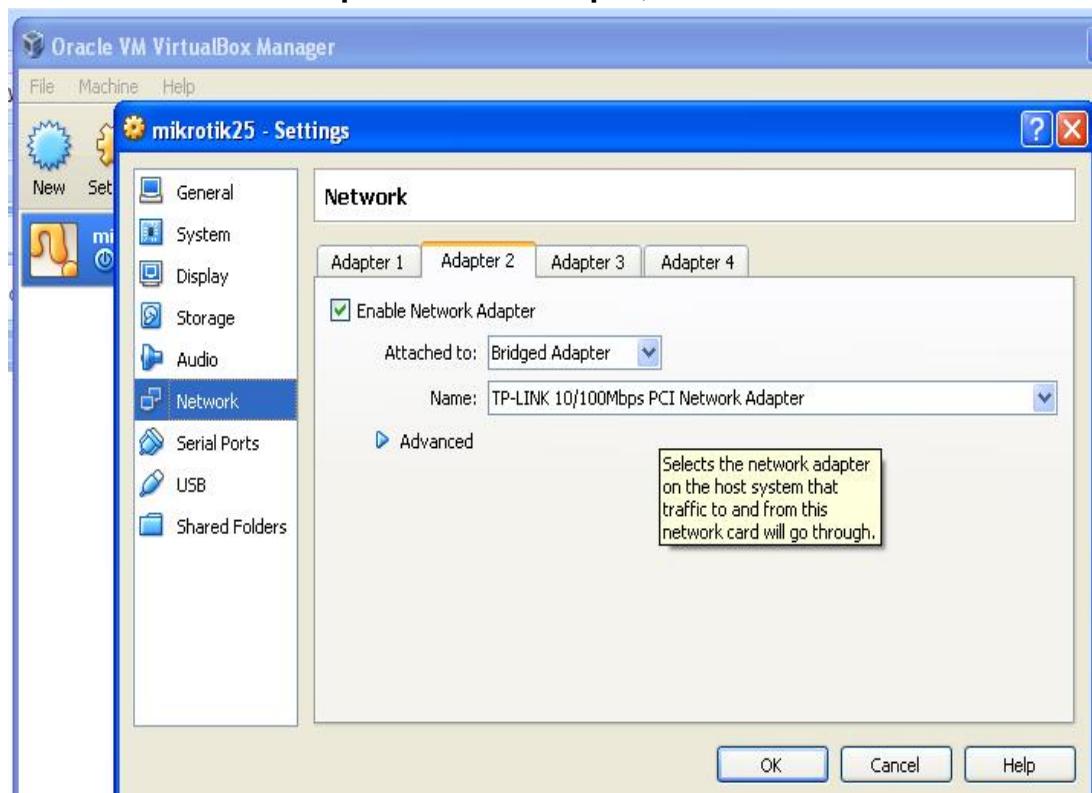
**Name = VirtualBox Host-Only Ethernet Adapter**



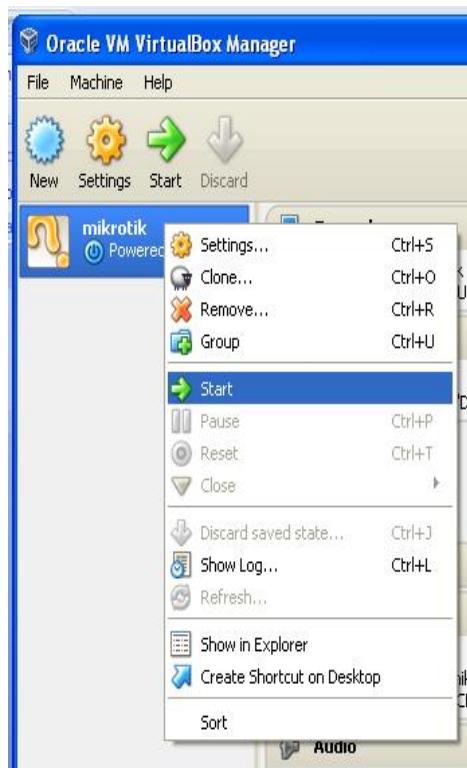
Adapter2 yaitu pilih dan klik :

**Attach to = Bridged Adapter**

**Name = TP LINK 10/100 Mbps PCI Network Adapter, klik OK**



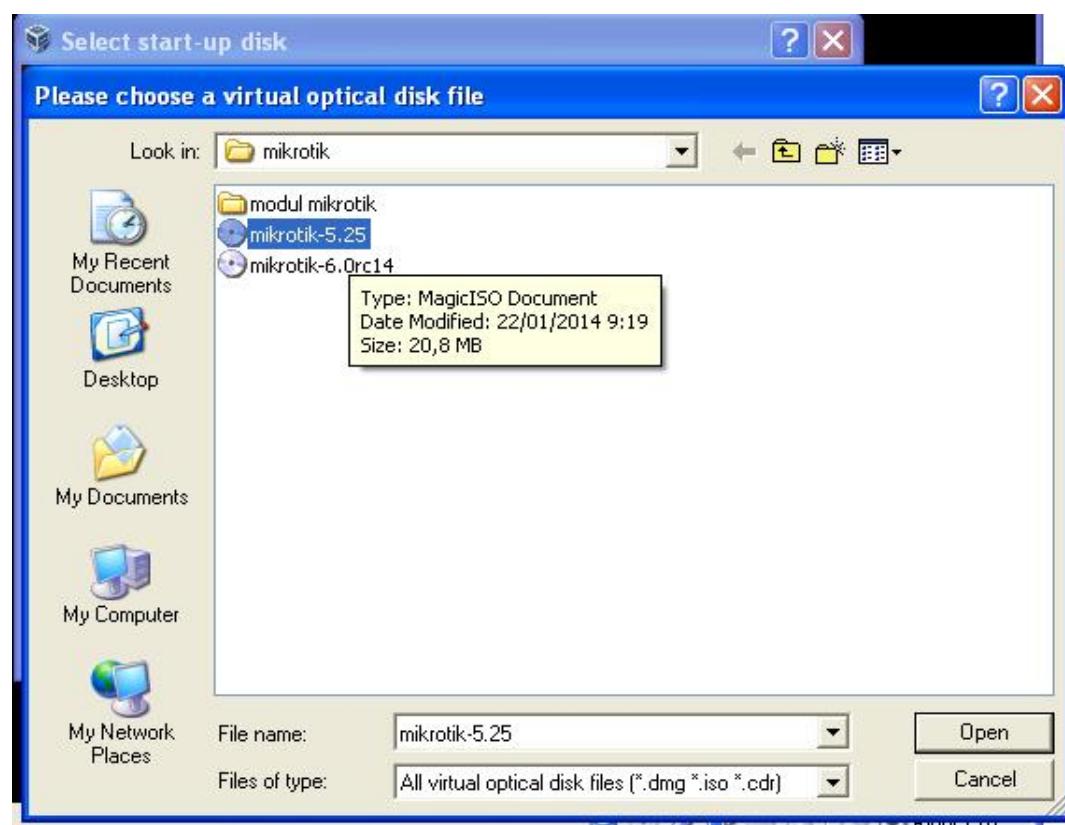
Kemudian klik kanan mikrotik dan pilih **Start**

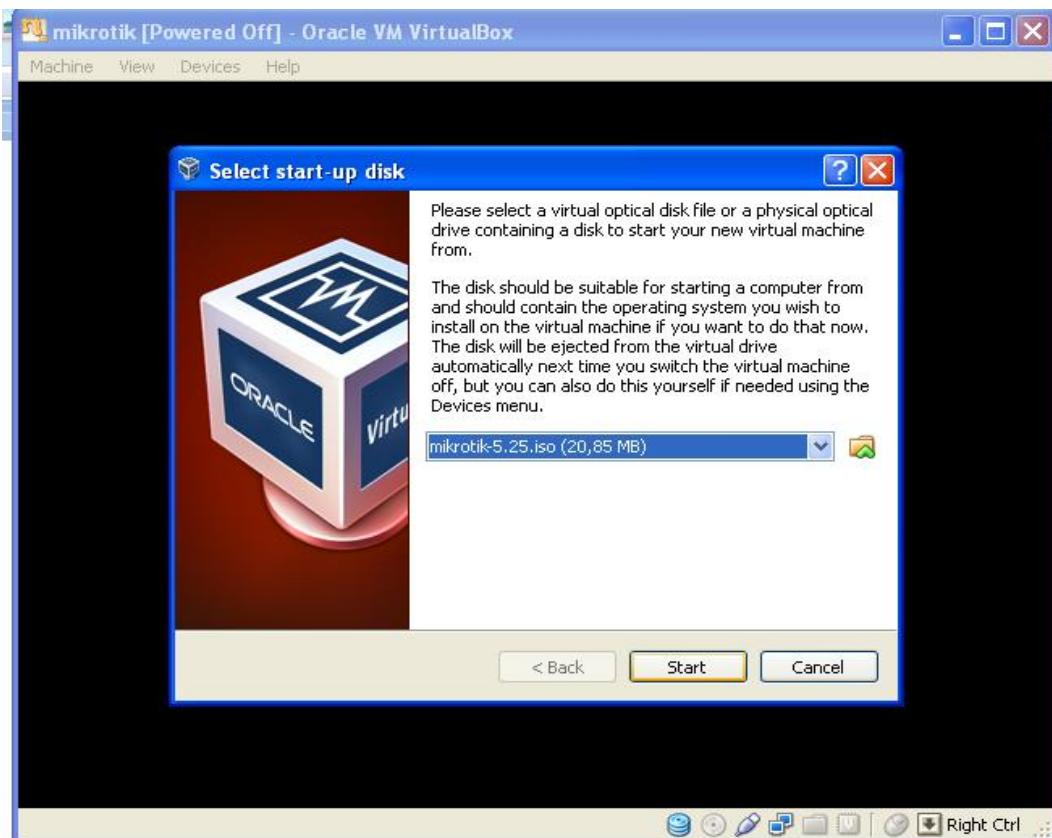


Kemudian klik gambar folder untuk menyisipkan file iso dari “**Mikrotik-5.25**”



Pilih file mikrotik-5.25





Pada tampilan dibawah ini tekan “**a + i + n +y**” keterangan sebagai berikut :

**a**=meselect semua opsi pilihan pada mikrotik

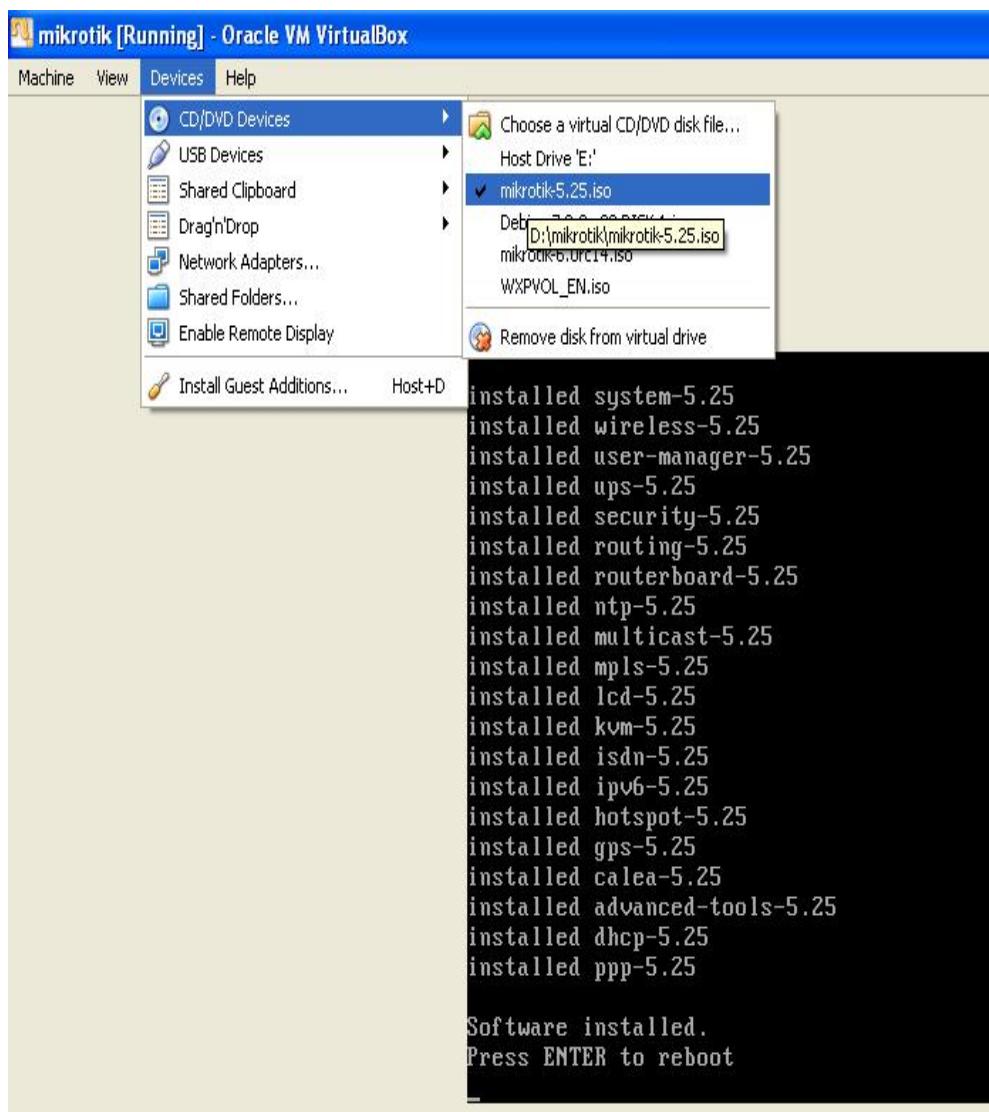
**I**=untuk memulai penginstalan

**n**=untuk memelihara format bawaan

**y**=untuk menghapus semua partisi



Setelah selesai pengintalan jangan langsung di ENTER, kemudian klik CD/DVD Devices, hilangkan cheklist pada mikrotik 5.25.iso



Ketikan **admin** untuk login, password dikosongkan aja., dan ketikan printah selanjutnya untuk konfigurasi jaringannya.



```
ROUTER HAS NO SOFTWARE KEY

You have 23h49m to configure the router to be remotely accessible,
and to enter the key by pasting it in a Telnet window or in Winbox.
See www.mikrotik.com/key for more details.

Current installation "software ID": GSK9-WQ7J
Please press "Enter" to continue!

[admin@MikroTik] >
[admin@MikroTik] > ip address add address=192.168.0.2/24 interface=ether1
[admin@MikroTik] > ip address add address=192.168.2.1/24 interface=ether2
[admin@MikroTik] > ip route add gateway=192.168.0.1
[admin@MikroTik] > ip dns set servers=192.168.0.1
[admin@MikroTik] > ping www.google.com
HOST SIZE TTL TIME STATUS
74.125.135.99 56 48 123ms
74.125.135.99 56 48 135ms
 sent=2 received=2 packet-loss=0% min-rtt=123ms avg-rtt=129ms
 max-rtt=135ms

[admin@MikroTik] > ip firewall nat add chain=srcnat action=masquerade out-interface=ether1
```

Apabila di ping [www.google.com](http://www.google.com) untuk memberhentikannya tekan ctrl + C. kemudian klik kanan winbox pada desktop, pilih open.

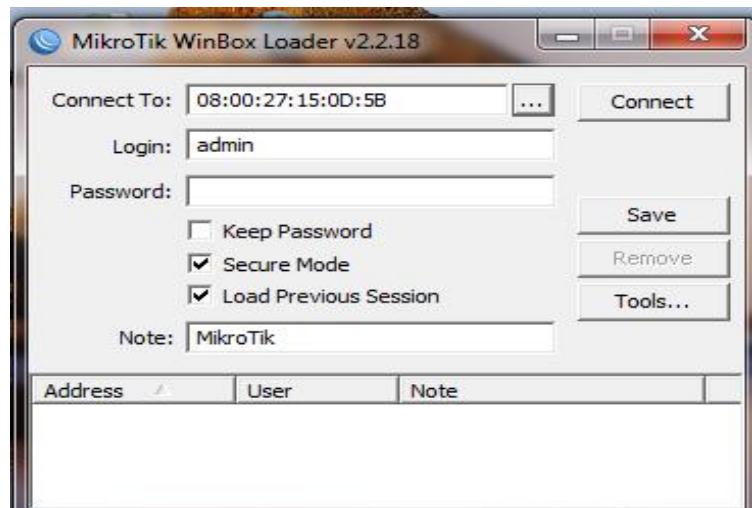
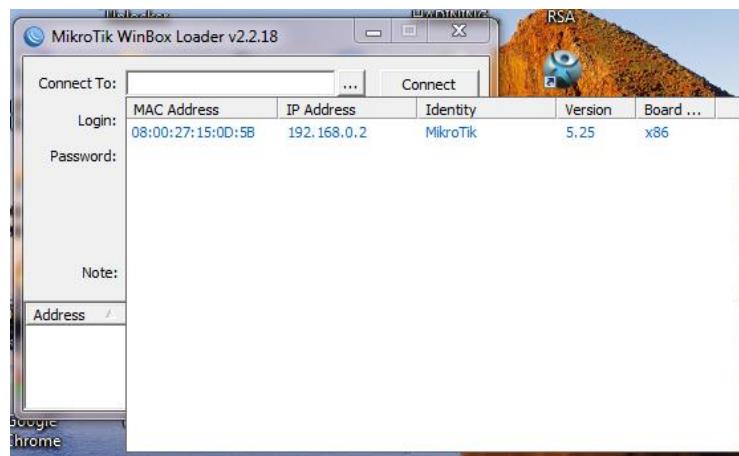
### **MASUK KEDALAM SERVER DENGAN MIKROTIK**



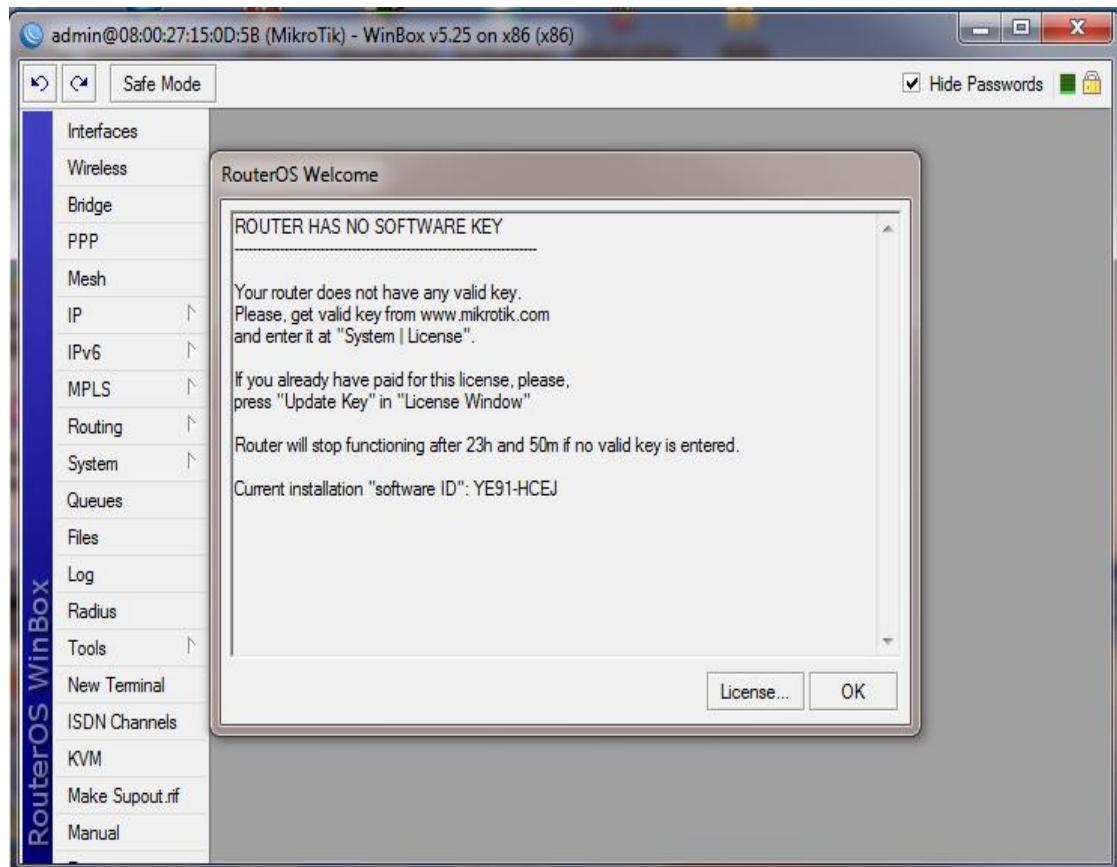
Akan muncul tampilan program mikrotik seperti di bawah ini



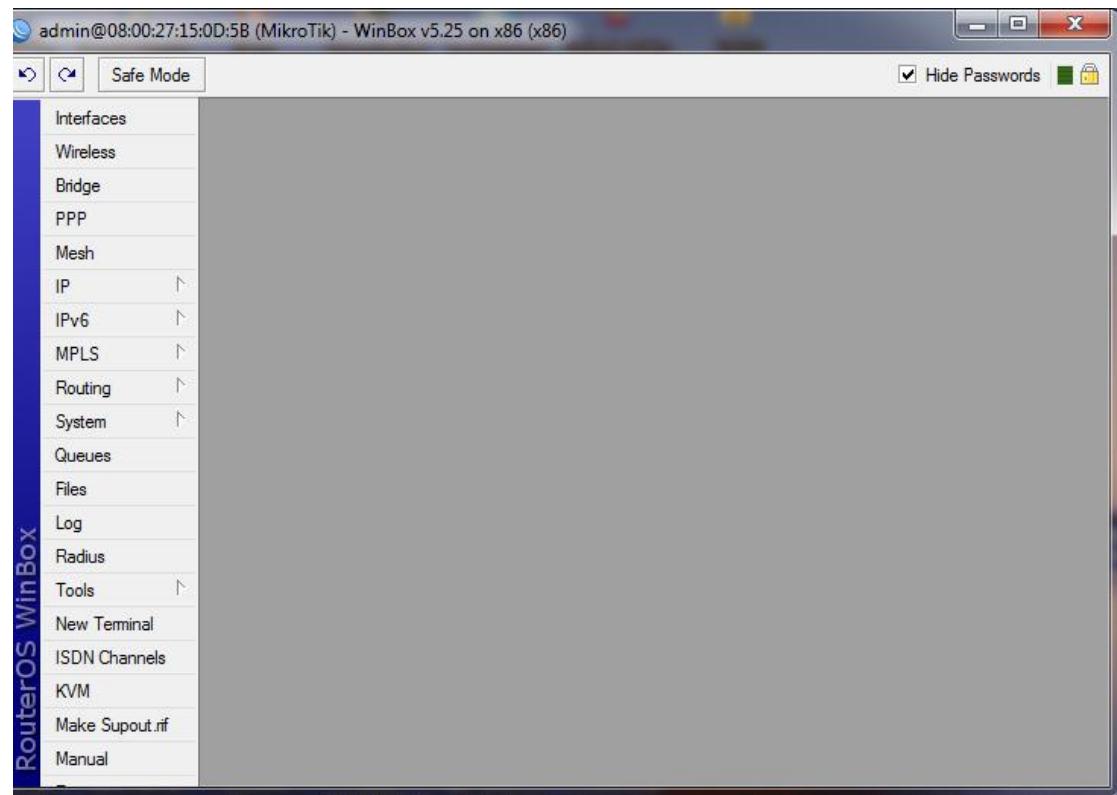
Kemudian klik ... Pada **connect to** dan pilih **MAC Address**, pada **login** di isi dengan **admin**, password akan di isi nanti akan dibahas setelah selesai membuat pengaturan hotspot kemudian klik **connect**



Setelah login maka tampilan seperti di bawah ini, dan klik **OK** untuk menghilangkan peringatan.



Kemudian tampilan setelah di **OK** kan akan seperti di bawah ini :

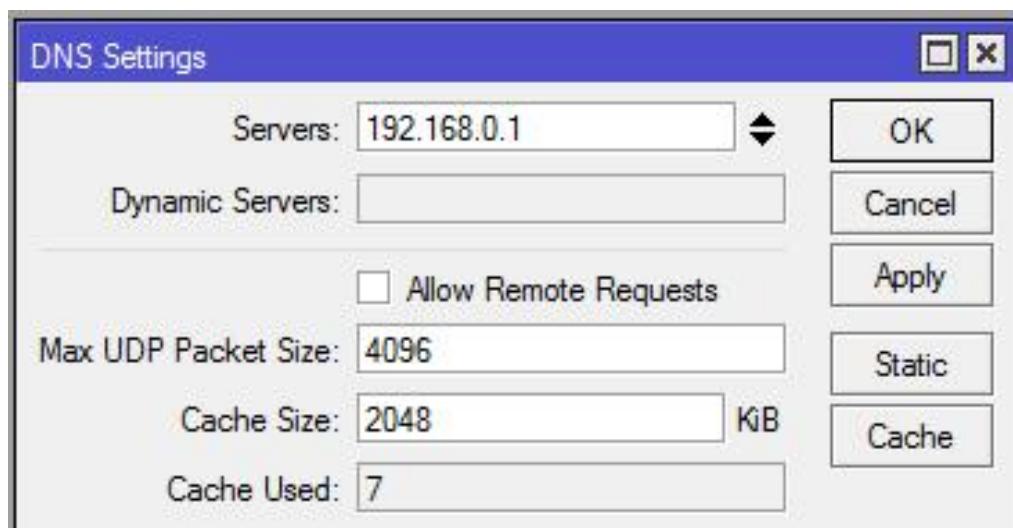


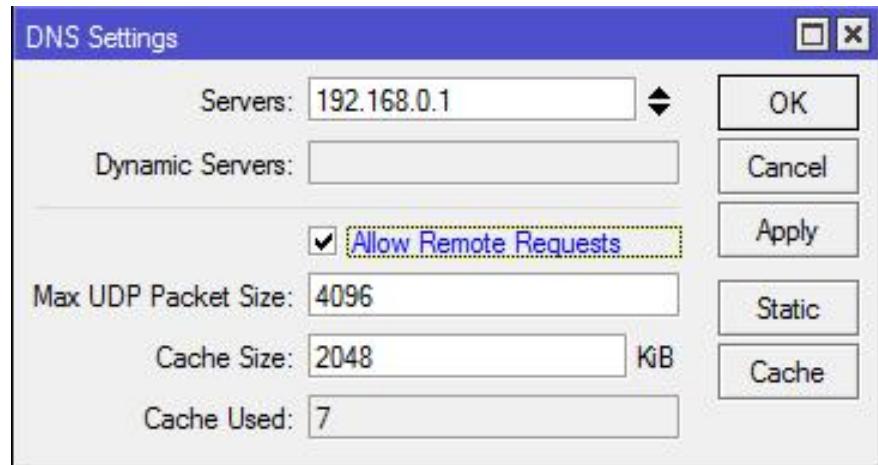
## MENGATUR DNS SERVER PADA MIKROTIK OS

Klik **IP**, kemudian klik **DNS**



Kemudian pada tampilan dibawah ini cheklist **Allow Remote Request**, agar nantinya computer client dapat menggunakan akses IP DNS Server tersebut sehingga dapat terkoneksi di internet.



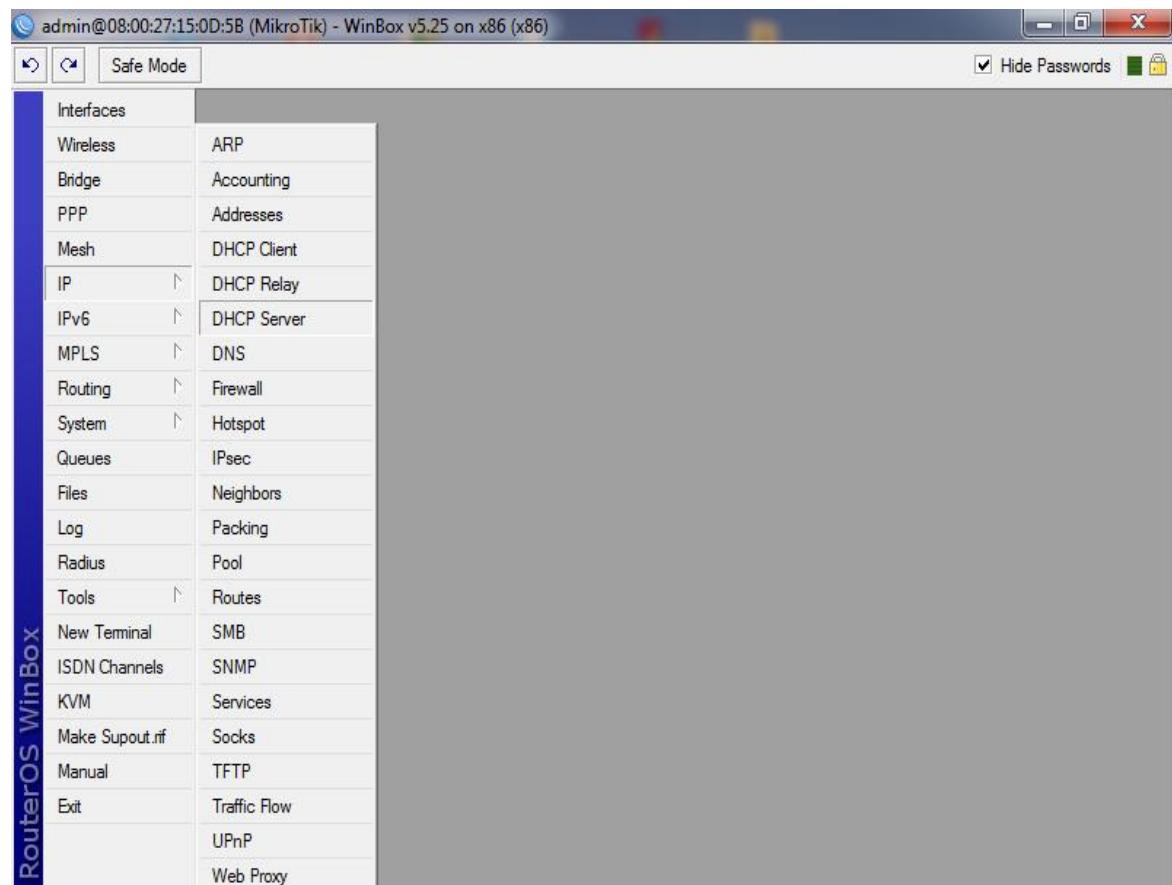


Setelah **Allow Remote Requests** terceklis kemudian klik **OK**.

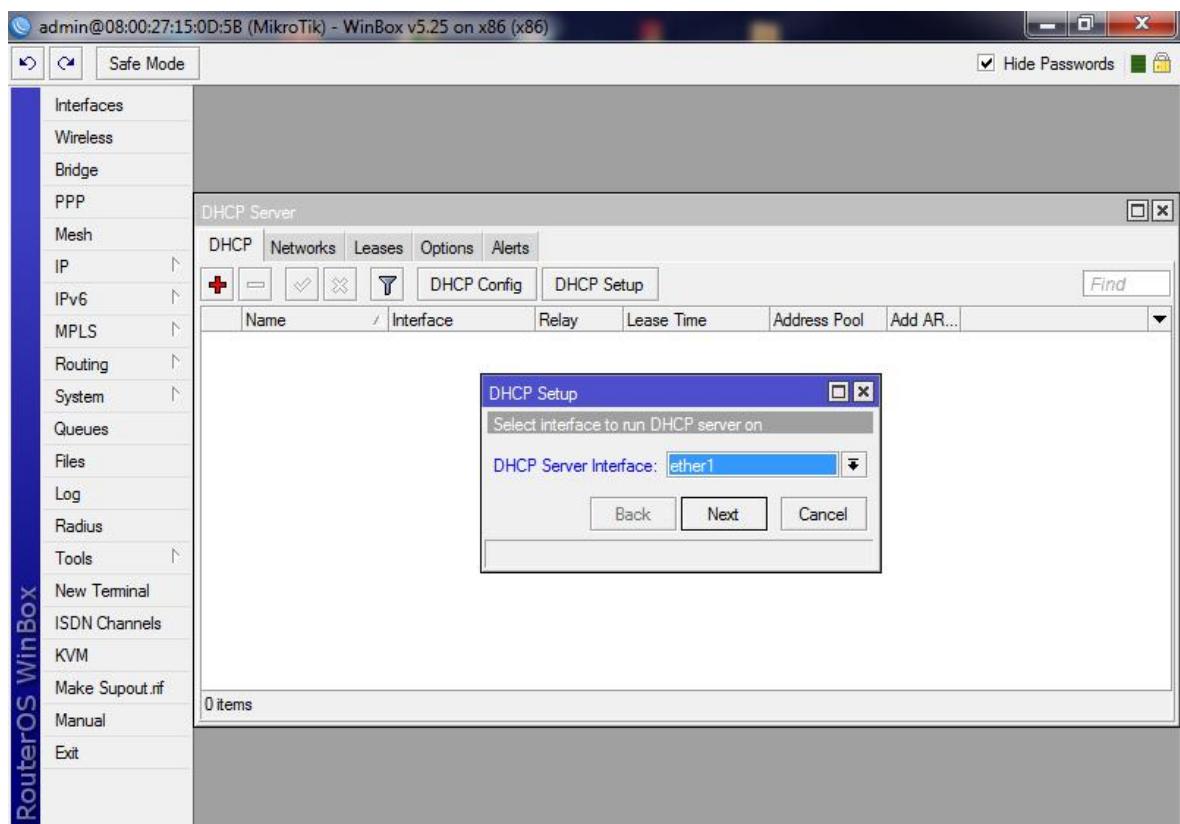
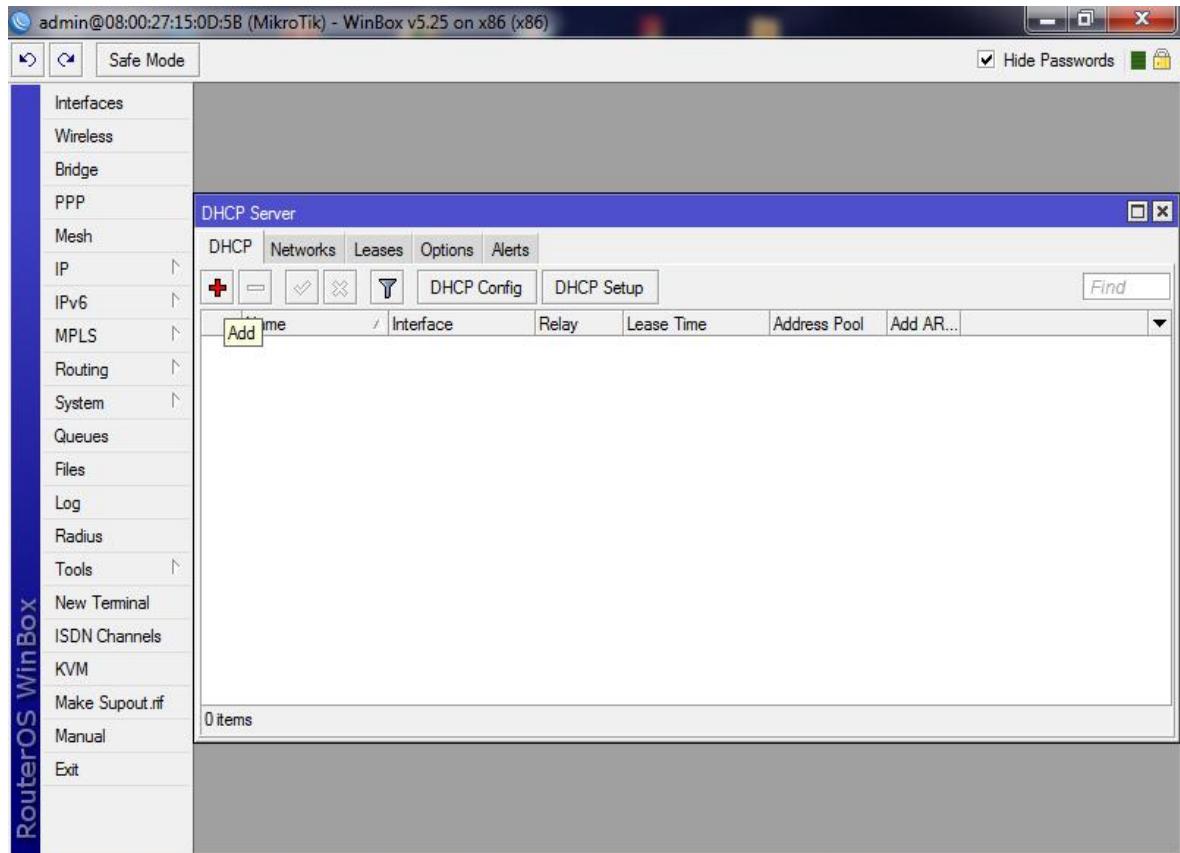
### **MENGATUR DHCP SERVER PADA MIKROTIK**

Klik **IP**, kemudian pilih **DHCP SERVER**,

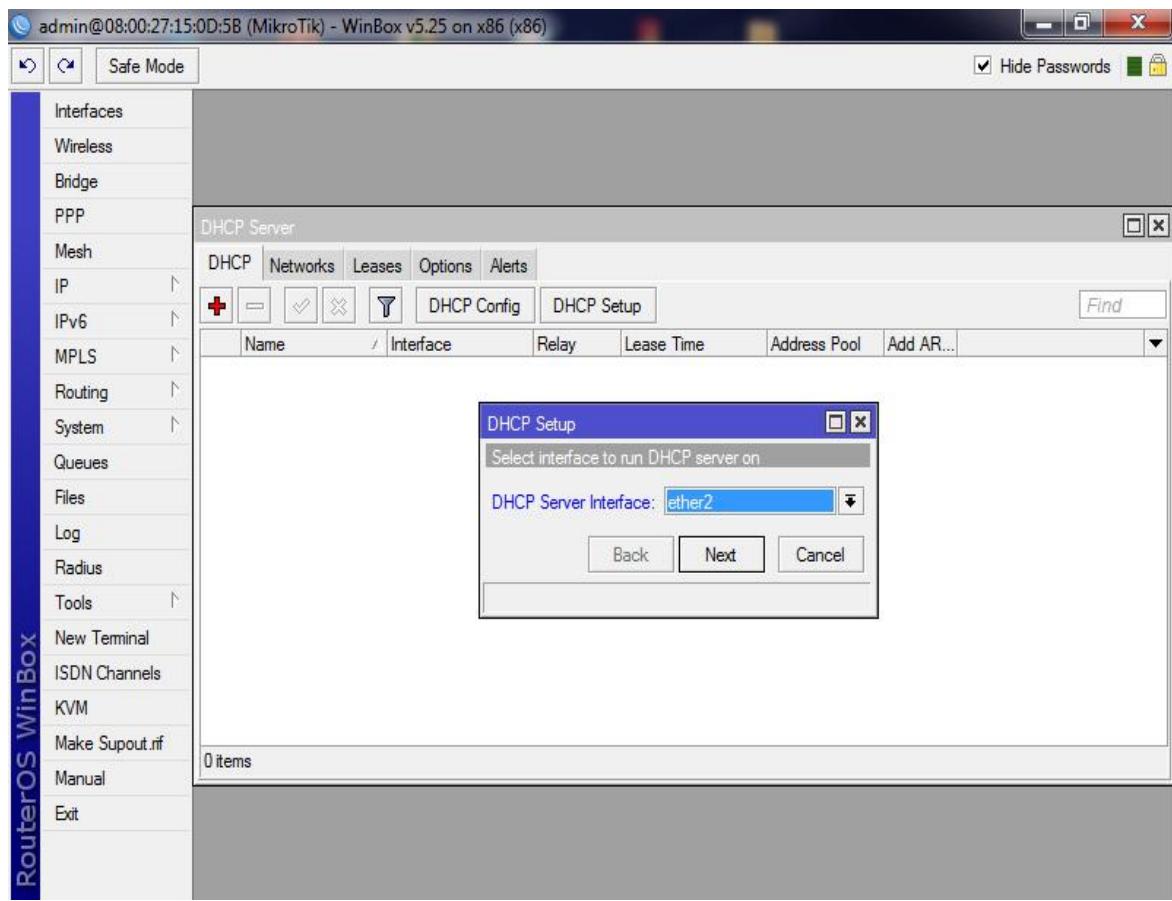
**DHCP SERVER** berfungsi untuk membuat ip address yang akan diterima semua client adalah ip address, subnet, gateway dan DNS secara otomatis, kemudian tampilan seperti berikut :



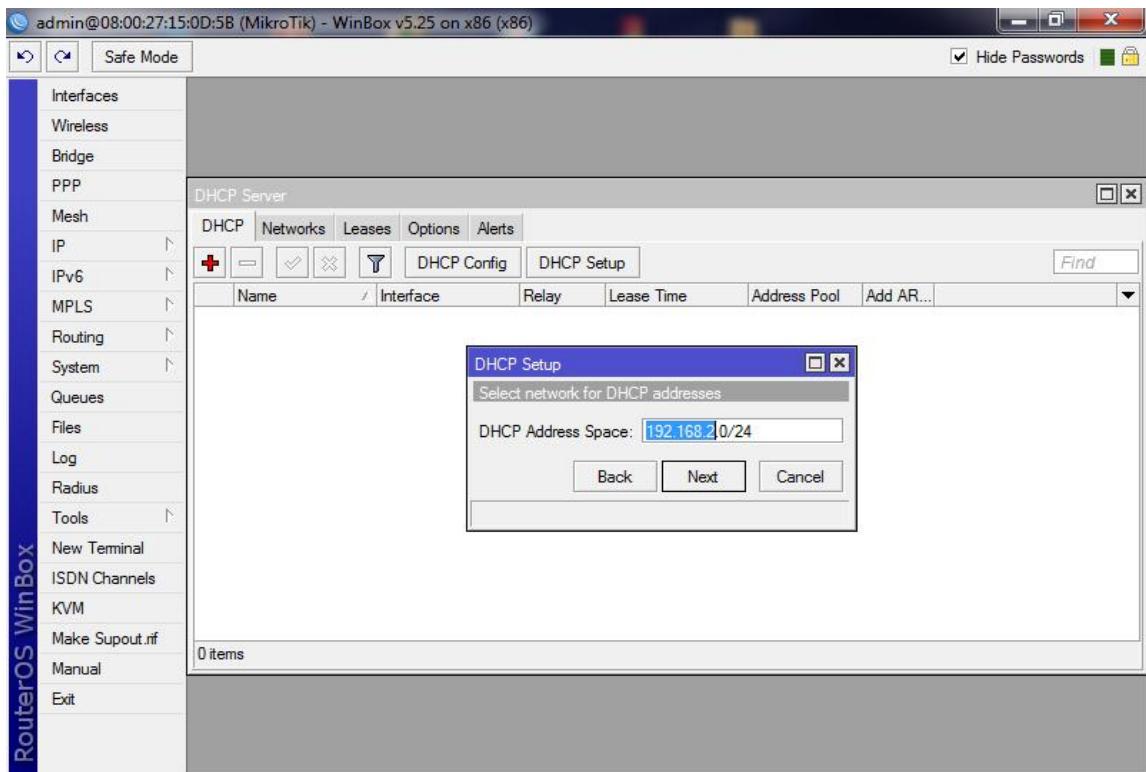
Kemudian klik **(+)** untuk menambahkan pengaturan DHCP Server, jika NIC untuk client hanya 1 maka yang ditambah hanya 1 (satu) DHCP Server, yaitu ether2.



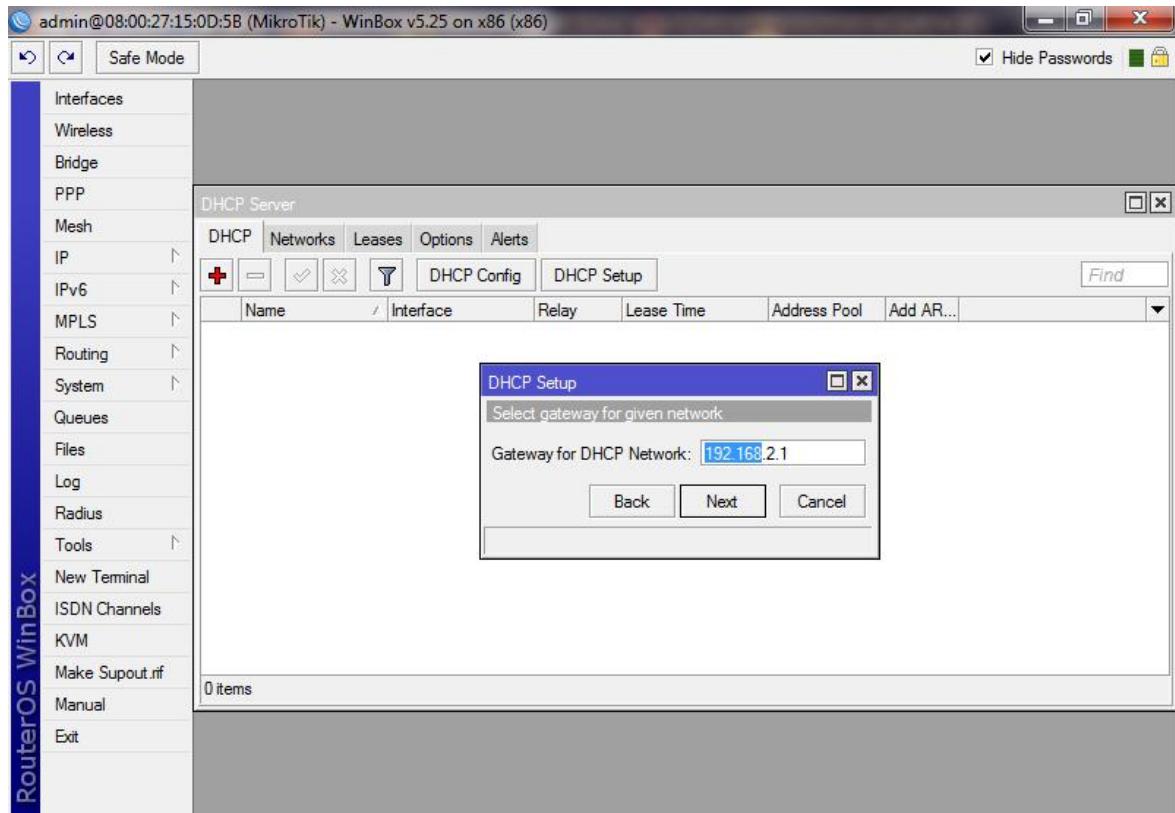
Kemudian pilih **ether2** untuk DHCP Server Client kemudian klik **Next**.



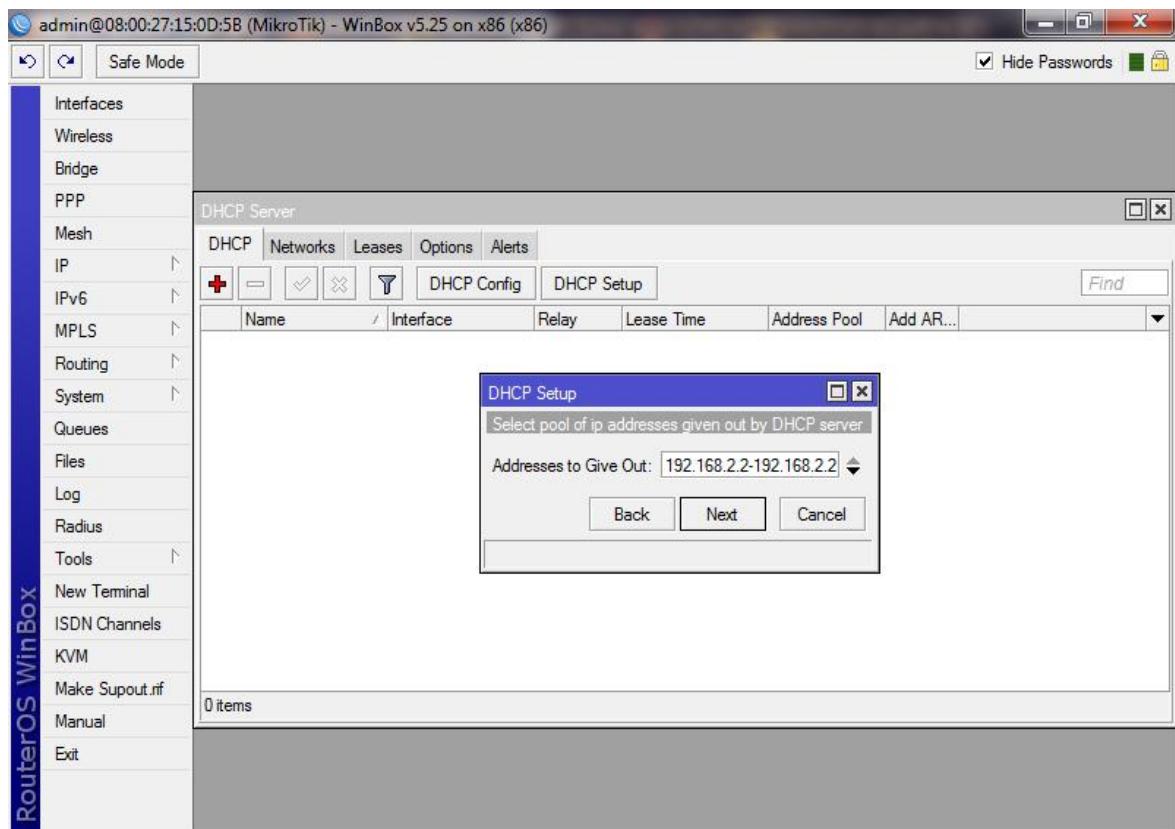
Kemudian klik Next,



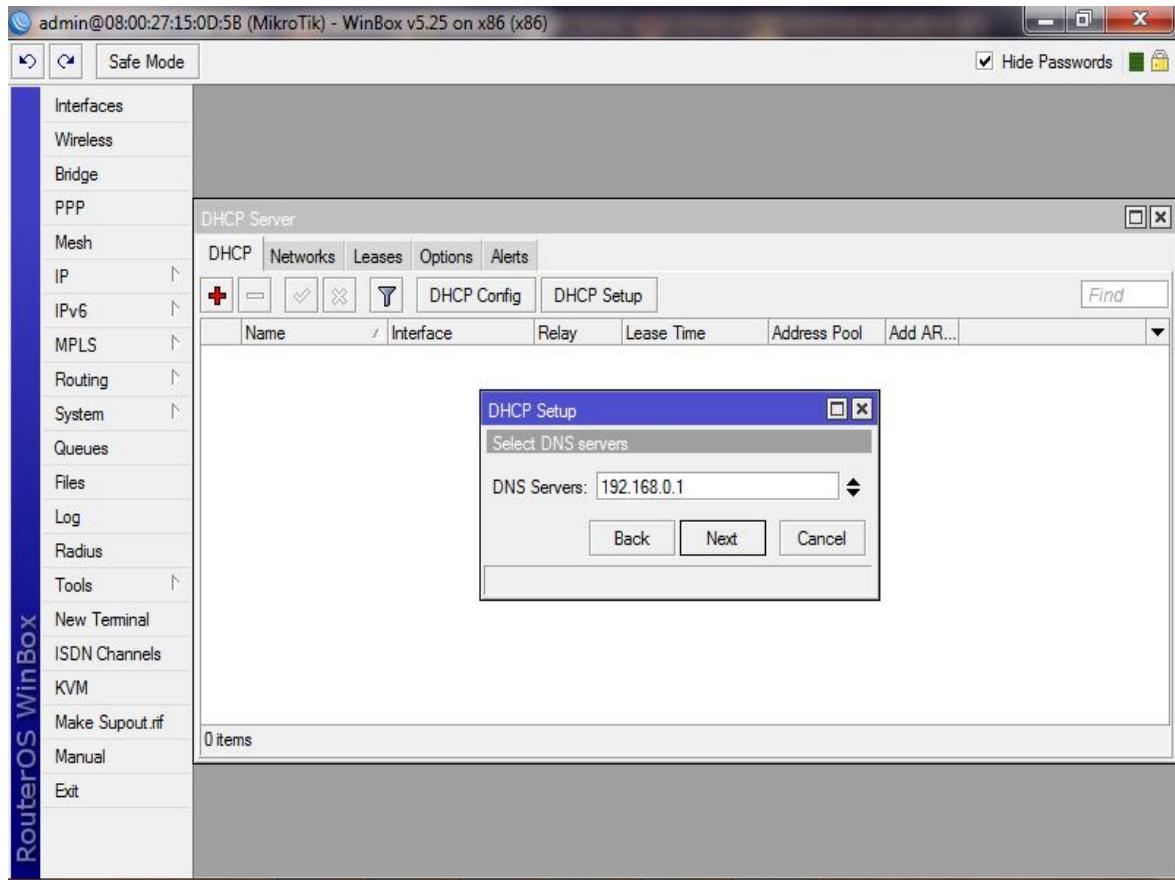
Kemudian klik Next,



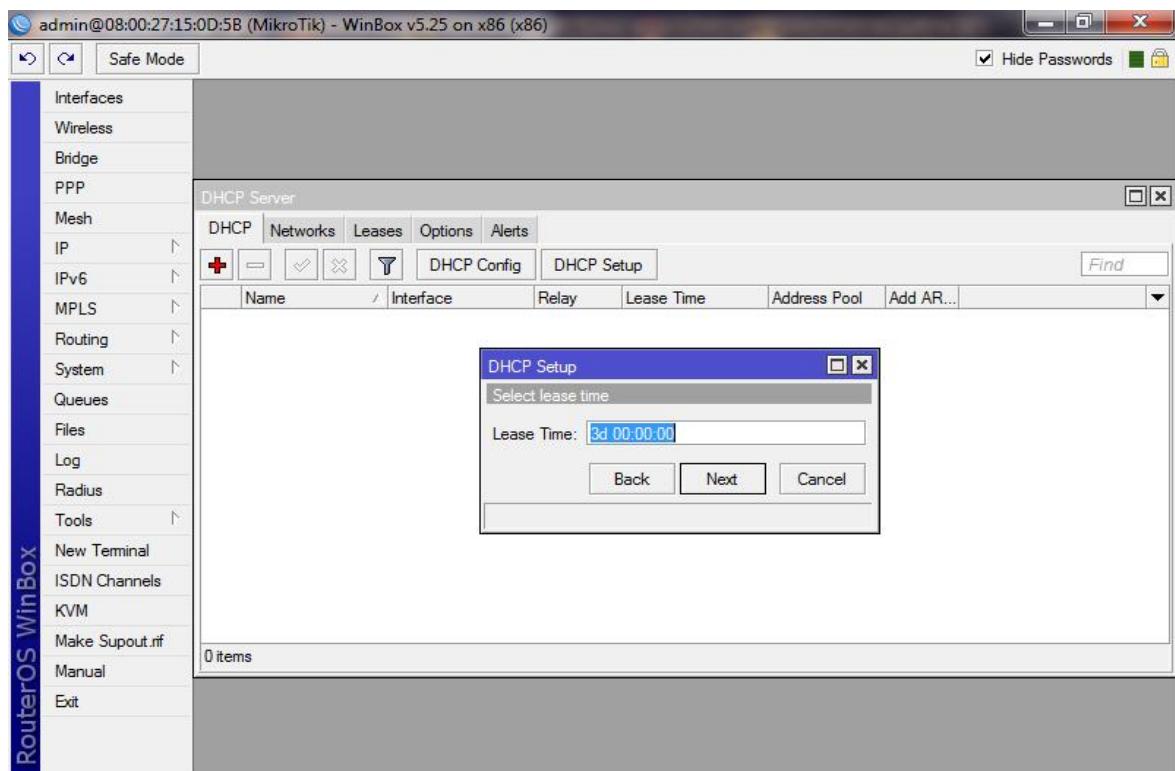
Kemudian klik **Next**,



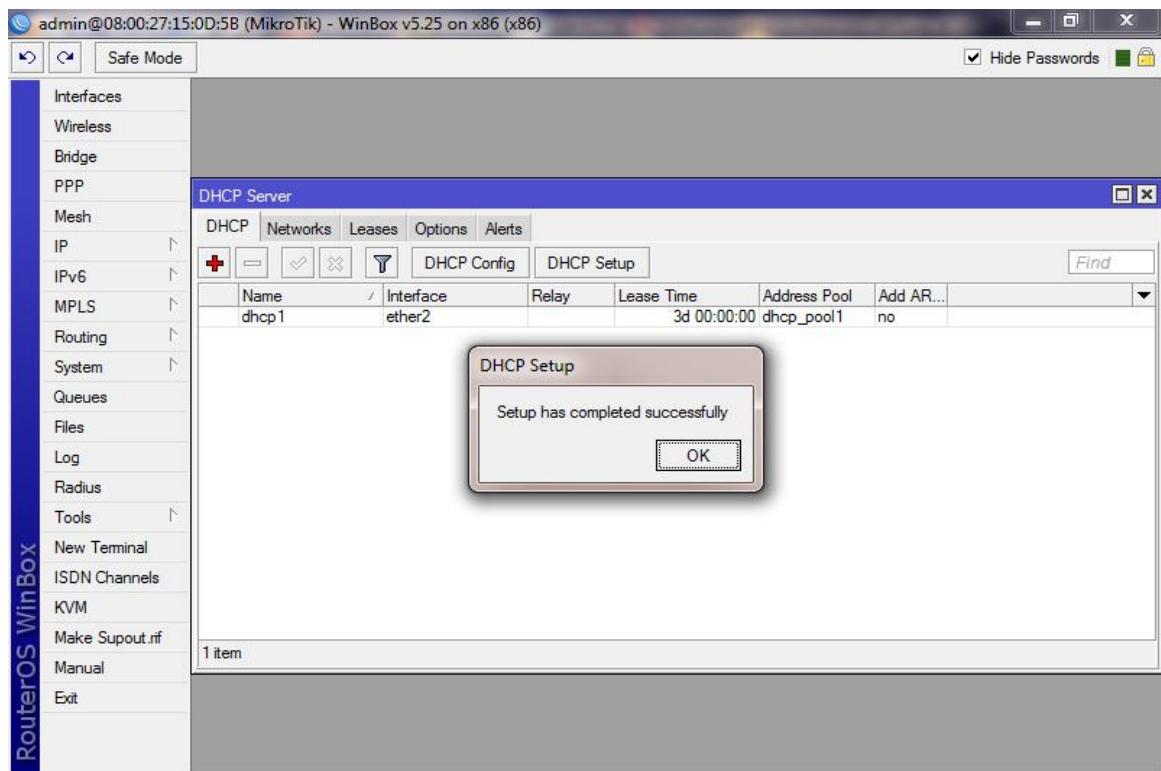
Kemudian klik **Next**,



Kemudian klik **Next**,

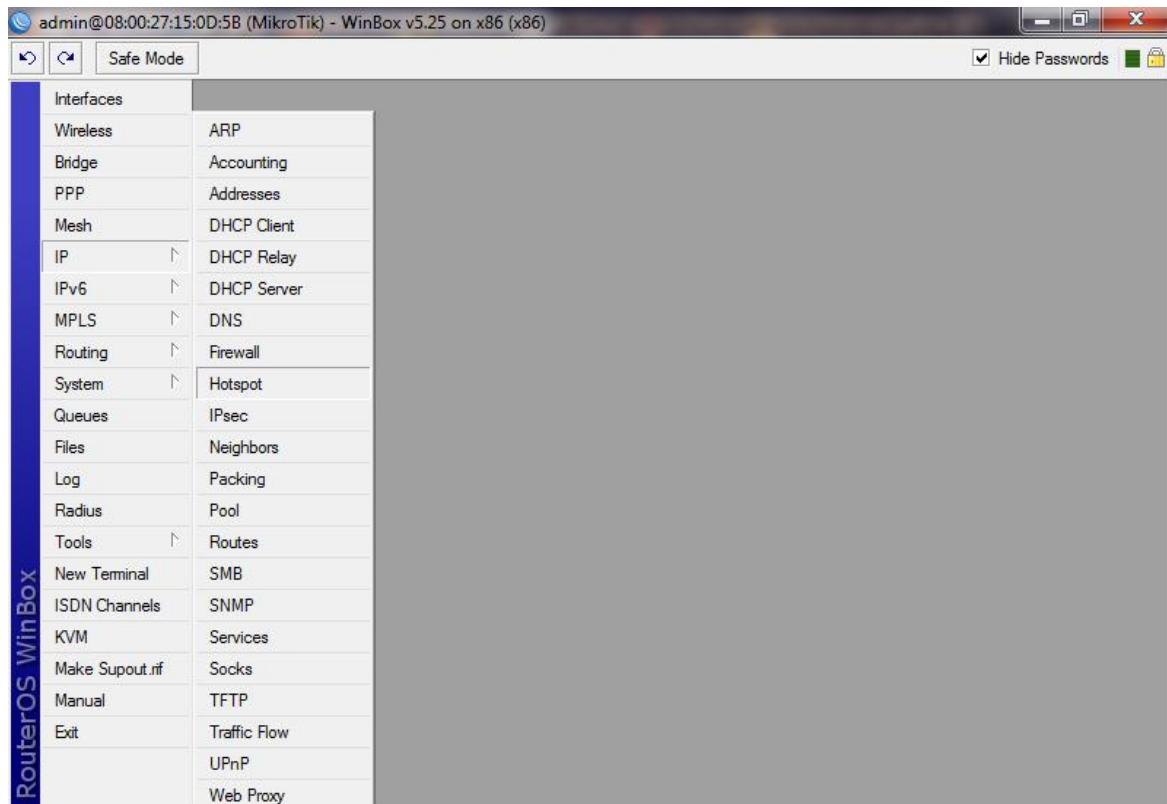


Kemudian klik **OK**,



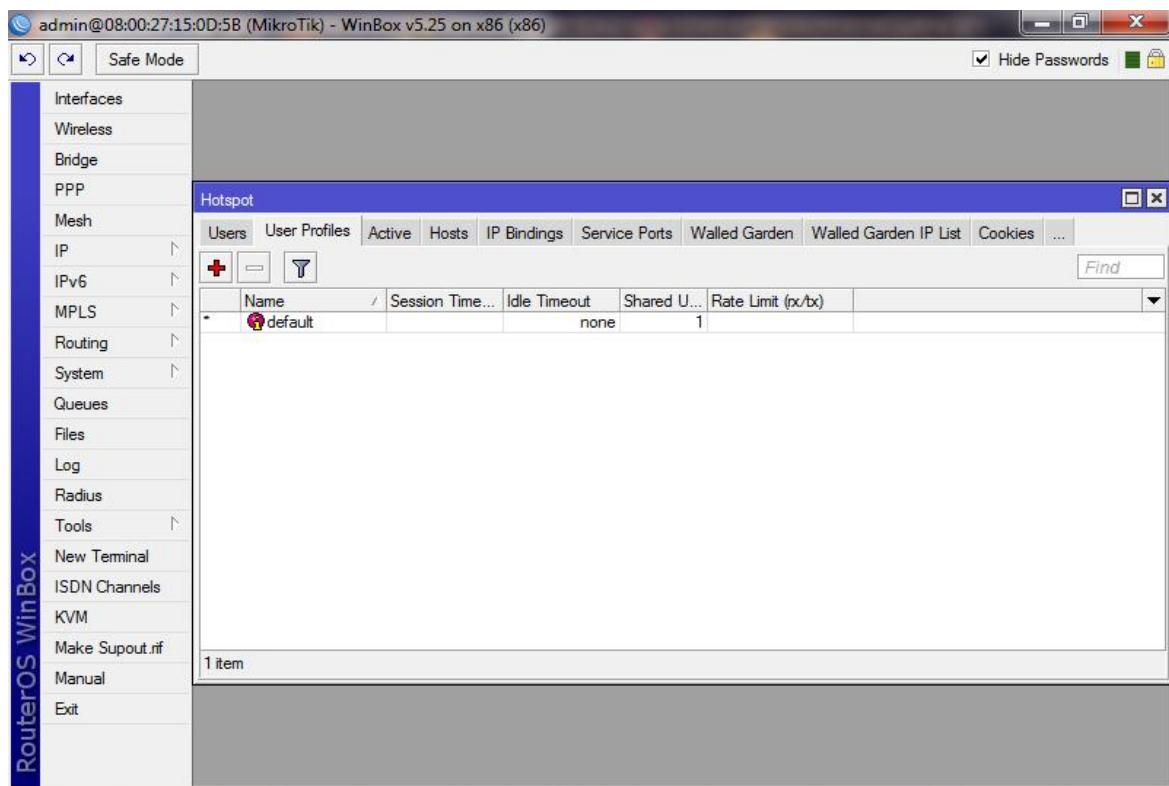
### **MENGATUR MEMBUAT HOTSPOT (USER PROFILE, USER, SERVER)**

Klik **IP**, dan pilih **Hotspot**, tampilan adalah sebagai berikut :

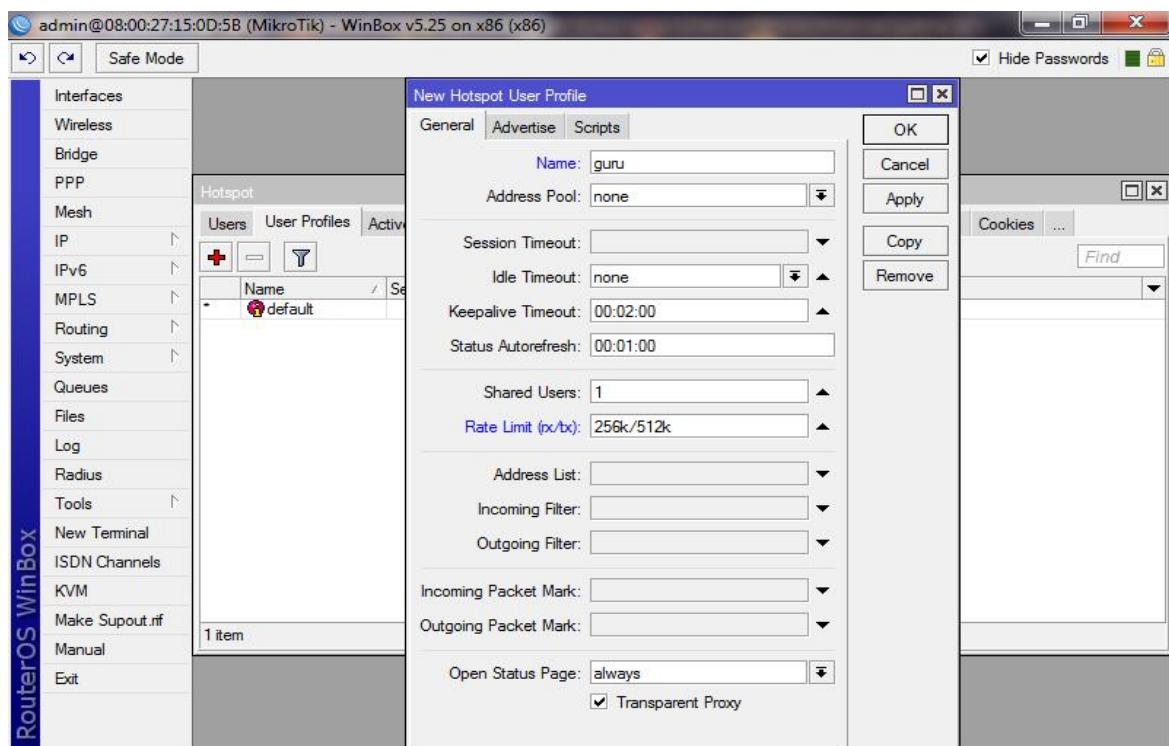


## MENGATUR USER PROFILES

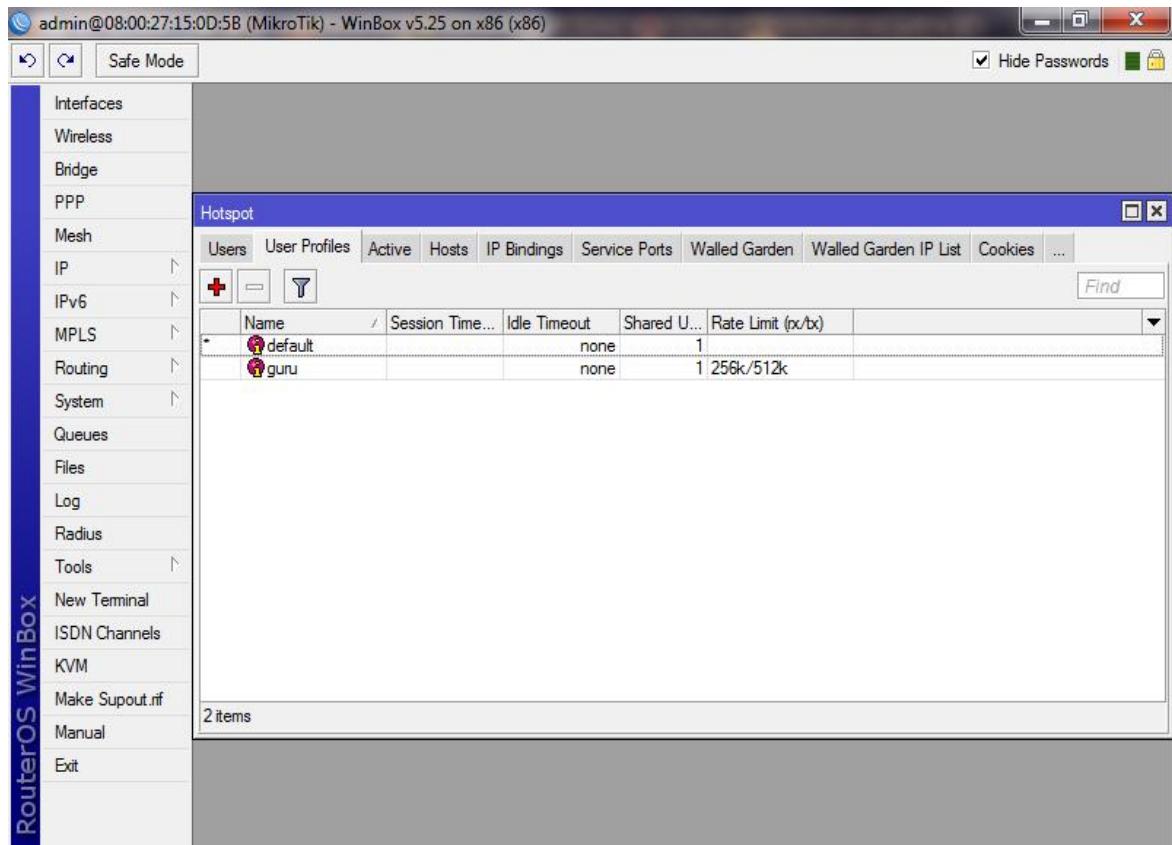
Untuk menambahkan **New Hotspot user profiles** klik (+)



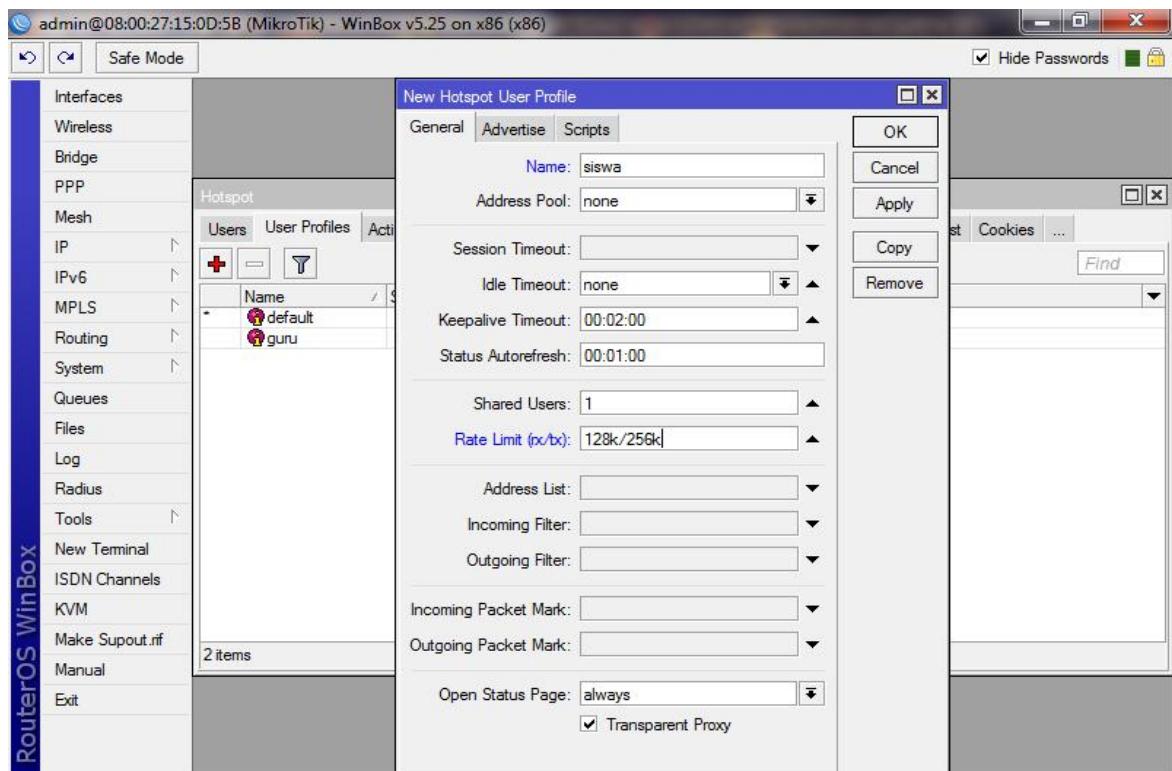
Untuk **Name = guru**, untuk **Rate Limit (rx/tx) = 256k/512k**, dimana rx adalah kecepatan upload dan tx adalah kecepatan download. Kemudian klik **OK**.

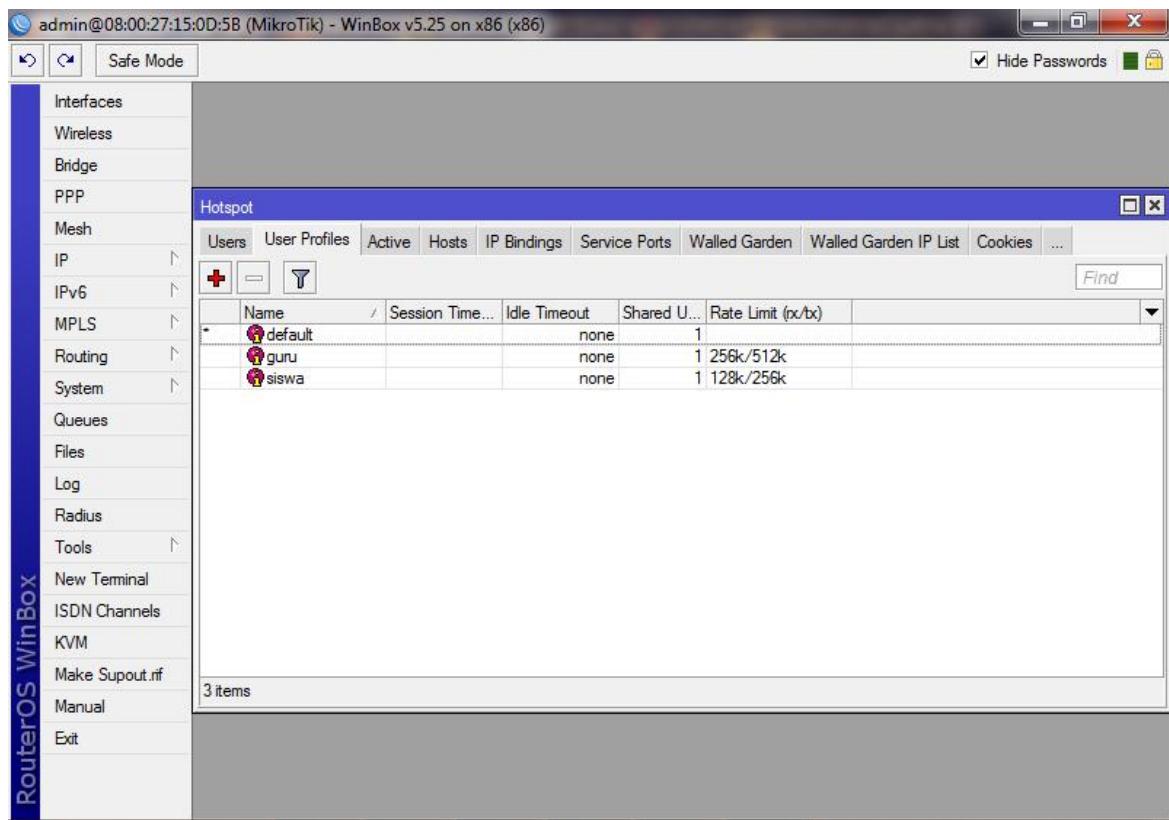


Kemudian tampilan seperti di bawah ini :



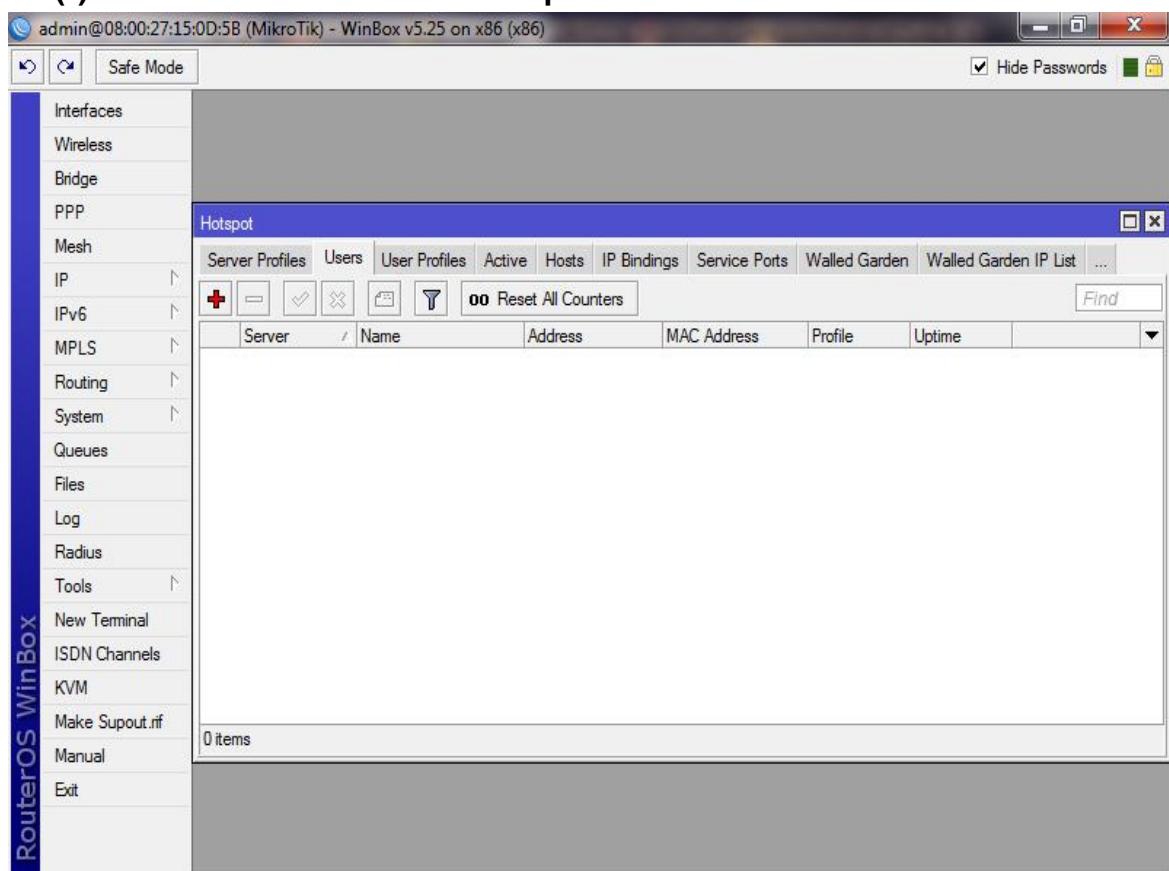
Kemudian klik (+) untuk menambahkan **New Hotspot User Profile** , langkah-langkah seperti tampilan dibawah ini :



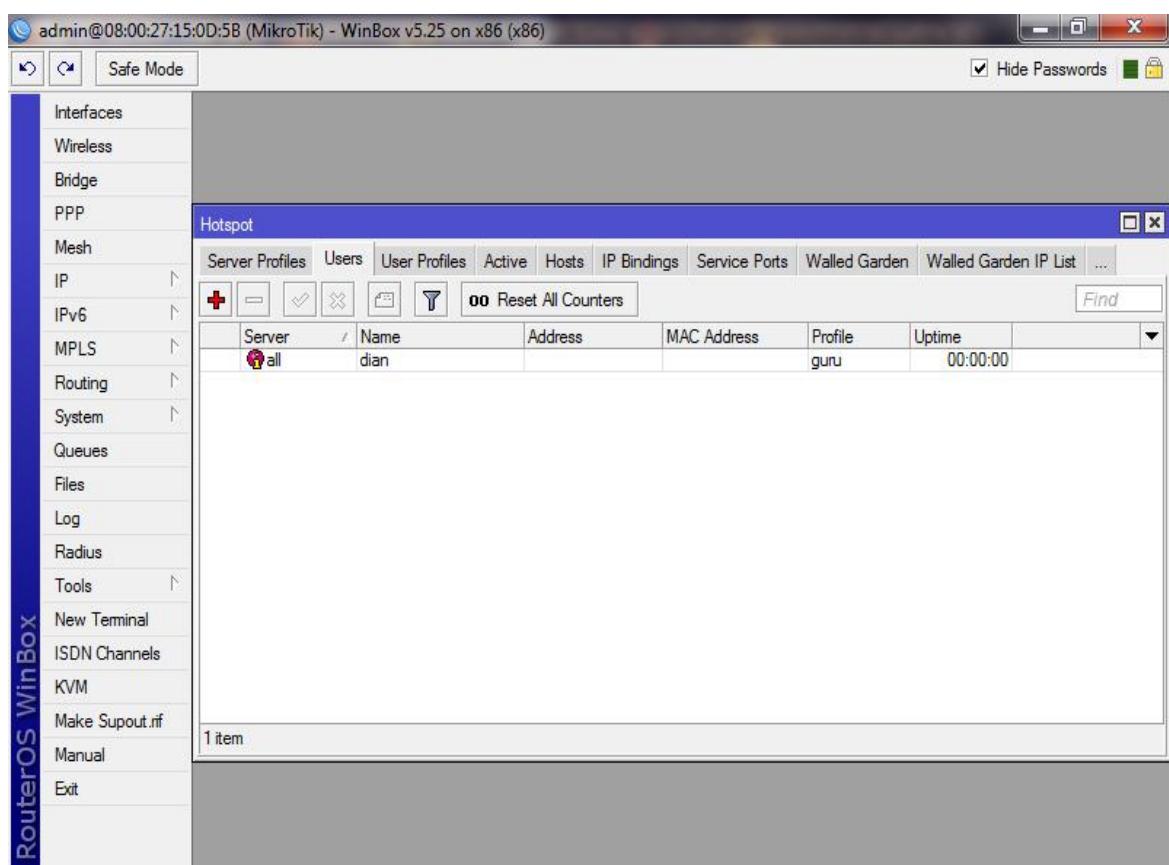
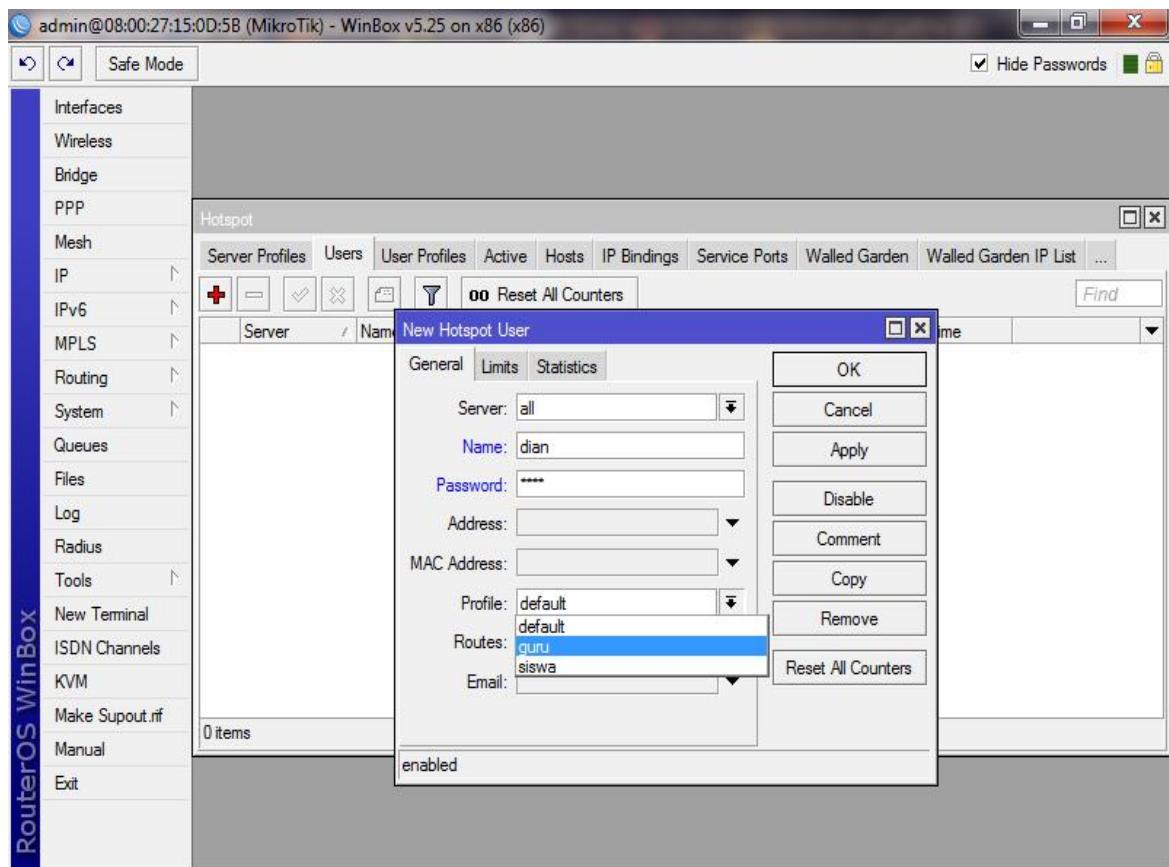


## **MENGATUR USERS**

Klik (+) users untuk menambahkan New Hotspot User.

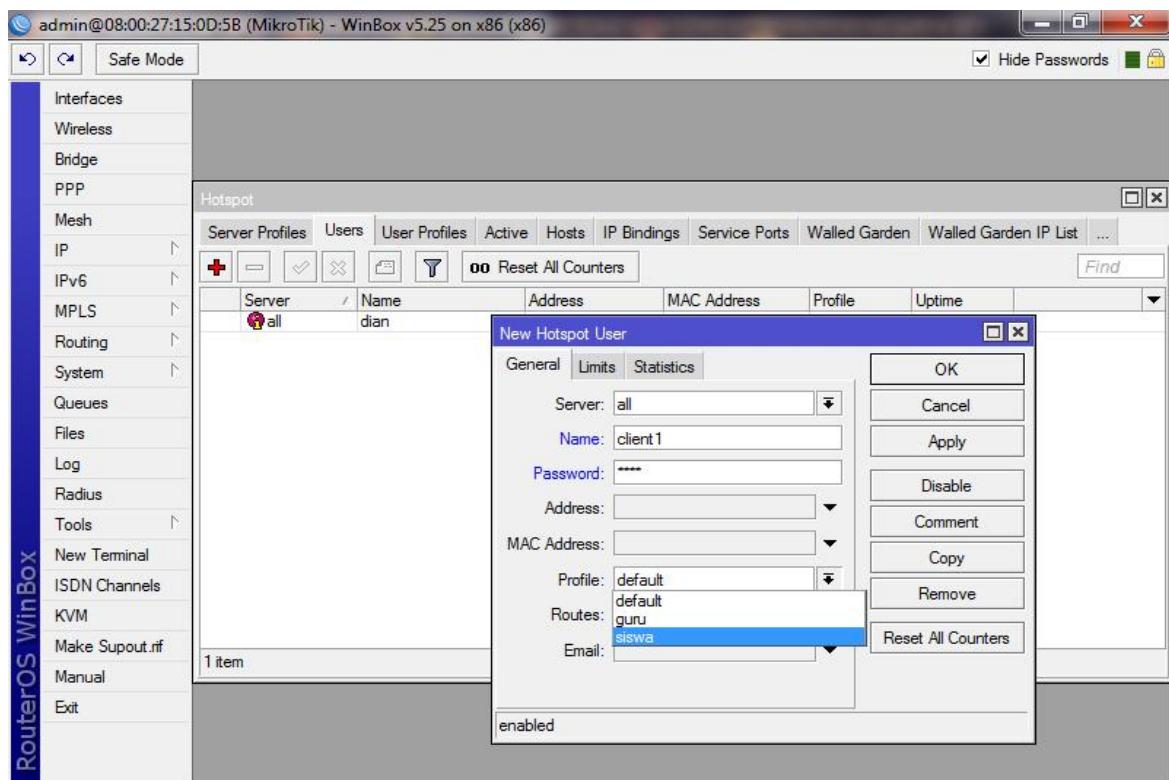


Buat pada **Name = dian**, dan **Password = 1234**, kemudian **Profile = guru** setelah itu klik **OK**.



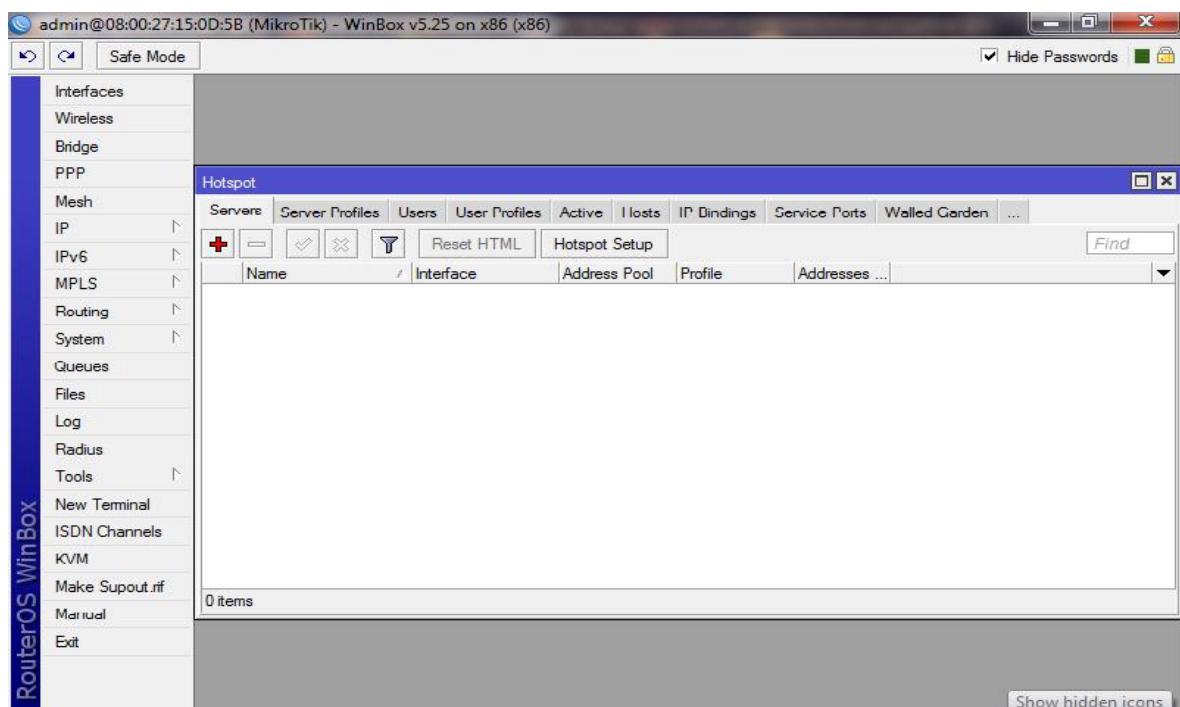
Klik (+) users untuk menambahkan New Hotspot User.

Buat pada **Name = client1**, dan **Password = 1234**, kemudian **Profile = siswa** setelah itu klik **OK**.

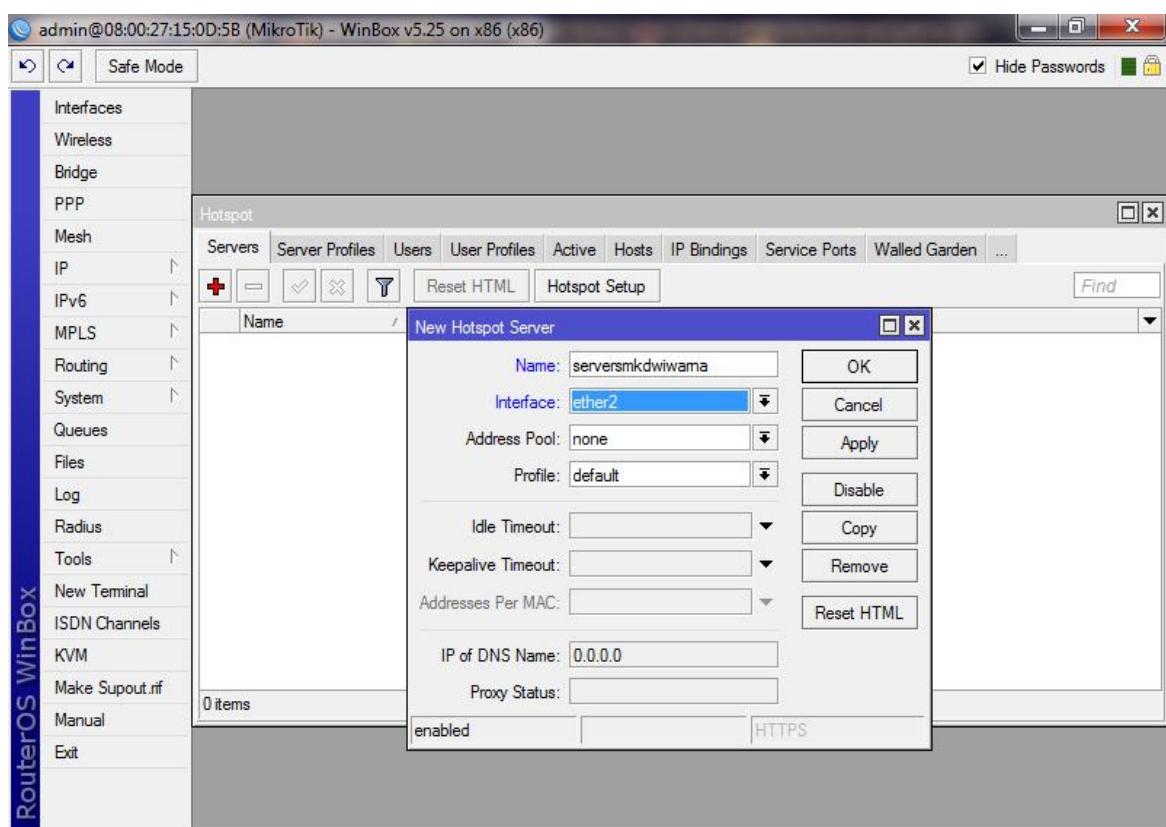
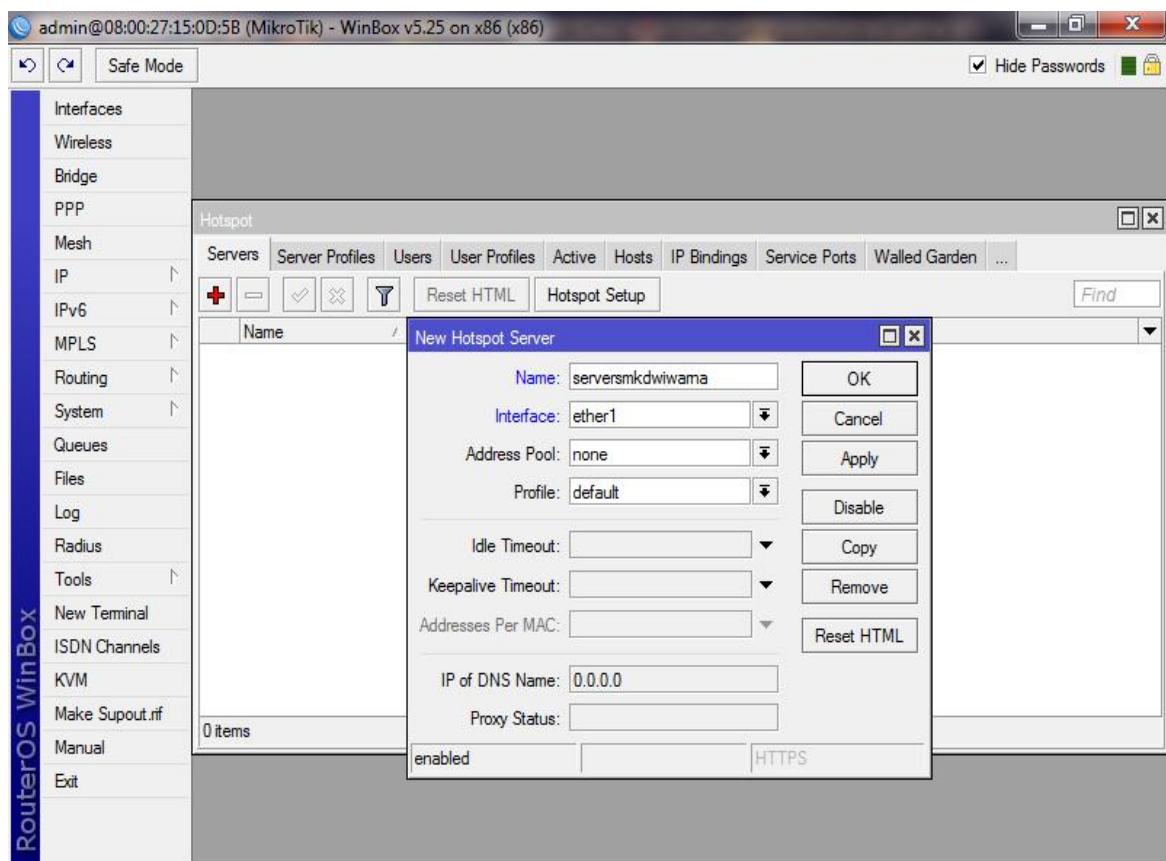


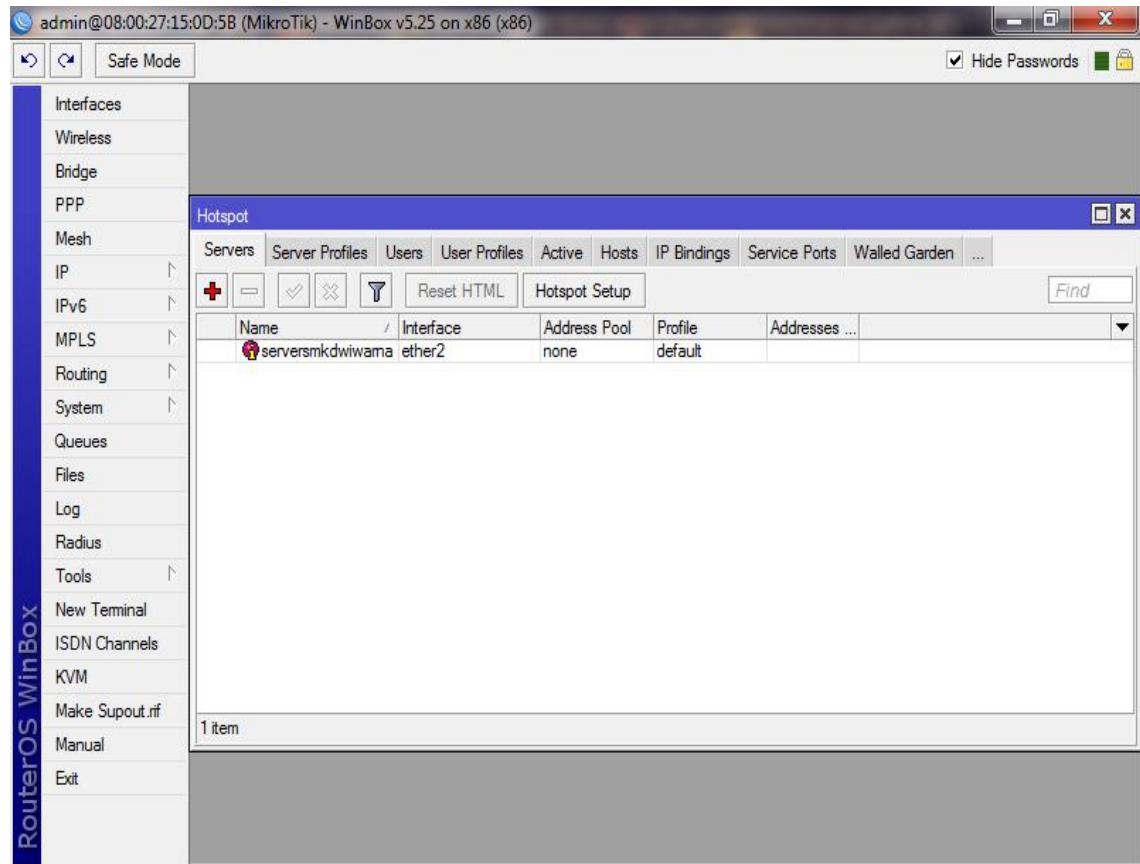
## **MENGATUR SERVER**

Klik (+) menambahkan New Hotspot Server



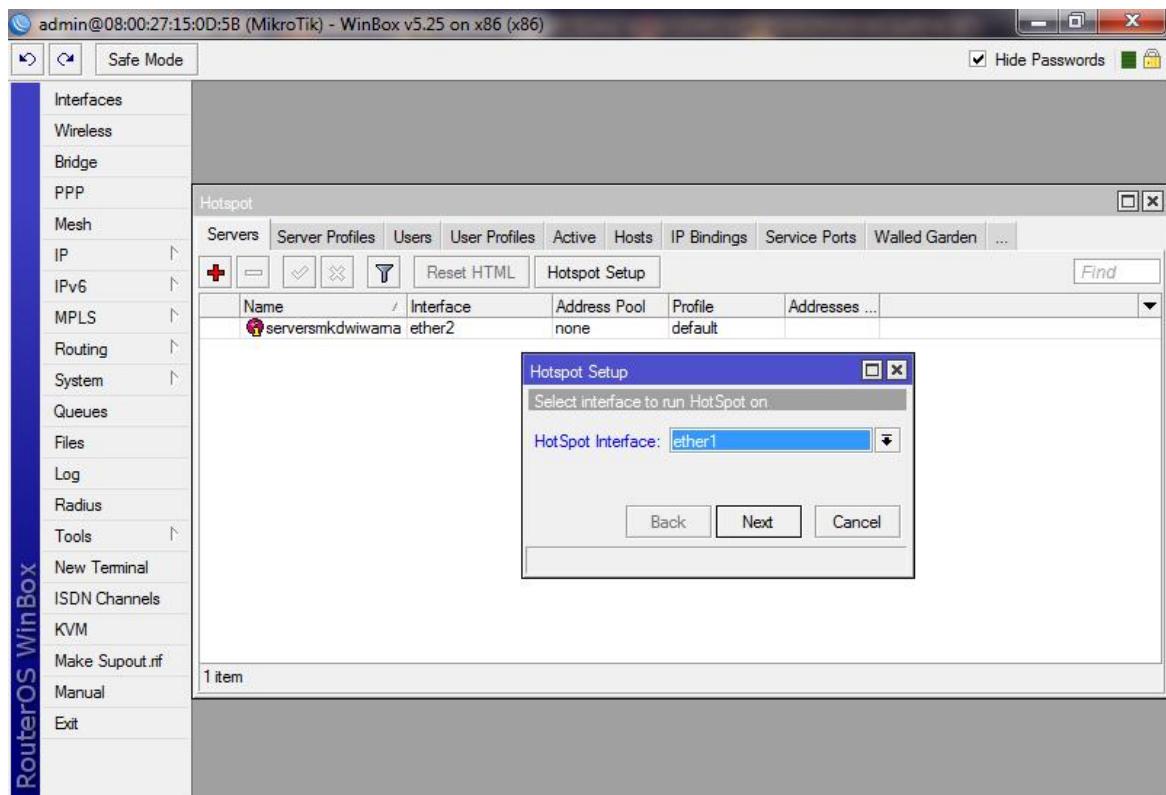
Kemudian ketikan untuk **Name = serversmkdwiwama** dan **interface = ether1** digantikan dengan **interface = ether2**. Ikutin langkah-langkah selanjutnya seperti gambar berikut :



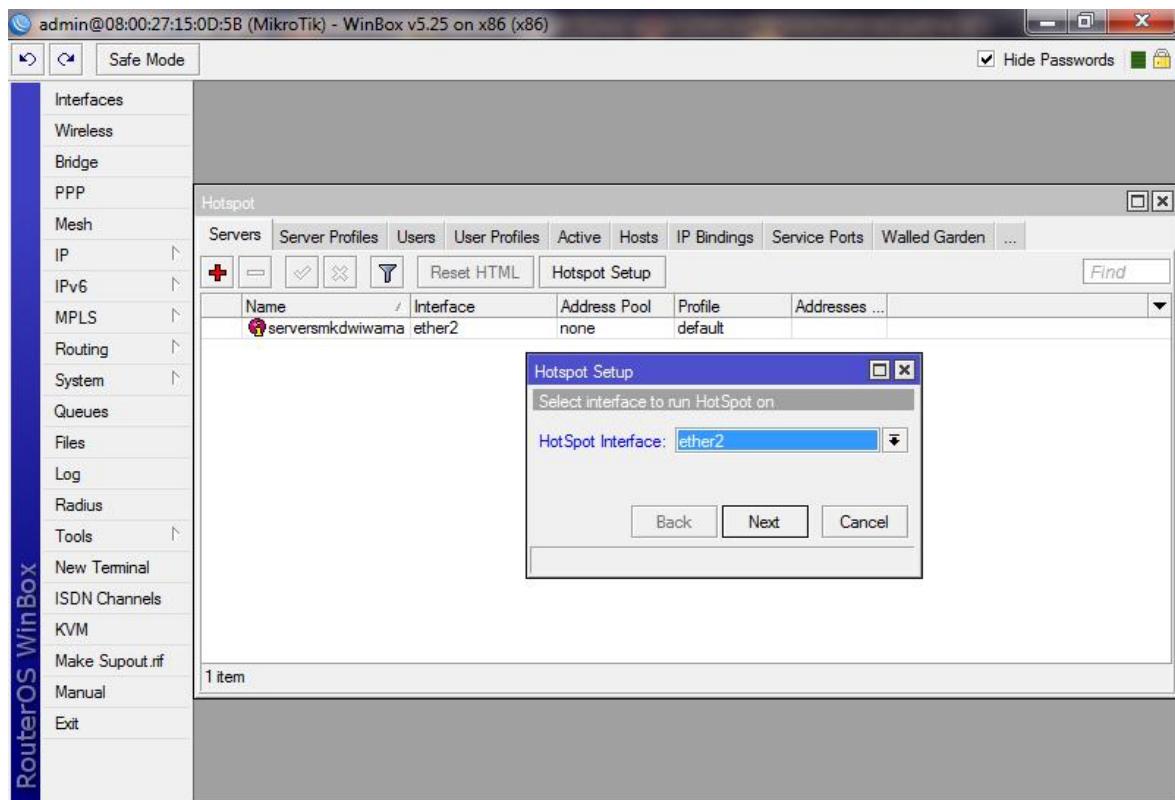


### **MENGATUR HOTSPOT SETUP MIKROTIK BESERTA DHCP SERVERNYA**

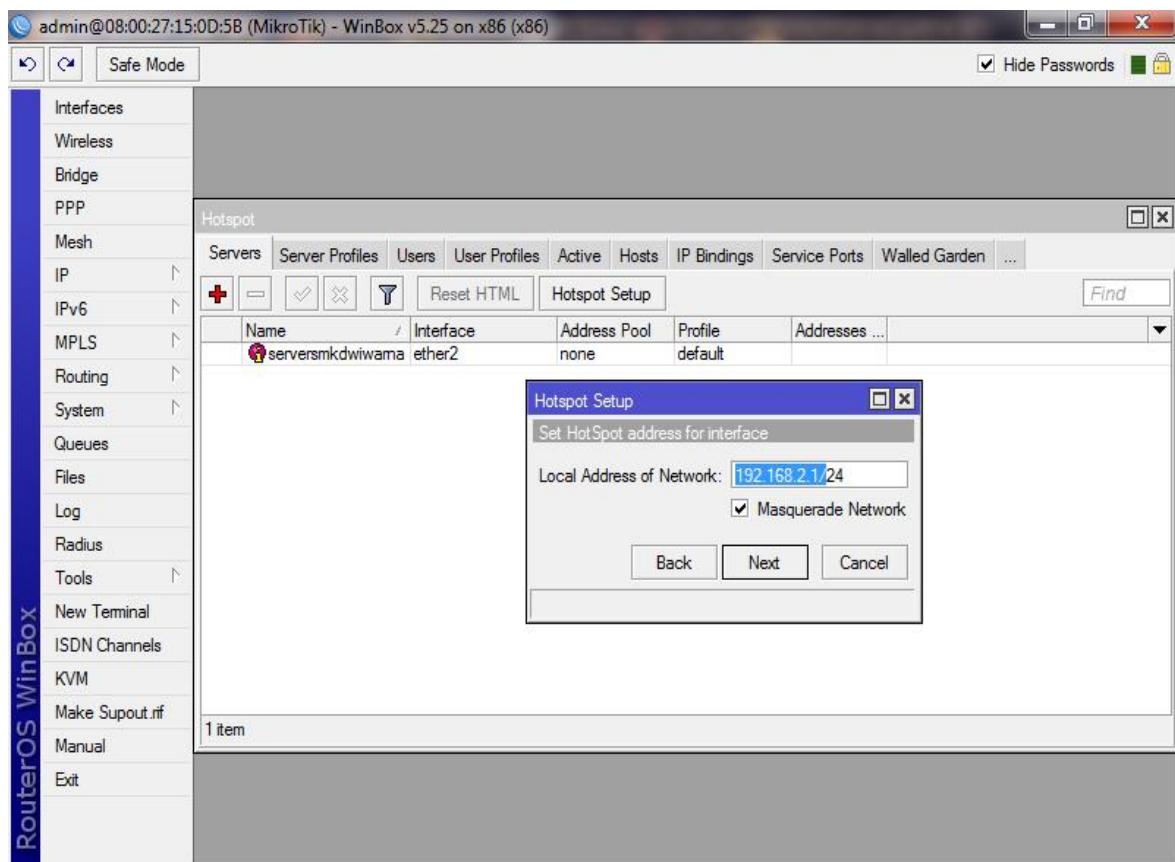
Klik **Hotspot Setup**, kemudian pilih **ether1**, kemudian klik **Next**.



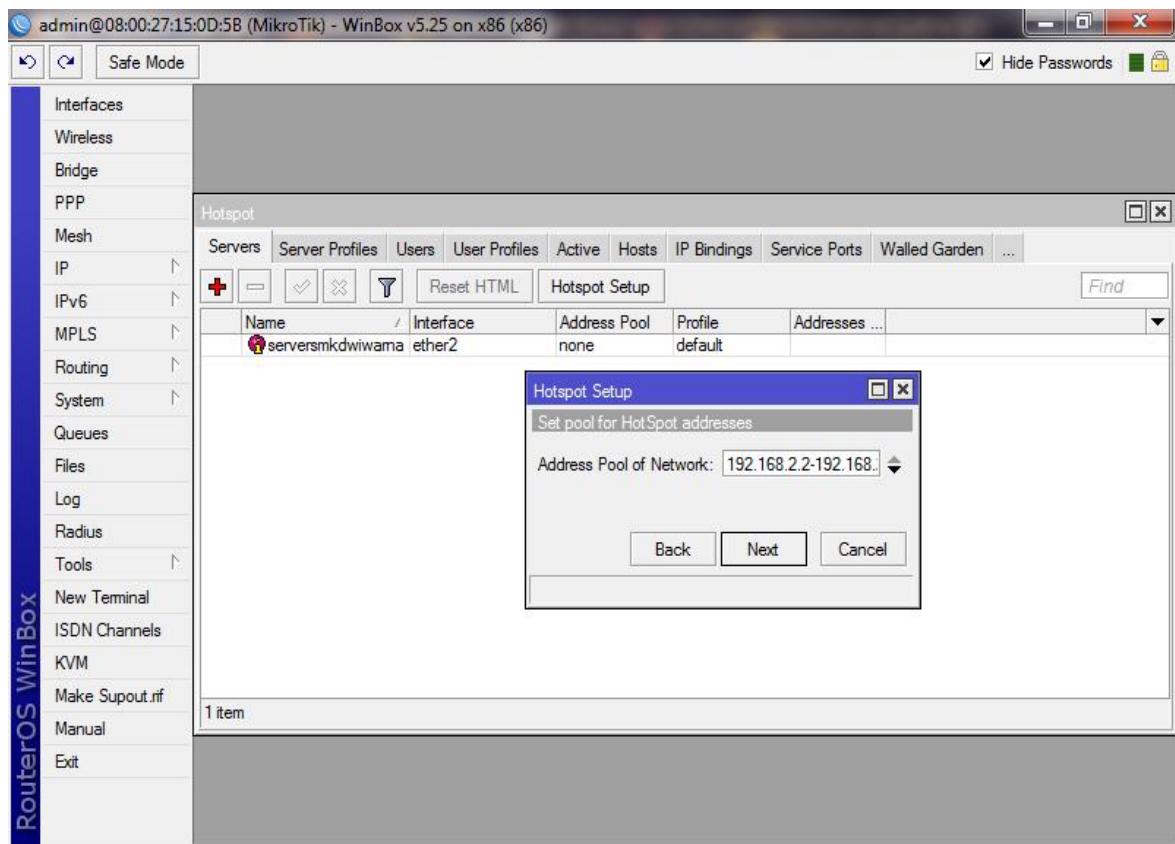
Kemudian klik **Next**,



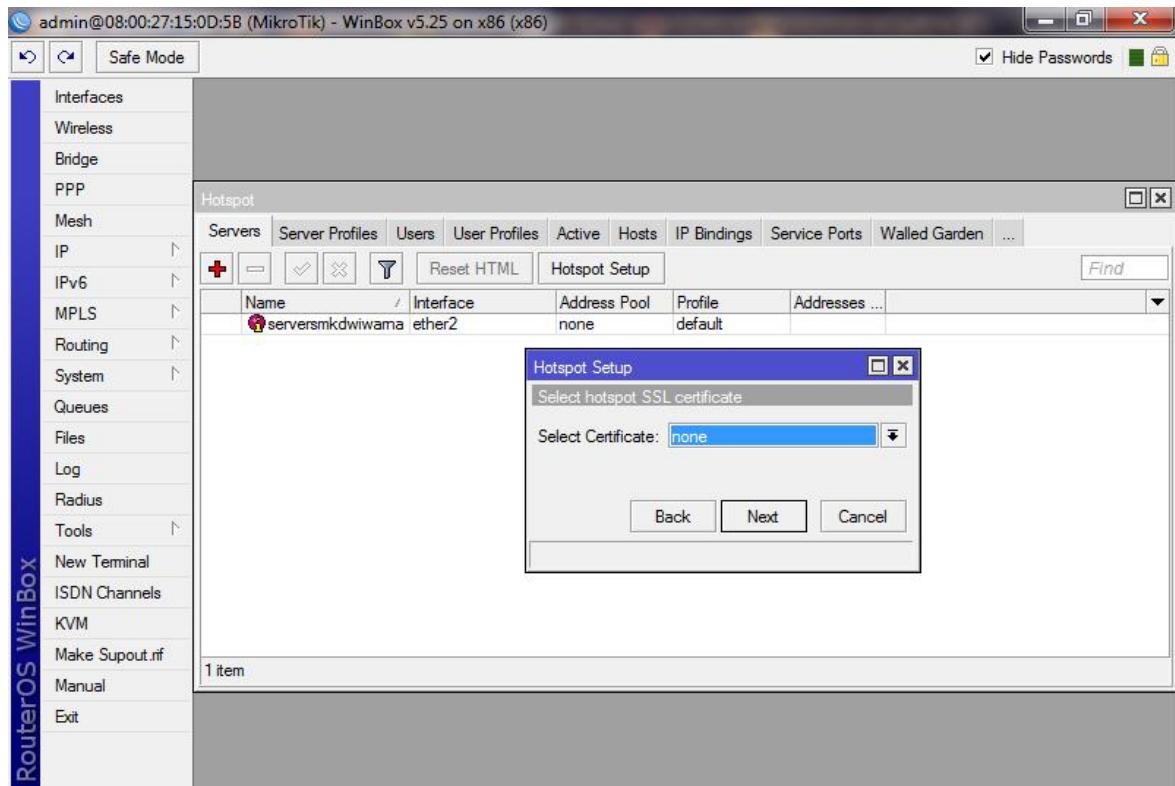
Kemudian klik **Next**,



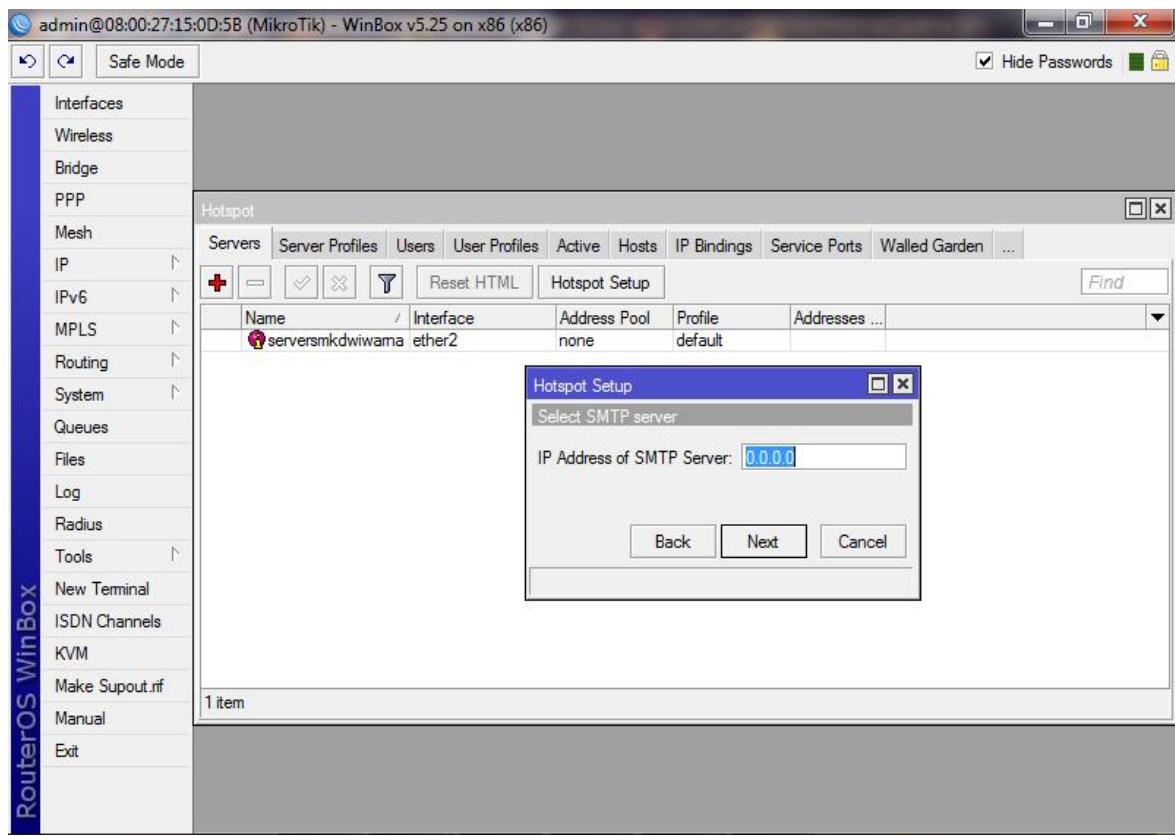
Kemudian klik **Next**,



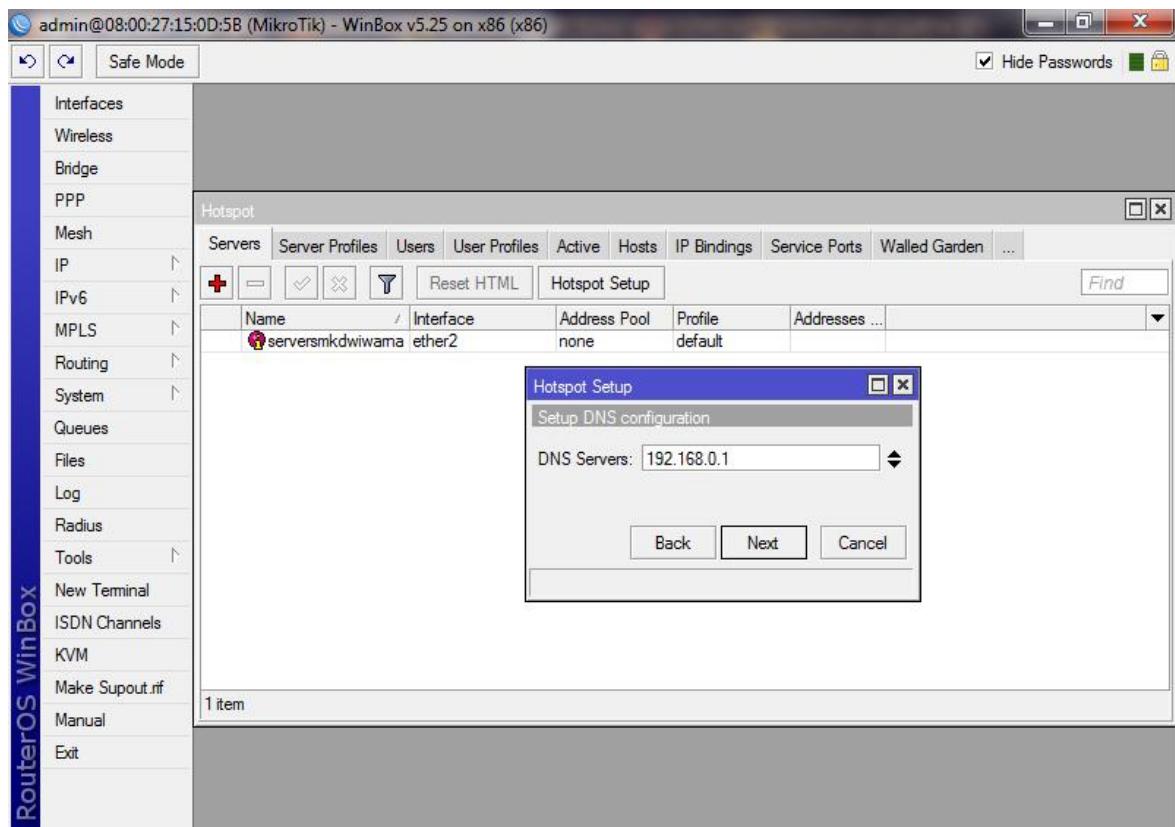
Kemudian klik **Next**,



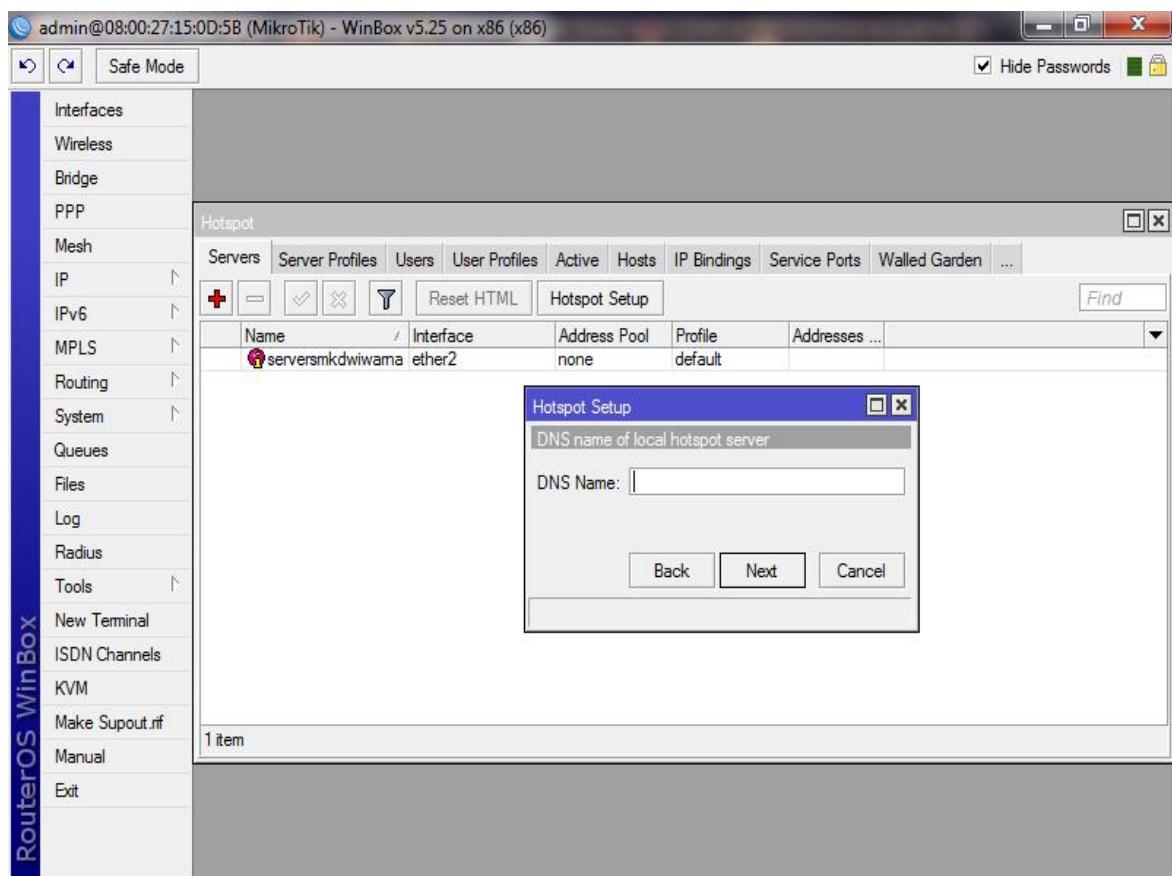
Kemudian klik **Next**,



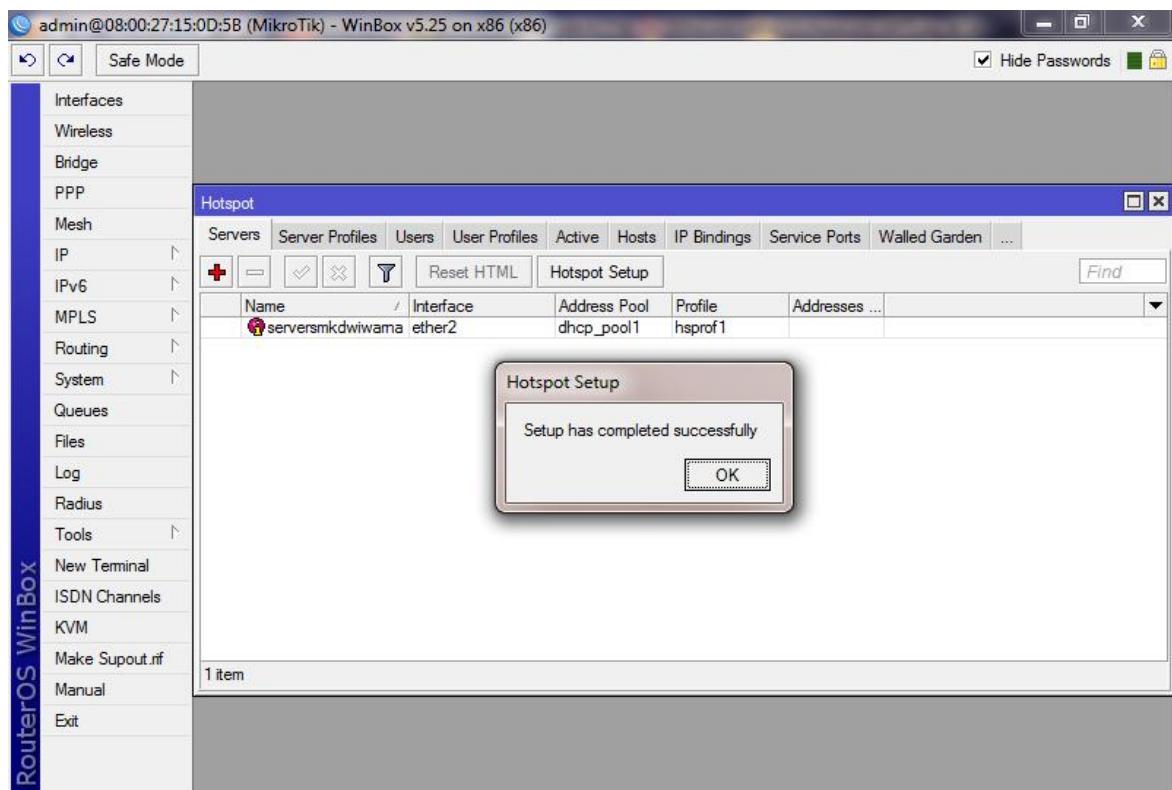
Kemudian klik **Next**,



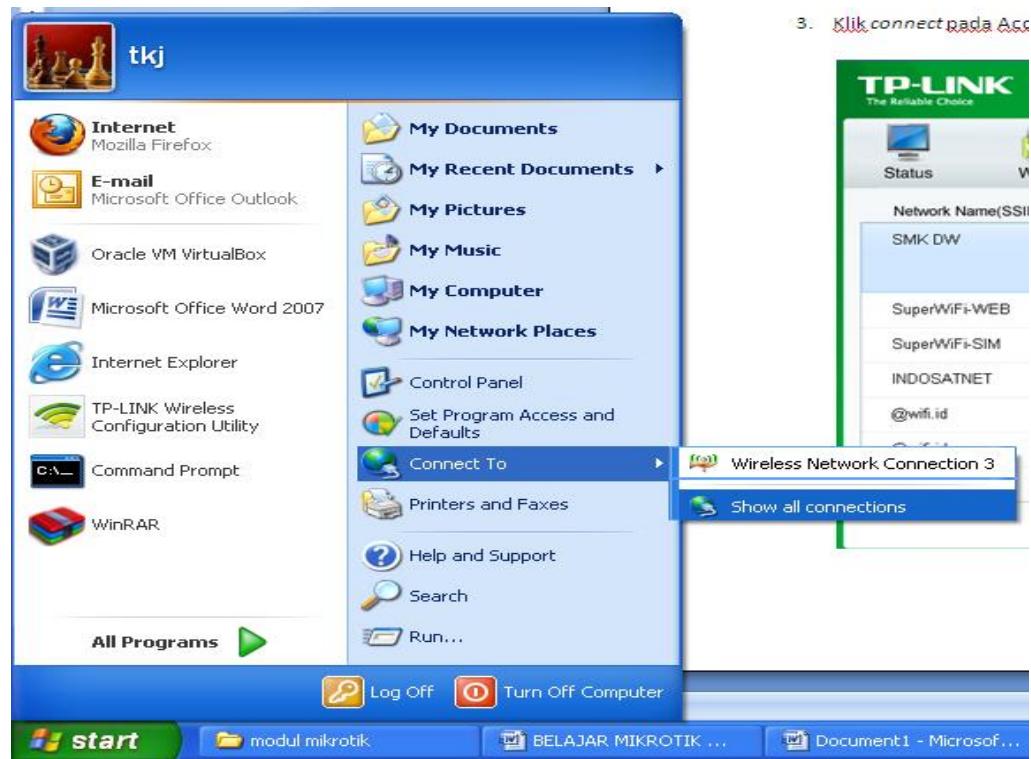
Kemudian klik **Next**,



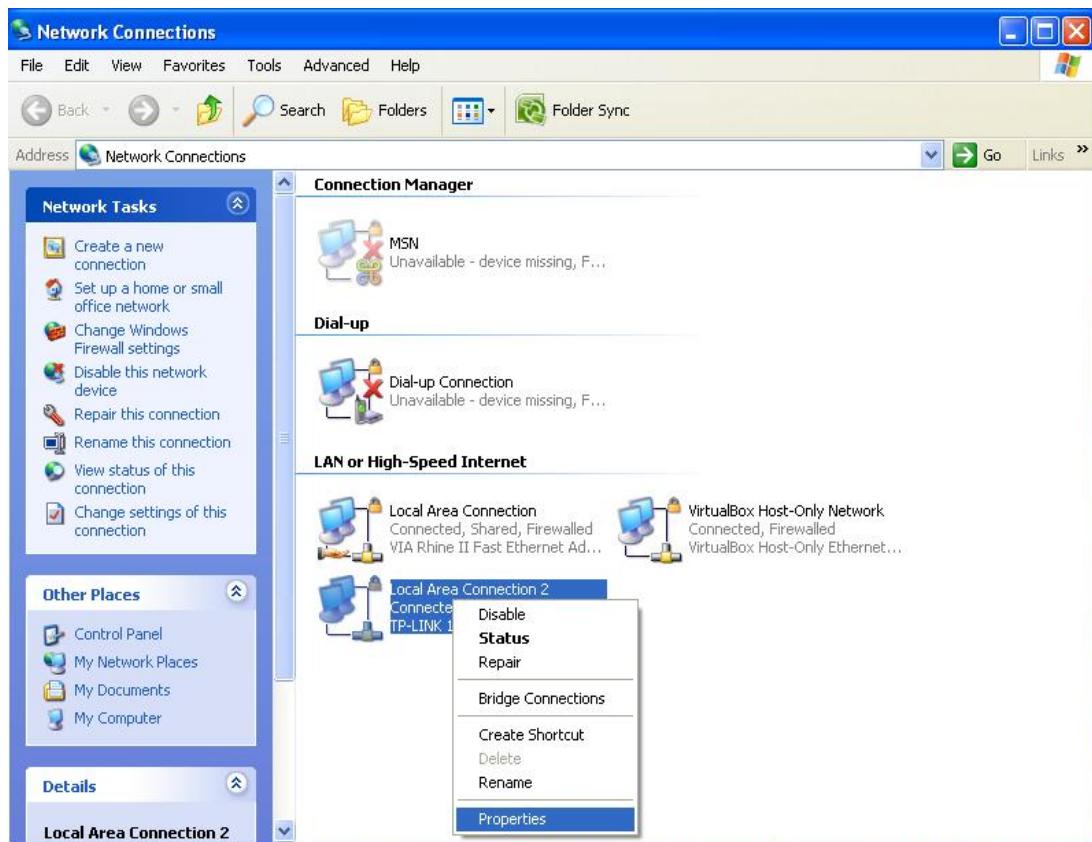
Kemudian klik **OK**,

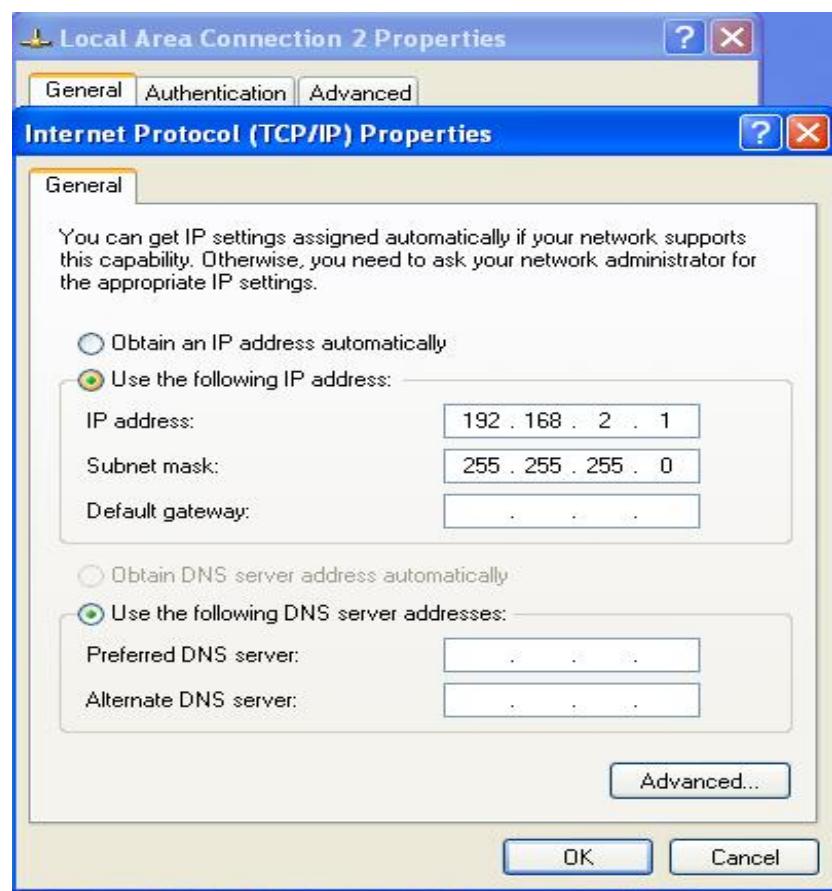
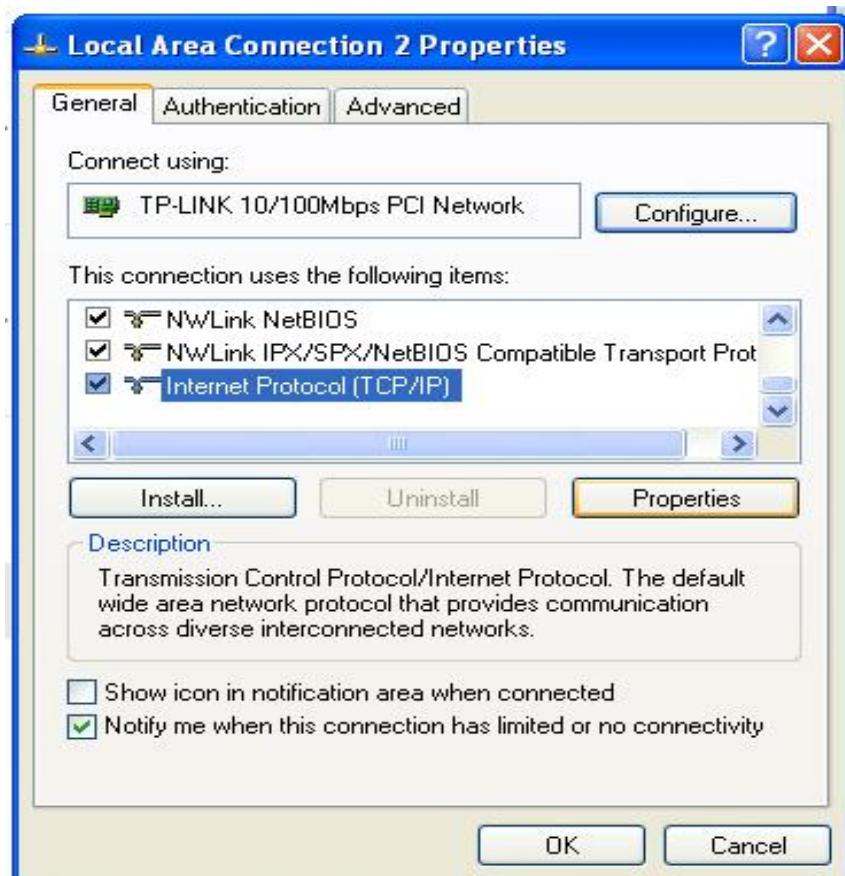


## MENGATUR NIC UNTUK CLIENT PADA COMPUTER SERVER



Kemudian dilanjutkan konfigurasi LAN server seperti gambar dibawah ini : Nah yang kali ini kita harus mengisi IP beserta Netmasknya untuk NIC Yang ke2 dan ikuti cara berikut Ini :

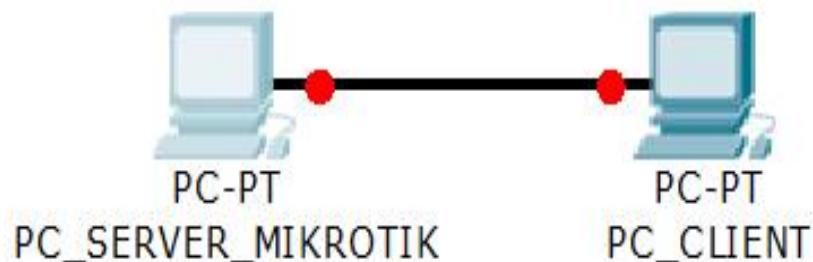




## **MENGATUR COMPUTER CLIENT UNTUK TERKONEKSI KE HOTSPOT**

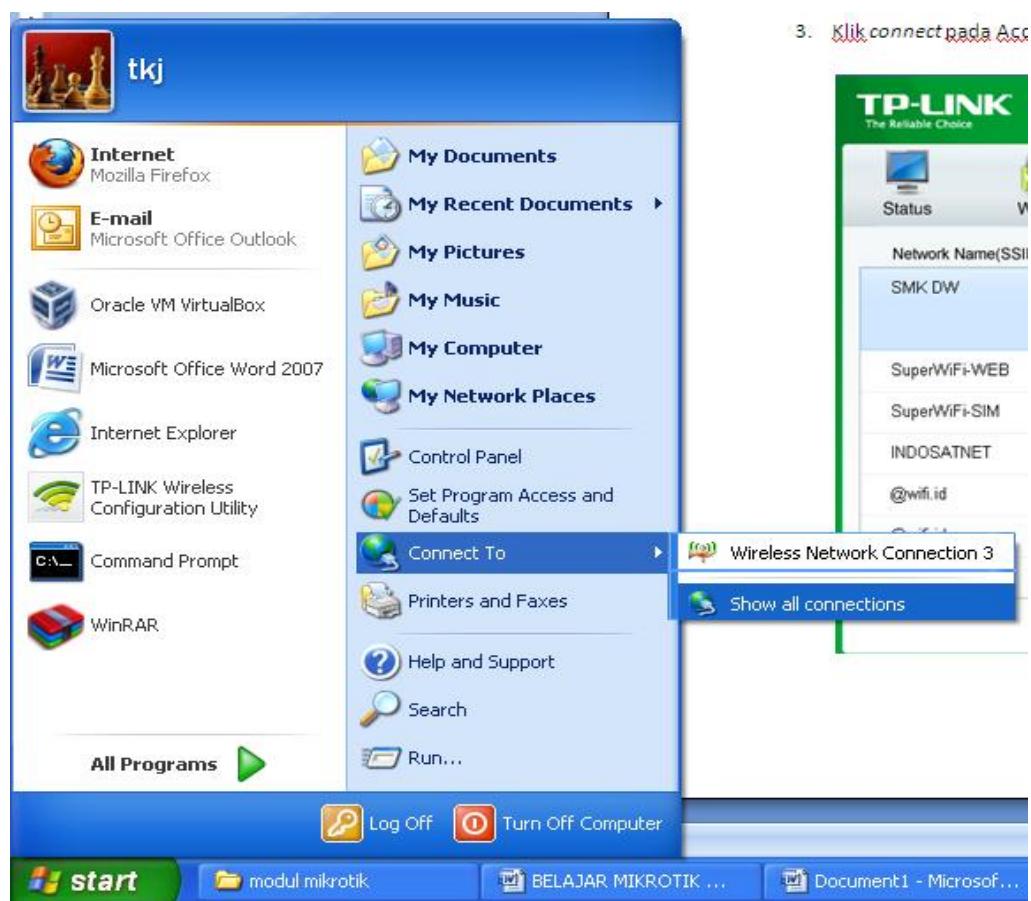
### **B. KONSEP TOPOLOGI JARINGAN**

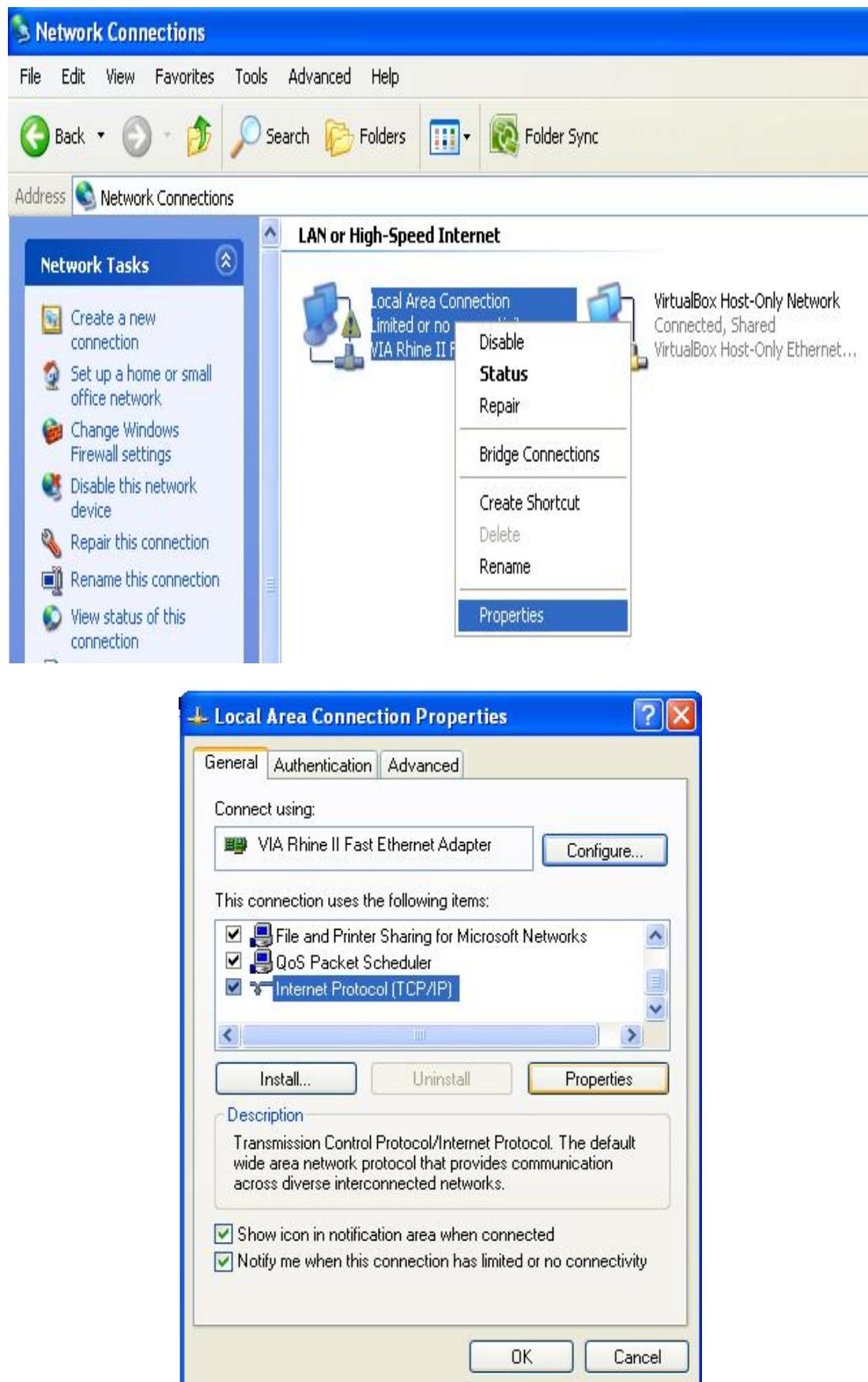
Adapun Topologi yang akan dirancang seperti topologi *peer to peer* adalah sebagai berikut :

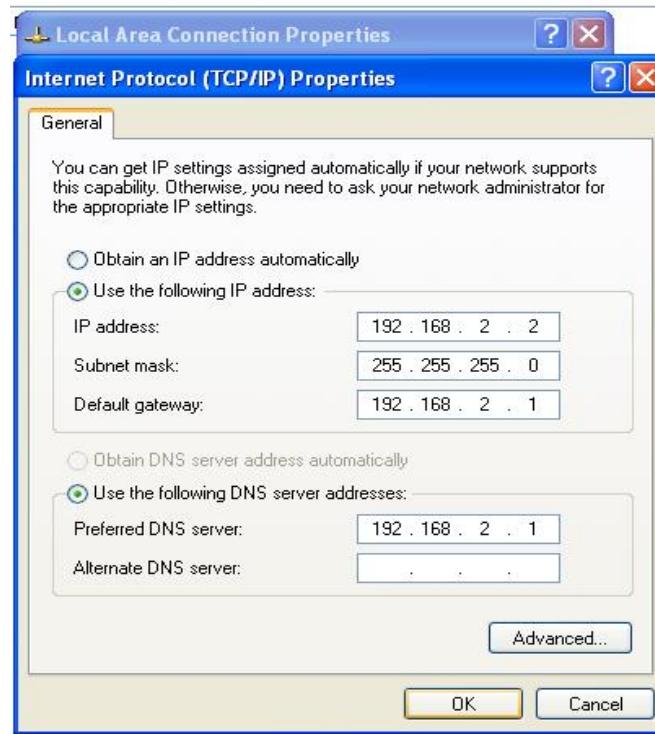


PC SERVER mikrotik sudah kita setting, kemudian kita setting LAN cardnya sebagai berikut :

#### **1. KONEKSI CLIENT DENGAN IP ADDRESS MANUAL**



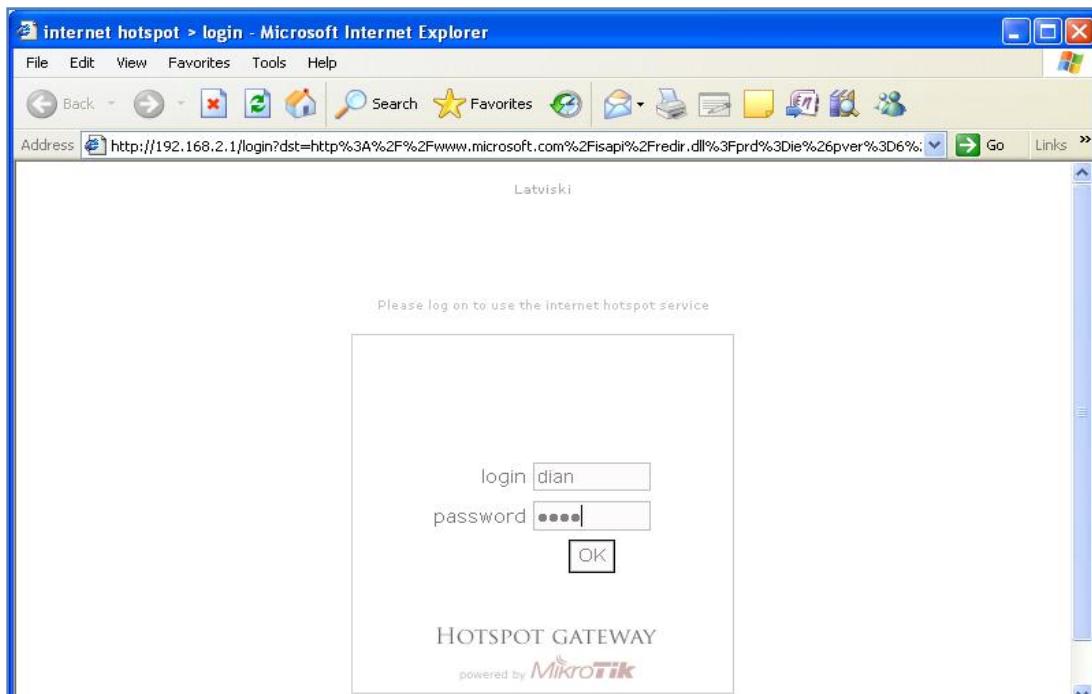




Kemudian buka browser internet explorer, ketikan pada URL browser <http://www.detik.com>. Kemudian loginlah dengan user yang dibuat tadi contoh user = dian dan pass = 1234.

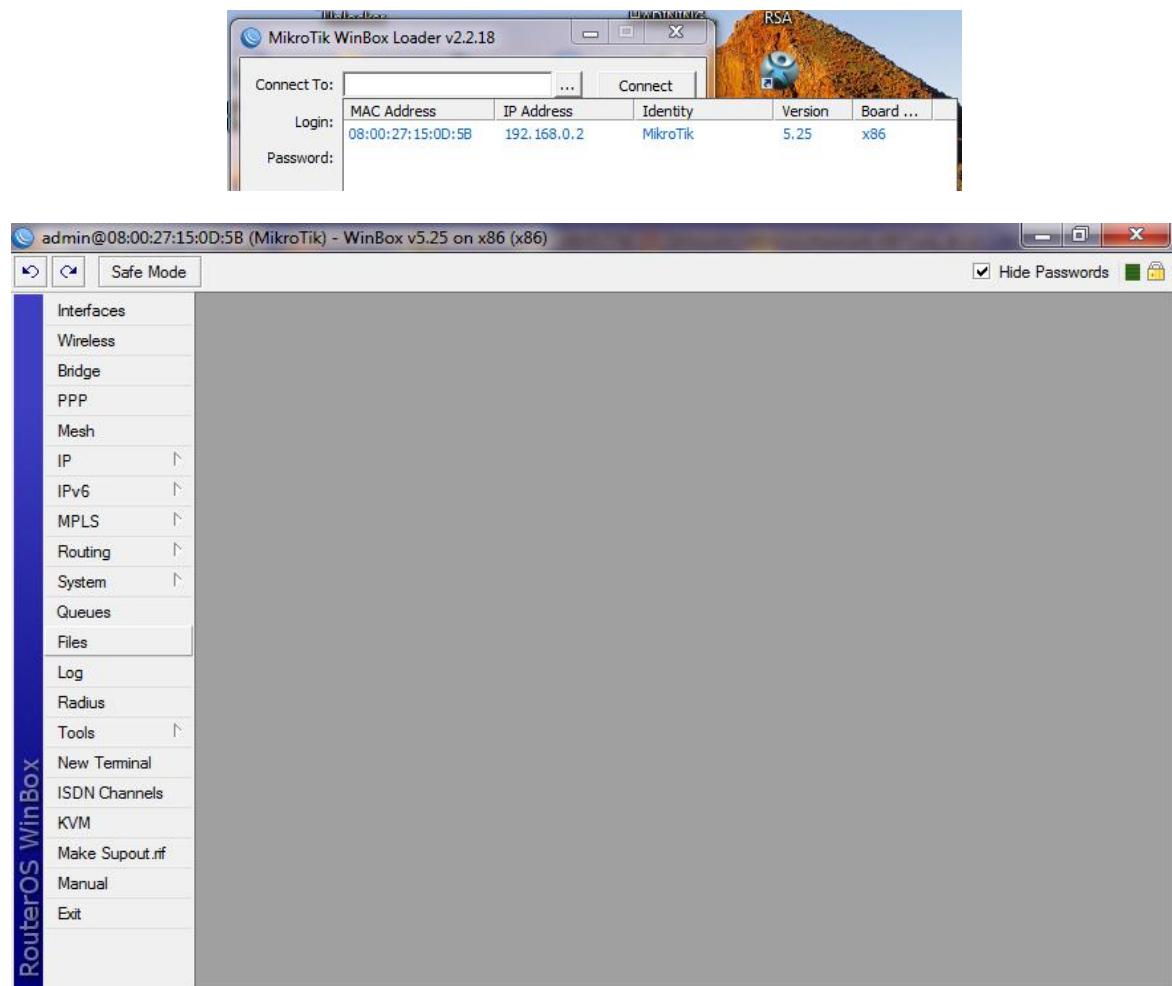
## **2. KONEKSI CLIENT DENGAN IP ADDRESS OBTAIN (OTOMOTIS DHCP)**

Pada gambar diatas pilih **obtain an IP address automatically**, kemudian klik OK.. Kemudian buka browser internet explorer, ketikan pada URL browser <http://www.detik.com>. Kemudian loginlah dengan user yang dibuat tadi contoh user = dian dan pass = 1234.



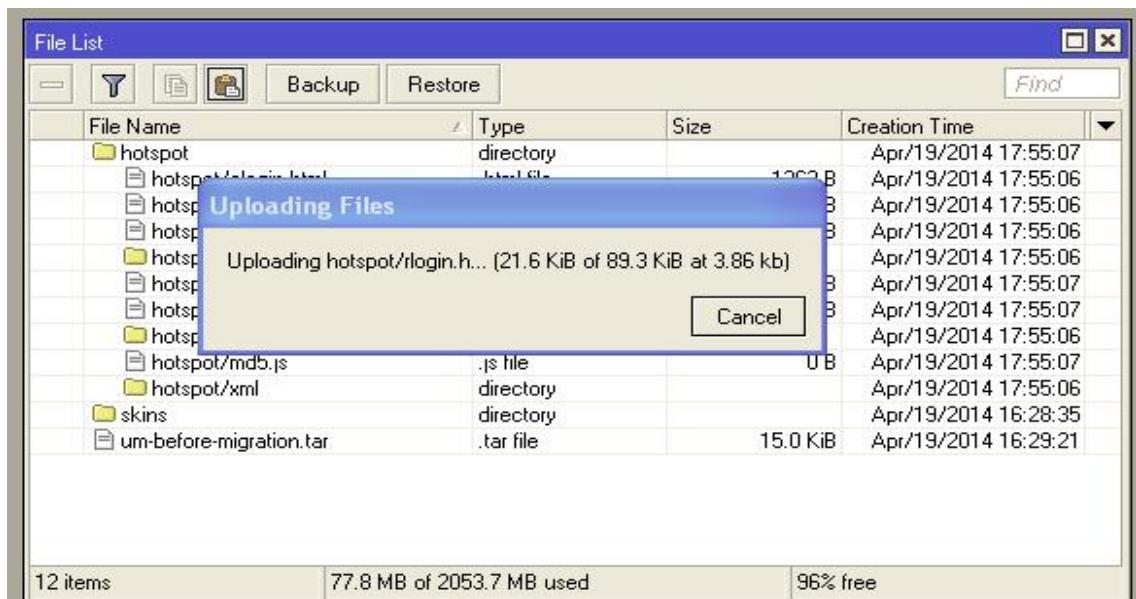
## **MENGGANTI TAMPILAN HOTSPOT MIKROTIK**

Buka Winbox, kemudian klik files



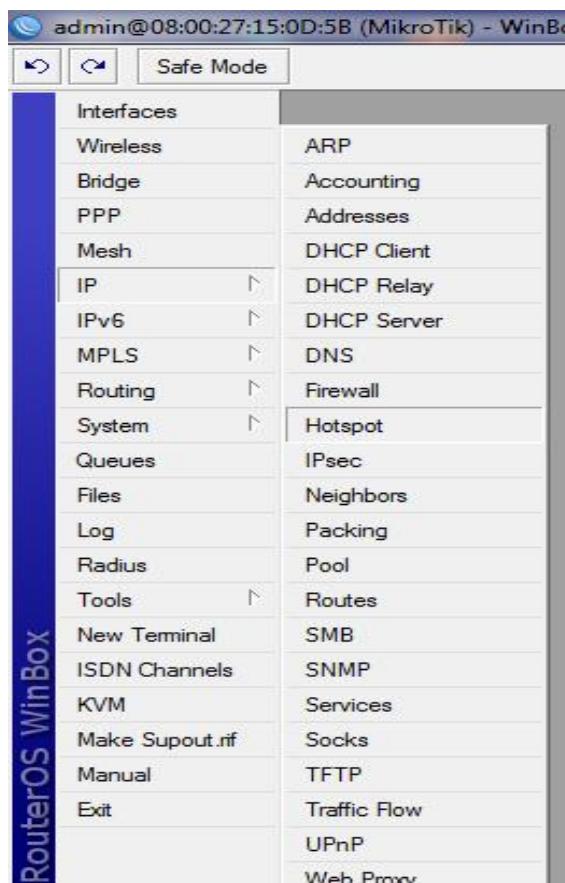
| File List             |                            |                           |         |                      |  |
|-----------------------|----------------------------|---------------------------|---------|----------------------|--|
|                       | File Name                  | Type                      | Size    | Creation Time        |  |
|                       | hotspot                    | directory                 |         | Apr/19/2014 17:34:36 |  |
|                       | hotspot/alogin.html        | .html file                | 1293 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/error.html         | .html file                | 898 B   | Apr/19/2014 17:34:36 |  |
|                       | hotspot/errors.txt         | .txt file                 | 3615 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/img                | directory                 |         | Apr/19/2014 17:34:36 |  |
|                       | hotspot/img/logobottom.png | .png file                 | 3925 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/login.html         | .html file                | 3362 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/logout.html        | .html file                | 1813 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/lv                 | directory                 |         | Apr/19/2014 17:34:36 |  |
|                       | hotspot/lv/alogin.html     | .html file                | 1303 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/lv/errors.txt      | .txt file                 | 3810 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/lv/login.html      | .html file                | 3408 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/lv/logout.html     | .html file                | 1843 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/lv/radvert.html    | .html file                | 1475 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/lv/status.html     | .html file                | 2760 B  | Apr/19/2014 17:34:36 |  |
|                       | hotspot/md5.js             | .js file                  | 7.0 KIB | Apr/19/2014 17:34:36 |  |
| 30 items (1 selected) |                            | 77.9 MB of 2053.7 MB used |         | 96% free             |  |

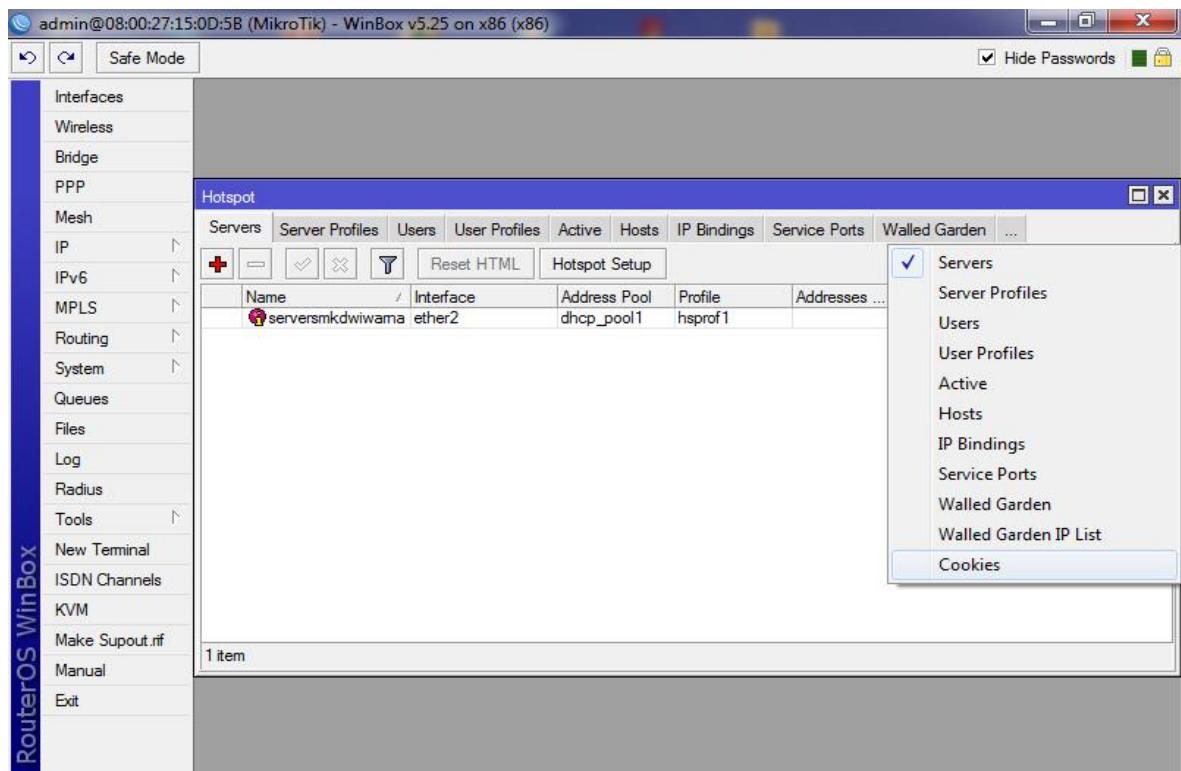
Hapus/remove folder hotspot pada mikrotik dengan klik **files** dan klik tanda (-), Kemudian paste kan file yang diberikan guru dengan nama folder file hotspot.



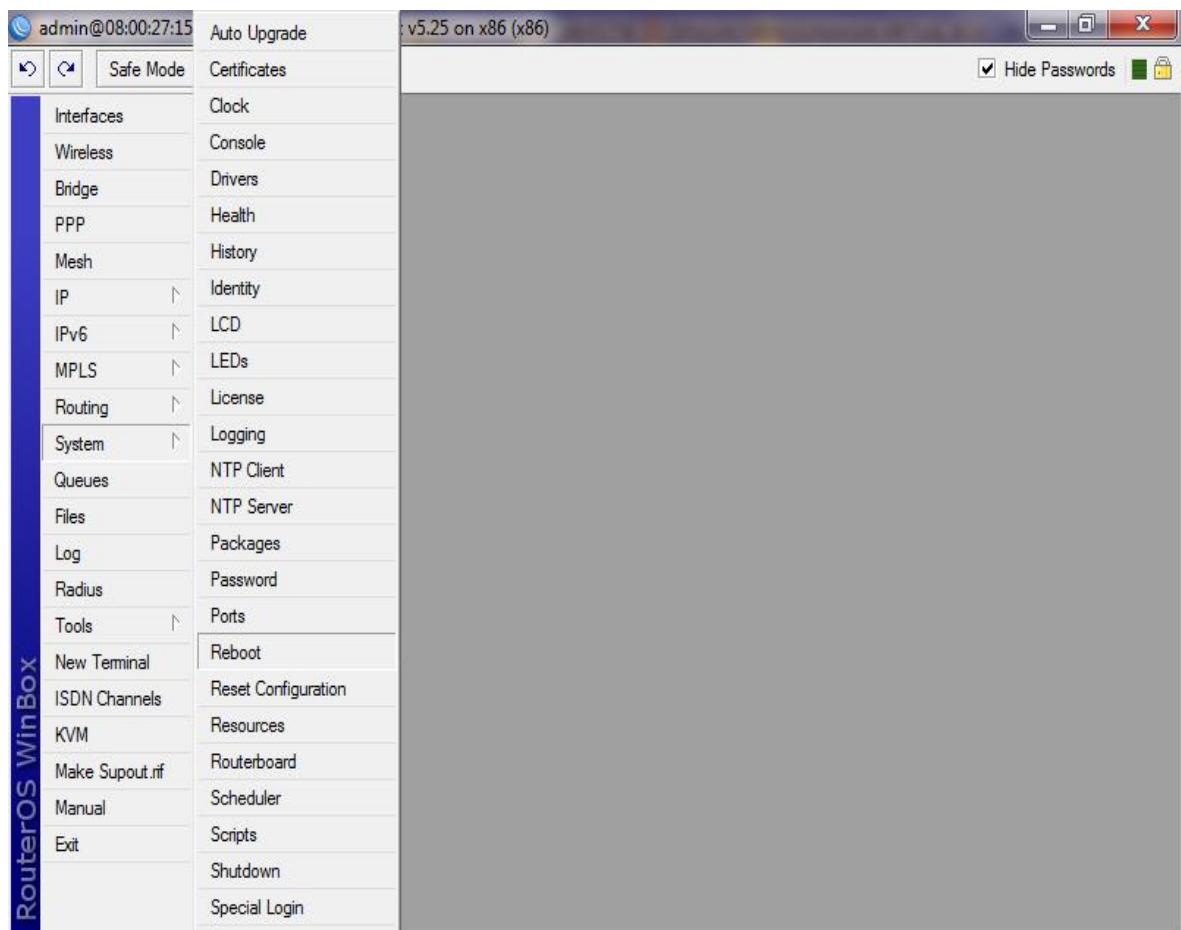
### CARA MENGHAPUS COOKIES HOTSPOT

Fungsi menghapus cookies yaitu agar semua user keluar dari koneksi internet dan harus login kembali sehingga file hotspot yang baru dapat tampil setelah proses reboot.





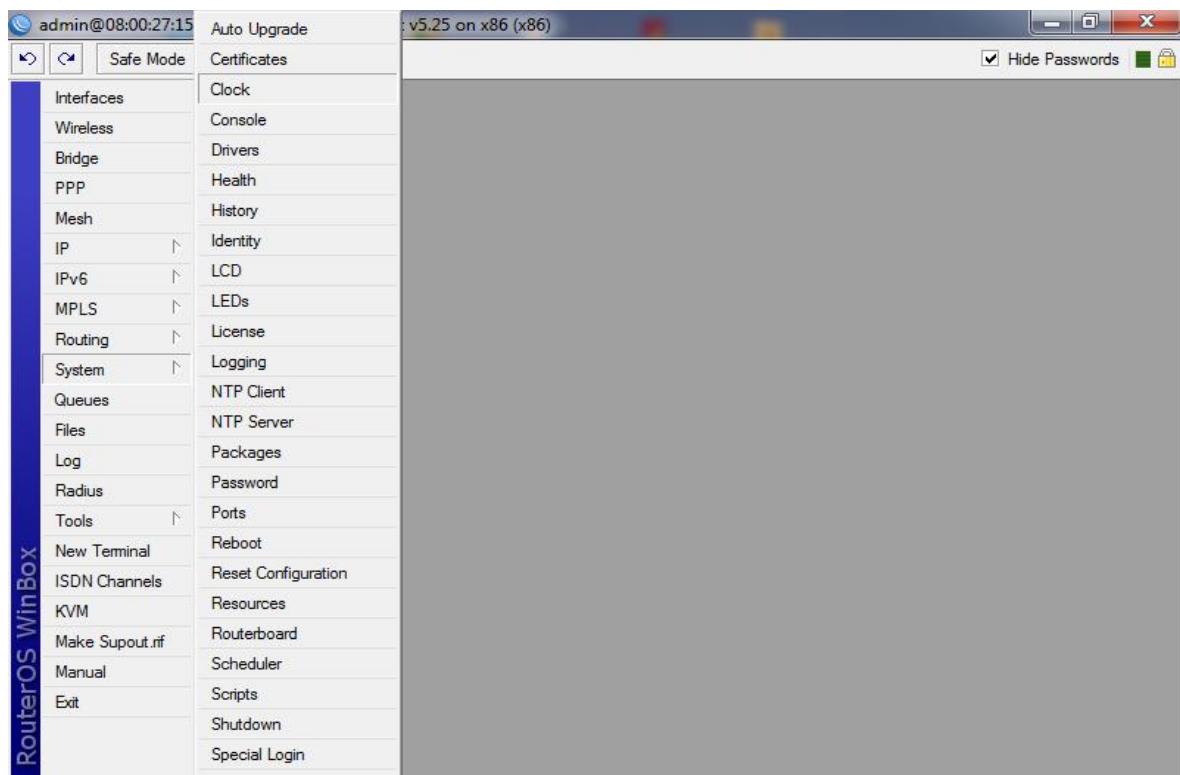
Blok semua user yang aktif kemudian tekan **Delete** dan setelah itu, klik **system**, pilih **reboot**.



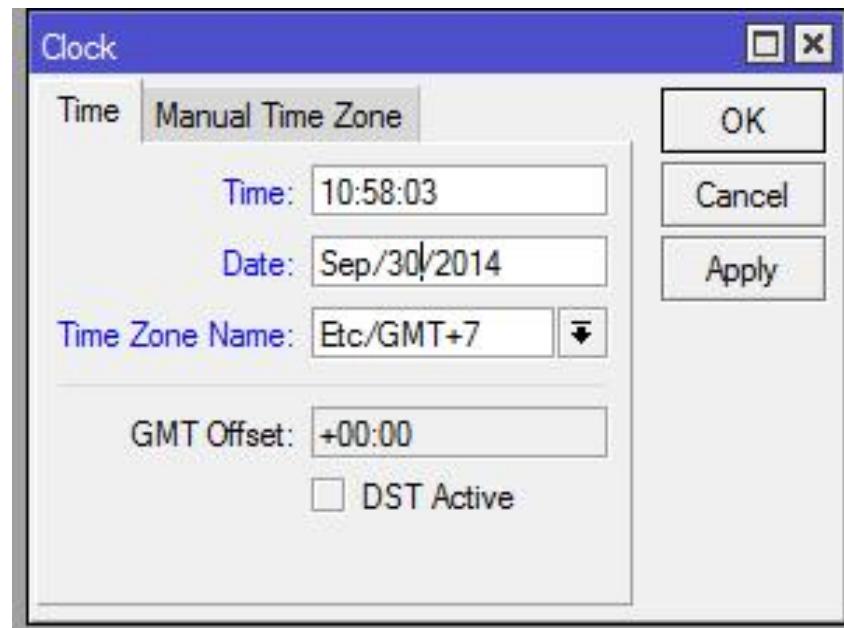


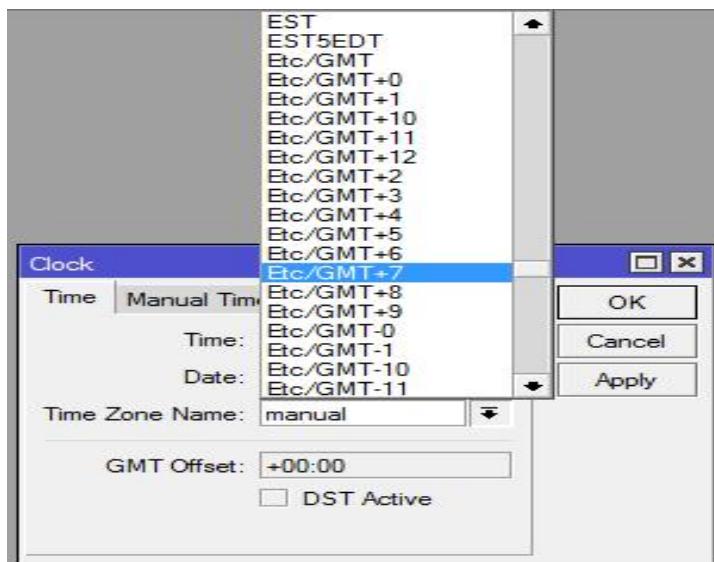
## **MENGATUR JAM DI MIKROTIK**

Klik **system**, kemudian klik **clock**

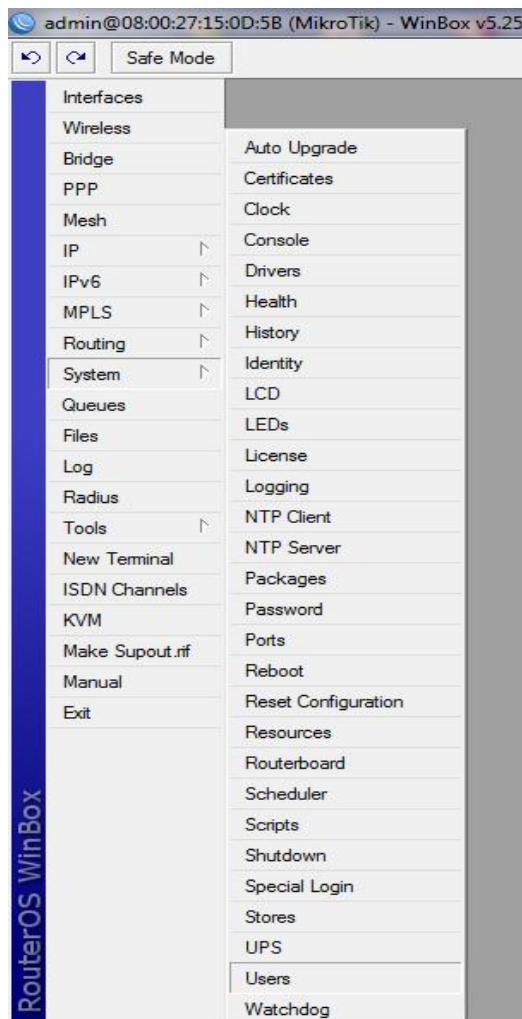


Kemudian atur Time (Waktu), Tanggal (Date), dan Time Zone Name manual ganti Etc/GMT+7.

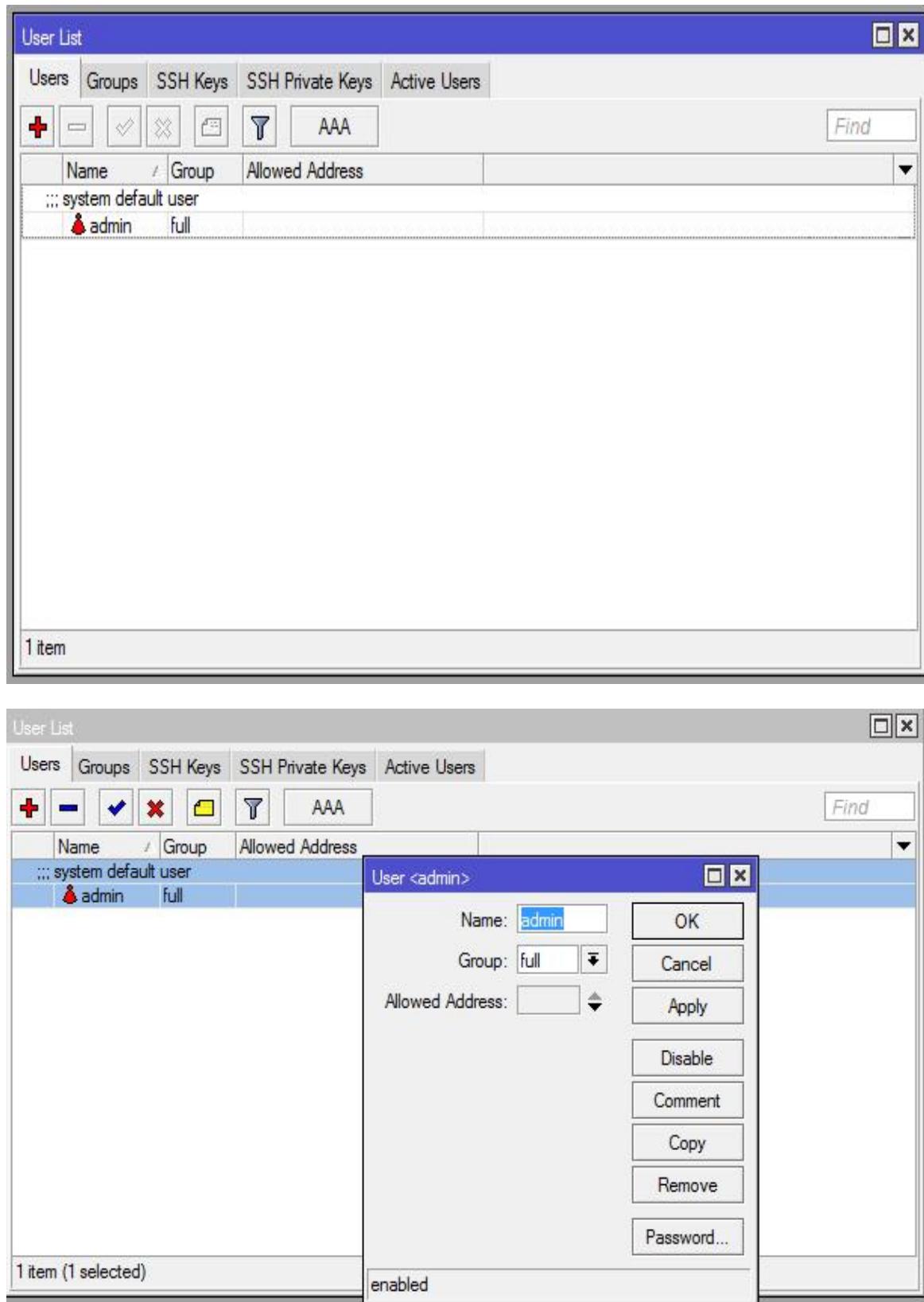




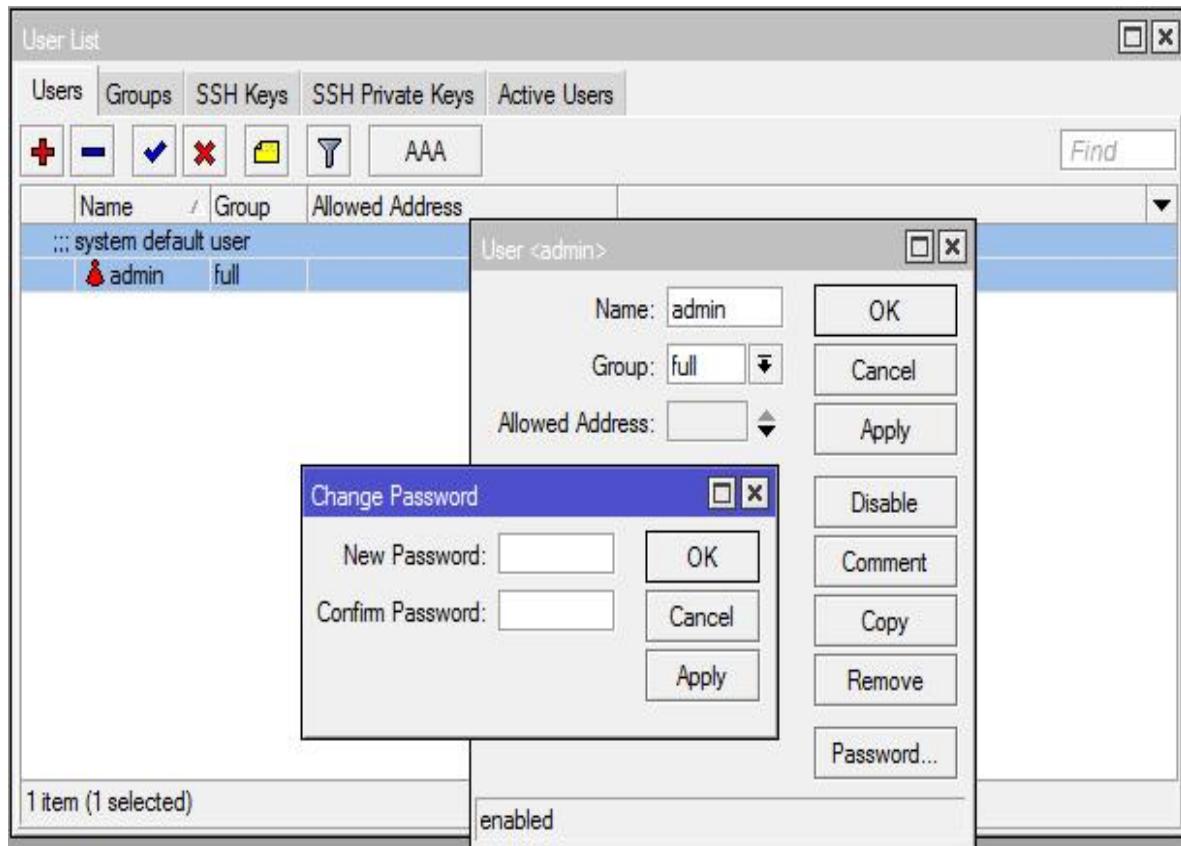
### **MENGGANTI PASSWORD DAN MENAMBAH USER LOGIN WINBOX**



Buat user baru dengan klik (+) buat name untuk nama dan password untuk password baru serta group untuk memilih hak akses, untuk mengakses penuh pilih **full**.



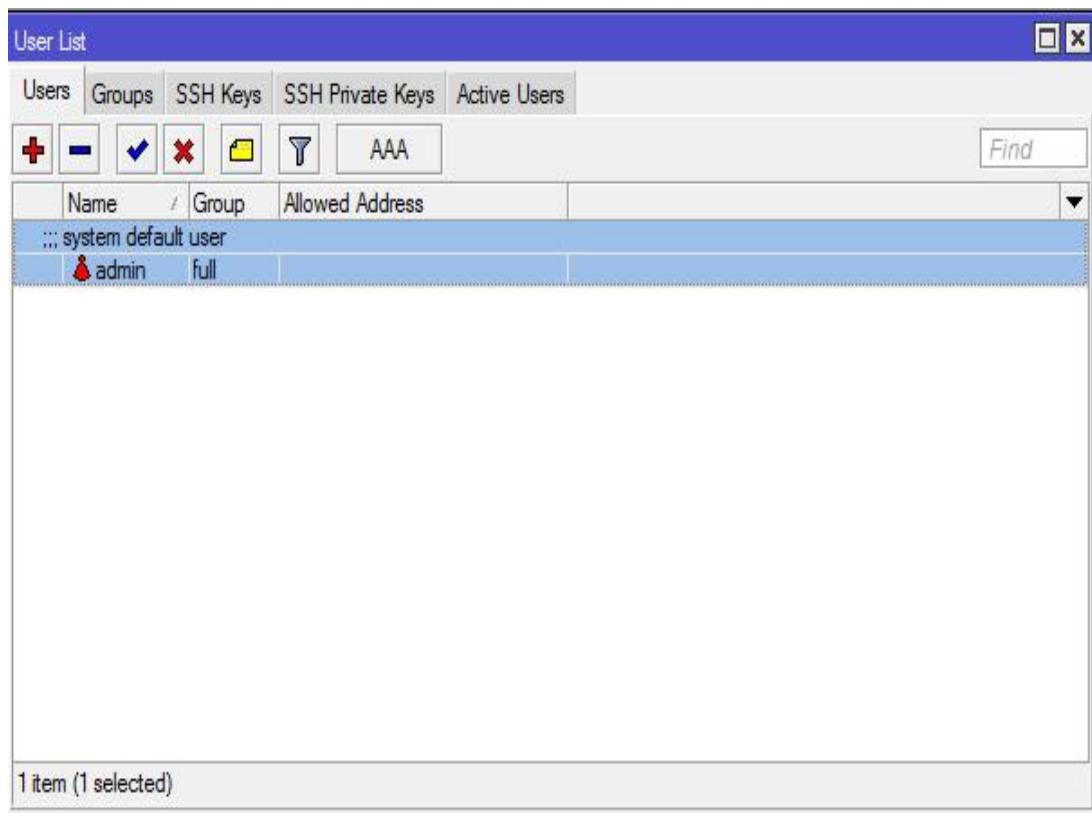
Kemudian klik **Password** , untuk menambahkan password pada admin.



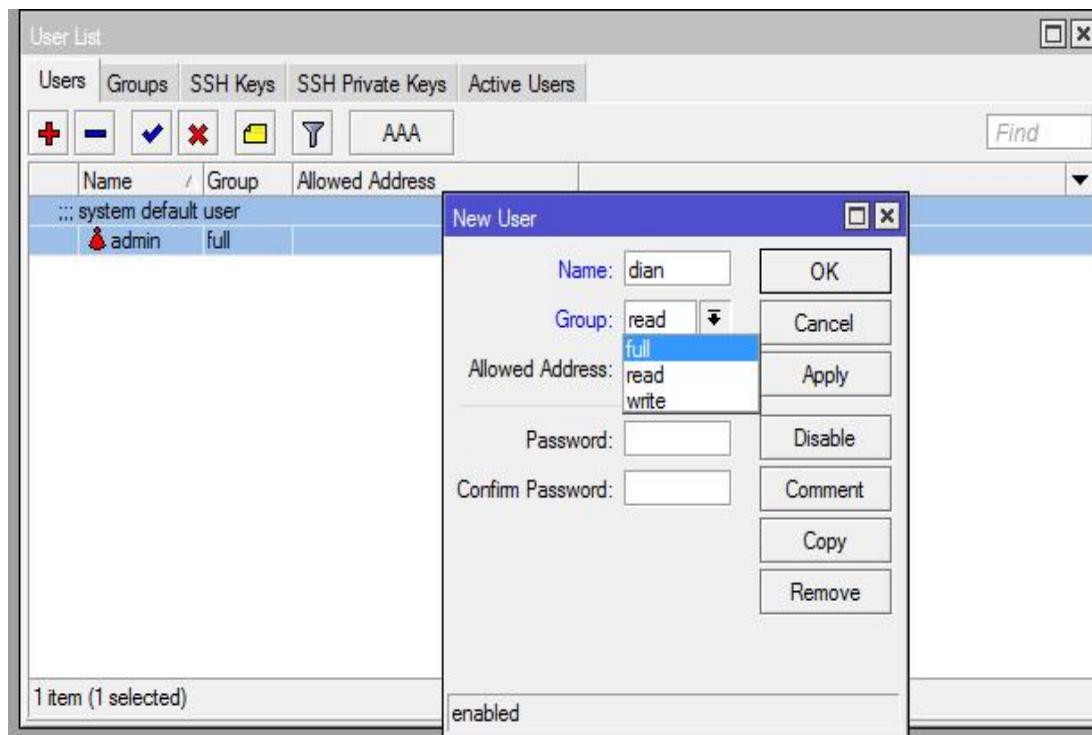
Kemudian klik **New Password** = 1234 dan **Comfirm Password** = 1234, klik OK.

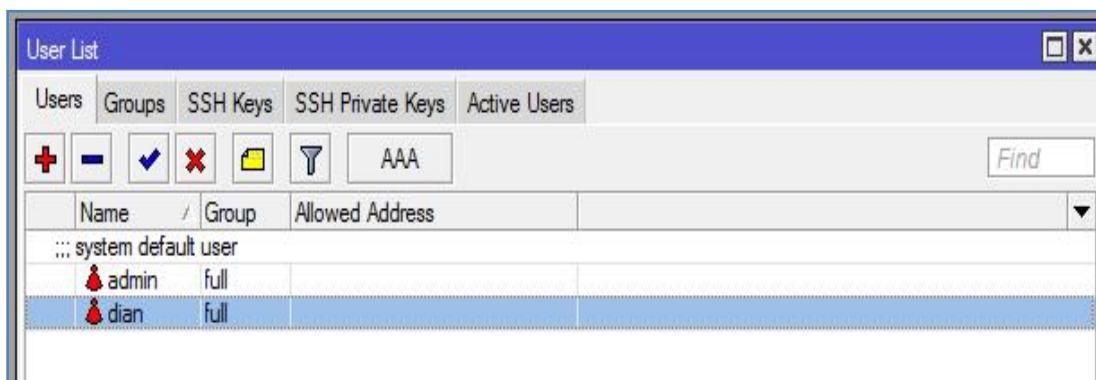
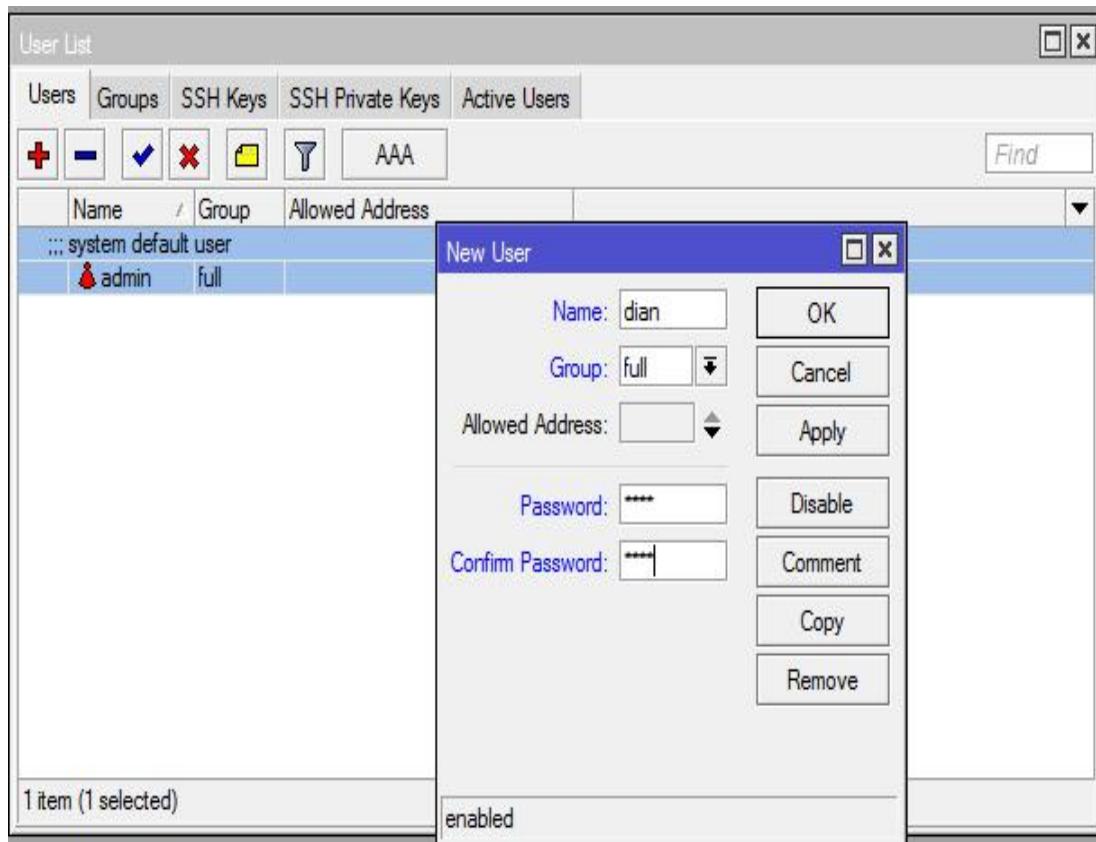


Buat user baru dengan klik (+) buat name untuk nama dan password untuk password baru serta group untuk memilih hak akses, untuk mengakses penuh pilih **full**.



Kemudian ketikan **Name** = dian, dan **Group** = full, kemudian pada **password**, ketikan **password** = 1234, **confirm password** = 1234 setelah itu klik OK.

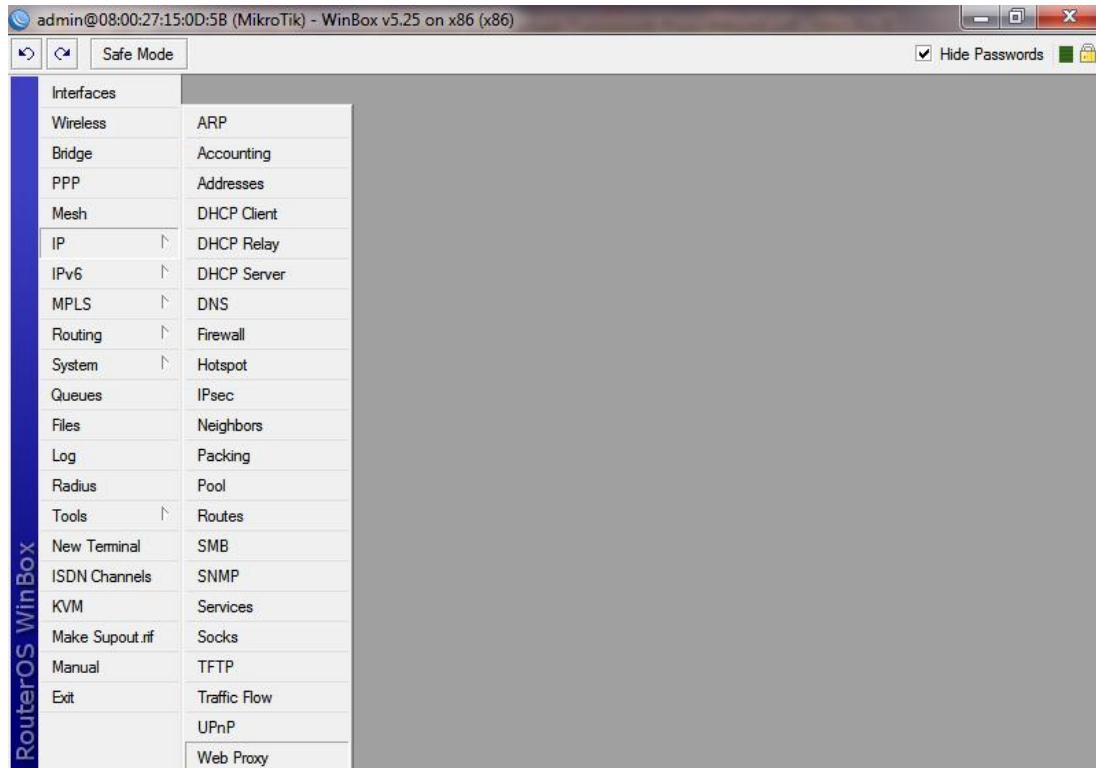




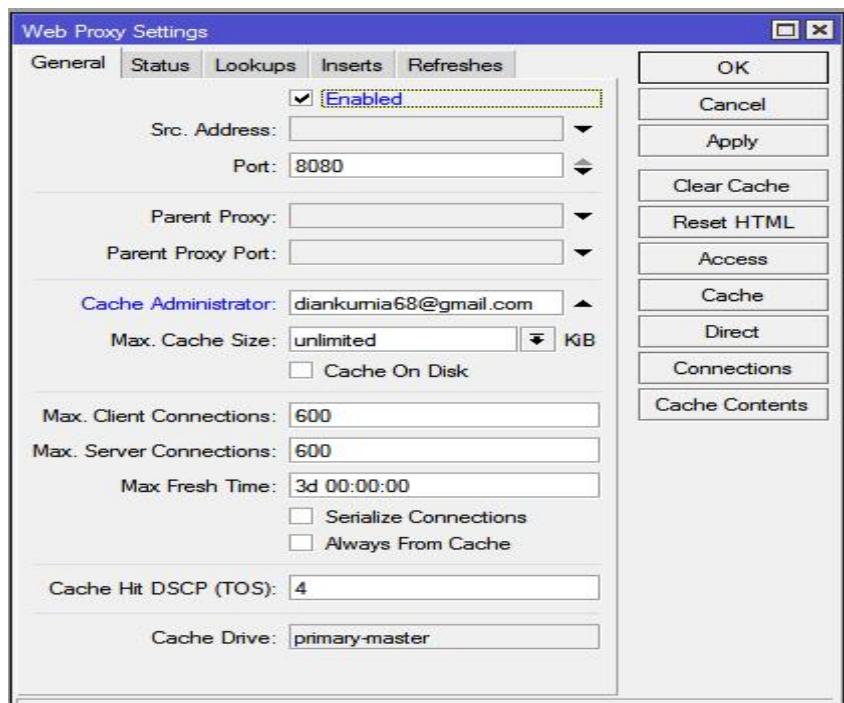
Kemudian klik **system** dan klik **Reboot**.

## **MEMBLOKIR SITUS DENGAN TRANSPARENT PROXY MIKROTIK**

Klik **IP** kemudian klik **Web Proxy**



Kemudian Checklist **Enabled**, Ketikan nama email kamu pada **cache Administrator** contoh : [diankumia68@gmail.com](mailto:diankumia68@gmail.com). Kemudian Klik **OK**.



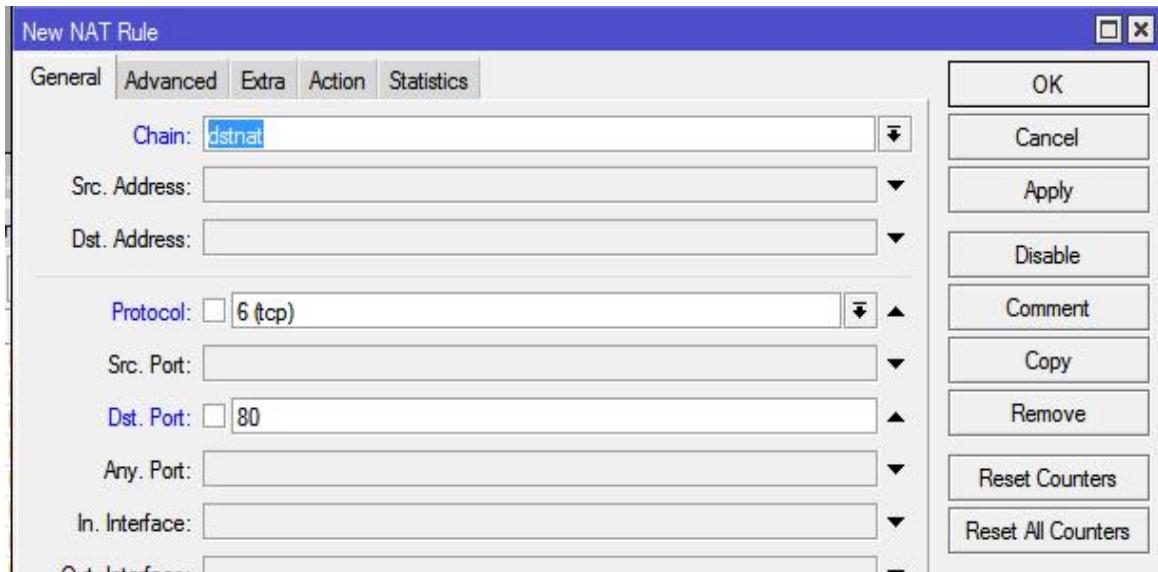
Klik **IP**, kemudian klik **Firewall**



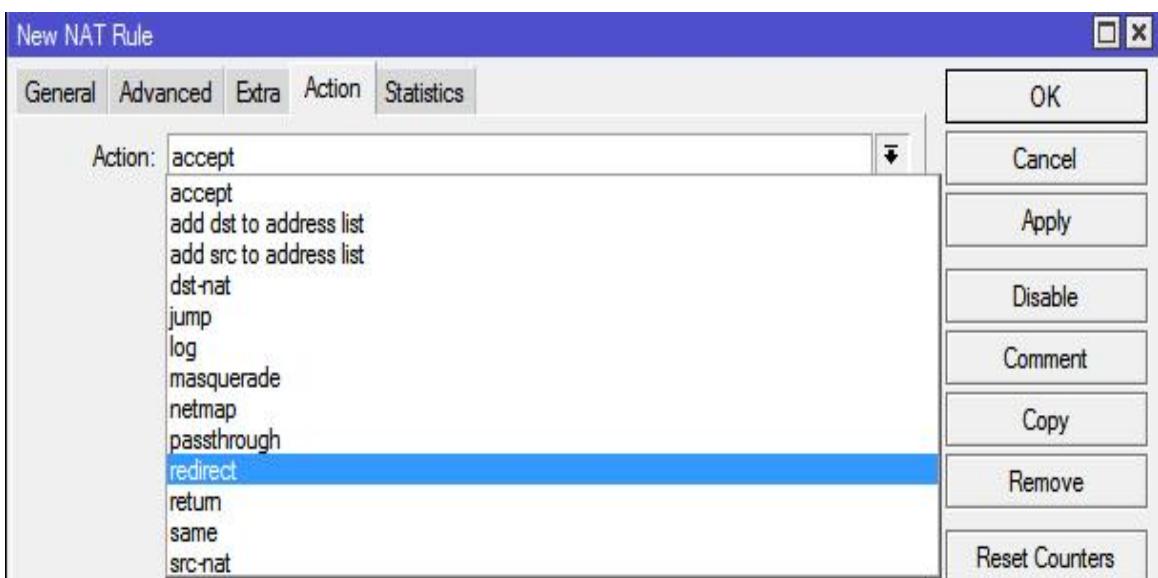
Kemudian klik **NAT**, kemudian Klik tanda (+)

| Firewall                     |  |             |           |              |              |           |           |           |              |             |       |     |
|------------------------------|--|-------------|-----------|--------------|--------------|-----------|-----------|-----------|--------------|-------------|-------|-----|
|                              |  | Action      | Chain     | Src. Address | Dst. Address | Proto...  | Src. Port | Dst. Port | In. Inter... | Out. Int... | Bytes | Pac |
| <b>+/-</b>                   |  | <b>jump</b> | dstnat    |              |              |           |           |           |              |             | 0 B   | ♦   |
| <b>1</b>                     |  | <b>jump</b> | hotspot   |              |              |           |           |           |              |             | 0 B   |     |
| 2                            |  | <b>jump</b> | hotspot   |              |              | 17 (u...) |           | 53        |              |             | 0 B   |     |
| 3                            |  | <b>jump</b> | hotspot   |              |              | 6 (tcp)   |           | 53        |              |             | 0 B   |     |
| 4                            |  | <b>jump</b> | hotspot   |              |              | 6 (tcp)   |           | 80        |              |             | 0 B   |     |
| 5                            |  | <b>jump</b> | hotspot   |              |              | 6 (tcp)   |           | 443       |              |             | 0 B   |     |
| 6                            |  | <b>jump</b> | hotspot   |              |              | 6 (tcp)   |           |           |              |             | 0 B   |     |
| 7                            |  | <b>jump</b> | hotspot   |              |              | 6 (tcp)   |           |           |              |             | 0 B   |     |
| 8                            |  | <b>jump</b> | hs-unauth |              |              | 6 (tcp)   |           | 80        |              |             | 0 B   |     |
| 9                            |  | <b>jump</b> | hs-unauth |              |              | 6 (tcp)   |           | 3128      |              |             | 0 B   |     |
| 10                           |  | <b>jump</b> | hs-unauth |              |              | 6 (tcp)   |           | 8080      |              |             | 0 B   |     |
| 11                           |  | <b>jump</b> | hs-unauth |              |              | 6 (tcp)   |           | 443       |              |             | 0 B   |     |
| 12                           |  | <b>jump</b> | hs-unauth |              |              | 6 (tcp)   |           | 25        |              |             | 0 B   |     |
| 13                           |  | <b>jump</b> | hs-auth   |              |              | 6 (tcp)   |           |           |              |             | 0 B   |     |
| 14                           |  | <b>jump</b> | hs-auth   |              |              | 6 (tcp)   |           | 25        |              |             | 0 B   |     |
| ... place hotspot rules here |  |             |           |              |              |           |           |           |              |             |       |     |
| 17 items                     |  |             |           |              |              |           |           |           |              |             |       |     |

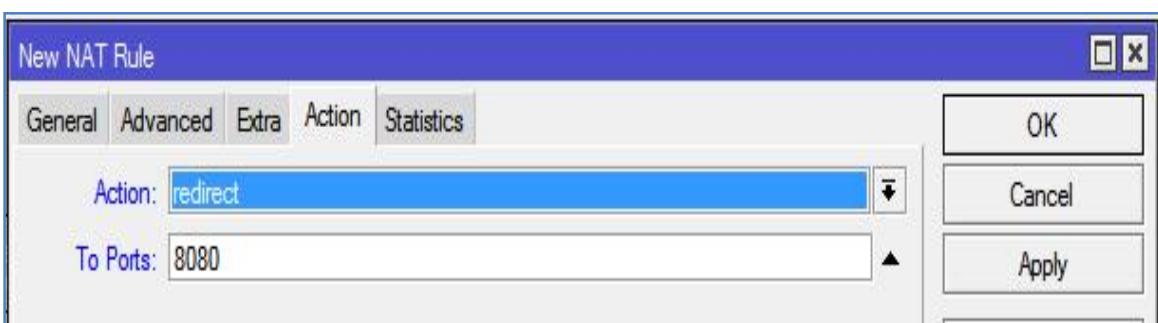
Kemudian pada Tab **General** klik **Chain** = dstnat, pada **Protocol** =6(tcp) dan **Dst. Port** = 80.



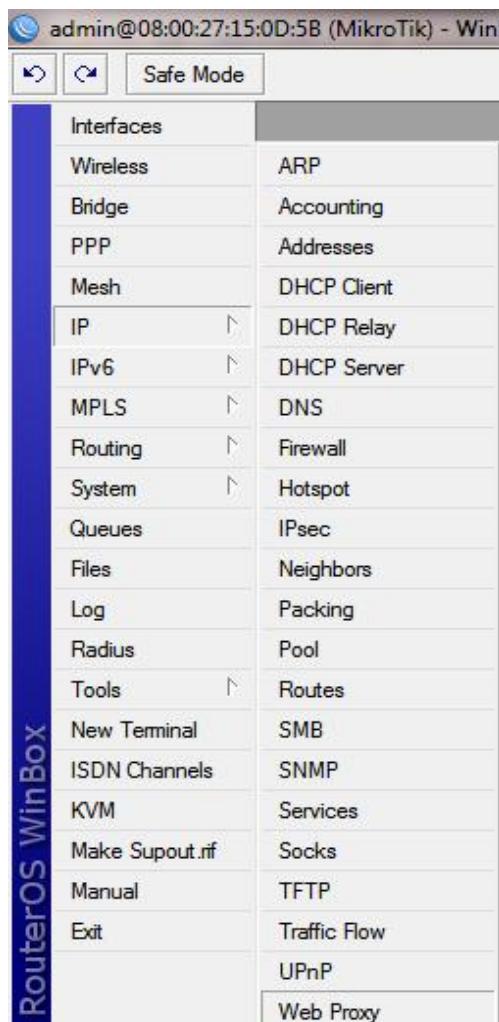
Klik **Action**, kemudian pada **Action = Redirect**



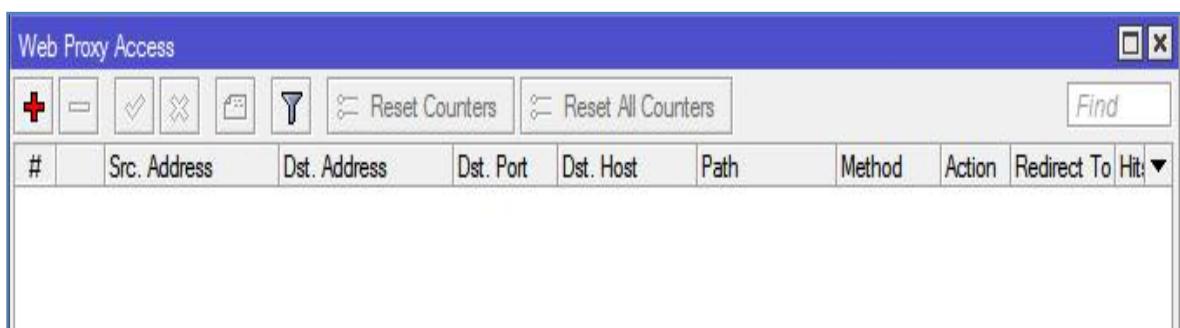
Kemudian pada TAB **Action**, pilih **Action = redirect** dan **To Ports = 8080**. Kemudian Klik **OK**.



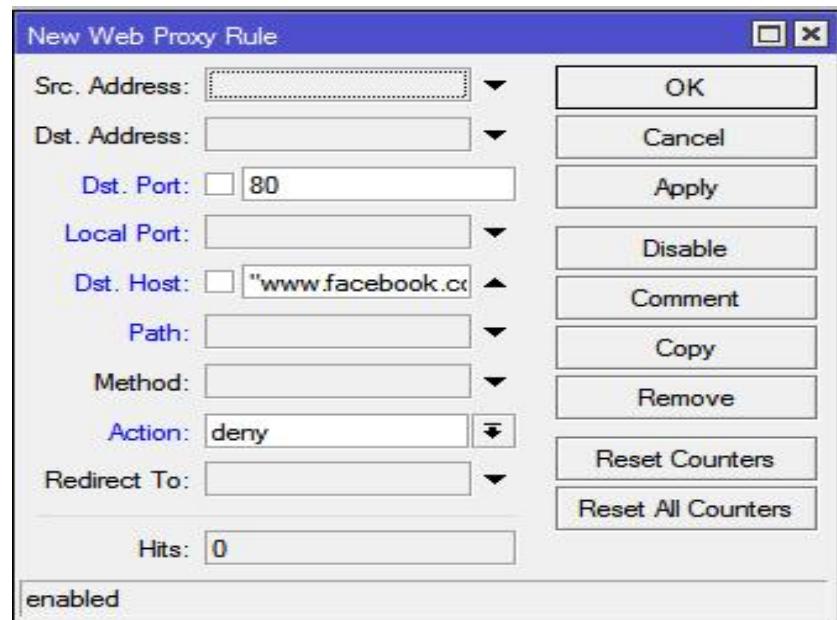
Kemudian klik **IP**, pilih **Web Proxy**, seperti pada gambar di bawah ini :



Pada gambar di bawah ini klik (+) untuk menambahkan **New Web Proxy Rule**.

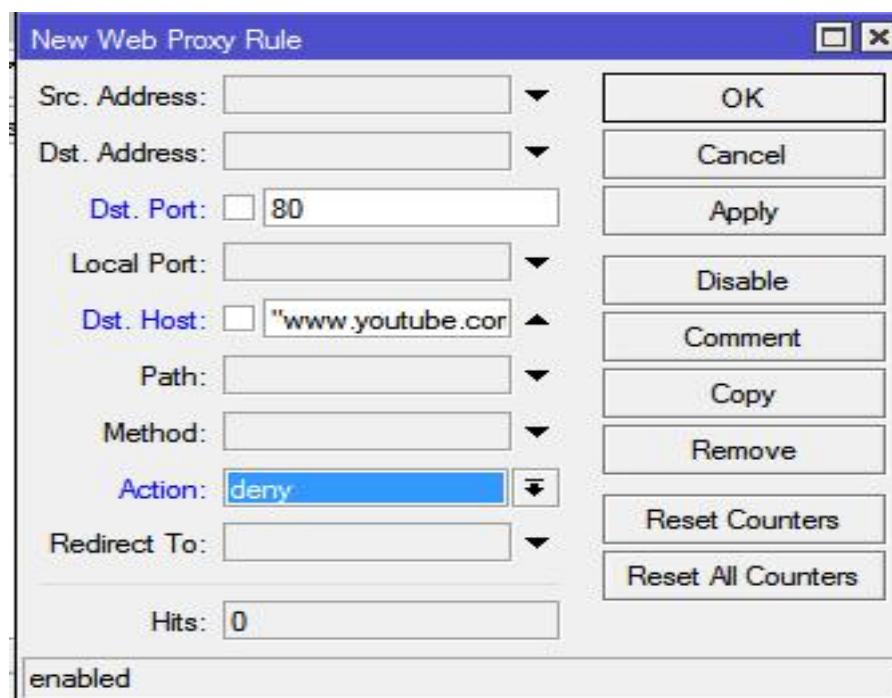


Pada **New Web Proxy Rule** di **Dst. Port = 80**, dan **Dst. Host = “[www.facebook.com](http://www.facebook.com)”** serta **Action = Deny** kemudian klik **OK**.



Kemudian klik (+) Pada New Web Proxy Rule di Dst. Port = 80, dan Dst. Host = “[www.youtube.com](http://www.youtube.com)“ serta Action = Deny kemudian klik OK.

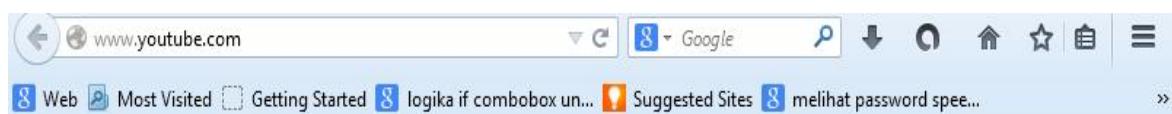
| Web Proxy Access |              |              |           |                |      |        |        |             |
|------------------|--------------|--------------|-----------|----------------|------|--------|--------|-------------|
| #                | Src. Address | Dst. Address | Dst. Port | Dst. Host      | Path | Method | Action | Redirect To |
| 0                |              |              | 80        | "www.facebo... |      |        | deny   |             |



Tampilan akan seperti dibawah ini :

| # | Src. Address | Dst. Address | Dst. Port | Dst. Host      | Path | Method | Action | Redirect To | Hit |
|---|--------------|--------------|-----------|----------------|------|--------|--------|-------------|-----|
| 0 |              |              | 80        | "www.facebo... |      |        | deny   |             |     |
| 1 |              |              | 80        | "www.youtub... |      |        | deny   |             |     |

Kemudian koneksi kabel UTP straight dari Server ke Client, atur IP Address manual dan atau obtain (DHCP). Kemudian buka browser hilangkan semua cookies di computer client dengan menekan tombol **ctrl + shift + delete** tekan tombol **OK**. Kemudian di URL browser ketikan [www.youtube.com](http://www.youtube.com).



## ERROR: Forbidden

While trying to retrieve the URL <http://www.youtube.com/>:

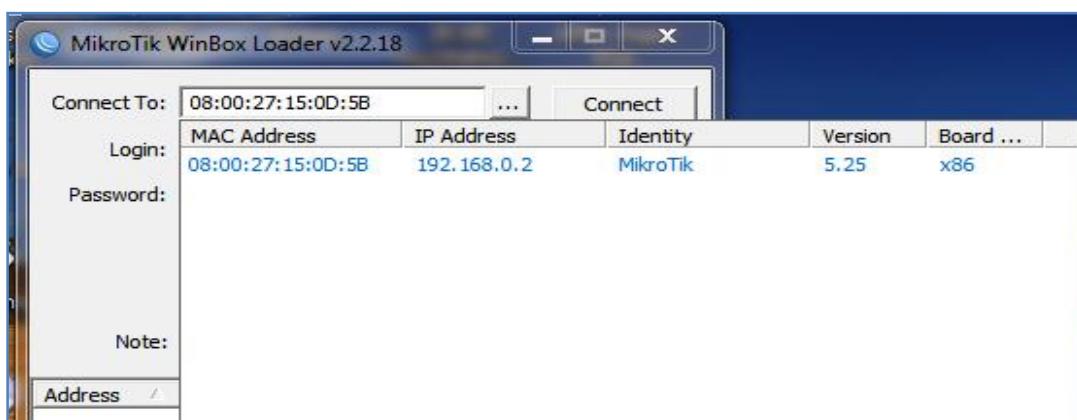
- Access Denied

Your cache administrator is [diankurnia68@gmail.com](mailto:diankurnia68@gmail.com).

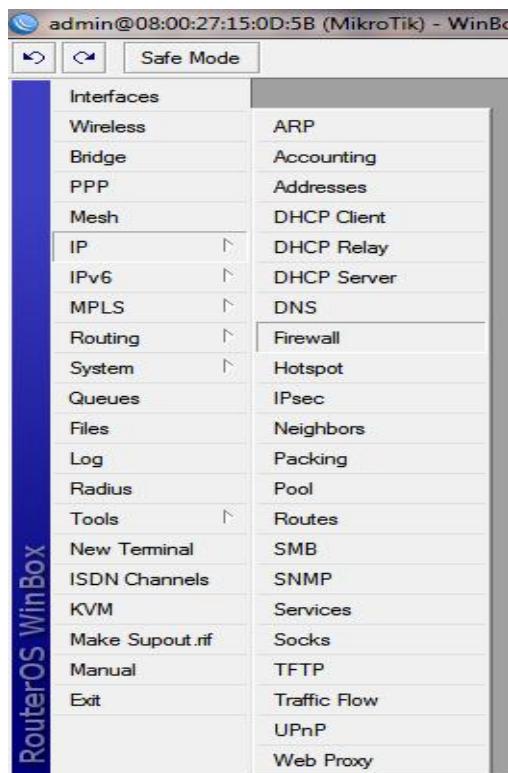
Generated Fri, 02 Jan 1970 09:59:04 GMT by 192.168.5.1 (Mikrotik HttpProxy)

## Memblokir Situs Dengan Firewall Filter Rules Mikrotik

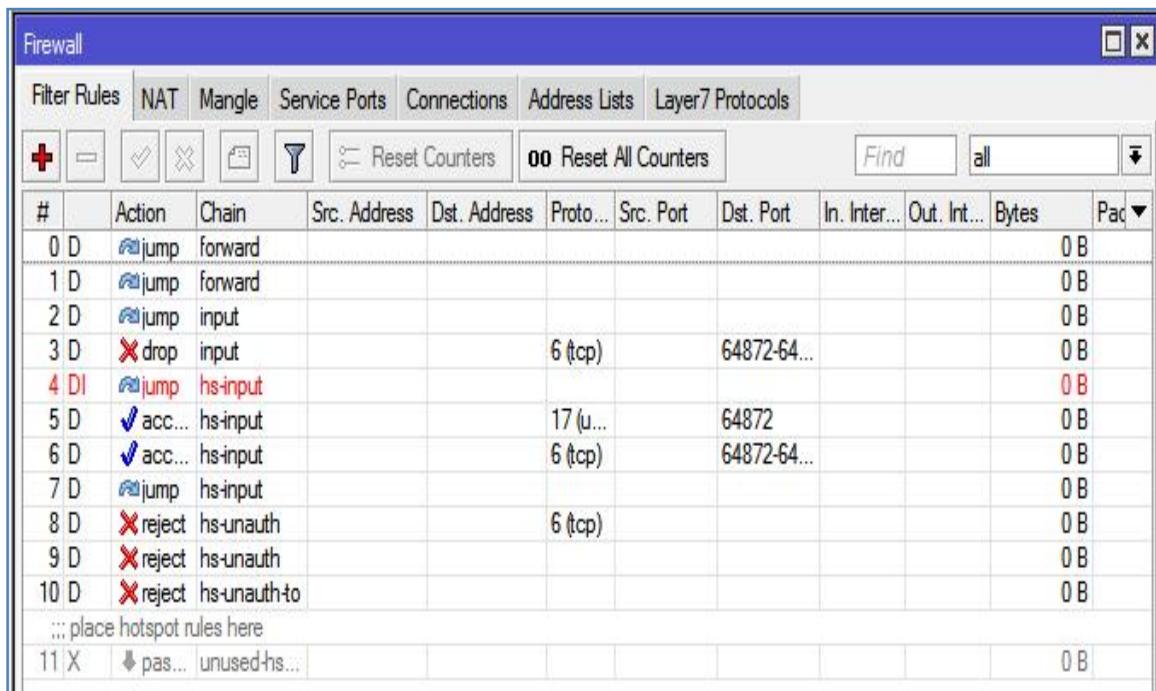
Sebelum menjalankan blokir situs dengan firewall filter irules mikrotik ini, hapus dulu pengaturan blokir situs dengan transparent proxy mikrotik. Kemudian buka winbox pilih MAC Address, **login** dan **password** sesuaikan dengan setting klik **connect**.



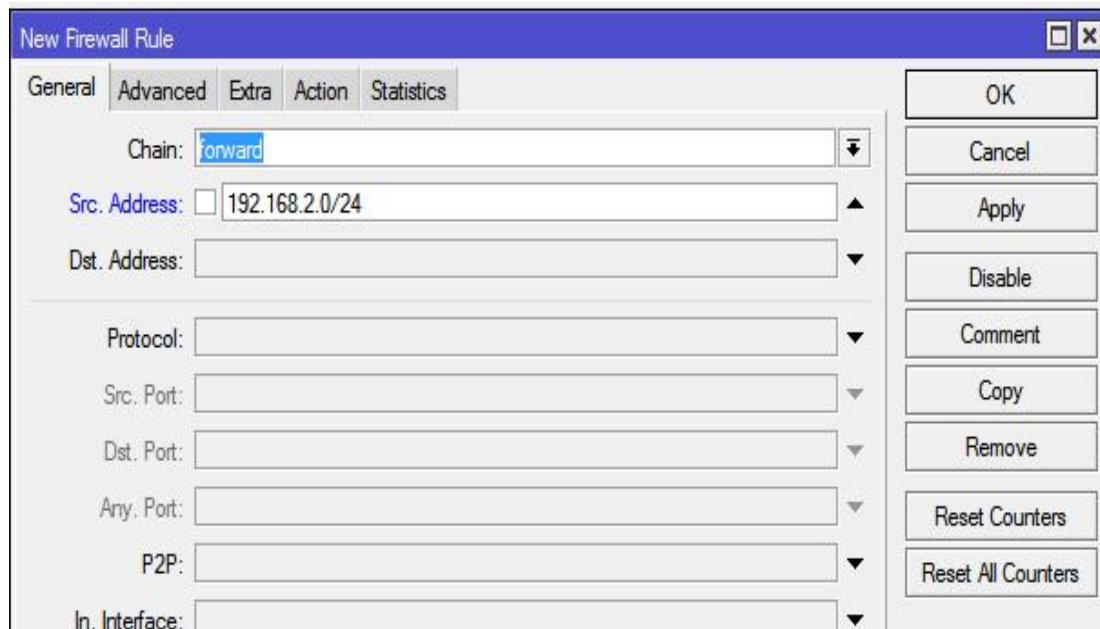
Klik IP, kemudian Firewall



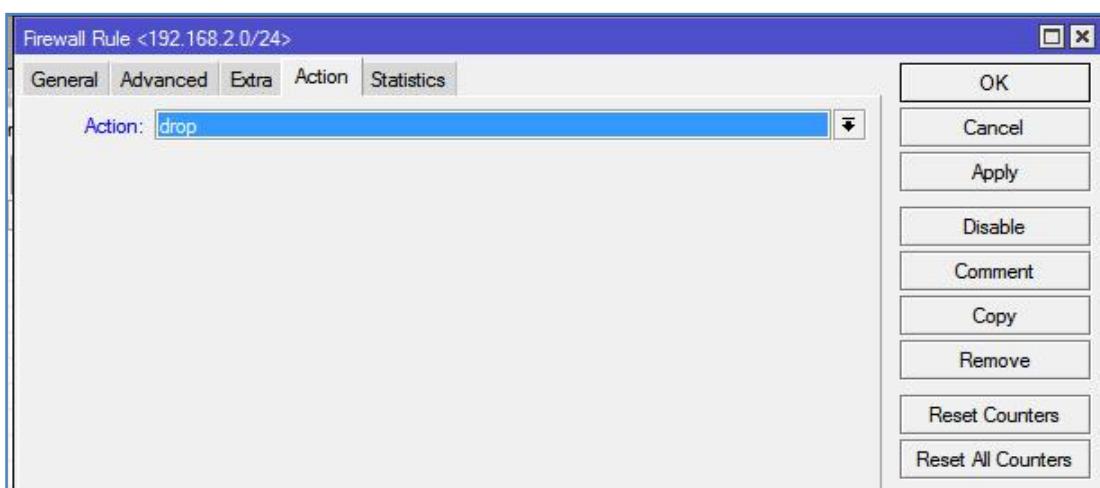
Klik tanda (+), kemudian akan tampil menu **New Firewall Rule**.



Pada tampilan New Firewall Rule, pilih dan setting **Chain = forward**, **Src. Address = 192.168.2.0/24**.



Kemudian pada klik TAB Action, pilih **Action = drop**. Kemudian klik **OK**. Kemudian akan tampil pada daftar firewall yang telah kita atur. Kemudian reboot mikrotik.



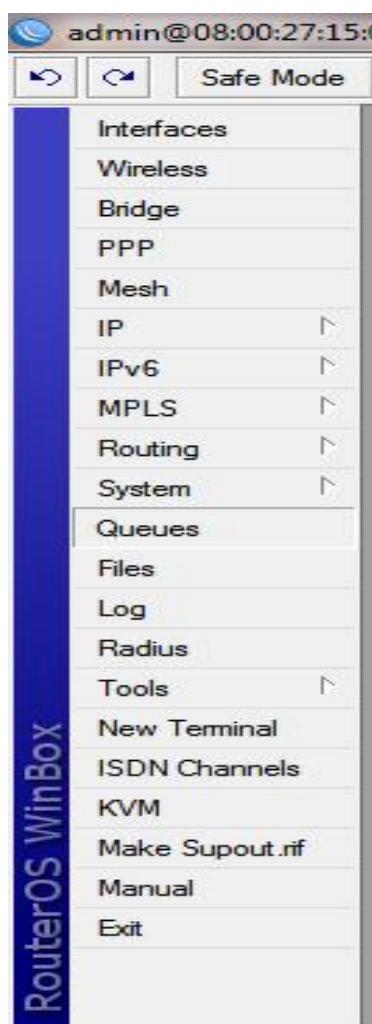
| Firewall                    |   |          |              |              |              |          |           |             |              |             |       |        |
|-----------------------------|---|----------|--------------|--------------|--------------|----------|-----------|-------------|--------------|-------------|-------|--------|
|                             |   | Action   | Chain        | Src. Address | Dst. Address | Proto... | Src. Port | Dst. Port   | In. Inter... | Out. Int... | Bytes | Pac... |
| 0                           | D | jump     | forward      |              |              |          |           |             |              |             | 0 B   |        |
| 1                           | D | jump     | forward      |              |              |          |           |             |              |             | 0 B   |        |
| 2                           | D | jump     | input        |              |              |          |           |             |              |             | 0 B   |        |
| 3                           | D | drop     | input        |              |              | 6 (tcp)  |           | 64872-64... |              |             | 0 B   |        |
| 4                           | D | jump     | hs-input     |              |              |          |           |             |              |             | 0 B   |        |
| 5                           | D | ✓ acc... | hs-input     |              |              | 17 (u... |           | 64872       |              |             | 0 B   |        |
| 6                           | D | ✓ acc... | hs-input     |              |              | 6 (tcp)  |           | 64872-64... |              |             | 0 B   |        |
| 7                           | D | jump     | hs-input     |              |              |          |           |             |              |             | 0 B   |        |
| 8                           | D | reject   | hs-unauth    |              |              | 6 (tcp)  |           |             |              |             | 0 B   |        |
| 9                           | D | reject   | hs-unauth    |              |              |          |           |             |              |             | 0 B   |        |
| 10                          | D | reject   | hs-unauth-to |              |              |          |           |             |              |             | 0 B   |        |
| :: place hotspot rules here |   |          |              |              |              |          |           |             |              |             |       |        |
| 11                          | X | ↓ pas... | unused-hs... |              |              |          |           |             |              |             | 0 B   |        |
| 12                          | X | drop     | forward      | 192.168.2... |              |          |           |             |              |             | 0 B   |        |

Kemudian buka browser pada computer client, ketikan pada url [www.facebook.com](https://www.facebook.com)

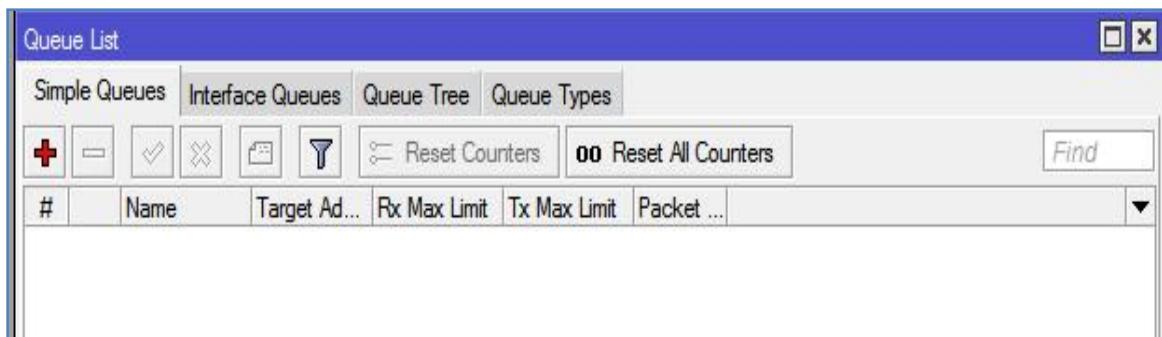


### **MENGATUR BANDWIDTH DENGAN SIMPLE QUEUE PADA MIKROTIK**

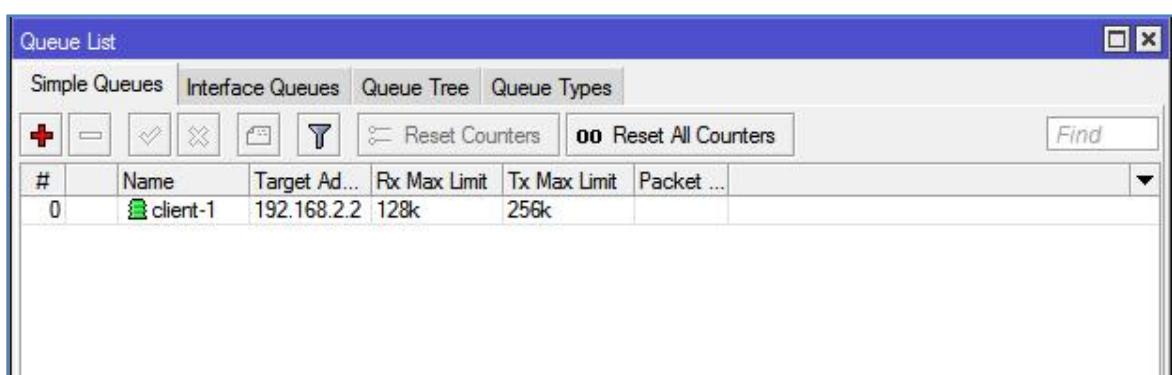
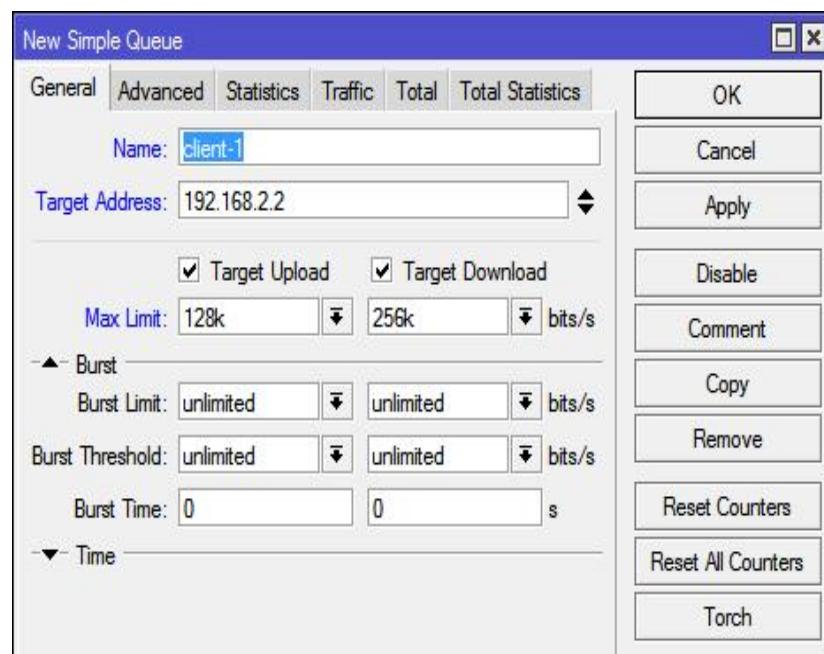
Hapus terlebih dahulu pengaturan hotspot kamu. Buka Winbox, pilih **Queues**



Kemudian pada TAB **Simple Queues**, pilih (+), akan tampil New Simple Queue



Kemudian atur pada **Name = client-1**, dan **Target Address = 192.168.2.2** limited bandwidth hanya berlaku pada IP Address ini saja, jika ingin semua IP Address di batasi tambahkan satu per satu IP Addressnya sampai 192.168.2.255. Pada **Max Limit = 128k** dan **256k**. kemudian klik **OK**.



## **MEMBAGI BANDWITH SAMA RATA MELALUI INTERFACE**

Systemnya di sini adalah misalkan anda mempunyai bandwidth 512Kbps sebanyak 10 komputer,jika yang online Cuma satu computer maka bandwidth yang di dapat adalah 512Kbps, jika yang online dua computer maka bandwidth yang di dapat 256Kbps Per komputer,jika yang online empat computer maka bandwidth yang di dapat 128Kbps Per computer,begitu seterusnya,pembagian tersebut Secara Otomatis di lakukan mikrotik Router. Lakukan konfigurasi dibawah ini dengan langsung di Terminal Server atau pun **New Terminal** pada winbox.

### **Konfigurasinya :**

```
/ip firewall mangle add chain=forward src-address=192.168.0.0/26 action=mark-connection new-connection-mark=users-con
/ip firewall mangle add connection-mark=users-con action=mark-packet new-packet- mark=users chain=forward
/queue type add name=pcq-download kind=pcq pcq-classifier=dst-address
/queue type add name=pcq-upload kind=pcq pcq-classifier=src-address
/queue tree add parent=local queue=pcq-download packet-mark=users
/queue tree add parent=public queue=pcq-upload packet-mark=users
```

1. Tulisan yang berwarna merah anda ganti dengan ip jaringan local anda misalkan ip address local di mikrotik anda yaitu 192.168.10.1 dan subnet masknya 255.255.255.128 maka anda ganti 192.168.10.0/25
2. Tulisan yang berwarna Biru (local) anda ganti dengan nama interface Ethernet mikrotik anda yang mengarah ke client, Kita bisa lihat nama interface mikrotik kita yang mengarah ke client dengan mengetik perintah **interface print**
3. Tulisan yang berwarna Hijau anda ganti dengan nama interface Ethernet mikrotik kita yang mengarah ke modem,anda bisa lihat nama interface mikrotik kita yang mengarah ke internet dengan perintah di **interface print**

## **Queue tree**

Queue Tree digunakan untuk membuat sebuah aturan pembagian bandwidth secara merata berdasarkan banyaknya host yang sedang meng-akses-internet.

Langkahnya sebagai berikut :

Ketikkan perintah :

```
ip firewall mangle add chain=pre-routing src-address=192.168.0.0/24 action=mark-connection new-connection-mark=conf_client
```

ket :

1. src-address adalah alamat network yang akan kita ratakan penggunaan bandwidth-nya (address local)

2. conf\_client adalah nama konfigurasi baru yang kita berikan untuk jaringan yang dituju ( nama bisa di ganti apa saja, jangan ada spasi )
  - membuat packet-mark baru

ketikkan perintah :

**ip firewall mangle add chain=prerouting connection-mark=conf\_client action=mark-packet new-packet-mark=client**

Keterangan :

client adalah nama yang kita berikan pada packet-mark yang baru

- menentukan Besarnya limit download untuk packet-mark yang telah kita buat

ketikkan perintah :

**queue tree add name=download\_client parent=ether2 packet-mark=client limit-at=409600 max-limit=819200**

Keterangan :

1. download\_client adalah nama untuk queue download
2. client adalah nama packet-mark yang kita buat pada ip firewall mangle
3. 409600 adalah besaran bandwidth terendah yang kita berikan untuk proses download
4. 819200 adalah besaran bandwidth tertinggi yang kita berikan untuk proses Download
5. ether2 adalah nama interface yang terhubung jaringan local yang akan kita ratakan penggunaan bandwidthnya

## SOAL MIKROTIK :

### **Kasus (SOAL):**

Saya punya LAN, isinya ada 5 unit komputer dengan IP Address 10.10.10.1 s/d 10.10.10.5. Terhubung ke Internet melalui Router MikroTik yang menjalankan transparent proxy (Internal Proxy).

### **Pertanyaan :**

Bagaimanakah konfigurasi Access di Proxy MikroTik, jika yang diinginkan adalah :

- Client 10.10.10.1 dan 10.10.10.2 hanya bisa mengakses Yahoo Mail, Google Mail (tidak bisa mengakses situs2 yang lain)
- Client 10.10.10.3 s/d 10.10.10.5 bisa mengakses semua situs di Internet...

### **Jawaban:**

```
ip proxy access add src-address=10.10.10.1-10.10.10.2 dst-host=mail.google.com
action=allow ip proxy access add src-address=10.10.10.1-10.10.10.2 dst-
host=mail.yahoo.com action=allow ip proxy access add src-address=10.10.10.3-10.10.10.5
action=allow
ip proxy access add src-address=0.0.0.0/0 action=deny
```

### **Kasus (SOAL):**

Saya punya LAN 4 unit komputer dengan IP Address 10.10.10.1 s/d 10.10.10.4.

Terhubung ke router Mikrotik di ether2 dengan IP Address 10.10.10.254. Router MikroTik ini terhubung ke sebuah ISP melalui ether1. Di ether1 terkonfigurasi 2 IP Address publik, masing-masing 60.1.1.2/28 dan 60.1.1.3/28.

**Pertanyaan:**

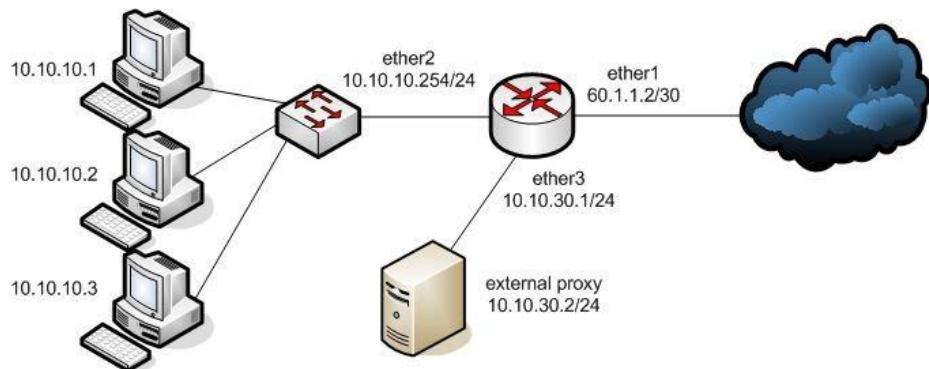
Bagaimanakah konfigurasi firewall (NAT) jika diinginkan Client-1 dan Client-2 ber-Internet dengan menggunakan IP Publik 60.1.1.2 sedangkan Client-3 dan Client-4 ber-Internet dengan menggunakan IP Publik 60.1.1.3.

**Jawaban:**

```
/ip firewall nat add chain=srcnat src-address=10.10.10.1-10.10.10.2 out-interface=ether1
action=srcnat to-address=60.1.1.2
/ip firewall nat add chain=srcnat src-address=10.10.10.3-10.10.10.4 out-interface=ether1
action=srcnat to-address=60.1.1.3
```

**Kasus (SOAL):**

Secara default LAN akan menggunakan external proxy di 10.10.30.2, bagaimanakah konfigurasi yang harus dilakukan sehingga jika tiba2 10.10.30.2 timeout....semua traffic web akan dialihkan ke internal proxy.... gunakan semua fitur MikroTik yang anda ketahui...



**Jawaban:**

berikut adalah konf utk dnat:

-----[ start of dnat ]-----

```
ip fire nat add chain=dstnat src-address=10.10.10.0/24 protocol=tcp dst-port=80
action=dst-nat to- addresses=10.10.30.2 to-ports=8080 comment="ext-proxy"
```

```
ip fire nat add chain=dstnat src-address=10.10.10.0/24 protocol=tcp dst-port=80
action=dst-nat to- addresses=10.10.30.1 to-ports=8080 comment="int-proxy"
```

-----[ end of dnat ]-----

berikut adalah konf utk netwatch:

-----[ start of netwatch ]-----

```
tool netwatch add host=10.10.30.2 timeout=1s interval=5s up-script="/ip fire nat ena [find comment=ext-proxy]" down-script="/ip fire nat dis [find comment=ext-proxy]" comment="aktifkan ext-proxy"
```

```
tool netwatch add host=10.10.30.2 timeout=1s interval=5s up-script="/ip fire nat dis [find comment=int-proxy]" down-script="/ip fire nat ena [find comment=int-proxy]" comment="aktifkan int-proxy"
```

-----[ end of netwatch ]-----

**Ulasan:**

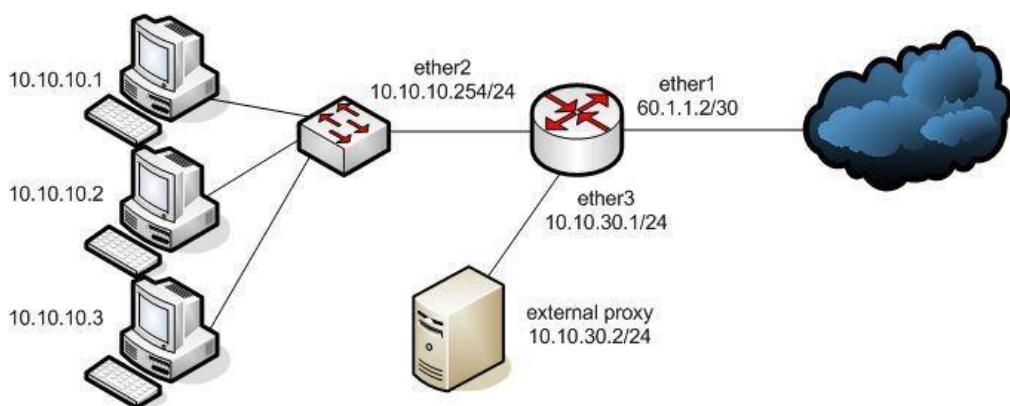
kepancing juga dengan Fetch-nya, pengecekan dengan netwatch kan untk cek L3, kalo proxy mati artinya harus cek L7, sengaja kami sisipkan kata2 "timeout" hanya untuk membatasi pengecekan di L3, jika pengecekan L3 sdh mantab, tinggal sentil sedikit utk naik ke L7.

inti dari pemeceahan ini, kalo ext proxy down (timeout saja), hidupkan firewall nat untuk redirect ke internal proxy, kalo proxy ext up lagi, hidupkan firewall nat dengan dst-nat ke 10.10.30.2 port

8080 sembari menonaktifkan baris konfigurasi nat yang meredirect ke int. proxy

**Kasus (SOAL):**

Jika diinginkan Router MikroTik akan memberikan respon timeout jika di ping pada ether1, ether2 dan ether3. Namun Router MikroTik dapat melakukan ping kemana saja, maka konfigurasi yang perlu dilakukan adalah....



**Jawaban:**

```
/ip firewall filter add chain=input protocol=icmp connection-state=established action=accept
/ip firewall filter add chain=input protocol=icmp action=drop
```

**Ulasan:**

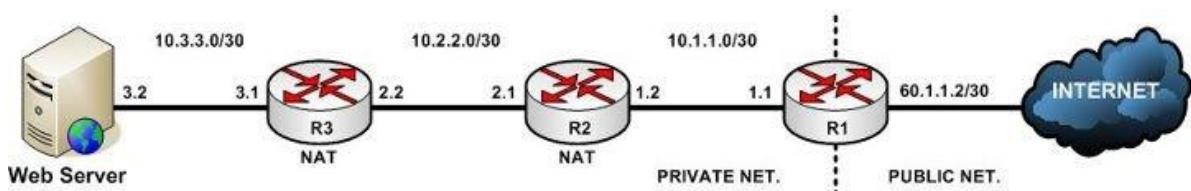
Baris pertama akan memberikan akses bagi paket ICMP yang status koneksinya established (koneksi yang telah dibangun sebelumnya; bukan koneksi permulaan; dalam hal ini berarti ICMP reply) untuk masuk ke router MTik. Baris kedua akan men-drop semua paket ICMP yang masuk ke router MTik.

Berdasarkan susunanx, 2 baris konfigurasi di atas dapat dibaca: Selain paket ping yang telah dibangun sebelumnya (selain ICMP reply), akan di drop oleh router.

Jadi jika ada paket ping request, paket tersebut akan dieksekusi oleh baris ke-2 karena merupakan sebuah koneksi baru. Namun jika router melakukan ping dan di balas (ICMP reply), firewall akan mengeksekusi paket balasan tersebut pada baris 1.

### Kasus (SOAL):

Tugas sederhananya adalah membuat Web Server dapat diakses dari Internet melalui 3 buah Router+NAT. Mgkn jarang ada yg nemu kasus spt ini, tapi untuk antisipasi saja :)



### Jawaban pertama:

tanpa router kira2 seperti ini, dengan asumsi interface wan masing2 router pada ether1 dan webservernya menggunakan port=80

[Router-1]

```
add chain=dstnat in-interface=ether1 protocol=tcp
dst-port=80 action=dst-nat to-addresses=10.1.1.2 to-
ports=80
```

[Router-2]

```
add chain=dstnat in-interface=ether1 protocol=tcp
dst-port=80 action=dst-nat to-addresses=10.1.2.2 to-
ports=80
```

[Router-3]

```
add chain=dstnat in-interface=ether1 protocol=tcp
dst-port=80 action=dst-nat to-addresses=10.1.3.2
to-ports=80
```

ketika mengakses ke webserver ke alamat ip tujuan router meneruskan paket ke ip berikutnya dan menggantikan alamat tujuan, jika sampai pada web server akan menjawab permintaan dengan ip dan alamat tujuan sebaliknya.

### Jawaban kedua:

```
/ip firewall nat add chain=dstnat dst-address=60.1.1.2 in-interface=WAN protocol=tcp port=80,443 action=dst-nat to-address=10.3.3.2
```

WAN=interface yang ke internet...

**Ulasan:**

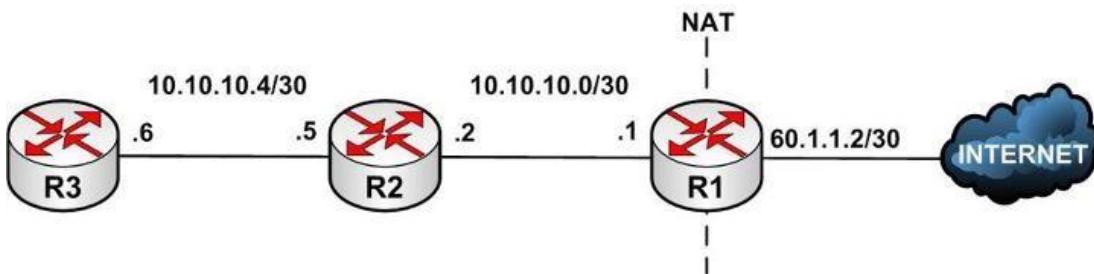
Yang efisien adalah jawaban pertama, tapi itu menyalahi soal, si pembuat soal bisa tidak terima dan untuk jawaban yang kedua sesuai permintaan soal karena di setiap router katanya ada NAT, tapi nggak efisien... nge-NAT berulang kali, jika ada perubahan IP Address...bisa runyam

**Kasus (SOAL):**

Bagaimana analisa, desain, dan konfigurasi yang tepat menurut rekans agar:

- 1) R3 dapat diakses dari Internet menggunakan Winbox maupun SSH
- 2) Namun R1 & R2 tetap dapat diakses melalui winbox dan SSH.

Semua router dapat saling terhubung secara lokal dan juga ke internet (Sudah Terouting dengan baik). Mohon bantuan analisa, desain dan konfigurasinya rekans. Trims...



**Jawaban:**

Karena secara internal semua router dapat saling terhubung dua arah, maka forwarding hanya dilakukan di R1 saja.

-----[ start ]-----

```
ip firewall nat add chain=dstnat protocol=tcp dst-port=2001 action=dst-nat to-addresses=10.10.10.2 to-ports=8291 comment="Remote-Winbox-R2"
```

```
ip firewall nat add chain=dstnat protocol=tcp dst-port=2002 action=dst-nat to-addresses=10.10.10.2 to-ports=22 comment="Remote-SSH-R2"
```

```
ip firewall nat add chain=dstnat protocol=tcp dst-port=2003 action=dst-nat to-addresses=10.10.10.6 to-ports=8291 comment="Remote-Winbox-R3"
```

```
ip firewall nat add chain=dstnat protocol=tcp dst-port=2004 action=dst-nat to-addresses=10.10.10.6 to-ports=22 comment="Remote-SSH-R3"
```

-----[ end ]-----

Klo ngecek dari Internet (mis: pke nmap), pada R1 akan terbuka port baru bermomor 2001, 2002,

2003, dan 2004 (port itu otomatis akan aktif ketika R1 mendeteksi service2 yg dituju di mesin tujuan aktif).

NB:

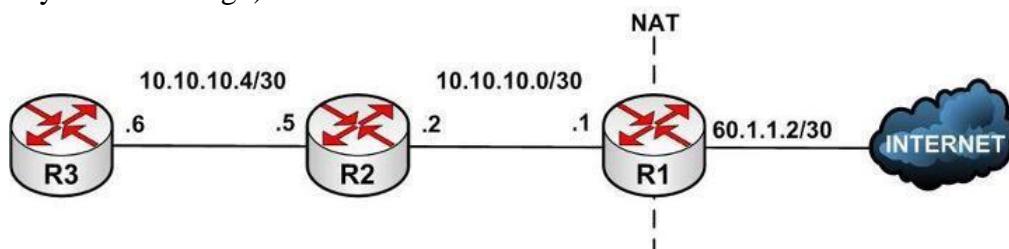
untuk remote Winbox R2 dan R3 dari Winbox Client ada perlakuan khusus, di sisi client harus diakali Winbox Clientnya (paten baca port 8291) dgn cara memforward permintaan Winbox Client ke Port 2001 dan 2003, caranya bisa pasang Mikrotik (utk memforward) di Virtual Machine pada Lokal Kompi yg melakukan remote, atau mgkn ada cara yg lebih simple mgkn...???

**Tambahan:**

```
[admin@main-gw] > ip service print
Flags: X - disabled, I - invalid
NAME PORT ADDRESS CERTIFICATE
0 telnet 23 0.0.0.0/0
1 ftp 21 0.0.0.0/0
2 www 80 0.0.0.0/0
3 ssh 22 0.0.0.0/0
4 X www-ssl 443 0.0.0.0/0 none
5 X api 8728 0.0.0.0/0
6 winbox 8291 0.0.0.0/0
[admin@main-gw] > ip service set 6 port=9999
```

**Kasus (SOAL):**

tugasnya adalah menghubungkan antar Router (dua arah) dan setiap Router jg dapat terkoneksi ke Internet. prioritas menggunakan routing statis, jika ingin dicantumin routing dinamisnya lebih baik lg :)



**Jawaban:**

==R1==

```
/ip address add address=60.1.1.2/30 interface=ether1
/ip address add address=10.10.10.1/30 interface=ether2
/ip route add dst-address=0.0.0.0/0 gateway=60.1.1.1
/ip route add dst-address=10.10.10.4/30 gateway=10.10.10.2
/ip dns set servers=8.8.8.8,8.8.4.4 allow-remote-request=yes
/ip firewall nat add chain=srcnat out-interface=ether1 action=masquerade
```

==R2==

```
/ip address add address=10.10.10.2/30 interface=ether1
/ip address add address=10.10.10.5/30 interface=ether2
/ip route add dst-address=0.0.0.0/0 gateway=10.10.10.1
/ip dns set servers=10.10.10.1,8.8.8.8
```

==R3==

```
/ip address add address=10.10.10.6/30 interface=ether1
```

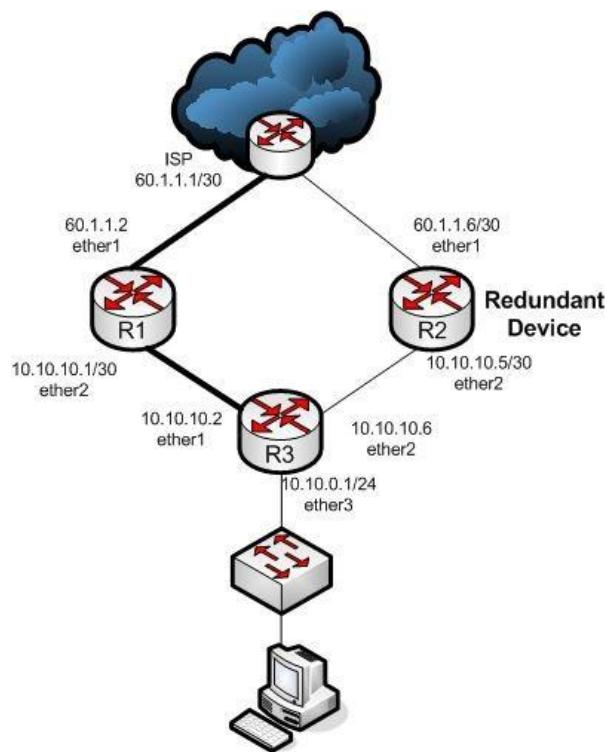
```
/ip route add dst-address=0.0.0.0/0 gateway=10.10.10.5
/ip dns set servers=10.10.10.1,8.8.8.8
```

PS. Ether1=interface yang menuju ke internet, ether2=interface yang menuju jaringan lokal.

**Kasus (SOAL):**

Untuk terkoneksi ke Internet, R2 dapat menggunakan R1 maupun R2 sebagai gateway. Konfigurasi default gateway apa yang harus dilakukan jika dalam kondisi normal gateway yang digunakan hanyalah R1. Jika R1 "down" maka R3 akan mengalihkan koneksi ke R2. Asumsi konfigurasi R1 dan R2 sudah selesai, baik defaut gateway, DNS maupun NAT.

Ralat soal: "Untuk terkoneksi ke Internet, R3 dapat menggunakan R1 maupun R2"



**Jawaban:**

Karena di R2 ada keterangan redundant berarti defaultnya ke R1, yang digunakan dynamic routing atau static, menggunakan distance atau linkstate? Kalo saya pake static berarti saya coba menggunakan distance

--==Router-3==--

```
/ip route add gateway=10.10.10.1 distance=1
/ip route add gateway=10.10.10.5 distance=2
```

Dengan acuan bahwa router 3 melakukan ping ke router 1 jika terjadi RTO ke 10.10.10.1 maka

Router 3 akan melakukan fail-over ke 10.10.10.5

**Kasus (SOAL):**

Tampilkan log web proxy lengkap dgn info komputer pengakses dan web yg diakses. sbg clue...gambar terlampir :)

```
27-Jun 14:56:35.19 web-proxy,account 10.10.10.5 GET http://clients1.google.co.id/complete/search?client=chrome&hl=en-US&q=0.facebook.com%2F action=allow c
27-Jun 14:56:35.24 web-proxy,account 10.10.10.5 GET http://0.facebook.com/ action=allow cache=MISS
27-Jun 14:56:36.70 web-proxy,account 10.10.10.5 GET http://0.facebook.com/error/?err=2c6std6refsrc=http%3A%2F%2F0.facebook.com%2F6_rdr action=allow c
27-Jun 15:11:5.72 web-proxy,account 10.10.10.1 GET http://www.wikipedia.com/ action=allow cache=MISS
27-Jun 15:11:6.97 web-proxy,account 10.10.10.1 GET http://www.wikipedia.org/ action=allow cache=MISS
27-Jun 15:11:10.83 web-proxy,account 10.10.10.1 GET http://upload.wikimedia.org/wikipedia/commons/thumb/b/bb/Wikipedia_vordmark.svg/174px-Wikipedia_wordm
27-Jun 15:11:12.4 web-proxy,account 10.10.10.1 GET http://upload.wikimedia.org/wikipedia/commons/b/bd/Bookshelf-40x201_6.png action=allow cache=MISS
27-Jun 15:11:12.48 web-proxy,account 10.10.10.1 GET http://bits.wikimedia.org/meta.wikimedia.org/load.php?debug=false&lang=en&modules=ext.gadget.wm-portal
27-Jun 15:11:14.82 web-proxy,account 10.10.10.1 GET http://upload.wikimedia.org/wikipedia/commons/6/63/Wikipedia-logo.png action=allow cache=MISS
27-Jun 15:11:17.81 web-proxy,account 10.10.10.1 GET http://upload.wikimedia.org/wikipedia/commons/4/4a/Wiktionsary-logo-en-35px.png action=allow cache=MISS
27-Jun 15:11:17.88 web-proxy,account 10.10.10.1 GET http://upload.wikimedia.org/wikipedia/commons/thumb/8/8a/Wikinews-logo.png/35px-Wikinews-logo.png actio
27-Jun 15:11:18.31 web-proxy,account 10.10.10.1 GET http://upload.wikimedia.org/wikipedia/commons/thumb/f/f/a/Wikiquote-logo.svg/35px-Wikiquote-logo.svg.png .
```

**Jawaban:**

system logging add topics=web-proxy,account action=disk

#### **REFERENSI**

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- <http://mikrotikindo.blogspot.com/2013/02/apa-itu-mikrotik-pengertian-mikrotik.html>
- <http://mikrotikindo.blogspot.com/2013/02/kumpulan-perintah-perintah-dasar-mikrotik-routeros.html>
- <http://mikrotikindo.blogspot.com/2013/02/belajar-mikrotik-cara-akses-mikrotik.html>
- <http://www.mdp.ac.id/materi/2013-2014-1/TI423/041035/TI423-041035-576-13.pdf>
- <http://www.ilmujaringan.com/?wpdmact=process&did=My5ob3RsaW5r>
- <http://www.ilmujaringan.com>

## **BIOGRAFI PENULIS**

| FOTO PENULIS                                                                      | KETERANGAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Dilahirkan di Sawit Seberang, 19 September 1989, anak ke-2 dari dua bersaudara. Pendidikan yang telah diambil :</p> <p>Tahun 2004- 2007 SMA Negeri 1 Padang Tualang mengambil jenjang jurusan IPA.</p> <p>Tahun 2007 – 2011, menyelesaikan study di Pendidikan Teknologi Kimia Industri (PTKI) Medan.</p> <p>Tahun 2008 – 2012, menyelesaikan study di Sekolah Tinggi Manajemen Informatika Komputer (STMIK) Budidarma Medan.</p> <p>Tahun 2012 – Sekarang, sedang menyelesaikan study di S2-Teknik Informatika di Universitas Sumatera Utara.</p> <p>Bekerja di PT. Medan Informatika Teknologi</p> <p style="padding-left: 40px;">Ketua Jurusan TKJ di SMK Dwiwarna Medan</p> <p style="padding-left: 40px;">Ketua Jurusan TKJ di SMK-3 Al-Washliyah Pasar Senen<br/>Medan</p> <p>Contact Person : <a href="mailto:diankumia68@gmail.com">diankumia68@gmail.com</a></p> <p><a href="http://tkjdwiwarna.blogspot.com">http://tkjdwiwarna.blogspot.com</a></p> <p><a href="http://tkjpasarsenen.blogspot.com">http://tkjpasarsenen.blogspot.com</a></p> <p><a href="https://www.facebook.com/pages/Dian-Kumia/161722130593897?ref=hl">https://www.facebook.com/pages/Dian-Kumia/161722130593897?ref=hl</a></p> |



UJIAN NASIONAL  
TAHUN PELAJARAN 2013/2014

**RSNP**  
Badan Standar Nasional Pendidikan

SOAL UJIAN PRAKTIK KEJURUAN

|                     |   |                              |
|---------------------|---|------------------------------|
| Satuan Pendidikan   | : | Sekolah Menengah Kejuruan    |
| Kompetensi Keahlian | : | Teknik Komputer dan Jaringan |
| Kode                | : | 2063                         |
| Alokasi Waktu       | : | 18 jam                       |
| Bentuk Soal         | : | Penugasan Perorangan         |

I. PETUNJUK

1. Periksalah dengan teliti dokumen soal ujian praktik, yang terdiri dari 4 halaman.
2. Peralatan utama dan pendukung berupa :
  - 2.1. PC Client
  - 2.2. PC Server telah disediakan / Routerboard RB 750
  - 2.3. HUB / Switch
  - 2.4. Modem ADSL
  - 2.5. Cabel Tester
  - 2.6. Kabel UTP
  - 2.7. Konektor RJ 45
  - 2.8. Obeng +, -
  - 2.9. 1 NIC Tambahan ( Ethernet 10/100Mbps)
  - 2.10. Gelang Anti Static
  - 2.11. Stabilizer
  - 2.12. Crimping Tool

II. KESELAMATAN KERJA

1. Gunakan alat keselamatan kerja berupa baju praktek, Sepatu karet (Anti Static) dan Gelang Anti Static
2. Saat menghidupkan komputer dan mematikan gunakan prosedur yang benar
3. Pergunakan alat ukur / tester sesuai prosedur.

III. DAFTAR PERALATAN, KOMPONEN, DAN BAHAN

| No. | Nama Alat/Komponen/Bahan          | Spesifikasi                                                                                                                                                                                 | Jumlah | Keterangan |
|-----|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------|
| 1   | 2                                 | 3                                                                                                                                                                                           | 4      | 5          |
| 1   | PC Server Atau Routerboard RB 750 | <b><u>Minimal Pentium III</u></b><br>a. Casing<br>b. PS 350 Watt<br>c. Processor<br>d. Min. Ram 256 MB<br>e. Minimal HD 10 GB<br>f. Min. CD Drive 32 X<br>g. Keyboard<br>h. NIC 10/100 Mbps |        |            |

| No. | Nama Alat/Komponen/Bahan     | Spesifikasi                                                                                                                                                                                                                                          | Jumlah | Keterangan |
|-----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------|
| 1   | 2                            | 3                                                                                                                                                                                                                                                    | 4      | 5          |
|     |                              | i. Min Monitor 14“<br>Spesifikasi default                                                                                                                                                                                                            |        |            |
| 2   | PC Client Atau Client Laptop | <b>Minimal Pentium III</b><br>a. Casing<br>b. PS 350 Watt<br>c. Processor<br>d. Min. Ram 128 MB<br>e. Minimal HD 5 GB<br>f. Mn. CD Drive 32 X<br>g. Wifi Card 54 MBps<br>h. Min Monitor 14"<br>i. Keyboard<br>j. Mouse<br>Standar Laptop dengan Wifi |        |            |
| 3   | Modem ADSL                   | Minimal 1 port ADSL                                                                                                                                                                                                                                  |        |            |
| 4   | Switch / Hub / Access Point  | Minimal 1 Port                                                                                                                                                                                                                                       |        |            |
| 5   | Crimping Tool                | Untuk RJ 45                                                                                                                                                                                                                                          |        |            |
| 6   | Cable Tester                 | Untuk RJ 45                                                                                                                                                                                                                                          |        |            |
| 7   | Obeng +                      | Ukuran screw PC                                                                                                                                                                                                                                      |        |            |
| 8   | Obeng -                      | Ukuran screw PC                                                                                                                                                                                                                                      |        |            |
| 9   | Stabilizer                   | Min 500 Watt                                                                                                                                                                                                                                         |        |            |
| 10  | NIC (Ethernet)               | 10/100 Mbps                                                                                                                                                                                                                                          |        |            |
| 11  | Koneksi Internet             | Min. 56 Kbps                                                                                                                                                                                                                                         |        |            |
|     | <b>Bahan</b>                 |                                                                                                                                                                                                                                                      |        |            |
| 1.  | Kabel UTP                    | 10 meter                                                                                                                                                                                                                                             |        |            |
| 2.  | Konektor RJ 45               | 6 buah                                                                                                                                                                                                                                               |        |            |
| 3.  | CD OS                        | 1 Buah                                                                                                                                                                                                                                               |        |            |

#### IV. SOAL/TUGAS

Buatlah rancang bangun sebuah Server yang berfungsi sebagai Server Router, pengatur bandwith, *block website* dan hotspot jaringan dengan berbasis text , konfigurasi sebagai berikut :

##### Konfigurasi Modem/WAN= 10.10.10.x

1. IP Internet = Sesuai dengan Network yang diberikan ISP
2. IP LAN = 192.168.50.1/27-----→konversi 192.168.50.1/255.255.255.224
3. Blocking Site = [www.youtube.com](http://www.youtube.com) , [www.facebook.com](http://www.facebook.com)

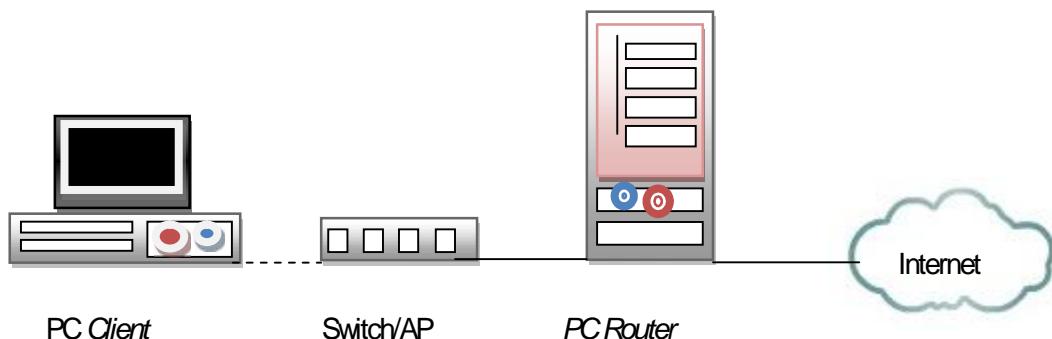
4. Gateway = 10.10.10.1

#### Konfigurasi Router

- |                      |                     |
|----------------------|---------------------|
| 1. Sistem Operasi    | = OS Linux Mikrotik |
| 2. NAT               | = Yes               |
| 3. Limit Bandwidth 1 | = 256KBps           |
| 4. Limit Bandwidth 2 | = 512 KBps          |
| 5. IP Hotspot        | = 10.10.10.1/24     |
| 6. Hotspot           | = 25 users          |

#### Konfigurasi Client

1. IP Wifii = DHCP Server Mikrotik

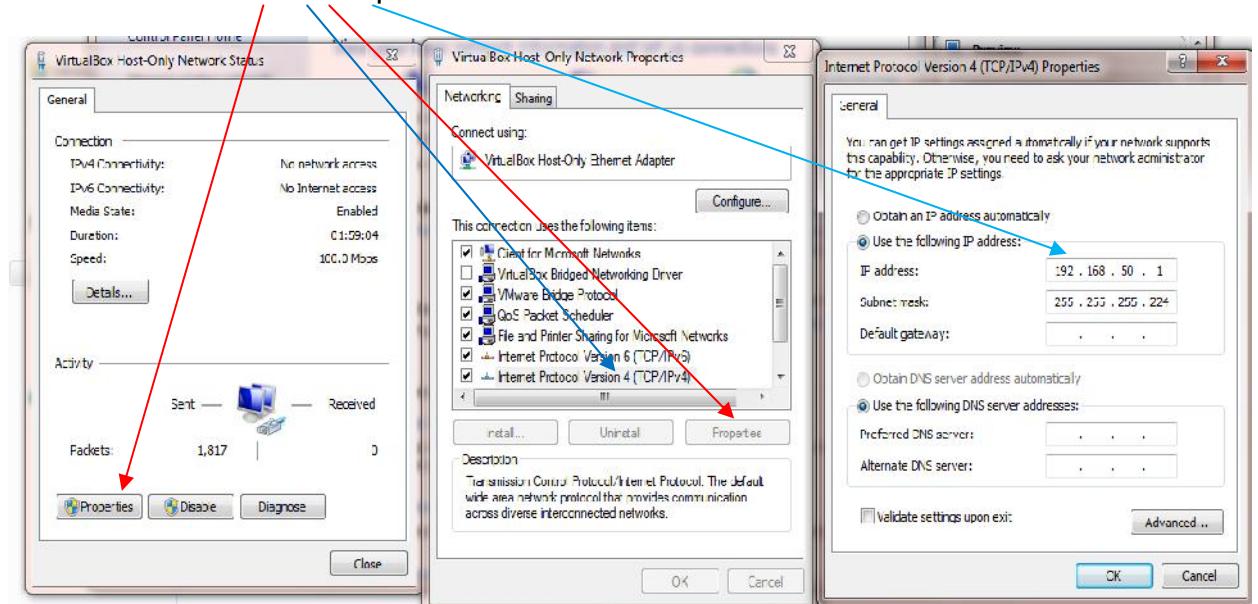


Implementasikan topologi diatas untuk pengujian koneksi internet disekolah dengan ketentuan sebagai berikut :

- Membuat perencanaan sesuai dengan topologi jaringan yang disediakan
- Instalasi Router
- Melakukan konfigurasi Limit Bandwidth
- Melakukan konfigurasi Hotspot.
- Melakukan instalasi dan konfigurasi jaringan sesuai topologi
- Melakukan pengujian fungsi jaringan (sistem koneksi) dan aplikasi server.

### JAWABAN PAKET 2 UKK 2013/2014

1. Atur LAN Virtual Box seperti di bawah ini



1. Install mikrotik kamu, kemudian atur **konfigurasi network**nya seperti di bawah ini :

```
[admin@MikroTik] > ip add add add=192.168.50.2/24 interface=ether1
[admin@MikroTik] > ip add add add=10.10.10.1/24 interface=ether2
[admin@MikroTik] > ip route add gateway=192.168.50.1
[admin@MikroTik] > ip dns set server=192.168.50.1 \ allow-remote-request=yes
[admin@MikroTik] > ip firewall nat add chain=srcnat action=masquerade out-interface=ether1
[admin@MikroTik] >
```

Kemudian masuk ke **ip dhcp-server** dan lakukan perintah dibawah ini :

```
[admin@MikroTik] > /ip dhcp-server
[admin@MikroTik] /ip dhcp-server> print
Flags: X - disabled, I - invalid
NAME INTERFACE RELAY ADDRESS-POOL LEASE-TIME ADD-ARP
[admin@MikroTik] /ip dhcp-server> setup
Select interface to run DHCP server on

dhcp server interface: ether2
Select network for DHCP addresses

dhcp address space: 10.10.10.0/24
Select gateway for given network

gateway for dhcp network: 10.10.10.1
Select pool of ip addresses given out by DHCP server

addresses to give out: 10.10.10.2-10.10.10.254
Select DNS servers

dns servers: 192.168.50.1
Select lease time

lease time: 3d
[admin@MikroTik] /ip dhcp-server>
```

Kemudian ikuti langkah-langkah berikut untuk melihat **IP address dhcp-server** dan **ip pool dhcp** nya, yang telah di **setting**

```
[admin@MikroTik] /ip dhcp-server> print
Flags: X - disabled, I - invalid
NAME INTERFACE RELAY
0 dhcp1 ether2
[admin@MikroTik] /ip dhcp-server> /ip pool
[admin@MikroTik] /ip pool> print
NAME
0 dhcp_pool1
[admin@MikroTik] /ip pool> /ip hotspot
[admin@MikroTik] /ip hotspot> setup
Select interface to run HotSpot on

hotspot interface: ether2
Set HotSpot address for interface

local address of network: 10.10.10.1/24
nasquerade network: yes
Set pool for HotSpot addresses

address pool of network: 10.10.10.2-10.10.10.30
Select hotspot SSL certificate

select certificate: none
Select SMTP server

ip address of smtp server: 0.0.0.0
Setup DNS configuration

dns servers: 192.168.50.1

DNS name of local hotspot server

dns name: smkdwiwarna.com
Create local hotspot user

name of local hotspot user: admin
password for the user: tkj
[admin@MikroTik] /ip hotspot>
```

Karena hanya 25 User, maka  
192.168.12.254 ganti dengan  
192.168.12.30

Hapus **import-other-certificate**  
menjadi **none**

Ketikan Passwordnya  
Misal : tkj

Kemudian atur **bandwidth limit** nya dengan **rate-limit 1=128k/256k** dan **rate-limit 2=256k/512k**

```
[admin@MikroTik] /ip hotspot> /
[admin@MikroTik] > ip hotspot user profile add name=limit1_user rate-limit=128k/256k
[admin@MikroTik] > ip hotspot user profile add name=limit2_user rate-limit=128k/256k
[admin@MikroTik] > █
```

Kemudian masukan data user beserta bandwidth nya sebanyak **25 user** dengan uji **user1 - user14** dengan **rate-limit 1=128k/256k** dan **user15 - user25** dengan **rate-limit 2=256k/512k**

```
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user1
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user2
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user3
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user4
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user5
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user6
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user7
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user8
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user9
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user10
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user11
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user12
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user13
[admin@MikroTik] > ip hotspot user add profile=limit1_user password=tkj name=user14
[admin@MikroTik] > █
```

Memulai user dengan **limit bandwidth 2** ketikan script dibawah ini :

```
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user15
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user16
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user17
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user18
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user19
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user20
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user21
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user22
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user23
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user24
[admin@MikroTik] > ip hotspot user add profile=limit2_user password=tkj name=user25
[admin@MikroTik] > █
```

Melihat hasil user yang telah dibuat, ketikan perintah di bawah ini :

```
[admin@MikroTik] > ip hotspot user
[admin@MikroTik] /ip hotspot user> print
Flags: K - disabled, D - dynamic
SERVER NAME ADDRESS PROFILE UPTIME
0 admin default 0s
1 user1 limit1_user 0s
2 user2 limit1_user 0s
3 user3 limit1_user 0s
4 user4 limit1_user 0s
5 user5 limit1_user 0s
6 user6 limit1_user 0s
7 user7 limit1_user 0s
8 user8 limit1_user 0s
9 user9 limit1_user 0s
10 user10 limit1_user 0s
11 user11 limit1_user 0s
12 user12 limit1_user 0s
13 user13 limit1_user 0s
14 user14 limit1_user 0s
15 user15 limit2_user 0s
16 user16 limit2_user 0s
17 user17 limit2_user 0s
18 user18 limit2_user 0s
19 user19 limit2_user 0s
20 user20 limit2_user 0s
21 user21 limit2_user 0s
22 user22 limit2_user 0s
23 user23 limit2_user 0s
24 user24 limit2_user 0s
25 user25 limit2_user 0s
```

Kemudian untuk blokir situs ketikan script di bawah ini, dimana situs yang di blok adalah [www.facebook.com](http://www.facebook.com) dan [www.youtube.com](http://www.youtube.com) kemudian untuk tkjdwiana.blogspot.com diizinkan untuk dapat diakses.

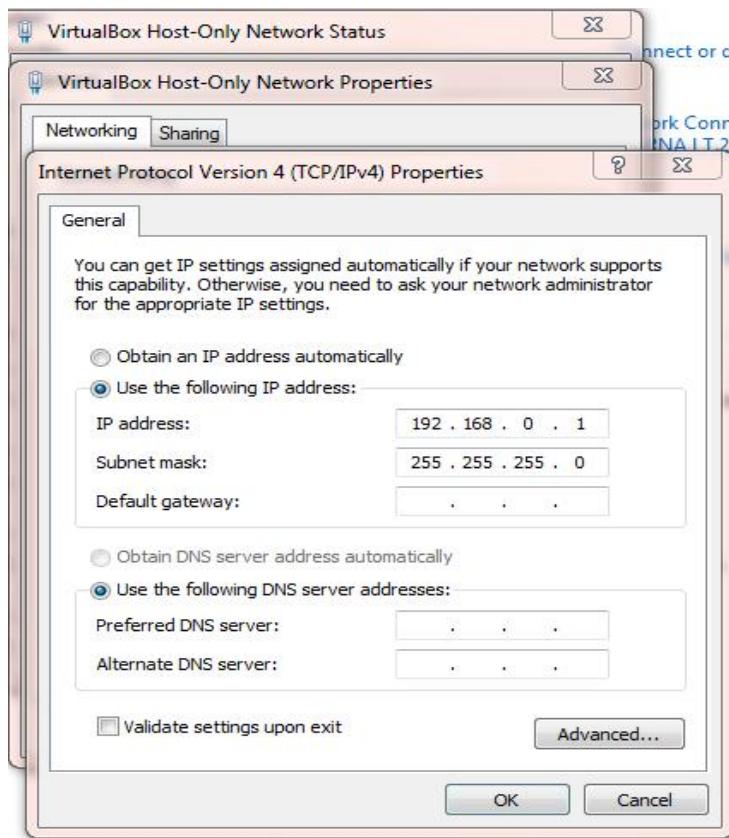
```
[admin@MikroTik] /ip hotspot user> /
[admin@MikroTik] > ip hotspot walled-garden add dst-host=www.facebook.com action=deny
[admin@MikroTik] > ip hotspot walled-garden add dst-host=www.youtube.com action=deny
[admin@MikroTik] > ip hotspot walled-garden add dst-host=tkjdwiana.blogspot.com action=allow
[admin@MikroTik] >
```

Kemudian lakukan uji koneksi kamu di computer client, buka browser internet pada client seperti Mozilla firefox. Setelah ketikan [www.detik.com](http://www.detik.com) atau [10.10.10.1/login](http://10.10.10.1/login) tampilan akan seperti di bawah ini : masukan login dan password, klik ok jika kamu berhasil, kamu akan terkoneksi ke intemet. Cobalah situs yang kamu blokir, dapat diakses atau tidak. Jika tidak maka kamu berhasil dalam praktek ini.



## **Belajar Membagi Bandwidth dengan Layer 7**

Atur **Local Area Network** pada **virtual box** seperti di bawah ini :



Kemudian Install Mikrotik dalam virtual box atur adapter1 dan adapter2 nya seperti biasa, dan tampilannya seperti dibawah ini,

```
[admin@MikroTik] > ip address add address=192.168.0.2/24 interface=ether1
[admin@MikroTik] > ip address add address=192.168.2.1/24 interface=ether2
[admin@MikroTik] > ip route add gateway=192.168.0.1
[admin@MikroTik] > ip dns set server=192.168.0.1 \ allow-remote-request=yes
[admin@MikroTik] > ip firewall nat add chain=srcnat action=masquerade out-interface=ether1
[admin@MikroTik] > ip dhcp-server
[admin@MikroTik] /ip dhcp-server> setup
Select interface to run DHCP server on

dhcp server interface: ether2
Select network for DHCP addresses

dhcp address space: 192.168.2.0/24
Select gateway for given network

gateway for dhcp network: 192.168.2.1
Select pool of ip addresses given out by DHCP server

addresses to give out: 192.168.2.2-192.168.2.254
Select DNS servers

dns servers: 192.168.0.1
Select lease time

lease time: 3d
[admin@MikroTik] /ip dhcp-server>
```

## **Belajar Membagi Bandwidth dengan Layer 7**

---

```
/ip firewall layer7-protocol
add name="Extension \" .exe\"" regexp="^.*get.+\\.exe.*$"
add name="Extension \" .mp4\"" regexp="^.*get.+\\.mp4.*$"
add name="Extension \" .rar\"" regexp="^.*get.+\\.rar.*$"
add name="Extension \" .zip\"" regexp="^.*get.+\\.zip.*$"
add name="Extension \" .mkv\"" regexp="^.*get.+\\.mkv.*$"
add name="Extension \" .3gp\"" regexp="^.*get.+\\.3gp.*$"
add name="Extension \" .wmv\"" regexp="^.*get.+\\.wmv.*$"
add name="Extension \" .iso\"" regexp="^.*get.+\\.iso.*$"
add name="Extension \" .mp3\"" regexp="^.*get.+\\.mp3.*$"

add name="Extension \" .7z\"" regexp="^.*get.+\\.7z.*$"
add name="Extension \" .cab\"" regexp="^.*get.+\\.cab.*$"
add name="Extension \" .ASF\"" regexp="^.*get.+\\.ASF.*$"
add name="Extension \" .MOV\"" regexp="^.*get.+\\.MOV.*$"
add name="Extension \" .MPG\"" regexp="^.*get.+\\.MPG.*$"
add name="Extension \" .MPEG\"" regexp="^.*get.+\\.MPEG.*$"
add name="Extension \" .AVI\"" regexp="^.*get.+\\.AVI.*$"
add name="Extension \" .FLV\"" regexp="^.*get.+\\.FLV.*$"
add name="Extension \" .WAV\"" regexp="^.*get.+\\.WAV.*$"
add name="Extension \" .RM\"" regexp="^.*get.+\\.RM.*$"
add name="Extension \" .RAM\"" regexp="^.*get.+\\.RAM.*$"
add name="Extension \" .RMVB\"" regexp="^.*get.+\\.RMVB.*$"
add name="Extension \" .DAT\"" regexp="^.*get.+\\.DAT.*$"
add name="Extension \" .ISO\"" regexp="^.*get.+\\.ISO.*$"
add name="Extension \" .NRG\"" regexp="^.*get.+\\.NRG.*$"
add name="Extension \" .BIN\"" regexp="^.*get.+\\.BIN.*$"
add name="Extension \" .VCD\"" regexp="^.*get.+\\.VCD.*$"
add name="Extension \" .GIF\"" regexp="^.*get.+\\.GIF.*$"
add name="Extension \" .JPG\"" regexp="^.*get.+\\.JPG.*$"
```

## **Belajar Membagi Bandwidth dengan Layer 7**

---

```
/ip firewall mangle
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .exe\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2\
 layer7-protocol="Extension \" .mp4\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .rar\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .zip\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mkv\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .3gp\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .wmp\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .iso\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mp3\" new-connection-mark=download_conn

add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .7z\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .cab\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .ASF\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mov\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mpeg\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .avi\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .flv\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .wav\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .rm\" new-connection-mark=download_conn

add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .ram\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .rmvb\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .dat\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .iso\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .nrg\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2\
```

## **Belajar Membagi Bandwidth dengan Layer 7**

---

```
layer7-protocol="Extension \" .bin\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
layer7-protocol="Extension \" .vcf\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
layer7-protocol="Extension \" .gif\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
layer7-protocol="Extension \" .jpg\"" new-connection-mark=download_conn

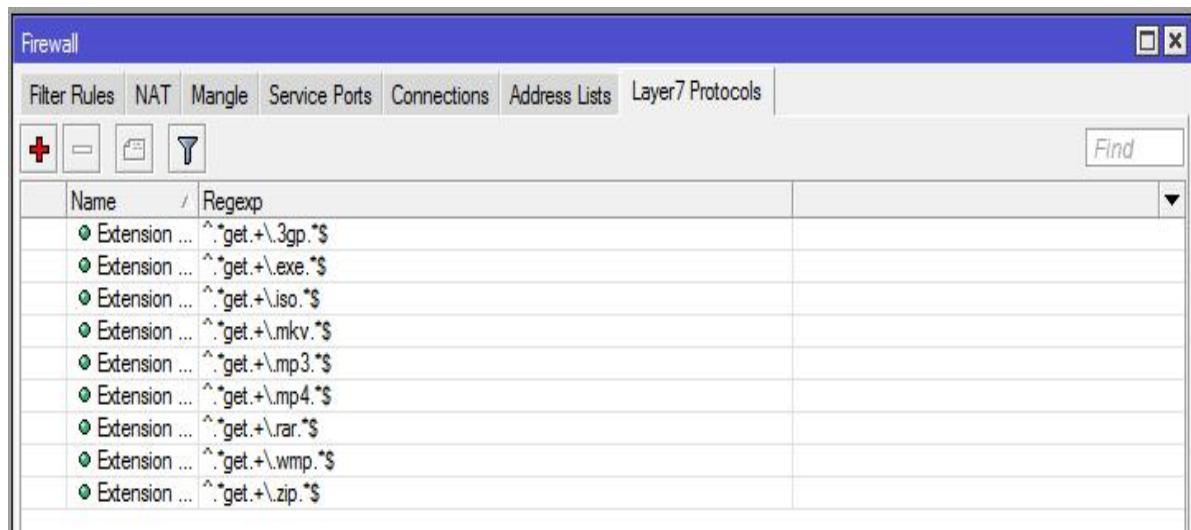
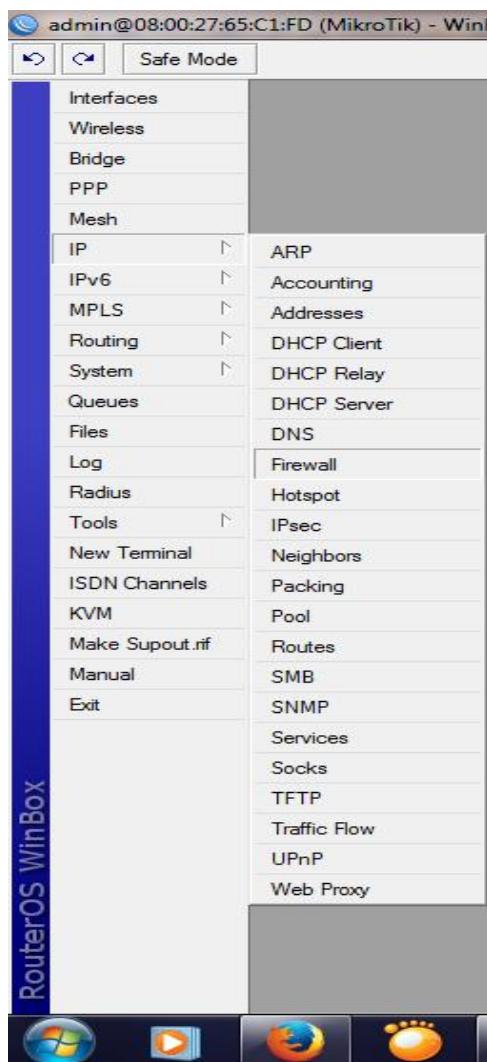
add action=mark-connection chain=prerouting in-interface=ether2 new-connection-
mark=all_conn
add action=mark-packet chain=prerouting connection-mark=download_conn new-packet-
mark=download_packet
add action=mark-packet chain=prerouting connection-mark=all_conn new-packet-
mark=all_packet

/queue simple
add comment=\
"tkjdwiwarna.blogspot.com - Memisahkan bandwidth browsing & download file" \
max-limit=128k/1M name=Browsing packet-marks=all_packet target=\
192.168.2.0/24

add max-limit=128k/128k name="Download File" packet-marks=download_packet \
target=192.168.2.0/24
```

Hasil jika dibuka di winbox adalah sebagai berikut ; klik IP → **FIREWALL** → **LAYER 7 PROTOCOL**

## **Belajar Membagi Bandwidth dengan Layer 7**



Kemudian klik pada tab menu mangle, tampilan seperti di bawah ini :

## **Belajar Membagi Bandwidth dengan Layer 7**

| Firewall     |        |        |              |               |          |             |           |               |             |                  |         |     |
|--------------|--------|--------|--------------|---------------|----------|-------------|-----------|---------------|-------------|------------------|---------|-----|
| Filter Rules |        | NAT    | Mangle       | Service Ports |          | Connections |           | Address Lists |             | Layer7 Protocols |         |     |
| #            | Action | Chain  | Src. Address | Dst. Address  | Proto... | Src. Port   | Dst. Port | In. Inter...  | Out. Int... | Bytes            | Packets | ▼   |
| 0            |        | mar... | prerouting   |               |          |             |           |               |             | ether2           | 0 B     | 0   |
| 1            |        | mar... | prerouting   |               |          |             |           |               |             | ether2           | 0 B     | 0   |
| 2            |        | mar... | prerouting   |               |          |             |           |               |             | ether2           | 0 B     | 0   |
| 3            |        | mar... | prerouting   |               |          |             |           |               |             | ether2           | 0 B     | 0   |
| 4            |        | mar... | prerouting   |               |          |             |           |               |             | ether2           | 0 B     | 0   |
| 5            |        | mar... | prerouting   |               |          |             |           |               |             | ether2           | 0 B     | 0   |
| 6            |        | mar... | prerouting   |               |          |             |           |               |             | ether2           | 0 B     | 0   |
| 7            |        | mar... | prerouting   |               |          |             |           |               |             | ether2           | 88.0 kB | 305 |
| 8            |        | mar... | prerouting   |               |          |             |           |               |             |                  | 0 B     | 0   |
| 9            |        | mar... | prerouting   |               |          |             |           |               |             |                  | 88.0 kB | 305 |

| Queue List                                                                 |      |                  |              |              |            |            |
|----------------------------------------------------------------------------|------|------------------|--------------|--------------|------------|------------|
| Simple Queues                                                              |      | Interface Queues | Queue Tree   | Queue Types  | Find       | ▼          |
| #                                                                          | Name | Target Ad...     | Rx Max Limit | Tx Max Limit | Packet ... | ▼          |
| ;; tkjdwiwama.blogspot.com - Memisahkan bandwidth browsing & download file |      |                  |              |              |            |            |
| 0                                                                          |      | Browsing         | 192.168.2... | 128k         | 1M         | all_pac... |
| 1                                                                          |      | Download File    | 192.168.2... | 128k         | 256k       | downlo...  |

**Tambahkan Script dibawah ini, jika ether terdapat 3 NIC**

## ***Belajar Membagi Bandwidth dengan Layer 7***

---

**Atur ip address untuk ether3 = 192.168.3.1/24 dan atur DHCP Servernya kemudian ketikan script di bawah ini :**

```
/ip firewall mangle
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .exe \"\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3\
 layer7-protocol="Extension \" .mp4 \"\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .rar\"\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .zip\"\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .mkv\"\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .3gp\"\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .wmp\"\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .iso\"\" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .mp3\"\" new-connection-mark=download_conn
/ip firewall mangle

add action=mark-connection chain=prerouting in-interface=ether3 new-connection-
mark=all_conn

/queue simple
add comment=\
"tkjdwiarwa.blogspot.com - Memisahkan bandwidth browsing & download file" \
max-limit=128k/512k name=Browsing1 packet-marks=all_packet target=\
192.168.3.0/24

add max-limit=128k/128k name="Download File1" packet-marks=download_packet \
target=192.168.3.0/24
```

```
/ip firewall mangle
add action=add-dst-to-address-list address-list=facebook \
address-list-timeout=1m chain=prerouting comment="" content=facebook.com \
disabled=no

add action=add-dst-to-address-list address-list=youtube \
address-list-timeout=1m chain=prerouting comment="" content=youtube.com \
disabled=no

add action=add-dst-to-address-list address-list=twitter \
address-list-timeout=1m chain=prerouting comment="" content=twitter.com \
disabled=no

add action=add-dst-to-address-list address-list=terlarang \
address-list-timeout=1m chain=prerouting comment="" content=terlarang.net \
disabled=no

add action=add-dst-to-address-list address-list=ryemovies \
address-list-timeout=1m chain=prerouting comment="" content=ryemovies.com \
disabled=no

/ip firewall filter
add action=drop chain=forward comment="Drop Facebook" disabled=no \
dst-address-list=facebook

add action=drop chain=forward comment="Drop Youtube" disabled=no \
dst-address-list=youtube

add action=drop chain=forward comment="Drop Twitter" disabled=no \
dst-address-list=twitter

add action=drop chain=forward comment="Drop Ryemovies" disabled=no \
dst-address-list=ryemovies
```

## Cara Membatasi Youtube di MikroTik

```
/ip firewall layer7-protocol
add name=video_stream regexp="(get_video\|\|?|videoplayback\|\|?|videodownload\|\|
\?\|\|.flv\|\|?|\|\|.fid\|\|?)"

/ip firewall mangle
add action=mark-connection chain=prerouting disabled=no in-interface=ether1 new-connection-
mark=\ "all_conn[tkjdwiwarna.blogspot.com]" passthrough=yes

add action=mark-connection chain=prerouting disabled=no in-interface=ether1 layer7-protocol=\
video_stream new-connection-mark="video_conn[tkjdwiwarna.blogspot.com]"
passthrough=yes

add action=mark-packet chain=prerouting connection-
mark="video_conn[tkjdwiwarna.blogspot.com]" disabled=no \
new-packet-
mark="video_packet[tkjdwiwarna.blogspot.com]" passthrough=no

add action=mark-packet chain=prerouting connection-
mark="all_conn[tkjdwiwarna.blogspot.com]" disabled=no \
new-packet-mark="all_packet[tkjdwiwarna.blogspot.com]" passthrough=no

/queue simple
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s comment=\
"Membatasi video streaming (ex: youtube) - [tkjdwiwarna.blogspot.com]" direction=both
disabled=no interface=\ all limit-at=0/0 max-limit=1M/1M name="Browsing, DLL" packet-
marks="all_packet[tkjdwiwarna.blogspot.com]" \
parent=none priority=8 queue=default-small/default-small target-addresses=192.168.2.0/24
total-queue= \ default-small

add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s direction=both disabled=no
interface=all limit-at=\
0/0 max-limit=128k/128k name="Video Streaming/Youtube" packet-
marks="video_packet[tkjdwiwarna.blogspot.com]" \
parent=none priority=8 queue=default-small/default-small target-addresses=192.168.2.0/24
total-queue= \ default-small
```

## **Manajemen Bandwidth Menggunakan Simple Queue**

Pada sebuah jaringan yang mempunyai banyak client, diperlukan sebuah mekanisme pengaturan bandwidth dengan tujuan mencegah terjadinya monopoli penggunaan bandwidth sehingga semua client bisa mendapatkan jatah bandwidth masing-masing. QOS(Quality of services) atau lebih dikenal dengan Bandwidth Manajemen, merupakan metode yang digunakan untuk memenuhi kebutuhan tersebut.

Pada RouterOS Mikrotik penerapan QoS bisa dilakukan dengan fungsi Queue.

---

### **Limitasi Bandwidth Sederhana**

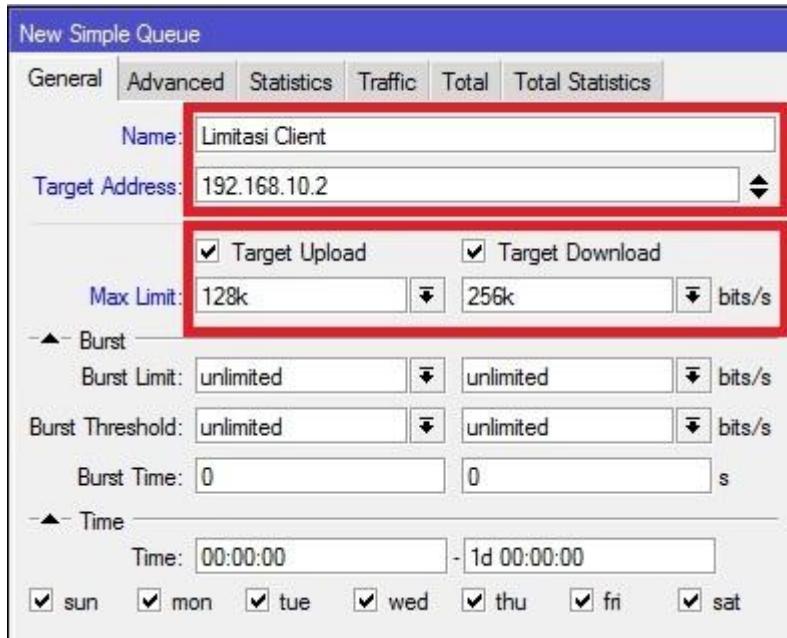
Cara paling mudah untuk melakukan queue pada RouterOS adalah dengan menggunakan Simple Queue. Kita bisa melakukan pengaturan bandwidth secara sederhana berdasarkan IP Address client dengan menentukan kecepatan upload dan download maksimum yang bisa dicapai oleh client.

#### ***Contoh :***

Kita akan melakukan limitasi maksimal upload : 128kbps dan maksimal download : 512kbps terhadap client dengan IP 192.168.10.2 yang terhubung ke Router. Parameter **Target Address** adalah IP Address dari client yang akan dilimit. Bisa berupa :

- Single IP (192.168.10.2)
- Network IP (192.168.10.0/24)
- Beberapa IP (192.168.10.2,192.168.10.13) dengan menekan tombol panah bawah kecil di sebelah kanan kotak isian.

Penentuan kecepatan maksimum client dilakukan pada parameter target upload dan target download max-limit. Bisa dipilih dengan drop down menu atau ditulis manual. Satuan bps (bit per second).



Dengan pengaturan tersebut maka Client dengan IP 192.168.10.2 akan mendapatkan kecepatan maksimum Upload 128kbps dan Download 256kbps dalam keadaan apapun selama bandwidth memang tersedia.

## Metode Pembagian Bandwidth Share

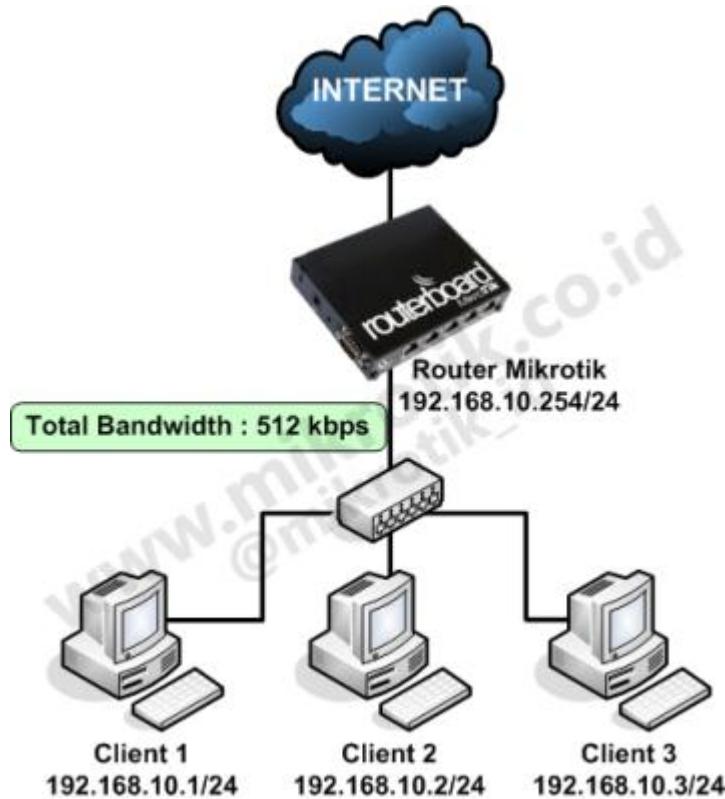
Selain digunakan untuk melakukan manajemen bandwidth fix seperti pada contoh sebelumnya, kita juga bisa memanfaatkan Simple Queue untuk melakukan pengaturan bandwidth share dengan menerapkan Limitasi Bertingkat. Konsep Limitasi Bertingkat bisa anda baca pada artikel [Mendalami HTB pada QOS RouterOS Mikrotik](#)

### Contoh :

Kita akan melakukan pengaturan bandwidth sebesar 512kbps untuk digunakan 3 client.

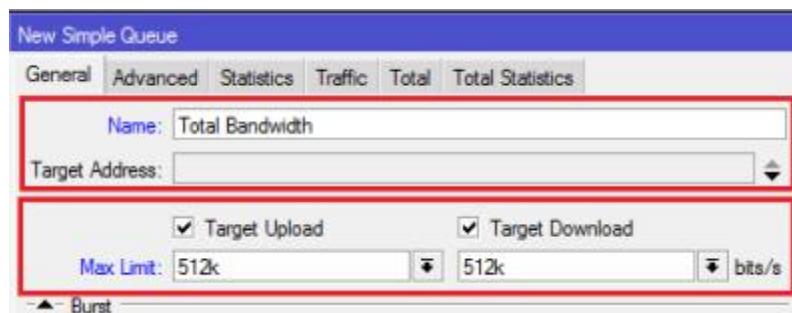
### Konsep:

1. Dalam keadaan semua client melakukan akses, maka masing-masing client akan mendapat bandwidth minimal 128kbps.
2. Jika hanya ada 1 Client yang melakukan akses, maka client tersebut bisa mendapatkan bandwidth hingga 512kbps.
3. Jika terdapat beberapa Client (tidak semua client) melakukan akses, maka bandwidth yang tersedia akan dibagi rata ke sejumlah client yg aktif.



### Topologi Jaringan

Router kita tidak tahu berapa total bandwidth real yang kita miliki, maka kita harus definisikan pada langkah pertama. Pendefinisian ini bisa dilakukan dengan melakukan setting Queue Parent. Besar bandwidth yang kita miliki bisa diisikan pada parameter **Target Upload Max-Limit** dan **Target Download Max-Limit**.



Langkah selanjutnya kita akan menentukan limitasi per client dengan melakukan setting child-queue.

Pada child-queue kita tentukan target-address dengan mengisikan IP address masing-masing client. Terapkan **Limit-at (CIR)** : 128kbps dan **Max-Limit (MIR)** : 512kbps. Arahkan ke Parent Total Bandwidth yang kita buat sebelumnya.

Ulangi untuk memberikan limitasi pada client yang lain, sesuaikan Target-Address.

Selanjutnya lakukan pengetesan dengan melakukan download di sisi client. Pada gambar berikut menunjukkan perbedaan kondisi penggunaan bandwidth client setelah dilakukan limitasi bertingkat

| Queue List |                 |                |                  |             |                 |            |
|------------|-----------------|----------------|------------------|-------------|-----------------|------------|
|            |                 | Simple Queues  | Interface Queues | Queue Tree  | Queue Types     |            |
| #          | Name            | Target Address | Tx Max Limit     | Tx Limit At | Parent          | Tx         |
| 0          | Total Bandwidth |                | 512k             | unlimited   | none            | 513.8 kbps |
| 1          | Client1         | 192.168.10.1   | 512k             | 128k        | Total Bandwidth | 513.5 kbps |
| 2          | Client2         | 192.168.10.2   | 512k             | 128k        | Total Bandwidth | 0 bps      |
| 3          | Client3         | 192.168.10.3   | 512k             | 128k        | Total Bandwidth | 0 bps      |

### Kondisi 1

Kondisi 1 menunjukkan ketika hanya 1 client saja yg menggunakan bandwidth, maka Client tersebut bisa mendapat hingga Max-Limit.

Perhitungan : Pertama Router akan memenuhi Limit-at Client yaitu 128kbps. Bandwidth yang tersedia masih sisa  $512\text{kbps} - 128\text{kbps} = 384\text{kbps}$ . Karena client yang lain tidak aktif maka 384kbps yang tersisa akan diberikan lagi ke Client1 sehingga mendapat  $128\text{kbps} + 384\text{kbps} = 512\text{kbps}$  atau sama dengan max-limit.

| Queue List |                 |                |                  |             |                 |            |
|------------|-----------------|----------------|------------------|-------------|-----------------|------------|
|            |                 | Simple Queues  | Interface Queues | Queue Tree  | Queue Types     |            |
| #          | Name            | Target Address | Tx Max Limit     | Tx Limit At | Parent          | Tx         |
| 0          | Total Bandwidth |                | 512k             | unlimited   | none            | 515.5 kbps |
| 1          | Client1         | 192.168.10.1   | 512k             | 128k        | Total Bandwidth | 256.4 kbps |
| 2          | Client2         | 192.168.10.2   | 512k             | 128k        | Total Bandwidth | 259.0 kbps |
| 3          | Client3         | 192.168.10.3   | 512k             | 128k        | Total Bandwidth | 0 bps      |

## Kondisi 2

Kondisi 2 menggambarkan ketika hanya 2 client yang menggunakan bandwidth.

Perhitungan : Pertama router akan memberikan limit-at semua client terlebih dahulu. Akumulasi Limit-at untuk 2 client =  $128\text{ kbps} \times 2 = 256\text{ kbps}$ . Bandwidth total masih tersisa 256kbps. Sisa diberikan kemana.? Akan dibagi rata ke kedua Client.

Sehingga tiap client mendapat Limit-at + (sisa bandwidth / 2) =  $128\text{ kbps} + 128\text{ kbps} = 256\text{ kbps}$

| Queue List |                 |                |                  |             |                 |            |
|------------|-----------------|----------------|------------------|-------------|-----------------|------------|
|            |                 | Simple Queues  | Interface Queues | Queue Tree  | Queue Types     |            |
| #          | Name            | Target Address | Tx Max Limit     | Tx Limit At | Parent          | Tx         |
| 0          | Total Bandwidth |                | 512k             | unlimited   | none            | 505.6 kbps |
| 1          | Client1         | 192.168.10.1   | 512k             | 128k        | Total Bandwidth | 179.2 kbps |
| 2          | Client2         | 192.168.10.2   | 512k             | 128k        | Total Bandwidth | 173.1 kbps |
| 3          | Client3         | 192.168.10.3   | 512k             | 128k        | Total Bandwidth | 170.6 kbps |

## Kondisi 3

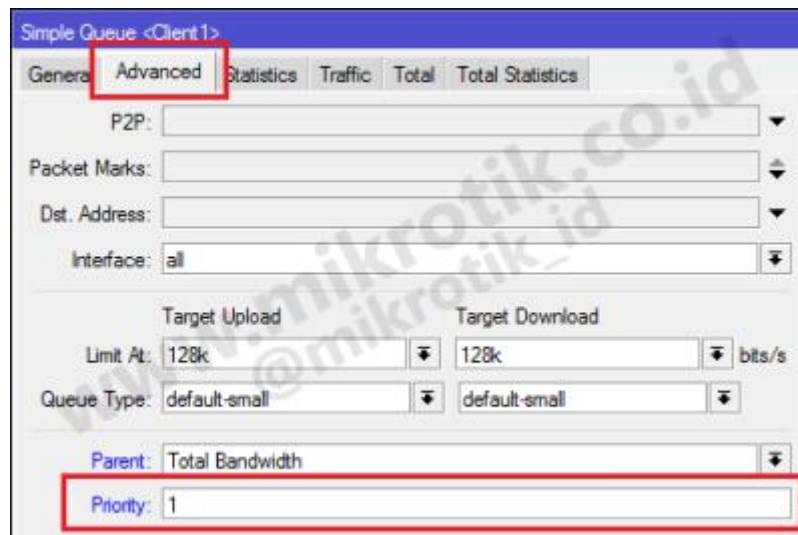
Kondisi 3 menunjukkan apabila semua client menggunakan bandwidth.

Perhitungan: Pertama Router akan memenuhi Limit-at tiap client lebih dulu, sehingga bandwidth yang digunakan  $128\text{ kbps} \times 3 = 384\text{ kbps}$ . Bandwidth total masih tersisa 128kbps. Sisa bandwidth akan dibagikan ke ketiga client secara merata sehingga tiap client mendapat  $128\text{ kbps} + (128\text{ kbps}/3) = 170\text{ kbps}$ .

Pada Limitasi bertingkat ini juga bisa diterapkan **Priority** untuk client. Nilai priority queue adalah 1-8 dimana terendah 8 dan tertinggi 1.

Contoh :

Client 1 adalah VVIP user, maka bisa diberikan Priority 1 (tertinggi).



Jika kita menerapkan priority perhitungan pembagian bandwidth hampir sama dengan sebelumnya. Hanya saja setelah limit-at semua client terpenuhi, Router akan melihat priority client. Router akan mencoba memenuhi Max-Limit client priority tertinggi dengan bandwidth yang masih tersedia.

The Queue List interface shows two tables of bandwidth allocation:

| # | Name            | Target Address | Tx Max Limit | Tx Limit At | Parent          | Priority | Tx           |
|---|-----------------|----------------|--------------|-------------|-----------------|----------|--------------|
| 0 | Total Bandwidth |                | 512k         | unlimited   | none            | 1        | 8 518.9 kbps |
| 1 | Client1         | 192.168.10.1   | 512k         | 128k        | Total Bandwidth | 1        | 1.0 bps      |
| 2 | Client2         | 192.168.10.2   | 512k         | 128k        | Total Bandwidth | 2        | 8 239.5 kbps |
| 3 | Client3         | 192.168.10.3   | 512k         | 128k        | Total Bandwidth | 2        | 8 268.4 kbps |

| # | Name            | Target Address | Tx Max Limit | Tx Limit At | Parent          | Priority | Tx           |
|---|-----------------|----------------|--------------|-------------|-----------------|----------|--------------|
| 0 | Total Bandwidth |                | 512k         | unlimited   | none            | 1        | 8 514.0 kbps |
| 1 | Client1         | 192.168.10.1   | 512k         | 128k        | Total Bandwidth | 1        | 1.249.2 kbps |
| 2 | Client2         | 192.168.10.2   | 512k         | 128k        | Total Bandwidth | 2        | 8 124.6 kbps |
| 3 | Client3         | 192.168.10.3   | 512k         | 128k        | Total Bandwidth | 2        | 8 125.8 kbps |

Perhitungan: Client 1 mempunyai priority tertinggi maka router akan mencoba memberikan bandwidth sampai batas Max-Limit yaitu 512kbps. Sedangkan bandwidth yang tersisa hanya 128kbps, maka Client1 mendapat bandwidth sebesar Limit-at + Sisa Bandwidth = 128kbps+128kbps = 256kbps

Konsep pembagian bandwidth ini mirip ketika anda berlangganan internet dengan sistem Bandwidth share.

Limitasi bertingkat juga bisa diterapkan ketika dibutuhkan sebuah pengelompokan pembagian bandwidth.

| Queue List |                  |                    |                  |             |                  |          |            |
|------------|------------------|--------------------|------------------|-------------|------------------|----------|------------|
|            |                  | Simple Queues      | Interface Queues | Queue Tree  | Queue Types      |          |            |
| #          | Name             | Target Address     | Tx Max Limit     | Tx Limit At | Parent           | Priority | Tx         |
| 0          | Total Bandwidth  | 192.168.10.0/24    | 512k             | unlimited   | none             | 8        | 514.0 kbps |
| 1          | Limitasi Manager | 192.168.10.2       | 256k             | unlimited   | Total Bandwidth  | 8        | 257.1 kbps |
| 3          | Client2          | 192.168.10.2       | 256k             | 256k        | Limitasi Manager | 8        | 254.9 kbps |
| 2          | Limitasi Staff   | 192.168.10.1, 1... | 256k             | unlimited   | Total Bandwidth  | 8        | 256.8 kbps |
| 5          | Client1          | 192.168.10.1       | 256k             | 128k        | Limitasi Staff   | 8        | 131.5 kbps |
| 4          | Client3          | 192.168.10.3       | 256k             | 128k        | Limitasi Staff   | 8        | 132.1 kbps |

Tampak pada gambar, limitasi Client1 dan Client3 tidak menganggu limitasi Client2 karena sudah berbeda parent. Perhatikan max-limit pada **Limitasi Manager** dan **Limitasi Staff**.

---

### Bypass Traffic Lokal

Ketika kita melakukan implementasi Simple Queue, dengan hanya berdasarkan target-address, maka Router hanya akan melihat dari mana traffic itu berasal. Sehingga kemanapun tujuan traffic nya (dst-address) tetap akan terkena limitasi. Tidak hanya ke arah internet, akan tetapi ke arah jaringan Lokal lain yang berbeda segment juga akan terkena limitasi.

#### Contoh :

- IP LAN 1 : 192.168.10.0/24
- IP LAN 2 : 192.168.11.0/24

Jika hanya dibuat Simple Queue dengan target-address : 192.168.10.0/24, traffic ke arah 192.168.11.0/24 juga akan terlimit. Agar traffic ke arah jaringan lokal lain tidak terlimit, kita bisa membuat Simple Queue baru dengan mengisikan dst-address serta tentukan Max-Limit sebesar maksimal jalur koneksi, misalnya 100Mbps. Kemudian letakkan rule tersebut pada urutan teratas (no. 0).

| Queue List |                 |                 |                  |              |                 |             |             |
|------------|-----------------|-----------------|------------------|--------------|-----------------|-------------|-------------|
|            |                 | Simple Queues   | Interface Queues | Queue Tree   | Queue Types     |             |             |
| #          | Name            | Target Address  | Rx Max Limit     | Tx Max Limit | Dst. Address    | Rx Limit At | Tx Limit At |
| 0          | ByPassLokal     | 192.168.10.0/24 | 100M             | 100M         | 192.168.11.0/24 | unlimited   | unlimited   |
| 3          | Total Bandwidth |                 | 512k             | 512k         |                 | unlimited   | unlimited   |
| 1          | LimitLAN1       | 192.168.10.0/24 | 512k             | 512k         |                 | 256k        | 256k        |
| 2          | LimitLAN2       | 192.168.11.0/24 | 512k             | 512k         |                 | 256k        | 256k        |

Rule Simple Queue dibaca dari urutan teratas (no. 0) sehingga dengan pengaturan tersebut traffic dari LAN1 ke LAN2 dan sebaliknya maksimum transfer rate sebesar 100Mbps atau setara dengan kecepatan kabel ethernet.

# Queue Tree & PCQ

Pengaturan dan managemen Bandwidth di Mikrotik tidak dapat lepas dari fitur Queue. Ada dua jenis Queue yang dapat digunakan di Mikrotik, yaitu Simple Queue dan Queue Tree. Untuk penjelasan tentang Simple Queue sudah pernah saya bahas disini :

Cara Membatasi (Limit) Bandwidth Mikrotik dengan Simple Queue. Nah, kali ini kita akan membahas Penjelasan Queue Tree & PCQ (Per Connection Queue) serta Penerapannya di Mikrotik.

## Queue Tree

Queue Tree berfungsi untuk mengimplementasikan fungsi yang lebih kompleks dalam limit bandwidth pada mikrotik dimana penggunaan packet mark nya memiliki fungsi yang lebih baik. Digunakan untuk membatasi satu arah koneksi saja baik itu download maupun upload. Secara umum Queue Tree ini tidak terlihat berbeda dari Simple Queue.

Perbedaan yang bisa kita lihat langsung yaitu hanya dari sisi cara pakai atau penggunaannya saja. Dimana Queue Simple secara khusus memang dirancang untuk kemudahan konfigurasi sementara Queue Tree dirancang untuk melaksanakan tugas antrian yang lebih kompleks dan butuh pemahaman yang baik tentang aliran trafik.

Beberapa Perbedaan Simple Queue dan Queue Tree :

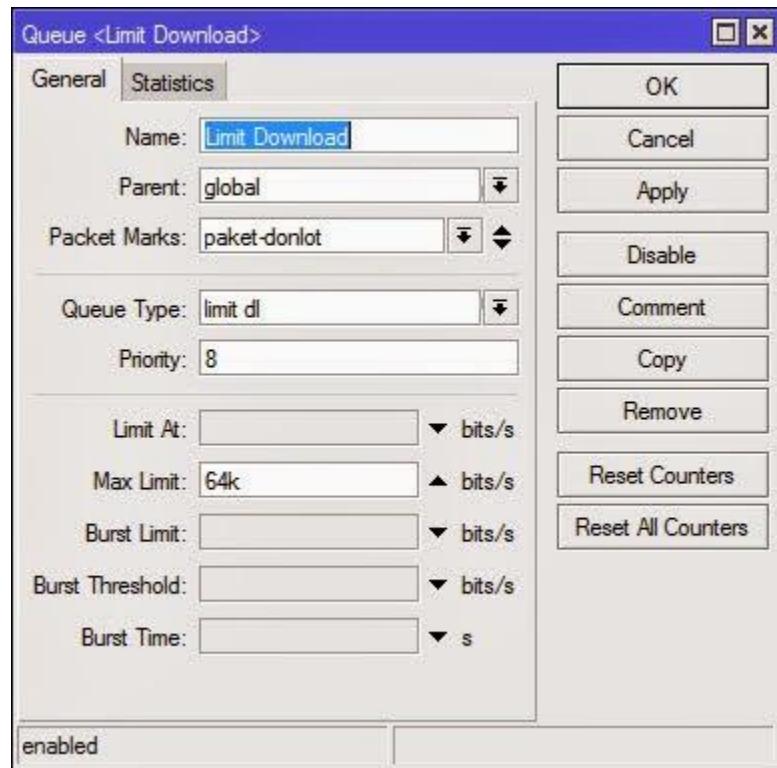
### **1. Queue Simple**

- Memiliki aturan urutan yang sangat ketat, antrian diproses mulai dari yang paling atas sampai yang paling bawah.
- Mengatur aliran paket secara bidirectional (dua arah).
- Mampu membatasi trafik berdasarkan alamat IP.
- Satu antrian mampu membatasi trafik dua arah sekaligus (upload/download).
- Jika menggunakan Queue Simple dan Queue Tree secara bersama-sama, Queue Simple akan diproses lebih dulu dibandingkan Queue Tree.
- Mendukung penggunaan PCQ sehingga mampu membagi bandwidth secara adil dan merata.
- Bisa menerapkan antrian yang ditandai melalui paket di /firewall mangle.
- Mampu membagi bandwidth secara fixed.
- Sesuai namanya, pengaturannya sangat sederhana dan cenderung statis, sangat cocok untuk admin yang tidak mau ribet dengan traffic control di /firewall mangle.

### **2. Queue Tree**

- Tidak memiliki urutan, setiap antrian akan diproses secara bersama-sama.
- Mengatur aliran paket secara directional (satu arah)
- Membutuhkan pengaturan /firewall mangle untuk membatasi trafik per IP.
- Membutuhkan pengaturan /firewall mangle terlebih dahulu untuk membedakan trafik download dan upload.
- Dibutuhkan setelah Queue Simple.
- Mendukung penggunaan PCQ sehingga mampu membagi bandwidth secara adil dan merata.
- Pengaturan antrian murni melalui paket yang ditandai di /firewall mangle.
- Mampu membagi bandwidth secara fixed.

- Lebih fleksibel dan butuh pemahaman yang baik di /firewall mangle khususnya tentang traffic control.



Penjelasan beberapa argumen di Queue Tree :

1. *Parent*: berguna untuk menentukan apakah queue yang dipilih bertugas sebagai child queue  
Ada beberapa pilihan default di parent queue tree yang biasanya digunakan untuk induk queue:
  - *Global-in* :  
Mewakili semua input interface pada umumnya. Maksudnya disini interface yang menerima input data/trafik sebelum difilter seperti trafik upload
  - *Global-out* :  
Mewakili semua output interface pada umumnya. Maksudnya disini interface yang mengeluarkan output data/trafik yang sudah difilter seperti trafik download
  - *Global-total* :  
Mewakili semua input dan output interface secara bersama, dengan kata lain merupakan penyatuan dari global-in dan global-out.
  - *<interface name>*: ex: lan atau wan :  
Mewakili salah satu interface keluar. Maksudnya disini hanya trafik yang keluar dari interface ini yang akan diqueue.
2. *Packet Mark*: Digunakan untuk menandai paket yang sudah ditandai di /ip firewall mangle.
3. *Priority ( 1 s/d 8 )* : Digunakan untuk memprioritaskan child queue dari child queue lainnya. Priority tidak bekerja pada induk queue. Child Queue yang mempunyai priority satu (1) akan mencapai limit-at lebih dulu dari pada child queue yang berpriority (2).
4. *Queue Type* : Digunakan untuk memilih type queue yang bisa dibuat secara khusus dibagian *queue types*
  - *Limit At* : Bandwidth minimal yang diperoleh oleh target/ip yang diqueue
  - *Max Limit* : Bandwidth maksimal yang bisa dicapai oleh target/ip yang diqueue.

- *Burst limit* : Bandwidth maksimal yang bisa dicapai oleh target/ip yang diqueue ketika burst sedang aktif
- *Burst time* : Periode waktu dalam detik, dimana data Rate rata-rata dikalkulasikan.
- *Burst Threshold* : Digunakan ketika data Rate dibawah nilai *burst threshold* maka burst diperbolehkan. Ketika data Rate sama dengan nilai *burst threshold* burst dilarang. Untuk mengoptimalkan burst nilai *burst threshold* harus diatas nilai *Limit At* dan dibawah nilai *Max Limit*.

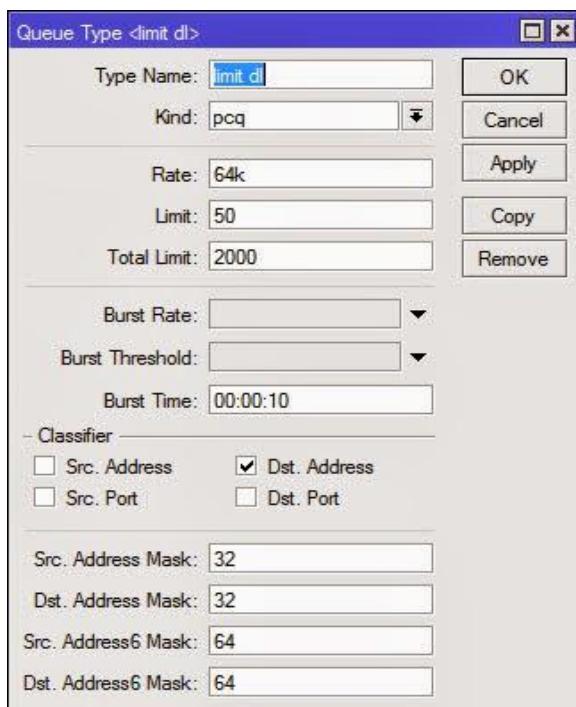
### PCQ (Per Connection Queuing)

Digunakan untuk mengenali arah arus dan digunakan karena dapat membagi bandwidth secara adil, merata dan masif. PCQ pada mikrotik digunakan bersamaan dengan fitur Queue, baik Simple Queue maupun Queue Tree.

Untuk lebih mudah memahami konsep PCQ, silakan simak analogi berikut ini : Saya punya 10 PC yang akan saya bagikan bandwidth maksimal 1 Mb dan bandwidth minimal tiap PC 256 kb. Jika hanya satu PC saya yang online maka dia akan dapat BW max 1 Mb, namun jika ada dua PC yang online BW dibagi 2, dan seterusnya hingga 10 dengan pembagian bandwidth yang merata.

Nah, untuk membuat konfigurasi seperti ini, saya harus membuat 1 rule parent Queue dan 10 rule child Queue untuk tiap client. Untuk kondisi sekarang yang hanya 10 PC it's ok, ga masalah. Namun bayangkan jika PC nya ada 100? 200? Gimana kalau yang saya kelola adalah jaringan WiFi Hotspot dengan client yg ga tentu jumlah nya? Apa iya saya harus membuat ratusan rule untuk tiap client? Capek dongg..

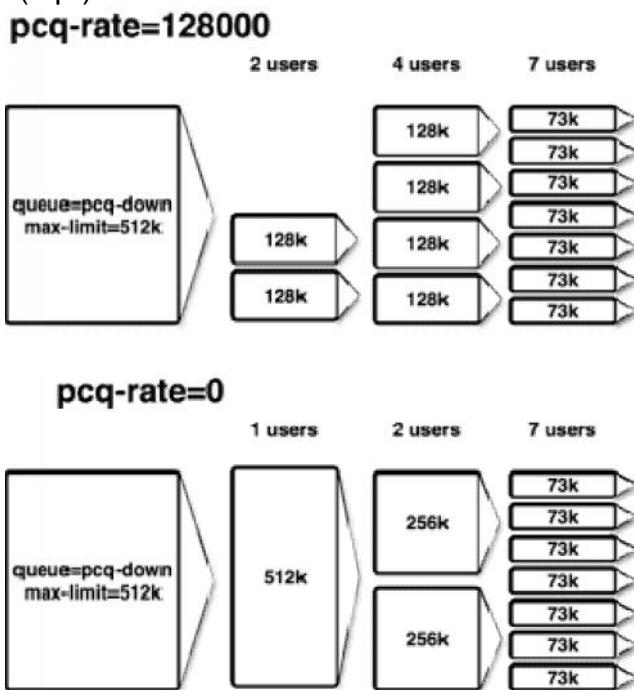
Oleh karena itu, saya dapat gunakan fitur PCQ ini untuk melakukan manajemen bandwidth secara massive kepada semua client secara besar-besaran. Dengan menggunakan PCQ ini, walaupun jumlah client tidak tentu dan sangat banyak, kita hanya perlu membuat satu atau dua konfigurasi Queue. Enak kan?



### Penjelasan Beberapa Argumen di PCQ :

PCQ Classifier berfungsi mengklasifikasikan arah koneksi. Misalnya jika Classifier yang digunakan adalah src-address pada Local interface, maka aliran pcq akan menjadi koneksi upload. Begitu juga dgn dst-address akan menjadi pcq download.

PCQ rate berfungsi untuk membatasi bandwidth maksimum yang bisa didapatkan. Dengan memasukkan angka pada rate ini (default: 0) maka maksimal download yang akan didapatkan per IP akan dibatasi mis. 128k (kbps).

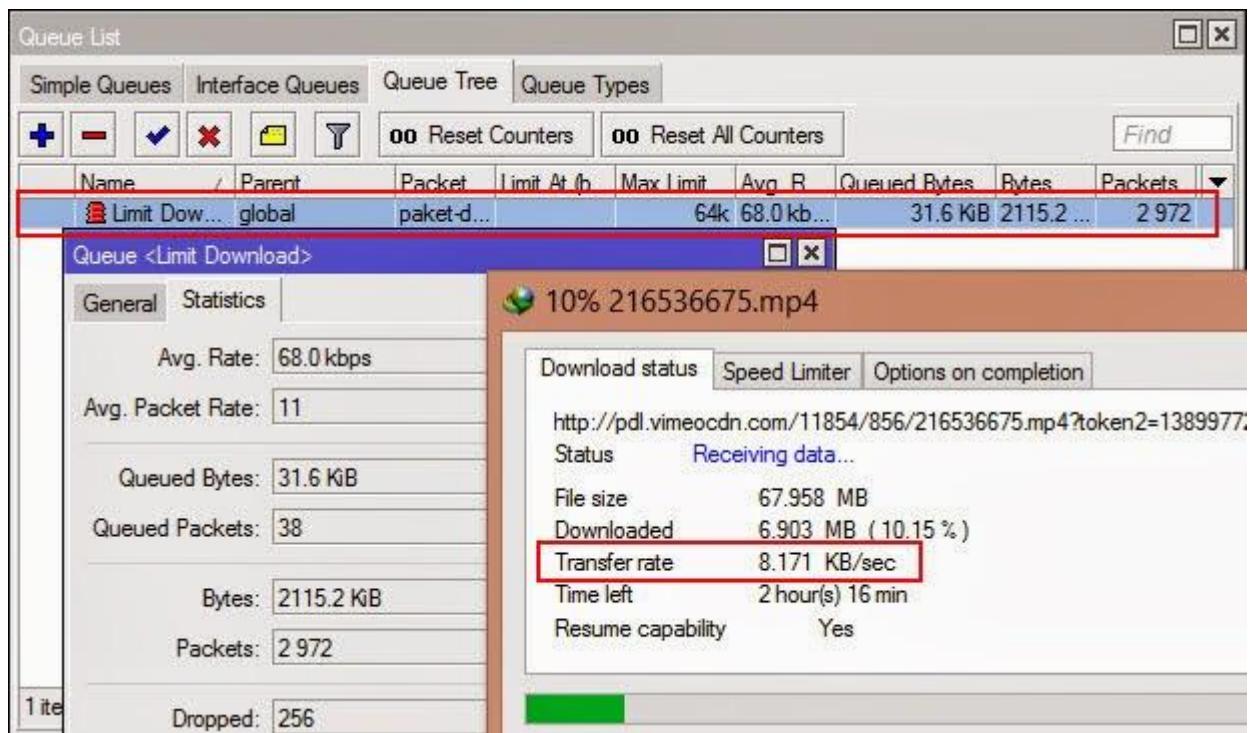


Limit berfungsi untuk membatasi jumlah koneksi paralel yang diperkenankan bagi tiap IP. artinya bila kita meletakkan nilai 50, maka cuma 50 koneksi simultan yang bisa didapat oleh 1 IP address (baik itu source / destination).

Total Limit adalah total keseluruhan koneksi paralel yang diperkenankan untuk seluruh ip addresss (baik itu source ataupun destination).

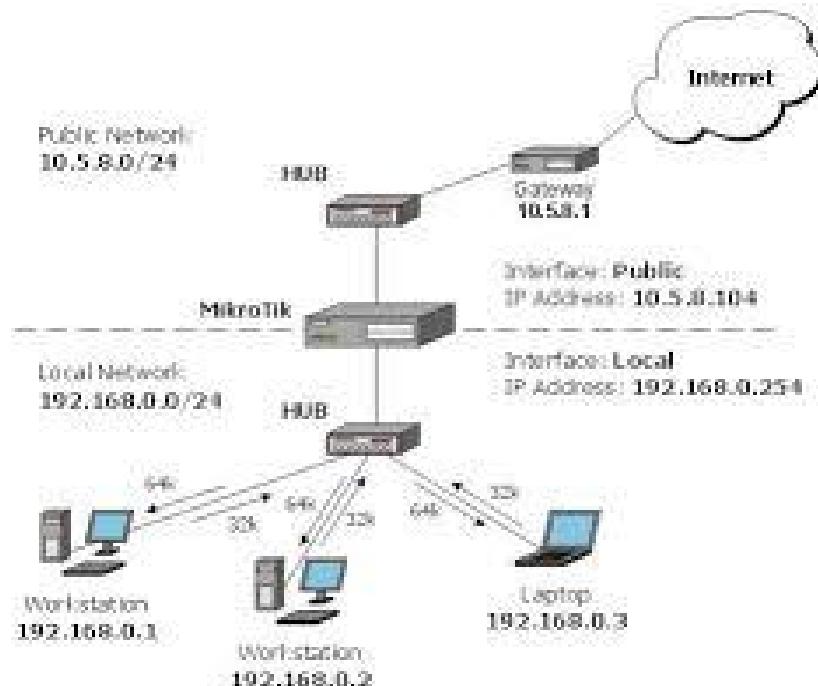
### Contoh penerapan PCQ dan Queue Tree di Mikrotik :

Menggabungkan fitur Layer7 dan packet marking menggunakan mangle untuk menandai file yang biasa di download untuk kemudian dibatasi bandwidth download menggunakan Queue Tree + PCQ. Sehingga tiap client akan mendapatkan koneksi limited download dan unlimited browsing.



Tutorial Bandwidth Mikrotik : Limited Download, Unlimited Browsing Menggunakan Layer 7

## MELIMIT BANDWIDTH MIKROTIK DENGAN QUEUE TREE



### Contoh Kasus Warnet

- Bandwidth Total= 1M
- Jumlah Client = 8
- Ip router Mikrotik = 192.168.0.1
- Ip client = 192.168.2.2-192.168.2.8

- **Buat Mangle**

```
/ip firewall mangle
add chain=forward action=mark-connection new-connection-mark=client1 passthrough=yes
dst-address=192.168.2.2
add chain=forward action=mark-packet new-packet-mark=client1 passthrough=no connection-
mark=client1

add chain=forward action=mark-connection new-connection-mark=client2 passthrough=yes
dst-address=192.168.2.3
add chain=forward action=mark-packet new-packet-mark=client2 passthrough=no connection-
mark=client2

add chain=forward action=mark-connection new-connection-mark=client3 passthrough=yes
dst-address=192.168.2.4
add chain=forward action=mark-packet new-packet-mark=client3 passthrough=no connection-
mark=client3

add chain=forward action=mark-connection new-connection-mark=client4 passthrough=yes
dst-address=192.168.2.5
add chain=forward action=mark-packet new-packet-mark=client4 passthrough=no connection-
mark=client4
```

```
add chain=forward action=mark-connection new-connection-mark=client5 passthrough=yes
dst-address=192.168.2.6
add chain=forward action=mark-packet new-packet-mark=client5 passthrough=no connection-
mark=client5

add chain=forward action=mark-connection new-connection-mark=client6 passthrough=yes
dst-address=192.168.2.7
add chain=forward action=mark-packet new-packet-mark=client6 passthrough=no connection-
mark=client6

add chain=forward action=mark-connection new-connection-mark=client7 passthrough=yes
dst-address=192.168.2.8
add chain=forward action=mark-packet new-packet-mark=client7 passthrough=no connection-
mark=client7

add chain=forward action=mark-connection new-connection-mark=client8 passthrough=yes
dst-address=192.168.2.9
add chain=forward action=mark-packet new-packet-mark=client8 passthrough=no connection-
mark=client8
```

- **Buat Queue Tree**

```
/queue tree
add name="all-warnet" parent=global-out packet-mark=all-warnet limit-at=0 queue=default
priority=8 max-limit=1000000

add name="client1" parent=all-warnet packet-mark=client1 limit-at=128000 queue=default
priority=3 max-limit= 1000000

add name="client2" parent=all-warnet packet-mark=client2 limit-at=128000 queue=default
priority=3 max-limit=1000000

add name="client3" parent=all-warnet packet-mark=client3 limit-at=128000 queue=default
priority=3 max-limit= 1000000

add name="client4" parent=all-warnet packet-mark=client4 limit-at=128000 queue=default
priority=3 max-limit=1000000

add name="client5" parent=all-warnet packet-mark=client5 limit-at=128000 queue=default
priority=3 max-limit= 1000000

add name="client6" parent=all-warnet packet-mark=client6 limit-at=128000 queue=default
priority=3 max-limit=1000000

add name="client7" parent=all-warnet packet-mark=client7 limit-at=128000 queue=default
priority=3 max-limit= 1000000

add name="client8" parent=all-warnet packet-mark=client8 limit-at=128000 queue=default
priority=3 max-limit= 1000000
```

- Untuk membatasi agar client selain IP diatas tidak bisa mengakses internet

/ip firewall address-list

```
add address=192.168.2.2 list=boleh disabled=no
add address=192.168.2.3 list=boleh disabled=no
add address=192.168.2.4 list=boleh disabled=no
add address=192.168.2.5 list=boleh disabled=no
add address=192.168.2.6 list=boleh disabled=no
add address=192.168.2.7 list=boleh disabled=no
add address=192.168.2.8 list=boleh disabled=no
```

/ip firewall nat

```
add chain=srcnat disabled=no src-address-list=boleh action=masquerade
```

Atau

/ip firewall nat

```
/ip firewall filter add chain=forward src-address=192.168.2.9-192.168.2.254 action=drop
/ip firewall filter add chain=forward dst-address=192.168.2.14-192.168.2.254 action=drop
```

| Queue List |            |               |                 |                  |           |              |       |             |  |
|------------|------------|---------------|-----------------|------------------|-----------|--------------|-------|-------------|--|
|            |            | Simple Queues |                 | Interface Queues |           | Queue Tree   |       | Queue Types |  |
|            |            |               |                 |                  |           |              |       |             |  |
| Name       | Parent     | Packet ...    | Limit At (b...) | Max Limit ...    | Avg. R... | Queued Bytes | Bytes | Packets     |  |
| all-wamet  | global-out | all-wamet     |                 | 1M               | 0 bps     | 0 B          | 0 B   | 0           |  |
| client1    | all-wamet  | client1       | 128k            | 1M               | 0 bps     | 0 B          | 0 B   | 0           |  |
| client2    | all-wamet  | client2       | 128k            | 1M               | 0 bps     | 0 B          | 0 B   | 0           |  |
| client3    | all-wamet  | client3       | 128k            | 1M               | 0 bps     | 0 B          | 0 B   | 0           |  |
| client4    | all-wamet  | client4       | 128k            | 1M               | 0 bps     | 0 B          | 0 B   | 0           |  |
| client5    | all-wamet  | client5       | 128k            | 1M               | 0 bps     | 0 B          | 0 B   | 0           |  |
| client6    | all-wamet  | client6       | 128k            | 1M               | 0 bps     | 0 B          | 0 B   | 0           |  |
| client7    | all-wamet  | client7       | 128k            | 1M               | 0 bps     | 0 B          | 0 B   | 0           |  |
| client8    | all-wamet  | client8       | 128k            | 1M               | 0 bps     | 0 B          | 0 B   | 0           |  |

Catt:

Sesuaikan dengan IP Address jaringan kamu..

Trial n error adalah biasa.

```
/ip firewall filter
add action=accept chain=input comment="Anti-Netcut" disabled=no dst-port=0-65535
protocol=tcp src-address=61.213.183.1-61.213.183.254
add action=accept chain=input comment="Anti-Netcut" disabled=no dst-port= 0-65535
protocol=tcp src-address=67.195.134.1-67.195.134.254
add action=accept chain=input comment="Anti-Netcut" disabled=no dst-port=0-65535
protocol=tcp src-address=68.142.233.1-68.142.233.254
add action=accept chain=input comment="Anti-Netcut" disabled=no dst-port=0-65535
protocol=tcp src-address=68.180.217.1-68.180.217.254
add action=accept chain=input comment="Anti-Netcut" disabled=no dst-port=0-65535
protocol=tcp src-address=203.84.204.1-203.84.204.254
add action=accept chain=input comment="Anti-Netcut" disabled=no dst-port=0-65535
protocol=tcp src-address=69.63.176.1-69.63.176.254
add action=accept chain=input comment="Anti-Netcut" disabled=no dst-port=0-65535
protocol=tcp src-address=69.63.181.1-69.63.181.254
add action=accept chain=input comment="Anti-Netcut" disabled=no dst-port= 0-65535
protocol=tcp src-address=63.245.209.1-63.245.209.254
add action=accept chain=input comment="Anti-Netcut" disabled=no dst-port= 0-65535
protocol=tcp src-address=63.245.213.1-63.245.213.254
```

```
/queue simple
add name="WAN" target-address=0.0.0.0/0 interface=ether1
add name="LOCAL" target-address=0.0.0.0/0 interface=ether2

add name="Client-001" target-address=192.168.2.2 interface=ether2 max-limit=128k/512k
limit-at=128k/512k parent="LOCAL"

add name="Client-002" target-address=192.168.2.2 interface=ether2 max-limit=128k/512k
limit-at=128k/512k parent="LOCAL"

add name="Client-003" target-address=192.168.2.3 interface=ether2 max-limit=128k/512k
limit-at=128k/512k parent="LOCAL"

add name="Client-004" target-address=192.168.2.5 interface=ether2 max-limit=128k/512k
limit-at=128k/512k parent="LOCAL"

add name="Client-005" target-address=192.168.2.6 interface=ether2 max-limit=128k/512k
limit-at=128k/512k parent="LOCAL"

add name="Client-006" target-address=192.168.2.7 interface=ether2 max-limit=128k/512k
limit-at=128k/512k parent="LOCAL"

add name="Client-007" target-address=192.168.2.8 interface=ether2 max-limit=128k/512k
limit-at=128k/512k parent="LOCAL"

add name="Client-008" target-address=192.168.2.9 interface=ether2 max-limit=128k/512k
limit-at=128k/512k parent="LOCAL"

add name="Client-009" target-address=192.168.2.10 interface=ether2 max-limit=128k/512k
limit-at=128k/512k parent="LOCAL"

add name="Client-010" target-address=192.168.10.11 interface=ether2 max-limit=128k/512k
limit-at=128k/512k parent="LOCAL"
```

***Hasil tampilan, pada queue, simple queue***

Queue List

Simple Queues Interface Queues Queue Tree Queue Types

**Reset Counters** **Reset All Counters** **Find**

| #  | Name       | Target Address | Rx Max Limit | Tx Max Limit | Packet Marks |  |
|----|------------|----------------|--------------|--------------|--------------|--|
| 0  | WAN        | 0.0.0.0/0      | unlimited    | unlimited    |              |  |
| 1  | LOCAL      | 0.0.0.0/0      | unlimited    | unlimited    |              |  |
| 2  | Client-001 | 192.168.2.2    | 128k         | 512k         |              |  |
| 3  | Client-002 | 192.168.2.2    | 128k         | 512k         |              |  |
| 4  | Client-003 | 192.168.2.3    | 128k         | 512k         |              |  |
| 5  | Client-004 | 192.168.2.5    | 128k         | 512k         |              |  |
| 6  | Client-005 | 192.168.2.6    | 128k         | 512k         |              |  |
| 7  | Client-006 | 192.168.2.7    | 128k         | 512k         |              |  |
| 8  | Client-007 | 192.168.2.8    | 128k         | 512k         |              |  |
| 9  | Client-008 | 192.168.2.9    | 128k         | 512k         |              |  |
| 10 | Client-009 | 192.168.2.10   | 128k         | 512k         |              |  |
| 11 | Client-010 | 192.168.10.11  | 128k         | 512k         |              |  |

12 items | 0 B queued | 0 packets queued

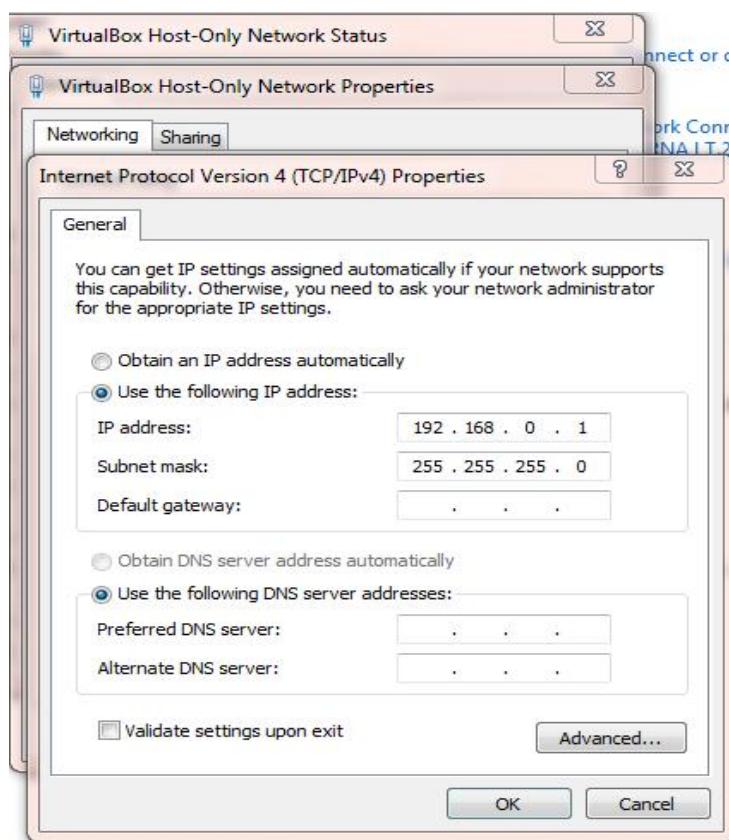
## Setting Mikrotik Untuk Game Online Dan Browsing (1Mb Speedy) SETTING MIKROTIK UNTUK GAME ONLINE DAN BROWSING (1Mb Speedy)

Pada tutor kali ini, kita akan mencoba uraikan settingan mikrotik untuk game online dicampur dengan kepentingan browsing agar berjalan serasi dan seimbang.

**Note:**

Script di bawah hanya berjalan pada mikrotik versi 3.30 ke atas. Bandwidth yang diimplementasikan 1Mbps/256Kbps (SPEEDY)

Atur **Local Area Network** pada **virtual box** seperti di bawah ini :



Kemudian Install Mikrotik dalam virtual box atur adapter1 dan adapter2 nya seperti biasa, dan tampilannya seperti dibawah ini,

```
[admin@MikroTik] > ip address add address=192.168.0.2/24 interface=ether1
[admin@MikroTik] > ip address add address=192.168.2.1/24 interface=ether2
[admin@MikroTik] > ip route add gateway=192.168.0.1
[admin@MikroTik] > ip dns set server=192.168.0.1 \ allow-remote-request=yes
[admin@MikroTik] > ip firewall nat add chain=srcnat action=masquerade out-interface=ether1
[admin@MikroTik] > ip dhcp-server
[admin@MikroTik] /ip dhcp-server> setup
Select interface to run DHCP server on

dhcp server interface: ether2
Select network for DHCP addresses

dhcp address space: 192.168.2.0/24
Select gateway for given network

gateway for dhcp network: 192.168.2.1
Select pool of ip addresses given out by DHCP server

addresses to give out: 192.168.2.2-192.168.2.254
Select DNS servers

dns servers: 192.168.0.1
Select lease time

lease time: 3d
[admin@MikroTik] /ip dhcp-server>
```

### **ROUTING UNTUK GAME ONLINE:**

```
/ip firewall mangle \
add action=mark-connection chain=prerouting \
comment="GAME ONLINE" dst-port=\
"1818,2001,3010,4300,5105,5121,5126,5171,5340-5352,6000-6001,6000-6152,7777" \
new-connection-mark="zar-goc" passthrough=yes protocol=tcp

add action=mark-connection chain=prerouting \
disabled=no dst-port="7341-7350,7451,8085,9600,9601-9602,9300,9400,9700,93\
76-9377,10001-10011,40000" \
new-connection-mark="zar-goc" passthrough=yes protocol=tcp

add action=mark-connection chain=prerouting \
dst-port="10009,13008,16666,28012,11011-
11041,10402,11031,12011,12110,13413,15000-15002,15001,15002" \
new-connection-mark="zar-goc" \
passthrough=yes protocol=tcp

add action=mark-connection chain=prerouting \
disabled=no dst-port="16402-16502,18901-
18909,19000,19101,22100,27780,29000,29200,39100,39110,39220,39190,49100" \
new-connection-mark="zar-goc" passthrough=yes protocol=tcp

add action=mark-connection chain=prerouting \
dst-port=14009-14010 new-connection-mark="zar-goc" \
passthrough=yes protocol=tcp
```

```
add action=mark-connection chain=prerouting \
dst-port="1293,1479,6100-6152,7777-7977,9401,9600-9602,12020-12080,30000,40000-40010" \
new-connection-mark="zar-goc" passthrough=yes protocol=udp
```

```
add action=mark-connection chain=prerouting \
dst-port=42051-42052,11100-11125,11440-11460 \
new-connection-mark="zar-goc" passthrough=yes protocol=udp
```

```
add action=mark-connection chain=prerouting \
dst-port=14009-14010 new-connection-mark="zar-goc" \
passthrough=yes protocol=udp
```

### **GAME DIBUAT PREROUTING AGAR TIDAK BERLIKU DI TUBUH ROUTER**

```
/ip firewall mangle
add action=mark-packet chain=prerouting \
connection-mark="zar-goc" \
new-packet-mark="zar-gopd" passthrough=no
```

### **INI ROUTING UNTUK GAME FACEBOOK**

```
/ip firewall mangle
add action=mark-connection chain=prerouting \
comment="GAME FACEBOOK" dst-port=843,9339 \
new-connection-mark="zar-gfc" passthrough=yes \
protocol=tcp
```

```
/ip firewall mangle
add action=mark-packet chain=forward \
connection-mark="zar-gfc" disabled=no \
dst-address=192.168.2.0/24 new-packet-mark="zar-gfpd" \
passthrough=no
```

```
/ip firewall mangle
add action=mark-packet chain=forward \
connection-mark="zar-gfc" new-packet-mark="zar-gfpu" \
passthrough=no src-address=192.168.2.0/24
```

### **PCQ UNTUK SPEED BAGI RATA**

```
/queue type
add kind=pcq name=DOWN \
pcq-classifier=dst-address,dst-port
```

```
/queue type
add kind=pcq name=UP \
pcq-classifier=src-address,src-port
```

### **INI QUEUE UNTUK GAME ONLINE**

```
/queue tree
add name="2.GAME DOWN" \
parent=global-out priority=2
```

```
/queue tree
add name="3.GAME UPLOAD" \
parent=ether1 priority=2

/queue tree
add name="1.GAME ONLINE DOWN" \
packet-mark="zar-gopd" \
parent="2.GAME DOWN" priority=2 queue=DOWN

/queue tree
add max-limit=256000 \
name="2.GAME FACEBOOK DOWN" \
packet-mark="zar-gfpd" \
parent="2.GAME DOWN" priority=3 queue=DOWN

/queue tree
add name="1.GAME ONLINE UPLOAD" \
packet-mark="zar-gopd" \
parent="3.GAME UPLOAD" priority=2 queue=UP

/queue tree
add limit-at=0 max-limit=128000 \
name="2.GAME FACEBOOK UPLOAD" \
packet-mark="zar-gfpu" \
parent="3.GAME UPLOAD" priority=3 queue=UP
```

**LIMIT FILE EXTENSI, SEPERTI .EXE .RAR .YOUTUBE, DLL**

```
/ip firewall layer7-protocol
add name="YOUTUBE DOWNLOAD" \
regexp="http(0\\.91\\.0|1\\.1) \
[\\x09-\\x0d][1-5][0-9][0-9] \
[\\x09-\\x0d ~]*(content-type: video)"

add name=EXE regexp="\\.(exe)"
add name=RAR regexp="\\.(rar)"
add name=ZIP regexp="\\.(zip)"
add name=7z regexp="\\.(7z)"
add name=WMV regexp="\\.(wmv)"
add name=MPG regexp="\\.(mpg)"
add name=MPEG regexp="\\.(mpeg)"
add name=AVI regexp="\\.(avi)"
add name=FLV regexp="\\.(flv)"
add name=WAV regexp="\\.(wav)"
add name=MP3 regexp="\\.(mp3)"
add name=MP4 regexp="\\.(mp4)"
add name=ISO regexp="\\.(iso)"
add name=3GP regexp="\\.(3gp)"
add name=MOV regexp="\\.(mov)"
add name=MKV regexp="\\.(mkv)"
add name="YOUTUBE STREAMING" regexp=youtube
add name=PORN regexp=porn
```

```
add name=TUBE regexp=tube
add name=VIDEO regexp=video
add name=MOVIE regexp=movie
```

### **ROUTING UNTUK EXTENSI**

```
/ip firewall mangle
add action=mark-packet chain=forward \
comment="LIMIT EXTENTION" disabled=no \
layer7-protocol="YOUTUBE DOWNLOAD" \
new-packet-mark="YOUTUBE DOWNLOAD" \
passthrough=no

add action=mark-packet chain=forward \
disabled=no layer7-protocol="YOUTUBE STREAMING" \
new-packet-mark="YOUTUBE STREAMING" \
passthrough=no

add action=mark-packet chain=forward \
disabled=no layer7-protocol=TUBE \
new-packet-mark=PORN1 passthrough=no

add action=mark-packet chain=forward disabled=no \
layer7-protocol=PORN \
new-packet-mark=PORN2 passthrough=no

add action=mark-packet chain=forward \
disabled=no layer7-protocol=VIDEO \
new-packet-mark=PORN3 passthrough=no

add action=mark-packet chain=forward \
disabled=no layer7-protocol=MOVIE \
new-packet-mark=PORN4 passthrough=no

add action=mark-packet chain=forward \
disabled=no layer7-protocol=MKV \
new-packet-mark=MKV passthrough=no

add action=mark-packet chain=forward \
disabled=no layer7-protocol=MP3 \
new-packet-mark=MP3 passthrough=no

add action=mark-packet chain=forward \
disabled=no layer7-protocol=MP4 \
new-packet-mark=MP4 passthrough=no
add action=mark-packet chain=forward \
disabled=no layer7-protocol=ZIP \
new-packet-mark=ZIP passthrough=no

add action=mark-packet chain=forward \
disabled=no layer7-protocol=EXE \
new-packet-mark=EXE passthrough=no
```

```
add action=mark-packet chain=forward \
disabled=no layer7-protocol=FLV \
new-packet-mark=FLV passthrough=no
```

```
add action=mark-packet chain=forward \
disabled=no layer7-protocol=ISO \
new-packet-mark=ISO passthrough=no
```

```
add action=mark-packet chain=forward \
disabled=no layer7-protocol=MOV \
new-packet-mark=MOV passthrough=no
```

```
add action=mark-packet chain=forward \
disabled=no layer7-protocol=MPEG \
new-packet-mark=MPEG passthrough=no
```

```
add action=mark-packet chain=forward \
disabled=no layer7-protocol=MPG \
new-packet-mark=MPG passthrough=no
```

```
add action=mark-packet chain=forward \
disabled=no layer7-protocol=RAR \
new-packet-mark=RAR passthrough=no
```

```
add action=mark-packet chain=forward \
disabled=no layer7-protocol=WAV \
new-packet-mark=WAV passthrough=no
```

```
add action=mark-packet chain=forward \
disabled=no layer7-protocol=WMV \
new-packet-mark=WMV passthrough=no
```

```
add action=mark-packet chain=forward \
disabled=no layer7-protocol=ISO \
new-packet-mark=3GP passthrough=no
```

```
add action=mark-packet chain=forward \
disabled=no layer7-protocol=7z \
new-packet-mark=7z passthrough=no
```

### **ROUTING UNTUK BROWSING (DOWNLOAD/UPLOAD)**

```
/ip firewall mangle
add action=mark-connection chain=prerouting \
comment=HTTP dst-port=21,80 \
new-connection-mark="browsing-con" passthrough=yes protocol=tcp
```

```
/ip firewall mangle
add action=mark-packet chain=forward \
connection-mark="browsing-con" disabled=no \
dst-address=192.168.2.0/24 \
new-packet-mark="download" passthrough=no
```

```
/ip firewall mangle
add action=mark-packet chain=forward \
connection-mark="browsing-con" disabled=no \
new-packet-mark="upload" \
passthrough=no src-address=192.168.2.0/24
```

**INI QUEUE UNTUK KEGIATAN BROWSING-DOWNLOAD-UPLOAD**

```
/queue tree
add max-limit=128000 \
name="UPLOAD-BROWSING" \
packet-mark="upload" parent=ether1 \
priority=4 queue=UP
```

```
/queue tree
add max-limit=750000 \
name="1.2 HTTP-DOWN" \
parent=global-out priority=2
```

```
/queue tree
add max-limit=750000 \
name="1.3 BROWSING DOWN" \
packet-mark="download" \
parent="1.2 HTTP-DOWN" \
priority=4 queue=DOWN
```

```
/queue tree
add max-limit=512000 \
name="1.4 LIMIT EXTENTION" \
parent="1.2 HTTP-DOWN" priority=5
/queue tree
add name=YOUTUBE \
parent="1.4 LIMIT EXTENTION" priority=5
```

```
add name="YOUTUBE STREAMING" \
packet-mark="YOUTUBE STREAMING" \
parent=YOUTUBE priority=5 queue=DOWN
```

```
add name=MKV packet-mark=MKV \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=MP3 packet-mark=MP3 \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=MP4 packet-mark=MP4 \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=ZIP packet-mark=ZIP \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=EXE packet-mark=EXE \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=ISO packet-mark=ISO \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=AVI packet-mark=AVI \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=MOV packet-mark=MOV \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=MPEG packet-mark=MPEG \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=MPG packet-mark=MPG \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=RAR packet-mark=RAR \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=WAV packet-mark=WAV \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=WMV packet-mark=WMV \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=3GP packet-mark=3GP \
parent="1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
```

```
add name=7z packet-mark=7z \
parent="1.4 LIMIT EXTENTION" priority=5 \
queue=DOWN
```

```
add name="YOUTUBE DOWNLOAD" \
packet-mark="YOUTUBE DOWNLOAD" \
parent=YOUTUBE priority=5 queue=DOWN
```

```
add name=PORN \
parent="1.4 LIMIT EXTENTION" priority=5

add name=PORN1 \
packet-mark=PORN1 parent=PORN \
priority=5 queue=DOWN

add name=PORN2 packet-mark=PORN2 \
parent=PORN priority=5 queue=DOWN

add name=PORN3 packet-mark=PORN3 \
parent=PORN priority=5 queue=DOWN

add name="MIVO TV" \
packet-mark="MIVO TV" parent=\
"1.4 LIMIT EXTENTION" \
priority=5 queue=DOWN
add name=PORN4 packet-mark=PORN4 \
parent=PORN priority=5 queue=DOWN
```

**Catatan:**

1. Game online dirouting langsung ke alamat port game online dan menggunakan bandwith maksimal (unlimited) karena tidak terlalu memakan bandwith sekalipun game PB hanya butuh koneksi dengan trafic yang mulus.
2. Browsing dirouting pada port 80 dan 21 dan diberikan bandwith maksimal 750Kbps untuk download dan 128Kbps untuk upload dan tidak boleh melebihi dari itu atau game online akan nge-lag.
3. Limit Extensi dirouting berdasarkan layer 7 protocol dan diberikan maksimal bandwidth 512Kbps dan tidak boleh lebih dari itu atau browsing dan game online akan terganggu.

**PERHATIAN:**

Tutorial di atas untuk 10 PC saja dengan Bandwidthnya 1Mbps,. Jika PC lebih dari 10 dan BW tetap 1 MBPS, maka pada queue tree download menjadi 512Kbps dan limit extensi menjadi 256Kbps.

Jika mempunyai BW 2Mbps ke atas, silahkan 2x lipatkan saja pada queue tree-nya atau gunakan logika anda sendiri.

## **SETTING IP ADDRESS PADA ETHER2**

```
/ip firewall mangle
add chain=forward action=mark-connection new-connection-mark=client1 passthrough=yes dst-
address=192.168.20.2
add chain=forward action=mark-packet new-packet-mark=client1 passthrough=no connection-
mark=client1

add chain=forward action=mark-connection new-connection-mark=client2 passthrough=yes dst-
address=192.168.20.3
add chain=forward action=mark-packet new-packet-mark=client2 passthrough=no connection-
mark=client2

add chain=forward action=mark-connection new-connection-mark=client3 passthrough=yes dst-
address=192.168.20.4
add chain=forward action=mark-packet new-packet-mark=client3 passthrough=no connection-
mark=client3

add chain=forward action=mark-connection new-connection-mark=client4 passthrough=yes dst-
address=192.168.20.5
add chain=forward action=mark-packet new-packet-mark=client4 passthrough=no connection-
mark=client4

add chain=forward action=mark-connection new-connection-mark=client5 passthrough=yes dst-
address=192.168.20.6
add chain=forward action=mark-packet new-packet-mark=client5 passthrough=no connection-
mark=client5

add chain=forward action=mark-connection new-connection-mark=client6 passthrough=yes dst-
address=192.168.20.7
add chain=forward action=mark-packet new-packet-mark=client6 passthrough=no connection-
mark=client6

add chain=forward action=mark-connection new-connection-mark=client7 passthrough=yes dst-
address=192.168.20.8
add chain=forward action=mark-packet new-packet-mark=client7 passthrough=no connection-
mark=client7

add chain=forward action=mark-connection new-connection-mark=client8 passthrough=yes dst-
address=192.168.20.9
add chain=forward action=mark-packet new-packet-mark=client8 passthrough=no connection-
mark=client8

add chain=forward action=mark-connection new-connection-mark=client9 passthrough=yes dst-
address=192.168.20.10
add chain=forward action=mark-packet new-packet-mark=client9 passthrough=no connection-
mark=client9
```

```
add chain=forward action=mark-connection new-connection-mark=client10 passthrough=yes
dst-address=192.168.20.11
add chain=forward action=mark-packet new-packet-mark=client10 passthrough=no connection-
mark=client10

add chain=forward action=mark-connection new-connection-mark=client11 passthrough=yes
dst-address=192.168.20.12
add chain=forward action=mark-packet new-packet-mark=client11 passthrough=no connection-
mark=client11

add chain=forward action=mark-connection new-connection-mark=client12 passthrough=yes
dst-address=192.168.20.13
add chain=forward action=mark-packet new-packet-mark=client12 passthrough=no connection-
mark=client12

add chain=forward action=mark-connection new-connection-mark=client13 passthrough=yes
dst-address=192.168.20.14
add chain=forward action=mark-packet new-packet-mark=client13 passthrough=no connection-
mark=client13

add chain=forward action=mark-connection new-connection-mark=client14 passthrough=yes
dst-address=192.168.20.15
add chain=forward action=mark-packet new-packet-mark=client14 passthrough=no connection-
mark=client14

add chain=forward action=mark-connection new-connection-mark=client15 passthrough=yes
dst-address=192.168.20.16
add chain=forward action=mark-packet new-packet-mark=client15 passthrough=no connection-
mark=client15

add chain=forward action=mark-connection new-connection-mark=client16 passthrough=yes
dst-address=192.168.20.17
add chain=forward action=mark-packet new-packet-mark=client16 passthrough=no connection-
mark=client16

add chain=forward action=mark-connection new-connection-mark=client17 passthrough=yes
dst-address=192.168.20.18
add chain=forward action=mark-packet new-packet-mark=client17 passthrough=no connection-
mark=client17

add chain=forward action=mark-connection new-connection-mark=client18 passthrough=yes
dst-address=192.168.20.19
add chain=forward action=mark-packet new-packet-mark=client18 passthrough=no connection-
mark=client18
```

```
add chain=forward action=mark-connection new-connection-mark=client19 passthrough=yes
dst-address=192.168.20.20
add chain=forward action=mark-packet new-packet-mark=client19 passthrough=no connection-
mark=client19

add chain=forward action=mark-connection new-connection-mark=client20 passthrough=yes
dst-address=192.168.20.21
add chain=forward action=mark-packet new-packet-mark=client20 passthrough=no connection-
mark=client20

add chain=forward action=mark-connection new-connection-mark=client21 passthrough=yes
dst-address=192.168.20.22
add chain=forward action=mark-packet new-packet-mark=client21 passthrough=no connection-
mark=client21

add chain=forward action=mark-connection new-connection-mark=client22 passthrough=yes
dst-address=192.168.20.23
add chain=forward action=mark-packet new-packet-mark=client22 passthrough=no connection-
mark=client22

add chain=forward action=mark-connection new-connection-mark=client23 passthrough=yes
dst-address=192.168.20.24
add chain=forward action=mark-packet new-packet-mark=client23 passthrough=no connection-
mark=client23

add chain=forward action=mark-connection new-connection-mark=client24 passthrough=yes
dst-address=192.168.20.25
add chain=forward action=mark-packet new-packet-mark=client24 passthrough=no connection-
mark=client24

add chain=forward action=mark-connection new-connection-mark=client25 passthrough=yes
dst-address=192.168.20.26
add chain=forward action=mark-packet new-packet-mark=client25 passthrough=no connection-
mark=client25
```

| Firewall     |        |         |              |               |               |           |             |              |               |       |                  |  |
|--------------|--------|---------|--------------|---------------|---------------|-----------|-------------|--------------|---------------|-------|------------------|--|
| Filter Rules |        |         | NAT          | Mangle        | Service Ports |           | Connections |              | Address Lists |       | Layer7 Protocols |  |
| #            | Action | Chain   | Src. Address | Dst. Address  | Proto...      | Src. Port | Dst. Port   | In. Inter... | Out. Int...   | Bytes | Packets          |  |
| 0            | mar... | forward |              | 192.168.20.2  |               |           |             |              |               | 0 B   | 0                |  |
| 1            | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 2            | mar... | forward |              | 192.168.20.3  |               |           |             |              |               | 0 B   | 0                |  |
| 3            | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 4            | mar... | forward |              | 192.168.20.4  |               |           |             |              |               | 0 B   | 0                |  |
| 5            | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 6            | mar... | forward |              | 192.168.20.5  |               |           |             |              |               | 0 B   | 0                |  |
| 7            | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 8            | mar... | forward |              | 192.168.20.6  |               |           |             |              |               | 0 B   | 0                |  |
| 9            | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 10           | mar... | forward |              | 192.168.20.7  |               |           |             |              |               | 0 B   | 0                |  |
| 11           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 12           | mar... | forward |              | 192.168.20.8  |               |           |             |              |               | 0 B   | 0                |  |
| 13           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 14           | mar... | forward |              | 192.168.20.9  |               |           |             |              |               | 0 B   | 0                |  |
| 15           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 16           | mar... | forward |              | 192.168.20.10 |               |           |             |              |               | 0 B   | 0                |  |
| 17           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 18           | mar... | forward |              | 192.168.20.11 |               |           |             |              |               | 0 B   | 0                |  |
| 19           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 20           | mar... | forward |              | 192.168.20.12 |               |           |             |              |               | 0 B   | 0                |  |
| 21           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 22           | mar... | forward |              | 192.168.20.13 |               |           |             |              |               | 0 B   | 0                |  |
| 23           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 24           | mar... | forward |              | 192.168.20.14 |               |           |             |              |               | 0 B   | 0                |  |
| 25           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 26           | mar... | forward |              | 192.168.20.15 |               |           |             |              |               | 0 B   | 0                |  |
| 27           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 28           | mar... | forward |              | 192.168.20.16 |               |           |             |              |               | 0 B   | 0                |  |
| 29           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 30           | mar... | forward |              | 192.168.20.17 |               |           |             |              |               | 0 B   | 0                |  |
| 31           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 32           | mar... | forward |              | 192.168.20.18 |               |           |             |              |               | 0 B   | 0                |  |
| 33           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 34           | mar... | forward |              | 192.168.20.19 |               |           |             |              |               | 0 B   | 0                |  |
| 35           | mar... | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |
| 36           | mar... | forward |              | 192.168.20.20 |               |           |             |              |               | 0 B   | 0                |  |
| 37           | mar    | forward |              |               |               |           |             |              |               | 0 B   | 0                |  |

### **SETTING IP ADDRESS PADA ETHER3**

```
/ip firewall mangle
add chain=forward action=mark-connection new-connection-mark=client26 passthrough=yes
dst-address=192.168.21.2
add chain=forward action=mark-packet new-packet-mark=client26 passthrough=no connection-
mark=client26

add chain=forward action=mark-connection new-connection-mark=client27 passthrough=yes
dst-address=192.168.21.3
add chain=forward action=mark-packet new-packet-mark=client27 passthrough=no connection-
mark=client27

add chain=forward action=mark-connection new-connection-mark=client28 passthrough=yes
dst-address=192.168.21.4
add chain=forward action=mark-packet new-packet-mark=client28 passthrough=no connection-
mark=client28

add chain=forward action=mark-connection new-connection-mark=client29 passthrough=yes
dst-address=192.168.21.5
add chain=forward action=mark-packet new-packet-mark=client29 passthrough=no connection-
mark=client29

add chain=forward action=mark-connection new-connection-mark=client30 passthrough=yes
dst-address=192.168.21.6
add chain=forward action=mark-packet new-packet-mark=client30 passthrough=no connection-
mark=client30

add chain=forward action=mark-connection new-connection-mark=client31 passthrough=yes
dst-address=192.168.21.7
add chain=forward action=mark-packet new-packet-mark=client31 passthrough=no connection-
mark=client31

add chain=forward action=mark-connection new-connection-mark=client32 passthrough=yes
dst-address=192.168.21.8
add chain=forward action=mark-packet new-packet-mark=client32 passthrough=no connection-
mark=client32

add chain=forward action=mark-connection new-connection-mark=client33 passthrough=yes
dst-address=192.168.21.9
add chain=forward action=mark-packet new-packet-mark=client33 passthrough=no connection-
mark=client33

add chain=forward action=mark-connection new-connection-mark=client34 passthrough=yes
dst-address=192.168.21.10
add chain=forward action=mark-packet new-packet-mark=client34 passthrough=no connection-
mark=client34
```

```
add chain=forward action=mark-connection new-connection-mark=client35 passthrough=yes
dst-address=192.168.21.11
add chain=forward action=mark-packet new-packet-mark=client35 passthrough=no connection-
mark=client35

add chain=forward action=mark-connection new-connection-mark=client36 passthrough=yes
dst-address=192.168.21.12
add chain=forward action=mark-packet new-packet-mark=client36 passthrough=no connection-
mark=client36

add chain=forward action=mark-connection new-connection-mark=client37 passthrough=yes
dst-address=192.168.21.13
add chain=forward action=mark-packet new-packet-mark=client37 passthrough=no connection-
mark=client37

add chain=forward action=mark-connection new-connection-mark=client38 passthrough=yes
dst-address=192.168.21.14
add chain=forward action=mark-packet new-packet-mark=client38 passthrough=no connection-
mark=client38

add chain=forward action=mark-connection new-connection-mark=client39 passthrough=yes
dst-address=192.168.21.15
add chain=forward action=mark-packet new-packet-mark=client39 passthrough=no connection-
mark=client39

add chain=forward action=mark-connection new-connection-mark=client40 passthrough=yes
dst-address=192.168.21.16
add chain=forward action=mark-packet new-packet-mark=client40 passthrough=no connection-
mark=client40

add chain=forward action=mark-connection new-connection-mark=client41 passthrough=yes
dst-address=192.168.21.17
add chain=forward action=mark-packet new-packet-mark=client41 passthrough=no connection-
mark=client41

add chain=forward action=mark-connection new-connection-mark=client42 passthrough=yes
dst-address=192.168.21.18
add chain=forward action=mark-packet new-packet-mark=client42 passthrough=no connection-
mark=client42

add chain=forward action=mark-connection new-connection-mark=client43 passthrough=yes
dst-address=192.168.21.19
add chain=forward action=mark-packet new-packet-mark=client43 passthrough=no connection-
mark=client43
```

```
add chain=forward action=mark-connection new-connection-mark=client44 passthrough=yes
dst-address=192.168.21.20
add chain=forward action=mark-packet new-packet-mark=client44 passthrough=no connection-
mark=client44

add chain=forward action=mark-connection new-connection-mark=client45 passthrough=yes
dst-address=192.168.21.21
add chain=forward action=mark-packet new-packet-mark=client45 passthrough=no connection-
mark=client45

add chain=forward action=mark-connection new-connection-mark=client46 passthrough=yes
dst-address=192.168.21.22
add chain=forward action=mark-packet new-packet-mark=client46 passthrough=no connection-
mark=client46

add chain=forward action=mark-connection new-connection-mark=client47 passthrough=yes
dst-address=192.168.21.23
add chain=forward action=mark-packet new-packet-mark=client47 passthrough=no connection-
mark=client47

add chain=forward action=mark-connection new-connection-mark=client48 passthrough=yes
dst-address=192.168.21.24
add chain=forward action=mark-packet new-packet-mark=client48 passthrough=no connection-
mark=client48

add chain=forward action=mark-connection new-connection-mark=client49 passthrough=yes
dst-address=192.168.21.25
add chain=forward action=mark-packet new-packet-mark=client49 passthrough=no connection-
mark=client49

add chain=forward action=mark-connection new-connection-mark=client50 passthrough=yes
dst-address=192.168.21.26
add chain=forward action=mark-packet new-packet-mark=client50 passthrough=no connection-
mark=client50
```

| Firewall     |          |         |              |               |          |             |           |               |             |                  |         |  |
|--------------|----------|---------|--------------|---------------|----------|-------------|-----------|---------------|-------------|------------------|---------|--|
| Filter Rules |          | NAT     | Mangle       | Service Ports |          | Connections |           | Address Lists |             | Layer7 Protocols |         |  |
| #            | Action   | Chain   | Src. Address | Dst. Address  | Proto... | Src. Port   | Dst. Port | In. Inter...  | Out. Int... | Bytes            | Packets |  |
| 63           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 64           | ✓ mar... | forward |              | 192.168.21.9  |          |             |           |               |             | 0 B              | 0       |  |
| 65           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 66           | ✓ mar... | forward |              | 192.168.21.10 |          |             |           |               |             | 0 B              | 0       |  |
| 67           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 68           | ✓ mar... | forward |              | 192.168.21.11 |          |             |           |               |             | 0 B              | 0       |  |
| 69           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 70           | ✓ mar... | forward |              | 192.168.21.12 |          |             |           |               |             | 0 B              | 0       |  |
| 71           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 72           | ✓ mar... | forward |              | 192.168.21.13 |          |             |           |               |             | 0 B              | 0       |  |
| 73           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 74           | ✓ mar... | forward |              | 192.168.21.14 |          |             |           |               |             | 0 B              | 0       |  |
| 75           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 76           | ✓ mar... | forward |              | 192.168.21.15 |          |             |           |               |             | 0 B              | 0       |  |
| 77           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 78           | ✓ mar... | forward |              | 192.168.21.16 |          |             |           |               |             | 0 B              | 0       |  |
| 79           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 80           | ✓ mar... | forward |              | 192.168.21.17 |          |             |           |               |             | 0 B              | 0       |  |
| 81           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 82           | ✓ mar... | forward |              | 192.168.21.18 |          |             |           |               |             | 0 B              | 0       |  |
| 83           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 84           | ✓ mar... | forward |              | 192.168.21.19 |          |             |           |               |             | 0 B              | 0       |  |
| 85           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 86           | ✓ mar... | forward |              | 192.168.21.20 |          |             |           |               |             | 0 B              | 0       |  |
| 87           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 88           | ✓ mar... | forward |              | 192.168.21.21 |          |             |           |               |             | 0 B              | 0       |  |
| 89           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 90           | ✓ mar... | forward |              | 192.168.21.22 |          |             |           |               |             | 0 B              | 0       |  |
| 91           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 92           | ✓ mar... | forward |              | 192.168.21.23 |          |             |           |               |             | 0 B              | 0       |  |
| 93           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 94           | ✓ mar... | forward |              | 192.168.21.24 |          |             |           |               |             | 0 B              | 0       |  |
| 95           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 96           | ✓ mar... | forward |              | 192.168.21.25 |          |             |           |               |             | 0 B              | 0       |  |
| 97           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |
| 98           | ✓ mar... | forward |              | 192.168.21.26 |          |             |           |               |             | 0 B              | 0       |  |
| 99           | ✓ mar... | forward |              |               |          |             |           |               |             | 0 B              | 0       |  |

- Buat Queue Tree

/queue tree

```
add name="labtkj-dw" parent=global-out packet-mark=labtkj-dw limit-at=0 queue=default
priority=8 max-limit=3000000
```

```
add name="client1" parent= labtkj-dw packet-mark=client1 limit-at=128000 queue=default
priority=3 max-limit= 1000000
```

```
add name="client2" parent= labtkj-dw packet-mark=client2 limit-at=128000 queue=default
priority=3 max-limit=1000000
```

```
add name="client3" parent= labtkj-dw packet-mark=client3 limit-at=128000 queue=default
priority=3 max-limit= 1000000
```

```
add name="client4" parent= labtkj-dw packet-mark=client4 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client5" parent= labtkj-dw packet-mark=client5 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client6" parent= labtkj-dw packet-mark=client6 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client7" parent= labtkj-dw packet-mark=client7 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client8" parent= labtkj-dw packet-mark=client8 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client9" parent= labtkj-dw packet-mark=client9 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client10" parent= labtkj-dw packet-mark=client10 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client11" parent= labtkj-dw packet-mark=client11 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client12" parent= labtkj-dw packet-mark=client12 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client13" parent= labtkj-dw packet-mark=client13 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client14" parent= labtkj-dw packet-mark=client14 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client15" parent= labtkj-dw packet-mark=client15 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client16" parent= labtkj-dw packet-mark=client16 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client17" parent= labtkj-dw packet-mark=client17 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client18" parent= labtkj-dw packet-mark=client18 limit-at=128000 queue=default priority=3 max-limit=1000000
```

add name="client19" parent= **labtkj-dw** packet-mark=client19 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client20" parent= **labtkj-dw** packet-mark=client20 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client21" parent= **labtkj-dw** packet-mark=client21 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client22" parent= **labtkj-dw** packet-mark=client22 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client23" parent= **labtkj-dw** packet-mark=client23 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client24" parent= **labtkj-dw** packet-mark=client24 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client25" parent= **labtkj-dw** packet-mark=client25 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client26" parent= **labtkj-dw** packet-mark=client26 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client27" parent= **labtkj-dw** packet-mark=client27 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client28" parent= **labtkj-dw** packet-mark=client28 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client29" parent= **labtkj-dw** packet-mark=client29 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client30" parent= **labtkj-dw** packet-mark=client30 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client31" parent= **labtkj-dw** packet-mark=client31 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client32" parent= **labtkj-dw** packet-mark=client32 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client33" parent= **labtkj-dw** packet-mark=client33 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client34" parent= **labtkj-dw** packet-mark=client34 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client35" parent= **labtkj-dw** packet-mark=client35 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client36" parent= **labtkj-dw** packet-mark=client36 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client37" parent= **labtkj-dw** packet-mark=client37 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client38" parent= **labtkj-dw** packet-mark=client38 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client39" parent= **labtkj-dw** packet-mark=client39 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client40" parent= **labtkj-dw** packet-mark=client40 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client41" parent= **labtkj-dw** packet-mark=client41 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client42" parent= **labtkj-dw** packet-mark=client42 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client43" parent= **labtkj-dw** packet-mark=client43 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client44" parent= **labtkj-dw** packet-mark=client44 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client45" parent= **labtkj-dw** packet-mark=client45 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client46" parent= **labtkj-dw** packet-mark=client46 limit-at=128000 queue=default priority=3 max-limit= 1000000

add name="client47" parent= **labtkj-dw** packet-mark=client47 limit-at=128000 queue=default priority=3 max-limit=1000000

add name="client48" parent= **labtkj-dw** packet-mark=client48 limit-at=128000 queue=default priority=3 max-limit= 1000000

```
add name="client49" parent= labtkj-dw packet-mark=client49 limit-at=128000 queue=default
priority=3 max-limit= 1000000
```

```
add name="client50" parent= labtkj-dw packet-mark=client50 limit-at=128000 queue=default
priority=3 max-limit= 1000000
```

| Queue List |               |                  |            |             |                 |               |           |              |       |         |
|------------|---------------|------------------|------------|-------------|-----------------|---------------|-----------|--------------|-------|---------|
|            | Simple Queues | Interface Queues | Queue Tree | Queue Types |                 |               |           |              |       |         |
|            |               |                  |            |             |                 |               |           |              |       |         |
|            | Name          | /                | Parent     | Packet ...  | Limit At (b...) | Max Limit ... | Avg. R... | Queued Bytes | Bytes | Packets |
|            | labtkj-dw     |                  | global-out | labtkj-dw   |                 | 3M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client1       |                  | labtkj-dw  | client1     | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client2       |                  | labtkj-dw  | client2     | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client3       |                  | labtkj-dw  | client3     | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client4       |                  | labtkj-dw  | client4     | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client5       |                  | labtkj-dw  | client5     | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client6       |                  | labtkj-dw  | client6     | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client7       |                  | labtkj-dw  | client7     | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client8       |                  | labtkj-dw  | client8     | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client9       |                  | labtkj-dw  | client9     | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client10      |                  | labtkj-dw  | client10    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client11      |                  | labtkj-dw  | client11    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client12      |                  | labtkj-dw  | client12    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client13      |                  | labtkj-dw  | client13    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client14      |                  | labtkj-dw  | client14    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client15      |                  | labtkj-dw  | client15    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client16      |                  | labtkj-dw  | client16    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client17      |                  | labtkj-dw  | client17    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client18      |                  | labtkj-dw  | client18    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client19      |                  | labtkj-dw  | client19    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client20      |                  | labtkj-dw  | client20    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client21      |                  | labtkj-dw  | client21    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client22      |                  | labtkj-dw  | client22    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client23      |                  | labtkj-dw  | client23    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client24      |                  | labtkj-dw  | client24    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client25      |                  | labtkj-dw  | client25    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client26      |                  | labtkj-dw  | client26    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client27      |                  | labtkj-dw  | client27    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client28      |                  | labtkj-dw  | client28    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client29      |                  | labtkj-dw  | client29    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client30      |                  | labtkj-dw  | client30    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client31      |                  | labtkj-dw  | client31    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client32      |                  | labtkj-dw  | client32    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client33      |                  | labtkj-dw  | client33    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client34      |                  | labtkj-dw  | client34    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client35      |                  | labtkj-dw  | client35    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client36      |                  | labtkj-dw  | client36    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |
|            | client37      |                  | labtkj-dw  | client37    | 128k            | 1M            | 0 bps     | 0 B          | 0 B   | 0       |

```

/ip firewall mangle

add chain=prerouting action=jump jump-target=game

add chain=game action=mark-connection new-connection-mark=Game
passthrough=yes protocol=tcp dst-address=203.89.146.0/23 dst-port=39190
comment="Point Blank"

add chain=game action=mark-connection new-connection-mark=Game
passthrough=yes protocol=udp dst-address=203.89.146.0/23 dst-port=40000-
40010

add chain=game action=mark-packet new-packet-mark=Game_pkt passthrough=no
connection-mark=Game

add chain=forward action=mark-connection new-connection-mark=Poker_con
passthrough=yes protocol=tcp dst-address-list=LOADPOKER comment="POKER"

add chain=forward action=mark-connection new-connection-mark=Poker_con
passthrough=yes protocol=tcp content=statics.poker.static.zynga.com

add chain=forward action=mark-packet new-packet-mark=Poker passthrough=no
connection-mark=Poker_con

```

### Mangle Browsing

```

add chain=forward action=mark-connection new-connection-mark=http
passthrough=yes protocol=tcp in-interface=ether1 out-interface=ether2
packet-mark=!Game_pkt connection-mark=!Game connection-bytes=0-262146
comment="BROWSE"

add chain=forward action=mark-packet new-packet-mark=http_pkt
passthrough=no protocol=tcp connection-mark=http

add chain=forward action=mark-connection new-connection-mark=Download
passthrough=yes protocol=tcp in-interface=ether1 out-interface=ether2
packet-mark=!Game_pkt connection-mark=!Poker_con connection-bytes=262146-
4294967295 comment="LIMIT DOWNLOAD"

add chain=forward action=mark-packet new-packet-mark=Download_pkt
passthrough=no packet-mark=!Game_pkt connection-mark=Download

```

### Mangle Upload

```

add chain=prerouting action=mark-packet new-packet-mark=Upload
passthrough=no protocol=tcp src-address=192.168.56.0/24 in-interface=ether2
packet-mark=!Game_pkt comment="UPLOAD"

/queue type

add name="Download" kind=pcq pcq-rate=256000 pcq-limit=50 pcq-
classifier=dst-address pcq-total-limit=2000

add name="Http" kind=pcq pcq-rate=1M pcq-limit=50 pcq-classifier=dst-
address pcq-total-limit=2000

```

```

add name="Game" kind=pcq pcq-rate=0 pcq-limit=50 pcq-classifier=src-
address,dst-address,src-port,dst-port pcq-total-limit=2000

add name="Upload" kind=pcq pcq-rate=0 pcq-limit=50 pcq-classifier=src-
address pcq-total-limit=2000

/queue tree

add name="Main_Browse" parent=ether2 limit-at=0 priority=8 max-limit=1M
burst-limit=0 burst-threshold=0 burst-time=0s

add name="Browse" parent=Main_Browse packet-mark=http_pkt limit-at=0
queue=Http priority=8 max-limit=1M burst-limit=0 burst-threshold=0 burst-
time=0s

add name="Game" parent=global-total packet-mark=Game_pkt limit-at=0
queue=Game priority=1 max-limit=0 burst-limit=0 burst-threshold=0 burst-
time=0s

add name="Poker" parent=global-out packet-mark=Poker limit-at=0 queue=Game
priority=3 max-limit=0 burst-limit=0 burst-threshold=0 burst-time=0s

add name="Download" parent=global-out packet-mark=Download_pkt limit-at=0
queue=Download priority=8 max-limit=256k burst-limit=0 burst-threshold=0
burst-time=0s

add name="Main_Upload" parent=global-in limit-at=0 priority=8 max-
limit=256k burst-limit=0 burst-threshold=0 burst-time=0s

add name="Upload" parent=Main_Upload packet-mark=Upload limit-at=0
queue=Upload priority=8 max-limit=0 burst-limit=0 burst-threshold=0 burst-
time=0s

/queue simple

add name="Client-001" target-address=192.168.2.2 interface=ether2 max-
limit=256k/1M limit-at=256k/1M

add name="Client-002" target-address=192.168.2.3 interface=ether2 max-
limit=256k/1M limit-at=256k/1M

add name="Client-003" target-address=192.168.2.4 interface=ether2 max-
limit=256k/1M limit-at=256k/1M

add name="Client-004" target-address=192.168.2.5 interface=ether2 max-
limit=256k/1M limit-at=256k/1M

add name="Client-005" target-address=192.168.2.6 interface=ether2 max-
limit=256k/1M limit-at=256k/1M

add name="Client-006" target-address=192.168.2.7 interface=ether2 max-
limit=256k/1M limit-at=256k/1M

add name="Client-007" target-address=192.168.2.8 interface=ether2 max-
limit=256k/1M limit-at=256k/1M

```

```
add name="Client-008" target-address=192.168.2.9 interface=ether2 max-
limit=256k/1M limit-at=256k/1M

add name="Client-009" target-address=192.168.2.10 interface=ether2 max-
limit=256k/1M limit-at=256k/1M

add name="Client-010" target-address=192.168.2.11 interface=ether2 max-
limit=256k/1M limit-at=256k/1M
```

```
=====KETERANGAN =====
IP ETHER1 = 192.168.20.2/24
IP ETHER2 = 192.168.2.1/24
IP GATEWAY=192.168.20.1
IP DNS = 192.168.20.1

/ip firewall layer7-protocol

add name="Extension \" .exe\"" regexp="^.*get.+\\.exe.*$"
add name="Extension \" .mp4\"" regexp="^.*get.+\\.mp4.*$"
add name="Extension \" .rar\"" regexp="^.*get.+\\.rar.*$"
add name="Extension \" .zip\"" regexp="^.*get.+\\.zip.*$"
add name="Extension \" .mkv\"" regexp="^.*get.+\\.mkv.*$"
add name="Extension \" .3gp\"" regexp="^.*get.+\\.3gp.*$"
add name="Extension \" .wmv\"" regexp="^.*get.+\\.wmv.*$"
add name="Extension \" .iso\"" regexp="^.*get.+\\.iso.*$"
add name="Extension \" .mp3\"" regexp="^.*get.+\\.mp3.*$"

add name="Extension \" .7z\"" regexp="^.*get.+\\.7z.*$"
add name="Extension \" .cab\"" regexp="^.*get.+\\.cab.*$"
add name="Extension \" .ASF\"" regexp="^.*get.+\\.ASF.*$"
add name="Extension \" .mov\"" regexp="^.*get.+\\.mov.*$"
add name="Extension \" .mpg\"" regexp="^.*get.+\\.mpg.*$"
add name="Extension \" .mpeg\"" regexp="^.*get.+\\.mpeg.*$"
add name="Extension \" .avi\"" regexp="^.*get.+\\.avi.*$"
add name="Extension \" .flv\"" regexp="^.*get.+\\.flv.*$"
add name="Extension \" .wav\"" regexp="^.*get.+\\.wav.*$"
add name="Extension \" .rm\"" regexp="^.*get.+\\.rm.*$"
add name="Extension \" .ram\"" regexp="^.*get.+\\.ram.*$"
add name="Extension \" .rmvb\"" regexp="^.*get.+\\.rmvb.*$"
add name="Extension \" .dat\"" regexp="^.*get.+\\.dat.*$"
add name="Extension \" .daa\"" regexp="^.*get.+\\.daa.*$"
add name="Extension \" .nrg\"" regexp="^.*get.+\\.nrg.*$"
add name="Extension \" .bin\"" regexp="^.*get.+\\.bin.*$"
add name="Extension \" .VCD\"" regexp="^.*get.+\\.VCD.*$"
add name="Extension \" .gif\"" regexp="^.*get.+\\.gif.*$"
add name="Extension \" .jpg\"" regexp="^.*get.+\\.jpg.*$"

/ip firewall mangle
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .exe\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mp4\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .rar\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .zip\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mkv\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .3gp\"" new-connection-mark=download_conn
```

```
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .wmv\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .iso\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mp3\" " new-connection-mark=download_conn

add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .7z\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .cab\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .ASF\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mov\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mpeg\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .avi\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .flv\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .wav\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .rm\" " new-connection-mark=download_conn

add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .ram\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .rmvb\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .dat\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .iso\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .nrg\" " new-connection-mark=download_conn

add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .bin\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .VCD\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .gif\" " new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .jpg\" " new-connection-mark=download_conn

add action=mark-packet chain=prerouting connection-mark=download_conn new-
packet-mark=download_packet
add action=mark-packet chain=prerouting connection-mark=all_conn new-packet-
mark=all_packet
```

```
/queue simple

add max-limit=50k/128k name="Download File" packet-marks=download_packet \
target=192.168.2.0/24

add name="Client-001" target-address=192.168.2.2 interface=ether2 max-
limit=128k/512k limit-at=128k/512k

add name="Client-002" target-address=192.168.2.3 interface=ether2 max-
limit=128k/512k limit-at=128k/512k

add name="Client-003" target-address=192.168.2.4 interface=ether2 max-
limit=128k/512k limit-at=128k/512k

add name="Client-004" target-address=192.168.2.5 interface=ether2 max-
limit=128k/512k limit-at=128k/512k

add name="Client-005" target-address=192.168.2.6 interface=ether2 max-
limit=128k/512k limit-at=128k/512k

add name="Client-006" target-address=192.168.2.7 interface=ether2 max-
limit=128k/512k limit-at=128k/512k

add name="Client-007" target-address=192.168.2.8 interface=ether2 max-
limit=128k/512k limit-at=128k/512k

add name="Client-008" target-address=192.168.2.9 interface=ether2 max-
limit=128k/512k limit-at=128k/512k

add name="Client-009" target-address=192.168.2.10 interface=ether2 max-
limit=128k/512k limit-at=128k/512k

add name="Client-010" target-address=192.168.2.11 interface=ether2 max-
limit=128k/512k limit-at=128k/512k
```

| Interfaces      | Firewall                                   |
|-----------------|--------------------------------------------|
| Wireless        | Filter Rules NAT Mangle Service Ports Conn |
| Bridge          |                                            |
| PPP             |                                            |
| Mesh            |                                            |
| IP              |                                            |
| IPv6            |                                            |
| MPLS            |                                            |
| Routing         |                                            |
| System          |                                            |
| Queues          |                                            |
| Files           |                                            |
| Log             |                                            |
| Radius          |                                            |
| Tools           |                                            |
| New Terminal    |                                            |
| ISDN Channels   |                                            |
| KVM             |                                            |
| Make Supout.rif |                                            |
| Manual          |                                            |
| Exit            |                                            |

Filter Rules

| Name          | Regexp             |
|---------------|--------------------|
| Extension ... | ^.*get.+\.3gp.*\$  |
| Extension ... | ^.*get.+\.7z.*\$   |
| Extension ... | ^.*get.+\.asf.*\$  |
| Extension ... | ^.*get.+\.avi.*\$  |
| Extension ... | ^.*get.+\.bin.*\$  |
| Extension ... | ^.*get.+\.cab.*\$  |
| Extension ... | ^.*get.+\.daa.*\$  |
| Extension ... | ^.*get.+\.dat.*\$  |
| Extension ... | ^.*get.+\.exe.*\$  |
| Extension ... | ^.*get.+\.flv.*\$  |
| Extension ... | ^.*get.+\.gif.*\$  |
| Extension ... | ^.*get.+\.iso.*\$  |
| Extension ... | ^.*get.+\.jpg.*\$  |
| Extension ... | ^.*get.+\.mkv.*\$  |
| Extension ... | ^.*get.+\.mov.*\$  |
| Extension ... | ^.*get.+\.mp3.*\$  |
| Extension ... | ^.*get.+\.mp4.*\$  |
| Extension ... | ^.*get.+\.mpeg.*\$ |
| Extension ... | ^.*get.+\.mpg.*\$  |
| Extension ... | ^.*get.+\.nrg.*\$  |
| Extension ... | ^.*get.+\.ram.*\$  |
| Extension ... | ^.*get.+\.rar.*\$  |
| Extension ... | ^.*get.+\.rm.*\$   |
| Extension ... | ^.*get.+\.rmvb.*\$ |
| Extension ... | ^.*get.+\.vcd.*\$  |
| Extension ... | ^.*get.+\.wav.*\$  |
| Extension ... | ^.*get.+\.wmp.*\$  |
| Extension ... | ^.*get.+\.zip.*\$  |

**Optimasi Warnet browsing+game online untuk speed 1 MB by Dian Kurnia,S.Kom**

| Interfaces    |   | Queue List    |            |                  |              |              |                       |
|---------------|---|---------------|------------|------------------|--------------|--------------|-----------------------|
|               |   | Simple Queues |            | Interface Queues |              | Queue Tree   | Queue Types           |
| Bridge        |   |               |            |                  |              |              | oo Reset Counters     |
| PPP           |   |               |            |                  |              |              | oo Reset All Counters |
| Mesh          |   | #             | Name       | Target Ad...     | Rx Max Limit | Tx Max Limit | Packet ...            |
| IP            | ▼ | 0             | Download   | 192.168.2.1      | 50k          | 128k         | downlo...             |
| IPv6          | ▼ | 1             | Client-001 | 192.168.2.2      | 128k         | 512k         |                       |
| MPLS          | ▼ | 2             | Client-002 | 192.168.2.3      | 128k         | 512k         |                       |
| Routing       | ▼ | 3             | Client-003 | 192.168.2.4      | 128k         | 512k         |                       |
| System        | ▼ | 4             | Client-004 | 192.168.2.5      | 128k         | 512k         |                       |
| Queues        |   | 5             | Client-005 | 192.168.2.6      | 128k         | 512k         |                       |
| Files         |   | 6             | Client-006 | 192.168.2.7      | 128k         | 512k         |                       |
| Log           |   | 7             | Client-007 | 192.168.2.8      | 128k         | 512k         |                       |
| Radius        |   | 8             | Client-008 | 192.168.2.9      | 128k         | 512k         |                       |
| New Terminal  |   | 9             | Client-009 | 192.168.2.10     | 128k         | 512k         |                       |
| ISDN Channels |   | 10            | Client-010 | 192.168.2.11     | 128k         | 512k         |                       |

```
/ip firewall mangle
add action=mark-connection chain=forward comment="Trafik Mark" disabled=no
new-connection-mark=all_con passthrough=yes src-address=192.168.137.0/24
add action=mark-connection chain=forward comment="" connection-mark=all_con
disabled=no dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes
protocol=tcp src-address=192.168.137.0/24
add action=mark-connection chain=forward comment="" connection-mark=all_con
disabled=no dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes
protocol=udp src-address=192.168.137.0/24
add action=mark-packet chain=forward comment="" connection-mark=pb-con
disabled=no new-packet-mark=point-blank passthrough=no

/queue simple

add max-limit=256k/1M name="Point_blank" packet-marks=point-blank priority=7
\ target=192.168.2.0/24
```

```

/ip firewall mangle
add action=mark-connection chain=prerouting comment="ICMP CONNECTION" \
 disabled=no in-interface=Local new-connection-mark=icmp_conn
passthrough=\
 yes protocol=icmp
add action=change-dscp chain=prerouting connection-mark=icmp_conn disabled=no
\
 new-dscp=1 passthrough=yes
add action=mark-packet chain=prerouting connection-mark=icmp_conn disabled=no
\
 new-packet-mark=icmp_pkt passthrough=no

/ip firewall mangle
add action=mark-connection chain=prerouting comment="DNS CONNECTION" \
 disabled=no dst-port=53 in-interface=ether2 new-connection-mark=dns_conn
\
 passthrough=yes protocol=tcp
add action=mark-connection chain=prerouting disabled=no dst-port=53 \
 in-interface=Local new-connection-mark=dns_conn passthrough=yes
protocol=\
 udp
add action=change-dscp chain=prerouting connection-mark=dns_conn disabled=no
\
 new-dscp=1 passthrough=yes
add action=mark-packet chain=prerouting connection-mark=dns_conn disabled=no
\
 new-packet-mark=dns_pkt passthrough=no

/ip firewall mangle
add action=mark-connection chain=prerouting comment="GAME ONLINE CONNECTION"
\
 disabled=no dst-port="39190" in-interface=ether2 new-connection-mark=\
 "Game Online" passthrough=yes protocol=tcp
add action=mark-connection chain=prerouting comment="" \
 disabled=no dst-port="40000-40010" in-interface=ether2 new-connection-
mark=\
 "Game Online" passthrough=yes protocol=udp
add action=mark-packet chain=prerouting connection-mark="Game Online" \
 disabled=no new-packet-mark="Game Online" passthrough=no

/queue type
add kind=pfifo name=Critical pfifo-limit=64

```

```
/queue simple
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=0/0 max-limit=100M/100M name=\
 "A. Critical" packet-marks=icmp_pkt,dns_pkt parent=none priority=5 \
 queue=default-small/default-small target-addresses=192.168.10.0/24 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=0/0 max-limit=1024k/1024k name=DNS \
 packet-marks=dns_pkt parent="A. Critical" priority=1 queue=\
 Critical/Critical target-addresses="" total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=0/0 max-limit=1024k/1024k name=ICMP \
 packet-marks=icmp_pkt parent="A. Critical" priority=1 queue=\
 Critical/Critical target-addresses="" total-queue=default-small

/queue simple
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=0/0 max-limit=400k/2024k name=\
 "B. Game Online" packet-marks="Game Online" parent=none \
 priority=6 queue=default-small/default-small target-addresses=\
 192.168.10.0/24 total-queue=default-small
```

```
/queue simple
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=150k/1200k max-limit=256k/2500k name=\
 "B. Client Browsing" packet-marks=""\
 priority=7 queue=default-small/default-small target-addresses=\
 192.168.10.0/24 total-queue=default-small

add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=256k/2024k name=\
 Billing/OP_BS packet-marks="" parent="B. Client Browsing" priority=4 \
 queue=default-small/default-small target-addresses=192.168.10.100/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=256k/2024k name=\
 Client-01_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.10.1/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=256k/2024k name=\
 Client-02_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.10.2/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=256k/2024k name=\
 Client-03_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.10.3/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=256k/2024k name=\
 Client-04_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.10.4/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=256k/2024k name=\
 Client-05_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.10.5/32 \
 total-queue=default-small
```

```

/ip firewall mangle
add action=mark-connection chain=prerouting comment="ICMP CONNECTION" \
 disabled=no in-interface=Local new-connection-mark=icmp_conn
passthrough=\
 yes protocol=icmp
add action=change-dscp chain=prerouting connection-mark=icmp_conn disabled=no
\
 new-dscp=1 passthrough=yes
add action=mark-packet chain=prerouting connection-mark=icmp_conn disabled=no
\
 new-packet-mark=icmp_pkt passthrough=no

/ip firewall mangle
add action=mark-connection chain=prerouting comment="DNS CONNECTION" \
 disabled=no dst-port=53 in-interface=ether2 new-connection-mark=dns_conn
\
 passthrough=yes protocol=tcp
add action=mark-connection chain=prerouting disabled=no dst-port=53 \
 in-interface=Local new-connection-mark=dns_conn passthrough=yes
protocol=\
 udp
add action=change-dscp chain=prerouting connection-mark=dns_conn disabled=no
\
 new-dscp=1 passthrough=yes
add action=mark-packet chain=prerouting connection-mark=dns_conn disabled=no
\
 new-packet-mark=dns_pkt passthrough=no

/ip firewall mangle
add action=mark-connection chain=prerouting comment="GAME ONLINE CONNECTION"
\
 disabled=no dst-port="39190" in-interface=ether2 new-connection-mark=\
 "Game Online" passthrough=yes protocol=tcp
add action=mark-connection chain=prerouting comment="" \
 disabled=no dst-port="40000-40010" in-interface=ether2 new-connection-
mark=\
 "Game Online" passthrough=yes protocol=udp
add action=mark-packet chain=prerouting connection-mark="Game Online" \
 disabled=no new-packet-mark="Game Online" passthrough=no

/queue type
add kind=pfifo name=Critical pfifo-limit=64

```

```
/queue simple
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=0/0 max-limit=100M/100M name=\
 "A. Critical" packet-marks=icmp_pkt,dns_pkt parent=none priority=5 \
 queue=default-small/default-small target-addresses=192.168.2.0/24 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=0/0 max-limit=600k/600k name=DNS \
 packet-marks=dns_pkt parent="A. Critical" priority=1 queue=\
 Critical/Critical target-addresses="" total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=0/0 max-limit=600k/600k name=ICMP \
 packet-marks=icmp_pkt parent="A. Critical" priority=1 queue=\
 Critical/Critical target-addresses="" total-queue=default-small

/queue simple
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=0/0 max-limit=300k/1200k name=\
 "B. Game Online" packet-marks="Game Online" parent=none \
 priority=6 queue=default-small/default-small target-addresses=\
 192.168.2.0/24 total-queue=default-small
```

```

/queue simple
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=150k/512k max-limit=256k/512k name=\
 "B. Client Browsing" packet-marks="" \
 priority=7 queue=default-small/default-small target-addresses=\
 192.168.2.0/24 total-queue=default-small

add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=128k/256k name=\
 Billing/OP_BS packet-marks="" parent="B. Client Browsing" priority=4 \
 queue=default-small/default-small target-addresses=192.168.2.13/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=128k/512k name=\
 Client-01_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.2.2/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=128k/512k name=\
 Client-02_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.2.3/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=128k/512k name=\
 Client-03_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.2.4/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=128k/512k name=\
 Client-04_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.2.5/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=128k/512k name=\
 Client-05_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.2.6/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=128k/512k name=\
 Client-06_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.2.7/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=128k/512k name=\
 Client-07_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.2.8/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=128k/512k name=\
 Client-08_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.2.9/32 \
 total-queue=default-small
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
 disabled=no interface=all limit-at=5k/40k max-limit=128k/512k name=\
 Client-09_BS packet-marks="" parent="B. Client Browsing" priority=6 \
 queue=default-small/default-small target-addresses=192.168.2.10/32 \
 total-queue=default-small

```

```
add burst-limit=0/0 burst-threshold=0/0 burst-time=0s/0s \
disabled=no interface=all limit-at=5k/40k max-limit=128k/512k name=\
Client-10_BS packet-marks="" parent="B. Client Browsing" priority=6 \
queue=default-small/default-small target-addresses=192.168.2.11/32 \
total-queue=default-small
```

<http://adamonline.web.id/mikrotik/cara-block-ssh-ftp-brute-force-mikrotik>

<http://adamonline.web.id/mikrotik/blocked-traceroute-di-mikrotik>

<http://adamonline.web.id/linux/cara-monitoring-squid-proxy-server>

<http://adamonline.web.id/linux/cara-hapus-cache-squid-proxy>

```

/ip firewall layer7-protocol
add name="Extension \" .exe\"" regexp="^.*get.+\\.exe.*$"
add name="Extension \" .mp4\"" regexp="^.*get.+\\.mp4.*$"
add name="Extension \" .rar\"" regexp="^.*get.+\\.rar.*$"
add name="Extension \" .zip\"" regexp="^.*get.+\\.zip.*$"
add name="Extension \" .mkv\"" regexp="^.*get.+\\.mkv.*$"
add name="Extension \" .3gp\"" regexp="^.*get.+\\.3gp.*$"
add name="Extension \" .wmp\"" regexp="^.*get.+\\.wmp.*$"
add name="Extension \" .iso\"" regexp="^.*get.+\\.iso.*$"
add name="Extension \" .mp3\"" regexp="^.*get.+\\.mp3.*$"

/ip firewall mangle
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .exe\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mp4\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .rar\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .zip\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mkv\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .3gp\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .wmp\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .iso\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether2 \
 layer7-protocol="Extension \" .mp3\"" new-connection-mark=download_conn

add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .exe\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .mp4\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .rar\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .zip\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .mkv\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .3gp\"" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .wmp\"" new-connection-mark=download_conn

```

```
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .iso\""" new-connection-mark=download_conn
add action=mark-connection chain=prerouting in-interface=ether3 \
 layer7-protocol="Extension \" .mp3\""" new-connection-mark=download_conn

/ip firewall mangle
add action=mark-packet chain=prerouting connection-mark=download_conn new-packet-
mark=download_packet
add action=mark-packet chain=prerouting connection-mark=all_conn new-packet-
mark=all_packet

/queue simple
add comment=\
"tkjdwiwarna.blogspot.com - Memisahkan bandwidth browsing & download file" \
max-limit=128k/1M name=Browsing packet-marks=all_packet target=\
192.168.2.0/24

add max-limit=128k/512k name="Download File" packet-marks=download_packet \
target=192.168.2.0/24
```

## Optimasi Point Blank di Mikrotik

```
/ip firewall mangle
add action=mark-connection chain=forward comment="Trafik Mark" disabled=no new-
connection-mark=all_con passthrough=yes src-address=192.168.1.0/24

add action=mark-connection chain=forward comment="" connection-mark=all_con disabled=no
dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes protocol=tcp src-
address=192.168.1.0/24

add action=mark-connection chain=forward comment="" connection-mark=all_con disabled=no
dst-port=39190-49100 new-connection-mark=pb-con passthrough=yes protocol=udp src-
address=192.168.1.0/24

add action=mark-packet chain=forward comment="" connection-mark=pb-con disabled=no new-
packet-mark=point-blank passthrough=no

add action=mark-packet chain=forward comment="" disabled=no new-packet-mark=all_packet
passthrough=no

/queue tree
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=2000k
name="Download" parent=ether2 priority=8

add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name=HTTP packet-mark=all_packet parent="Download" priority=8 queue=default

add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name="Point Blank" packet-mark=point-blank parent="Download" priority=7 queue=default
```

# Cara Blokir User Dengan DHCP Mikrotik

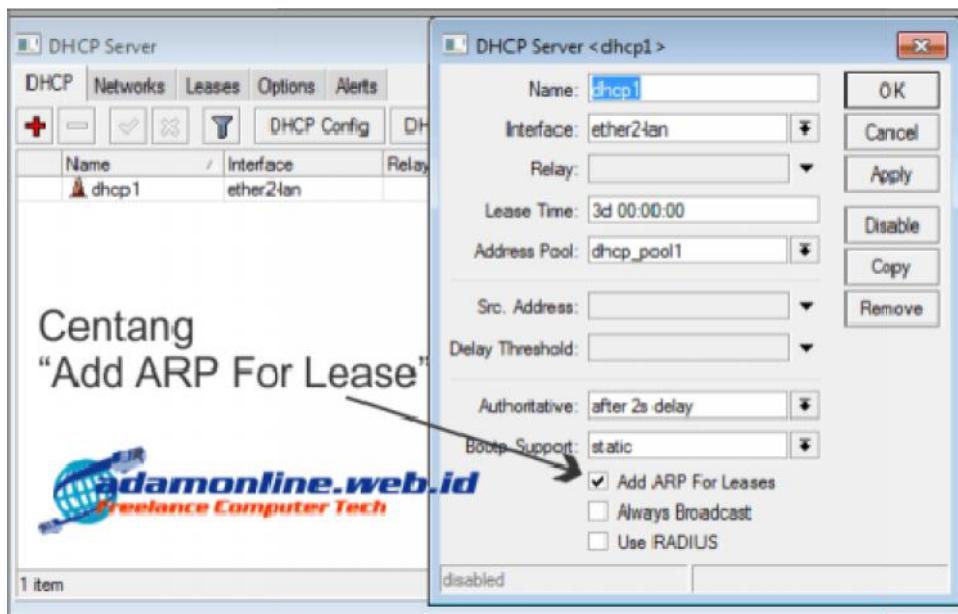
Posted by: [Adam Rachmad](#) October 14, 2011 in [Mikrotik](#) [3 Comments](#)

Blokir user dengan DHCP [Mikrotik](#), dalam arti user yang menggunakan ip statik tidak dapat menggunakan koneksi [internet](#) kita. Hanya yang mendapatkan IP address melalui DHCP Server mikrotik kita yang bisa menggunakan koneksi internet, alias yang dapat ipnya secara otomatis.

Saya anggap DHCP Server dalam mikrotik router Anda sudah berjalan baik.

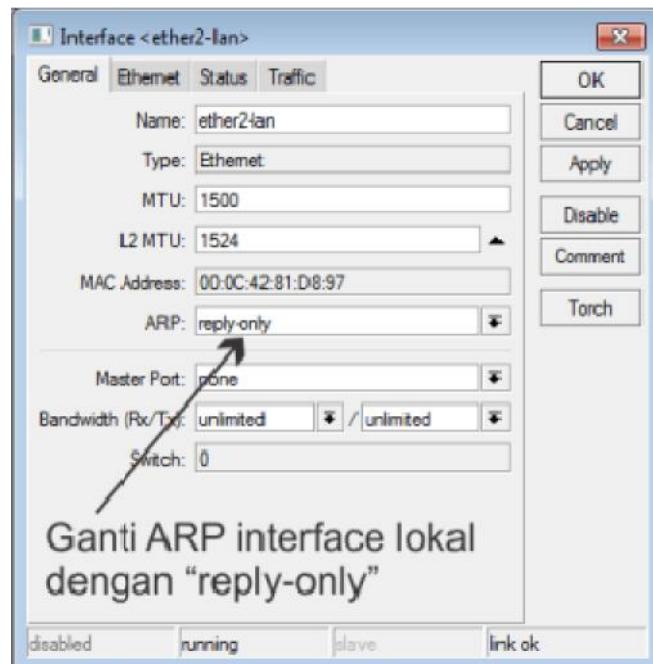
## Lanjut Cara Blokir User Dengan Mikrotik

Pertama, kita hanya merubah settingan yang sudah ada. Masuk menu **IP > DHCP Server** klik 2x pada DHCP server Anda. Centang “**Add ARP For Lease**”



Kedua, kita masuk ke menu “**Interfaces**” klik 2x pada interface lokal Anda atau interface dimana Anda aplikasikan DHCP Server. Ganti option “**ARP**” menjadi “**reply-only**”

**Pengertian ARP** adalah sebuah protokol dalam TCP/IP yang bertanggung jawab dalam melakukan resolusi alamat IP ke dalam alamat Media Access Control (MAC Address). Jadi Client yang tidak masuk dalam ARP List di mikrotik tidak bisa akses jaringan internet.



**DONE !** Sekarang Anda coba menggunakan IP Statik pada komputer anda, koneksi ke router tidak akan berjalan kecuali jika anda menggunakan “Obtain an IP Address Automaticaly” alias DHCP pada interfaces/ethereum komputer Anda.

```
/tool fetch address=ixp.mikrotik.co.id src-path=/download/nice.rsc dst-path=/nice.rsc
mode=http;/import nice.rsc;

/ip firewall mangle
add action=mark-connection chain=forward comment="Point Blank Connection" disabled=no
dst-address-list=nice dst-port=39190 new-connection-mark=games-conn passthrough=yes
protocol=tcp
add action=mark-connection chain=forward disabled=no dst-address-list=nice dst-port=40000-
40010 new-connection-mark=games-conn passthrough=yes protocol=udp
add action=mark-connection chain=forward comment="Lost Saga Connection" disabled=no dst-
address-list=nice dst-port=14009,14010 new-connection-mark=games-conn passthrough=yes
protocol=tcp
add action=mark-connection chain=forward disabled=no dst-address-list=nice dst-port=14009-
14026 new-connection-mark=games-conn passthrough=yes protocol=udp
add action=mark-connection chain=forward comment="Ayo Dance Connection" disabled=no
dst-address-list=nice dst-port=18901-18910 new-connection-mark=games-conn passthrough=yes
protocol=tcp
add action=mark-connection chain=forward comment="Semua Koneksi (browsing, download,
streaming)" disabled=no new-connection-mark=semua-conn passthrough=yes src-
address=192.168.1.0/24
add action=mark-packet chain=forward connection-mark=games-conn disabled=no new-packet-
mark=packet-games passthrough=no
add action=mark-packet chain=forward connection-mark=semua-conn disabled=no new-packet-
mark=semua-packet passthrough=no
```

```
/queue tree
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name=Download parent=ether2 priority=8
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=1500k
name="Semua Paket" packet-mark=semua-packet parent=Download priority=8 queue=default
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name="Games Online" packet-mark=packet-games parent=Download priority=8 queue=default
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name=Upload parent=ether1 priority=8
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=128k
name="Semua Paket Upload" packet-mark=semua-packet parent=Upload priority=8
queue=default
add burst-limit=0 burst-threshold=0 burst-time=0s disabled=no limit-at=0 max-limit=0
name="Games Online Upload" packet-mark=packet-games parent=Upload priority=8
queue=default
```

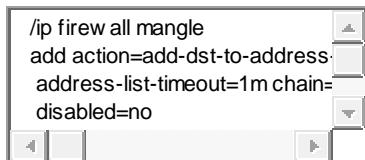
# Blok Akses Facebook Dengan Mikrotik

Posted by: [Adam Rachmad](#) December 17, 2009 in [Mikrotik](#) [3 Comments](#)

Yang ga mau karyawannya maen pesbuk an mulu...

Tutor nie dengan basis address list tanpa [web proxy](#)

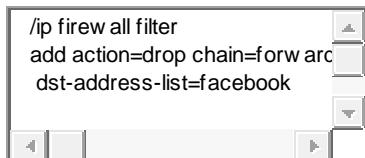
Pertama buat mangle dulu atau marking yang berbau facebook



1 /ip firewall mangle  
2 add action=add-dst-to-address-list address-list=facebook \  
3 address-list-timeout=1m chain=prerouting comment="" content=facebook.com \  
4 disabled=no

[ad]Ket : itu akan membuat address list otomatis dengan nama “facebook” dan marking dengan bau2nya “facebook.com”. Timeout dibuat 1 menit, jdi ip yg masuk address list facebook akan bertahan cma 1 menit, abis ntu ilang sendiri

Kedua bru eksekusi facebooknya



1 /ip firewall filter  
2 add action=drop chain=forward comment="Drop Facebook" disabled=no \  
3 dst-address-list=facebook

Ket : Rules diatas nge drop ip-ip yg terdaftar di address-list “facebook”

Coba deh buka facebook n buka web yg lain, liat statistik di rules yg abis dibuat.. kalo buka web yg lain status rukes ga jalan dan kalo buka facebook bru bergerak... eng i eng..

Bye2 pesbuk!

## Lihat Juga:

- [Blokir Ultrasurf dengan MikroTik](#)
- [Cara Block SSH FTP Brute Force MikroTik](#)

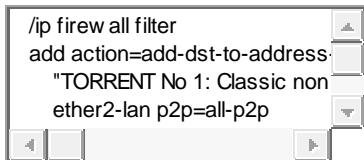
- [Cara Blokir Koneksi TOR Browser di MikroTik](#)
- [Cara Blok Scan Winbox dan Neighbors](#)
- [MAC Filtering Wireless Akses Point Dengan Mikrotik](#)
- [Load Balancing Dengan NTH Mikrotik](#)
- [Setting Load Balancing 2 ISP Dengan PCC MikroTik](#)
- [Blokir Koneksi Torrent Dengan Mikrotik](#)

# Blokir Koneksi Torrent Dengan Mikrotik

Posted by: [Adam Rachmad](#) August 21, 2014 in [Mikrotik](#) [8 Comments](#)

Di sini saya coba jelaskan bagaimana blokir koneksi **torrent** dengan [mikrotik](#). Trus ngapain di blokir segala bos? tuh koneksi ngabisin bandwidth alias bandwidth killer, download upload disedot semua. Hasilnya ga kebagian bandwidth deh. Di sini kita pakai teknik trap aktifitas aplikasi/koneksi torrent dan dst-address IPnya di masukin ke address-list bernama “torrent”. Kemudian semua tujuan ke address-list “torrent” kita drop.

## Block Torrent/P2P di MikroTik



```
1 /ip firewall filter
2 add action=add-dst-to-address-list address-list=torrent chain=forward comment=\
3 "TORRENT No 1: Classic non security torrent [adamonline.web.id]" in-interface=\
4 ether2-lan p2p=all-p2p
5 add action=add-dst-to-address-list address-list=torrent chain=forward comment=\
6 "TORRENT No 2: outgoing DHT [adamonline.web.id]" content=d1:ad2:id20: dst-port=\
7 1025-65535 in-interface=ether2-lan packet-size=95-190 protocol=udp
8 add action=add-dst-to-address-list address-list=torrent chain=forward comment=\
9 "TORRENT No 3: outgoing TCP announce [adamonline.web.id]" content="info_hash=" \
10 dst-port=27 in-interface=ether2-lan protocol=tcp
11 add action=add-dst-to-address-list address-list=torrent chain=forward comment=\
12 "TORRENT No 5: 6771 block Local Broadcast [adamonline.web.id]" content=\
13 "\r\
14 \nInfohash:" dst-port=6771 in-interface=ether2-lan protocol=udp
15 add action=drop chain=forward comment=\
16 "TORRENT No 4: prohibits download .torrent files. [adamonline.web.id]" content=\
17 .torrent dst-port=80 in-interface=ether2-lan protocol=tcp
18 add action=drop chain=forward comment=\
19 "TORRENT No. 5 : Finally we drop all torrent connection [adamonline.web.id]" \
20 dst-address-list=torrent
```

Script diatas bisa di copy paste ke terminal, tapi edit dulu “**in-interface=ether2-lan**” ke nama interfaces lokal/LAN Anda, agar IP lokal/client Anda tidak masuk ke address-list torrent.

Script diatas juga block/blokir jika ada user download file berekstensi “.torrent” (line 15-17), jadi user tidak bisa download file .torrent ke aplikasi torrentnya.

## Block Torrent/P2P di MikroTik Hanya Di Jam Tertentu

Kadang kita hanya mau blokir torrent/P2P hanya di jam tertentu. Misalnya dalam lingkungan kantor, yang tidak memperbolehkan koneksi torrent pada jam kerja (senin-jumat, jam 9.00-18.00) selebihnya bebas. Trus bagaimana caranya ? ganti script di atas pada line 14-18, dengan script ini

```
add action=drop chain=forw arc
content=.torrent disabled=no
9h-18h,mon,tue,w ed,thu,fri
add action=drop chain=forw arc
add action=drop chain=forward comment="TORRENT No 4: prohibits download .torrent files.
1 [adamonline.web.id]" \
2 content=.torrent disabled=no dst-port=80 in-interface=ether1-lan protocol=tcp time=\
3 9h-18h,mon,tue,wed,thu,fri
4 add action=drop chain=forward comment=\
5 "TORRENT No. 5 : Finally we drop all torrent connection [adamonline.web.id]"
6 disabled=no dst-address-list=\
torrent time=9h-18h,mon,tue,wed,thu,fri
```

# Cara Memperbaiki Windows XP Tanpa Install Ulang

Posted by: [Adam Rachmad](#) October 17, 2011 in [IT Stuff](#) [2 Comments](#)

Sering kita menemukan masalah pada [Windows](#) XP kita, yang paling ngeselin File Missing atau Corrupt pada waktu booting. Yang membuat kita ga bisa masuk sama sekali, “waduh, data2 gue gimane nih” – “astagfirullah, email saya seabrek blm ke backup nih” dan kasusnya cma 1 OS itu doank lgi.

Yuk dah, siapin alat tempurnya Yang dibutuhkan :

1. CD Installer Windows XP, Installernya sama persis yang kita install waktu kita install pertama kali pada komputer yang mau diperbaiki. Kalo beda kadang-kadang opsi R=Repairnya kgk keluar
2. Doa secukupnya.

Step pertama yang mutlak harus kita lakukan :

1. Membaca Bismillah < penting ! .
2. Booting via CD Room yang berisi CD Installer Windows XPnya.
3. Tunggu sebentar sampai Installernya mencek OS sebelumnya dan ada opsi “R=Repair”.
4. Pijit “R” alias Repair.
5. Nongol layar item, tunggu countdown untuk opsi milih keyboard Non US.
6. Abis ntu keluar pilihan Folder System Windows XP Anda.
7. Ketik 1 dan enter.
8. Kita masuk dah ke command prompt.

Nah step berikutnya tergantung masalah yang anda alami

## **HAL.DLL Rusak atau Hilang (Missing or Corrupt)**

- Ketik : bootcfg /list
- Ketik : bootcfg /rebuild
- Ketik : exit dan PC anda akan restart

*Note : tanda / diganti sm “backslash” yak... ada filtering post dari hostingnya 😊*

## **Direktori /WINDOWS/SYSTEM32/CONFIG rusak atau hilang (Missing or Corrupt)**

- Ketik : cd /indows/system32/config
- Ketik : ren software software.ancur (rename file software ke software.ancur)
- Ketik : ren system system.ancur (rename file system ke system.ancur)
- Ketik : copy /windows/repair/system (untuk replace file yang rusak dengan yang baru)

- Ketik : copy /windows/repair/software (untuk replace file yang rusak dengan yang baru)
- Ketik : exit dan PC anda akan restart

*Note : tanda / diganti sm “backslash” yak... ada filtering post dari hostingnya 😊*

#### **NTLDR atau NTDETECT.COM tak ditemukan (NTLDR or NTDETECT.COM Not Found)**

- Masukkan perintah berikut, dimana X: adalah alamat drive dari CD ROM Anda (Sesuaikan!).
- Ketik : copy X:/i386/NTLDR C:/
- Ketik : copy X:/i386/NTDETECT.COM C:/
- Ketik : exit dan PC anda akan restart

# Cara Reset, Clear, Refresh, Flush DNS Cache di Windows

Posted by: [Adam Rachmad](#) May 15, 2014 in [Internet Dan Jaringan](#) [Leave a comment](#)

Sebagian besar komputer yang terhubung ke [internet](#) secara otomatis menyimpan nama host dari situs yang telah Anda kunjungi agar reload halaman menjadi lebih cepat. Jika alamat IP dari sebuah situs web berubah sebelum cachenya di update, Anda mungkin tidak dapat memuat halaman web. Jika Anda sering menemui “Halaman Tidak Ditemukan” dan Anda tahu bahwa Anda terhubung ke internet, cobalah refresh, reset, atau flush DNS cache untuk update informasi cache DNS di komputer Anda.

## Reset, Clear, Refresh, Flush DNS Cache di Windows



```
Administrator: Command Prompt
Microsoft Windows [Version 6.2.9200]
(c) 2012 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ipconfig /flushdns

Windows IP Configuration

Successfully flushed the DNS Resolver Cache.

C:\Users\Administrator>_
```

Pertama, anda perlu membuka **Command Prompt (CMD)** di [Windows](#) Anda. Di Windows 8, tekan kombinasi Win + C untuk mengakses “Charms bar”. Dalam kotak search, ketik cmd. Kemudian, klik kanan dan pilih “Run as administrator”.

Kemudian, ketik perintah berikut dan tekan enter:



1 ipconfig /flushdns

Anda akan melihat konfirmasi:

*Windows IP Configuration. Successfully flushed the DNS Resolver Cache.*

## Cara Melihat Entry DNS Cache

Jika Anda ingin melihat cache DNS yang telah dibersihkan, Anda dapat mengetik perintah berikut dan tekan Enter :



1 ipconfig /displaydns

Ini akan menampilkan entri cache DNS di komputer anda, jika ada.

## Mengaktifkan atau Non aktifkan DNS Cache

Untuk me nonaktifkan caching DNS untuk kondisi khusus, ketik **net stop dnscache** dan tekan enter.

Untuk mengaktifkan caching DNS, ketik **net start dnscache** dan tekan enter.

*Dan tentu saja, jika anda restart komputer, caching DNS akan otomatis kembali aktif.*

## Cara Setting Email di MikroTik

Pertama, kita setting informasi account email yang akan digunakan untuk mengirim email dari router mikrotik. Contoh disini saya menggunakan account Gmail karena kirim e-mail dengan account gmail ke server harus menggunakan enkripsi TLS / SSL dengan port 587.



```
1 /tool e-mail
2 set address=[:resolve smtp.gmail.com] from=<mikrotik@emailmu.com>
3 password=rahasiadonk port=587 start-tls=yes \
 user=adam.rachmad@gmail.com
```

Untuk account gmail, masuk ke settingan Gmail anda dan mengaktifkan fitur POP, dan gunakan starttls=yes, menggunakan port 587, Anda juga harus resolve DNS untuk smtp.gmail.com untuk memastikan IP berapa yang dipakai smtp gmail. Di contoh ini saya menggunakan perintah [:resolve smtp.gmail.com] pada “set address=”.

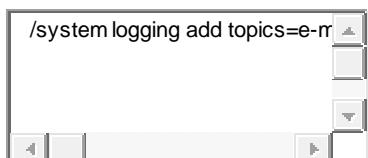
Kedua, cara test mengirim e-mail menggunakan perintah dengan atribut tls set ke yes, karena pakai account gmail



```
1 /tool e-mail send to=mikrotik@emailmu.com subject="test kirim email dari mikrotik"
 body="sukses gan!" start-tls=yes
```

## Cara Troubleshooting Email Di MikroTik

Aktifkan logging untuk layanan email

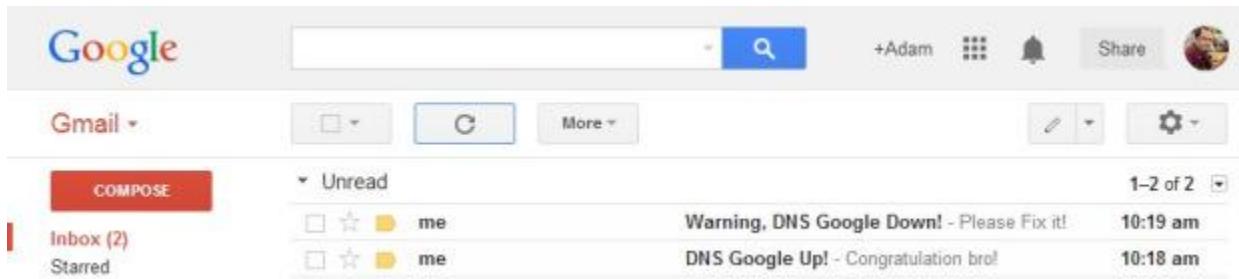


```
1 /system logging add topics=e-mail action=memory
```

Ini akan memperlihatkan log e-mail dalam log sistem, dan membuat troubleshooting lebih mudah.

## Contoh Monitoring Host Dengan Notifikasi via Email

Salah satu contoh memanfaatkan fitur email di mikrotik untuk memonitoring salah satu host/server dengan netwatch, contoh disini dns google 8.8.8.8. Jika host tersebut down/up, mikrotik akan mengirim notifikasi via email seperti gambar dibawah ini :



### Cara Setting Email di MikroTik

```
/tool netw atch
add disabled=no dow n-script="
 , DNS Google Dow n!" body=
 timeout=1s up-script="/tool e-
"
/tool netwatch
1 add disabled=no down-script="/tool e-mail send to=mikrotik@emailmu.com
2 subject="Warning\
3 , DNS Google Down!" body="Please Fix it!" start-tls=yes" host=8.8.8.8 interval=10s \
4 timeout=1s up-script="/tool e-mail send to=mikrotik@emailmu.com subject="DNS Google\
5 Up!" body="Congratulation bro!" start-tls=yes"
```

# Cara Setting MikroTik Jadi SSH Tunnel Server

Posted by: [Adam Rachmad](#) October 9, 2013 in [Mikrotik](#) [20 Comments](#)

Disini kita coba setting [mikrotik](#) jadi SSH server untuk tunneling, kalo agan punya server mikrotik yang mau dijadikan tunneling server. Simpelnya tunneling adalah teknik mengirimkan paket data melalui koneksi lain. Kenapa harus pake SSH tunnel gan ? auk deh *\*kabur ga pake sendal\** hahaha

Kegunaannya apaan gan ?

- Jika agan mengakses sebuah webserver via tunneling, IP yang dicatat di log adalah koneksi IP SSH server yang agan koneksikan.
- Mempercepat koneksi internasional jika kebetulan agan tunneling ke server SSH mikrotik yang memiliki bandwidth internasional melimpah.
- Membypass segala lapis firewall dan aturan proxy yg ada di [jaringan](#) agan sebelumnya.

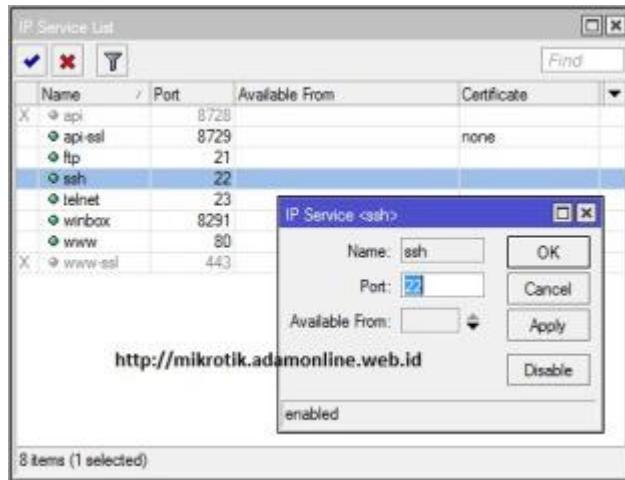
Syarat setting mikrotik jadi SSH server untuk tunneling :

- MikroTik router OS dengan Public IP dengan bandwidth melimpah ^\_^, dan yg pasti agan adminnya.
- Service SSH aktif di mikrotik.
- Open port buat SSHnya di firewall.
- Bitvise SSH Client (Tunnelier) atau Putty.

## Setting SSH Tunnel Server

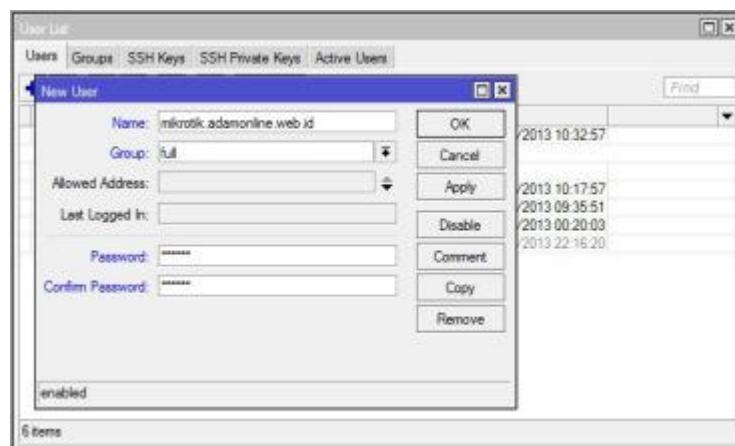
Pertama, kita pastiin dulu service SSHnya aktif dan open port di firewallnya.

Buka [winbox](#) **IP > Services** , cari service **SSH**

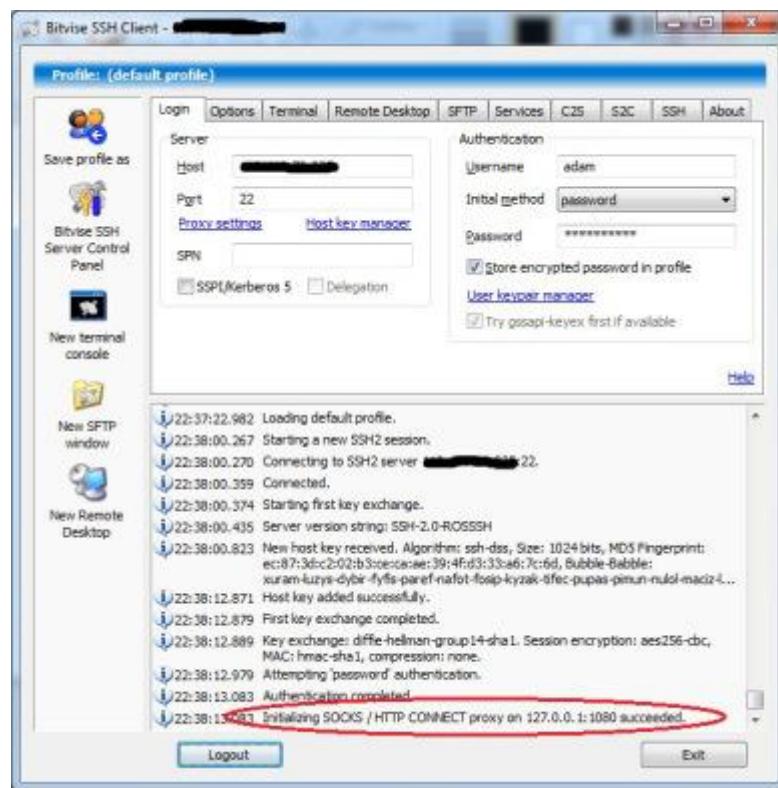


Pastiin posisi “enabled” untuk option **Port** bebas di isi, mao 22 kek, 143 kek, 443 kek, 109 kek.

Lanjut buat username password untuk client SSHnya, Buka winbox **System > Users** > klik “+” untuk tambah user.



Dah, sekarang kita test tunelling via SSH MikroTik, disini ane test pake Bitvise SSH Client (Tunnelier),



**Host** : isi IP Public mikrotik agan

**Port** : isi port yg di setting di winbox barusan

**Username** : isi username yg dibuat di winbox

**Password** : isi password yg dibuat di winbox

Klik "**Login**"

Dari status tersebut agan dah connect tuh, tinggal gabungin sama alat perang lainnya.