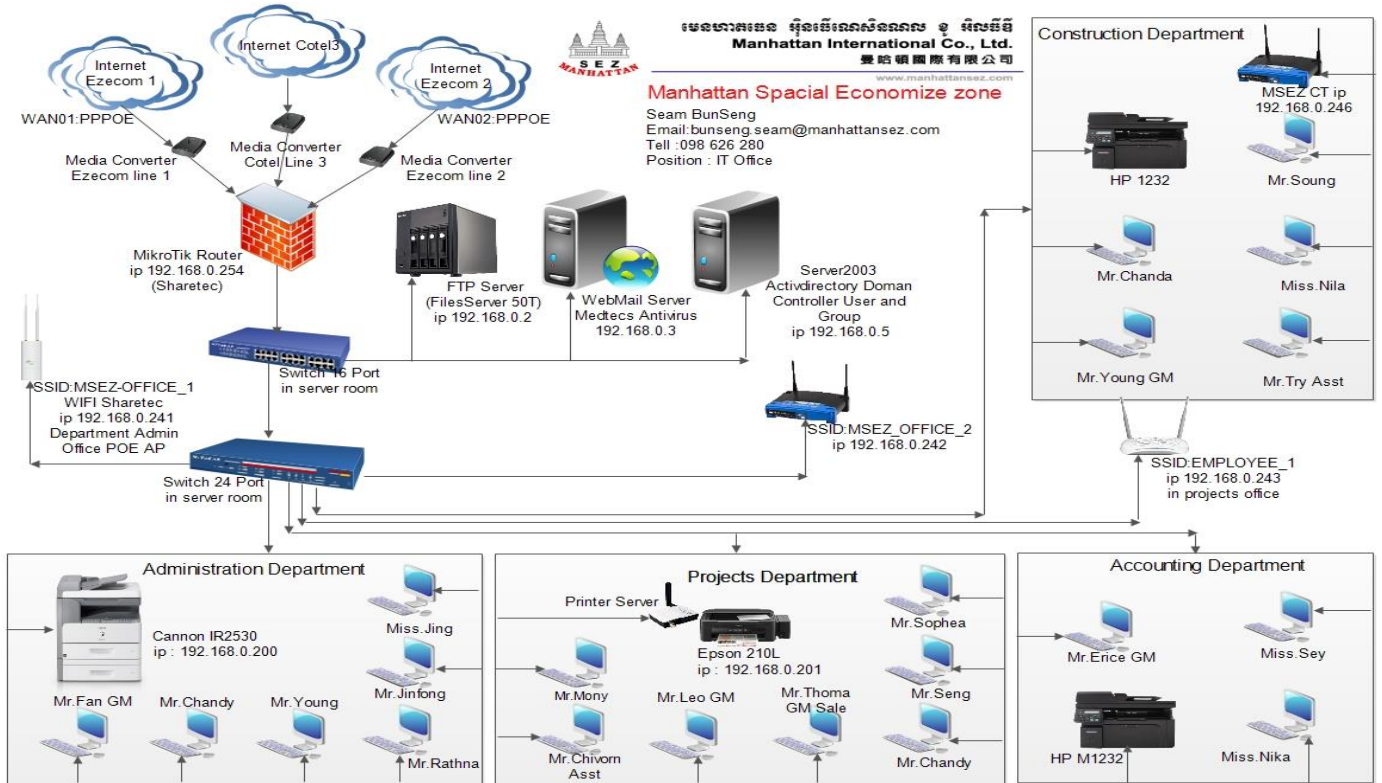


# CONFIGURE MIKROTIK ROUTER

ក្នុងមេរៀននេះខ្ញុំចង់ណែនាំអ្នកទាំងអស់គ្នាអោយដឹងពីការ Configure MikroTik Router និង Configure Option មួយចំនួននៅក្នុង MikroTik ខាងក្រោមនេះគឺជា Diagram ដែលខ្ញុំបាន Configure ។



- IP Address = 192.168.0.122/24
- Default Gateway = 192.168.0.254
- DHCP Server = 192.168.0.254
- S\_DNS = 192.168.0.3
- LAN : 192.168.254.254 , WAN : 192.168.0.122/24

**របៀបកំណត់អោយ MikroTik ទទួល IP DHCP ពី Modem ADSL for Access Internet**

+IP - > Address

Address list : មិនចាំបាច់ Assign Ip Address ទៅអោយ Network WAN\_ether1

= > IP - > DHCP Client - > ចុចលើសញ្ញាបូក New DHCP Client បង្ហាញ

DHCP Tab

- Interface : WAN\_ether1
- Tick Use Peer DNS
- Use Peer NTP
- Add Default Route
- Assign DNS Server or DNS ISP : 8.8.8.8 or 8.8.4.4
- Tick Allow Remote Requests

Allow Client Access Internet to WAN

Ip - > Firewall - > NA - > ចុចលើបូក

General Tab

- Chain : srcnat

Action Tab

- Action : masquerade

**របៀបកំណត់អោយ MikroTik ទទួល IP Static ពី Modem ADSL for Access Internet**

+ IP - > Address - > ក្នុង Address List ចុចសញ្ញាបូក ដើម្បីបង្កើត WAN interface

IP Address: 192.168.0.122 /24

Interface : Choose [ WAN\_ether1 ]

Ip 192.168.0.0 គឺជា Network

+ IP - > Route - > Routes Tab ចុចសញ្ញាបូក

Dst. Address =Default 0.0.0.0 /0

Gateway : 192.168.0.254

+ IP - > DNS

Server : 8.8.8.8 , 8.8.4.4

អ្នកអាចដាក់ DNS ISP or Windows Server របស់អ្នកក៏បានដែរ។

+IP - > Firewall - > NAT - > ចុចលើសញ្ញាបូកដើម្បីអោយ Client អាច Access Internet

General Tab

- Chain : srcnat

Action Tab

- Action : masquerade

### Assign IP Address DHCP to PC Client by Command

#### New Terminal

>ip dhcp-server

/ip dhcp-server > setup

dhcp-server interface :Choose LAN

Not : > / =ត្រលប់ក្រោយ, Ctrl + C =ចាក់ចេញ , > interface print = មើលLAN internet ,

Ex : >LAN-ether3

dhcp address space : Enter

gateway for dhcp network : IP of Router Ex: 192.168.0.254

address to give out : 192.168.0.1 – 192.168.0.254

dns server : IP DNS Server and 8.8.8.8 , 192.168.0.3

### How to Access Connect Internet by Web Proxy

#### Ip - > Web Proxy

Tick លើ Enabled

Port : 1689

Cache Administrator : mahattansez.com

Max.Cache Size :unlimited

Tick លើ Cache On Disk

#### Allow Client Access Internet

Ip - > Firwall - > NAT - > ចុចសញ្ញាបូកដើម្បី Allow Internet

#### + General

Chain : dstnat

Src.Address : 192.168.0.254 /24 ជាIp ដែលយើង Allow នៅក្នុង LAN យើង

Protocol : 6 (tcp)

Dst.Port : 80

**+ Action Tab**

Action : redirect

To Ports : 1689

Ip - > Firewall - > NAT - > ចុចលើសញ្ញាបូក

**General**

Chain : scrnat

Src.Address : 192.168.0.254 /24

**Action Tab**

Action : masquerade

Test Web Proxy : www.whatismyipaddress.com

**របៀប Block YouTube Facebook and Twitter នៅក្នុង Layer 7 Protocols**

Ip - > Firewall - > Layer 7 Protocols

= > ^.\*(YouTube.com).\*\$ , ^.\*(facebook.com).\*\$ , ^.\*(twitter.com).\*\$

Or

= > ^.\*(facebook.com | hi5 | twitter | YouTube | porn ).\*\$

ក្នុង Filter Rules ចុចសញ្ញាបូក - > ក្នុង New Firewall Rule ធ្វើការកំណត់ដូចខាងក្រោម

Chain: forward

Src.Address: 192.168.0.20

Protocol : 6 (tcp)

Dst.Port:80

Layer 7 Protocol: Block YouTube , Block FaceBook , Block Twitter.

Content: Youtube.com

In Action Tab: drop

**របៀប Block mp3 នៅក្នុង Layer 7 Protocols**

Ip - > Firewall - > Layer 7 Protocols

= > \.(mp3)

Chain: forward

Src.Address: 192.168.0.20

Protocol : 6 (tcp)

Dst.Port:80

Layer 7 Protocol: Block MP3

Content: mp3

In Action Tab: mark connection

Connection Mark:mc\_mp3

**របៀបកំណត់ Speed សំរាប់ PC Client ប្រើប្រាស់ Internet Download & Upload**

+ IP - > Queues - > Simple Queues - > ចុចលើសញ្ញាបូក

**+ General Tab**

- Name : Client Name Ex : PC002
- Target Address : Ip Address for Client
- Tick Target Upload
- Tick Target Download
- Max Limit : 128 kbit/s

**+ Set Group and Share Speed Internet in MikroTik**

**+ General Tab**

- Name : Group Name Ex : G-Admin
- Target Address : Ip Address for Client in LAN Ex : 192.168.0.254/24
- Tick Target Upload
- Tick Target Download
- Max Limit : 1M

**Create PC Client to in Group**

- Name: PC Client Name Ex : PC01

- Target Address: ip address for Client Ex : 192.168.0.41
- Tick Target Upload
- Tick Target Download
- Max Limit : 128 kbit/s
- Parent : Choose [ G-Admin]
- Priority : first Number Ex : 1

**របៀប Block Web Site in Web Proxy and Create Web Cache in Web Proxy**

ក្នុង Firewall - > NAT Tap ចុចសញ្ញាបូក

**+ General**

Chain : dstnat

Protocol :6 (tcp)

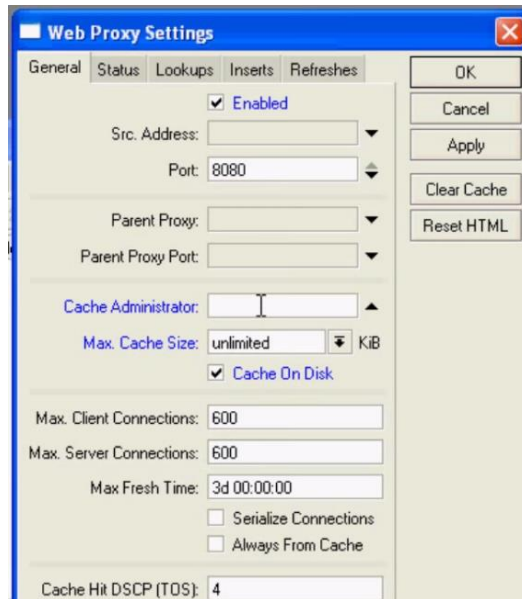
Dst.Port : 80

**+ Action**

Action : redirect

To Ports : 8080

Ip - > Web Proxy - > ក្នុង Access Tab ចុចលើសញ្ញាបូក



Ip - > Firewall

**+ General**

Chain : input

Protocol : 6(tcp)

Dst.Port : 8080

In.Interface: Wan1

**+ Action Tap**

Action : drop

**របៀបបិទកម្មវិធី Ultrasurf in MikroTik Router**

1- Create Address List - > IP - > Firewall - > Address List - > ចុចលើសញ្ញាបូកដើម្បី

Add Name UltrasurfServer and IP

+ Name : UltrasurfServer

+ IP : 65.49.0.0/17 , 204.107.140.0/24  
54.240.168.102 , 61.230.115.230

**Note :** ដោយយើងអាចធ្វើការ Add Ip Address ខាងលើទាំងអស់ក៏បាន។

2- Create Mangle - > IP - > Firewall - > Mangle Tab - > ចុចលើសញ្ញាបូក

**+ General Tab**

- Chain : prerouting
- Protocol :6(tcp)
- Dst Port :433

**+ Advanced Tab**

Dst Address List : Choose [ UltrasurfServer]

**+ Action Tab**

- Action : add src to address list
- Address List : UltrasurfServer
- Time out : 00:03:00

**+ Create Firewall Rule - > IP - > Firewall Rule**

- Chain : forward

- Portocal :6(tcp)
- Dst Port :443

+ Comment : Block UltrasurfServer

**របៀបបិទ WebSite Sex ,Facebook ,hi5,twitter,YouTube, Game Crack...**

IP - > Firwall

+ Layer 7 Protocol Tab - >

- Name : Block -URL+DNS
- Regexp : ^.\*(facebook.com | hi5 | twitter | youtube | porn ).\*\$

= > Firewall Rule Tab - > Create - >

+ General Tab

Chain : forward

+ Advanced Tab

Layer 7 Protocol: Choose [Block-FB&YT]

+ Action Tab

Action: drop

**របៀប Block IP , Block Port ,Redirect in WebProxy**

= > Ip - > Web Proxy - > General - > Access - > ចុចលើសញ្ញាបូក

Src.Address : ជាIp ដែលយើងចង់ Block Ex: 192.168.0.122

Action : deny

Dst Port : 0 send mail port =25 , receive mail port :110

Local Port :80 សំរាប់បិទPort Internet Ex : port 110

+ Redirect

Dst.Host : [www.facebook.com](http://www.facebook.com)

Action : deny

Dreirect To : [www.manhattansez.com.kh](http://www.manhattansez.com.kh)

**How to Create Web Cache in MikroTik Router**

Ip - > Web Proxy - > Web Proxy Setting

+ General Tab



Tick ត្រង់ Enabled

Cache Administrator : google.com

Max.Cache Size : unlimited

Tick ត្រង់ Cache On Disk

Ip - > Firewall - > NAT Tab

- **General Tab**

Chain :dstnat

Protocol : 6 (tcp)

Dst Port : 80

- **Action Tab**

Action : Redirect

To Ports : 8080

Ip - > Firewall - > Filter Rule

- **General Tab**

Chain : input

Protocol : 6 (tcp)

Dst.Port: 8080

In.interface : Wan 1

- **Action Tab**

Action: drop

**Setup PPPOE Server and PPPOE Client**

**Setup Hotspot in MikroTik Router**

+ IP - > Hotspot - > Hotspot Setup

- HotSpot interface : Choose [ LAN\_ether2 ]
- Local Address of Network : ជា IP ដែល HotSpot ប្រើក្នុង LAN Hotspot
- Address Pool of Network : ជា IP Client ចាប់យកដូចការបោះ DHCP ដែល
- Select Certificate : none
- IP Address of SMTP Server : ជា IP Address connect to Mail Server
- DNS Server : 8.8.8.8 , 8.8.4.4
- DNS Name: Manhattansez.com
- Name of local Hotspot User: admin
- Password for the User : admin4me

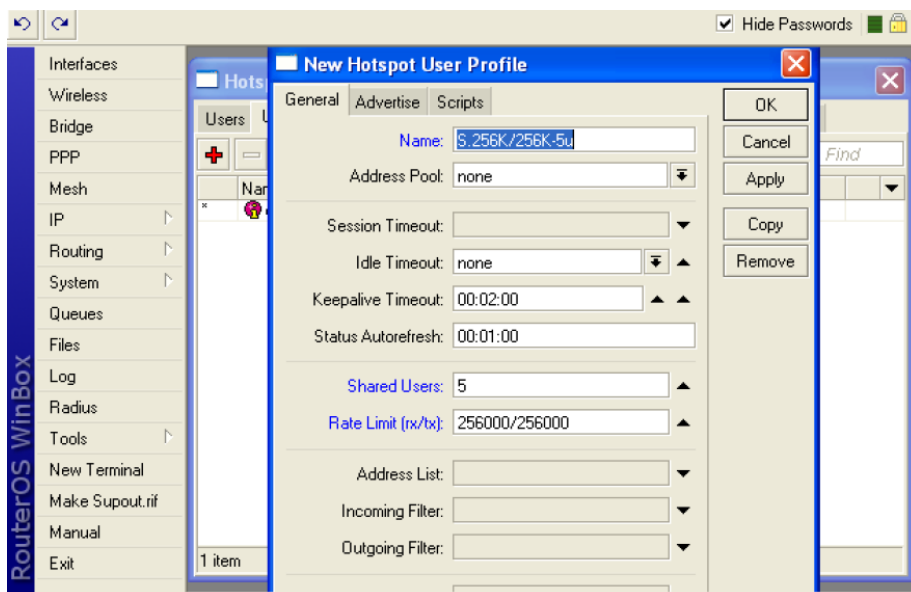
**Create User Hotspot**

មុននឹងអោយ User Access to Hotspot we must Create User Profile for limits Speed or limit user access to hotspot

IP - > Hotspot - > user profile - > add button

+ General Tab

- Name : for set name to user profile
- Shared user : for limits PC Client to us this user
- Rate Limit (Rx/tx) : for limit Speed Download / Upload



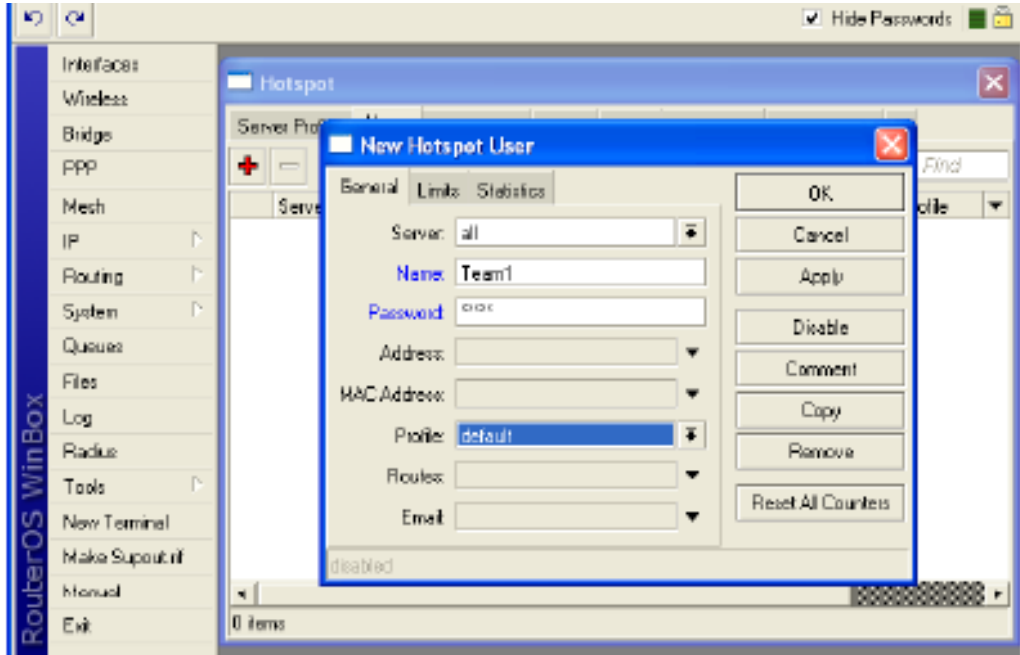
**Then We Create user:**

IP - > Hotspot - > User Tab - > Add button

Server : for Hotspot server allow Hotspot user can access

Name : user name

Profile : កន្លែងកំណត់ជ្រើសយក User Profile ដែលយើងបានបង្កើត



**How to Backup and Restore Configuration in Mikrotik**

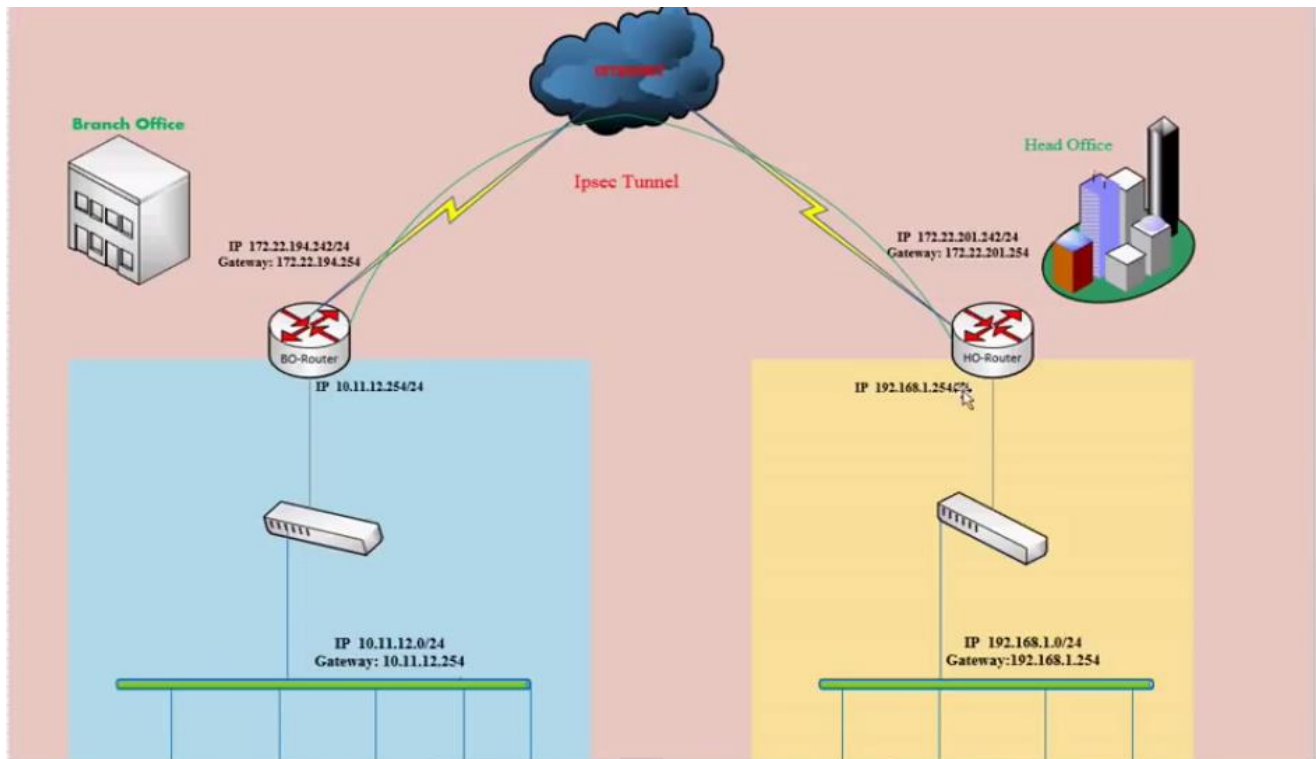
**+Backup Configure**

Files - > File List - > Click Backup button - >ពេលនោះអាចទាញFile ដែលអ្នកBackup ហើយទៅទុកនៅកន្លែងណាមួយដែលមានសុវត្ថិភាព។

**+Restore Configure**

File - > File List - > Click Restore button ហើយ Reboot Mikrotik .

Configuration VPN Site to Site in MikroTik Router



Branch Office

IP 172.22.194.242/24

Gateway : 172.22.194.254

BO-Router IP : 10.11.12.254/24

IP lan : 10.11.12.0 /24

Gateway : 10.11.12.254

Head Office

IP : 172.22.201.242/24

Gateway : 172.22.201.254

HO-Router IP : 192.168.1.254/24

**Note :** How to Configure VPN Site to site on MikroTik router

Step 1 : Configure Internet access on both router

- 1 / . one router Head Office ( can access to internet ok)
- 2 / . one router Brach Office ( can access to internet ok )

Step 2 : Configure VPN site to site

1 / . On router HO-Office

- Create peer
- Change proposals follow your encryption
- Create policies
- Create firewall nat by pass

2 / . On router BO-Office

- Create peer
- Change proposals follow your encryption
- Create policies
- Create firewall nat by pass

Step 2 : Testing

- 1 / . Testing ping from Head office to Branch Office
- 2/. Sharing docuemt from HO-Office to BO-Office.

IP Lan : 192.168.1.0/24

Gateway : 192.168.1.254

- System identity set name=HO-Router សំរាប់ប្តូរឈ្មោះពីAdmin@MikroTik >ទៅជា Admin@HO-Router

**= > Head Office : បង្កើត Interface Lan and Wan ហើយ Rename ឈ្មោះណែនាំដល់**

+ IP - > Address - > Address List ដើម្បី Assign Ip address អោយ Interface Lan and Wan

**Wan Interface :**

- IP Address Wan : 172.22.201.242 / 24
- Network : ជាNetwork ពី IP Address Interface Wan
- Interface : Choose [ Wan Interface ]

**Lan interface :**

- IP Address Lan : 192.168.1.254 / 24
- Network : ជាNetwork ពី IP Address Interface Lan
- Interface : Choose [ Lan Interface ]

+ IP - > DNS

- Server : 8.8.8.8 , 4.4.4.4
- Tick Allow remotes Requests

+ IP - > Routes - > Routes Tab - > ចុចលើសញ្ញាបូក

**+ General Tab**

- Dst.Address : 0.0.0.0 /0
- Gateway : 172.22.201.254
- Check Gateway : ping
- Type : unicast
- Dstance : 1
- Scope :30
- Target Scope : 10

+ IP - > Firwall - > NAT Tab - > ចុចលើសញ្ញាបូក

+ General Tab

- Chain : srcnat
- Out.Interface : Wan

+ Action Tab

- Action : masquerade

+ Tools - > Ping

+ General Tab

- Ping To : google.com
- Interface : Choose [ Wan Interface ]

+ IP - > DHCP Server - > DHCP Tab - > ចុចលើ DHCP Setup button

- DHCP Server interface : Choose [ Lan Interface ]
- DHCP Address Space : 192.168.1.0 /24
- Gateway for DHCP Network : 192.168.1.254
- Address to Give Out : 192.168.1.1 – 192.168.1.253
- DNS Server : 8.8.8.8 , 4.4.4.4
- LeaseTime : 3d:00:00:00

ត្រលប់ទៅឈរនៅលើ MikroTik Router ផ្សេងទៀតគឺ Branch Office

= > **Branch Office : បង្កើត Interface Lan and Wan ហើយ Rename ឈ្មោះណាដែលងាយយល់**

+ IP - > Address - > Address List ដើម្បី Assign Ip address អោយ Interface Lan and Wan

**Wan Interface :**

- IP Address Wan : 172.22.194.242 / 24
- Network : ជាNetwork ពី IP Address Interface Wan
- Interface : Choose [ Wan Interface ]

**Lan interface :**

- IP Address Lan : 10.11.12.254 / 24
- Network : ជាNetwork ពី IP Address Interface Lan
- Interface : Choose [ Lan Interface ]

+ IP - > DNS

- Server : 8.8.8.8 , 4.4.4.4
- Tick Allow remotes Requests

+ IP - > Routes - > Routes Tab - > ចុចលើសញ្ញាបូក

+ **General Tab**

- Dst.Address :0.0.0.0 /0
- Gateway : 172.22.194.254
- Check Gateway : ping
- Type : unicast
- Dstance : 1
- Scope :30
- Target Scope : 10

+ IP - > Firwall - > NAT Tab - > ចុចលើសញ្ញាបូក

+ **General Tab**

- Chain : srcnat
- Out.Interface : Wan

+ **Action Tab**

- Action : masquerade

+ Tools - > Ping

+ **General Tab**

- Ping To : google.com
- Interface :Choose [ Wan Interface ]

+ IP - > DHCP Server - > DHCP Tab - > ចុចលើ DHCP Setup button

- DHCP Server interface : Choose [ Lan Interface ]
- DHCP Address Space : 10.11.12.0 /24
- Gateway for DHCP Network : 10.11.12.254
- Address to Give Out : 10.11.12.1 – 192.168.1.253
- DNS Server : 8.8.8.8 , 4.4.4.4

- Lease Time : 3d:00:00:00

**Configure VPN sites to sites**

**= > HO-Router**

+ System - > Logging - > Rules Tab - > ចុចលើសញ្ញាបូក

- Topics : ipsec
- Action :memory

+ IP - > IPsec - > Peers Tab - > ចុចសញ្ញាបូក

- Address :172.22.194.242
- Port :500
- Local Address :
- Secret :11111
- Hash Algorithim :md5
- Encrytion Algorithim : 3des
- DPD interval :10
- DPD Dardmum Failues :2

ក្នុងដំណើរ IP - > IPsec លើ Proposals Tab - > Double Click លើ default

- Name : default
- Auth Algorithms : Tick md5
- Encr Algorithms : 3des

ក្នុង IP - > IPsec លើ Policies Tab

**+ General Tab :**

- Src.Address :192.168.1.0 /24
- Src.Port :
- Dst.Address :10.11.12.0 / 24
- Dst.Port :
- Potocol :255

**+ Action Tab :**

- Action : encrypt



- Level : require
- IPsec.Protocols :esp
- Tick Tunnel
- SA Src.Address : 172.22.201.242
- SA Dst.Address :172.22.194.242
- Proposals :default
- Priority : 0

+ IP - > Firewall - > NAT - > ចុចលើសញ្ញាបូក

**+ General Tab :**

- Chain : srcnat
- Src.Address : 192.168.1.0 /24
- Dst.Address :10.11.12 .0 /24

**+ Action Tab :**

- Action : accept    OK go to Router Branch-Office

**= > BO-Router**

+ System - > logging -> ចុចសញ្ញាបូក

- Topics : ipsec
- Prifix :
- Action : memory

+ IP - > IPsec - > Peers Tab- > ចុចសញ្ញាបូក

- Address : 172.22.201.242
- Secret :11111
- Hash Algorithms : md5
- Encryption Algorithms :3des
- DPD interval : 10
- DPD Maximum Failues :2

**+ Proposals Tab:**

- Name :default

- Auth Algorithms : md5
- Encr Algorithms :3des

**+ Policies Tab - >**

**+ General Tab :**

- Src.Address : 10.11.12.0 /24
- Dst.Address :192.168.1.0 /24

**+ Action Tab :**

- Action :encrypt
- Level :requires
- IPsec.Protocols :esp
- Tick Tunnel
- SA.Src.Address :172.22.194.242
- SA.Dst.Address :172.22.201.242
- Proposals :default
- Priority :0

IP - > Firewall - > NAT - > ចុចលើសញ្ញាបូក

**+ General Tab :**

- Chain : srcnat
- Src.Address : 10.11.12.0 /24
- Dst.Address : 192.168.1.0 /24

**+ Action Tab :**

- Action :accept

**Testing :**

Testing Ping From Heand Office to Branch Office

Testing Sharing File From HO Office to BO Office ដោយបង្កើតFolderមួយហើយធ្វើការ Share permission everyone ហើយចូលទៅក្នុង PC BO Office ហើយវាយIP HO Office ដើម្បី ចូលទៅយកDocument នៅក្នុងHO Office។

