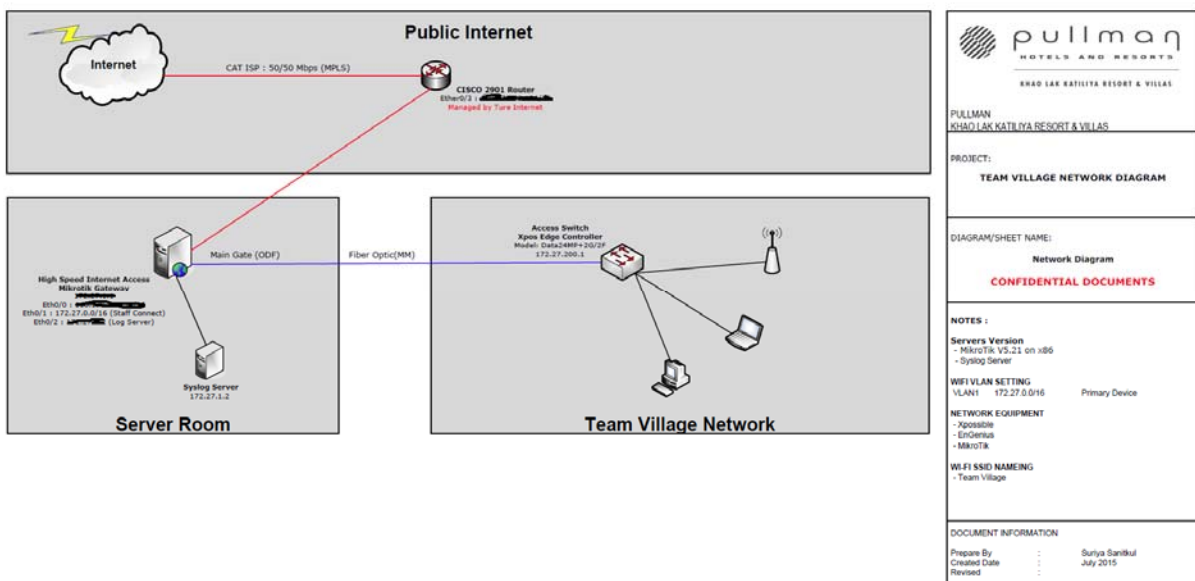


MikroTik System on PC

1. WAN configuration
2. LAN configuration
3. DHCP Server
4. Hotspot system
5. Firewall configuration (Protect router, Protect LAN, Bit torrent, P2P and Web Content blocked)
6. User man

Network Diagram



Welcome to MikroTik Router Software installation

Move around menu using 'p' and 'n' or arrow keys, select with 'spacebar'.
Select all with 'a', minimum with 'm'. Press 'i' to install locally or 'q' to
cancel and reboot.

<input type="checkbox"/> system	<input type="checkbox"/> ipv6	<input type="checkbox"/> routerboard
<input checked="" type="checkbox"/> ppp	<input type="checkbox"/> isdn	<input type="checkbox"/> routing
<input type="checkbox"/> dhcp	<input type="checkbox"/> kvm	<input type="checkbox"/> security
<input type="checkbox"/> advanced-tools	<input type="checkbox"/> lcd	<input type="checkbox"/> ups
<input type="checkbox"/> calea	<input type="checkbox"/> mpls	<input type="checkbox"/> user-manager
<input type="checkbox"/> gps	<input type="checkbox"/> multicast	<input type="checkbox"/> wireless
<input type="checkbox"/> hotspot	<input type="checkbox"/> ntp	

ppp (depends on system):
Provides support for PPP, PPTP, L2TP, PPPoE and ISDN PPP.

Do you want to keep old configuration? [y/n]:_

WARNING: couldn't keep config - current license does not allow that
Creating partition.....
Formatting disk...

installed system-5.20
installed wireless-5.20
installed user-manager-5.20
installed ups-5.20
installed security-5.20
installed routing-5.20
installed routerboard-5.20
installed ntp-5.20
installed multicast-5.20
installed mpls-5.20
installed lcd-5.20
installed kvm-5.20
installed isdn-5.20
installed ipv6-5.20
installed hotspot-5.20
installed gps-5.20
installed calea-5.20
installed advanced-tools-5.20
installed dhcp-5.20
installed ppp-5.20

-

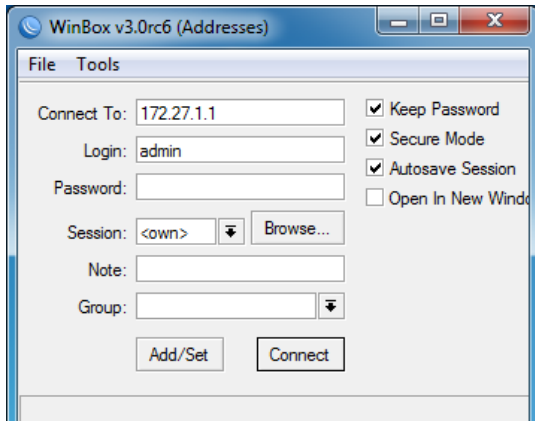
```
installed system-5.20
installed wireless-5.20
installed user-manager-5.20
installed ups-5.20
installed security-5.20
installed routing-5.20
installed routerboard-5.20
installed ntp-5.20
installed multicast-5.20
installed mpls-5.20
installed lcd-5.20
installed kvm-5.20
installed isdn-5.20
installed ipv6-5.20
installed hotspot-5.20
installed gps-5.20
installed calea-5.20
installed advanced-tools-5.20
installed dhcp-5.20
installed ppp-5.20
```

```
Software installed.
Press ENTER to reboot
```

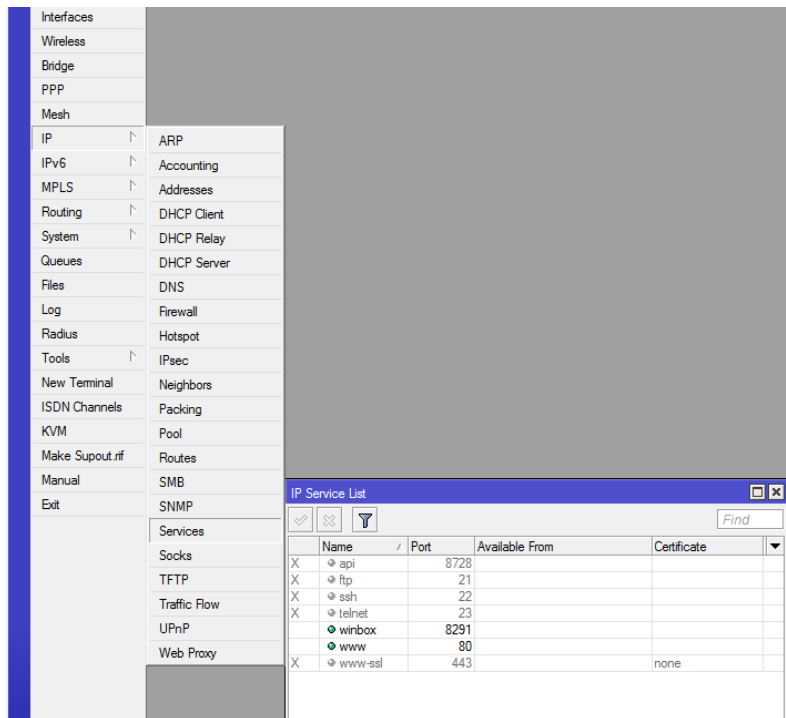
—

Make IP address for LAN

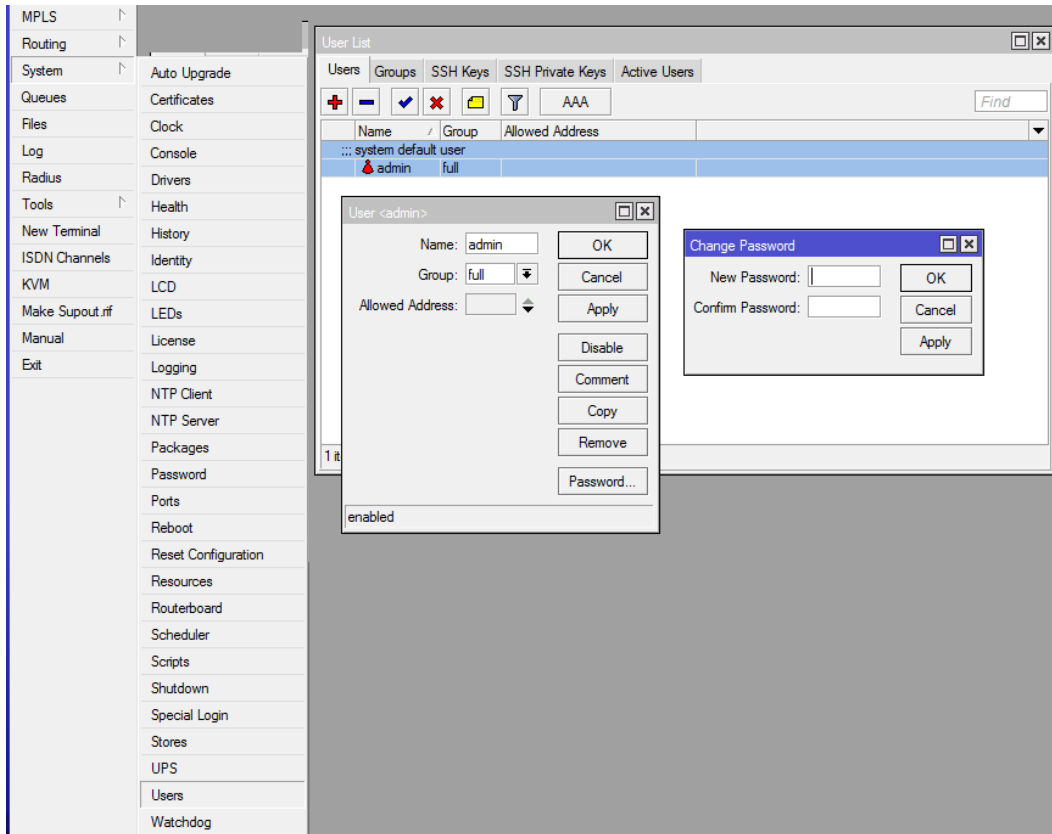
1. Login MikroTik system:
 - a. User: admin
 - b. Password:
2. Input "setup" and Enter
 - a. Select "a" and Enter
 - b. Enable interface: **ether1** and **Enter**
 - c. Input "**172.27.0.1/16**" and Enter
 - d. Input "**x**" and Enter
3. Login **winbox** program



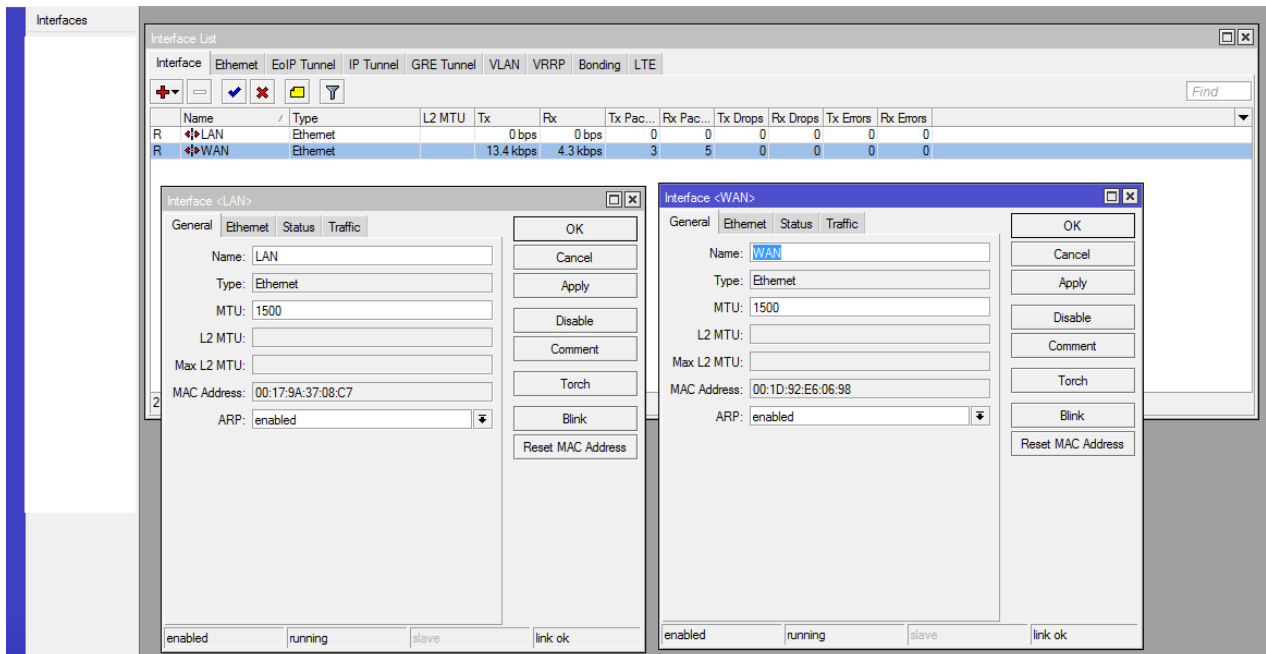
4. Services Disable



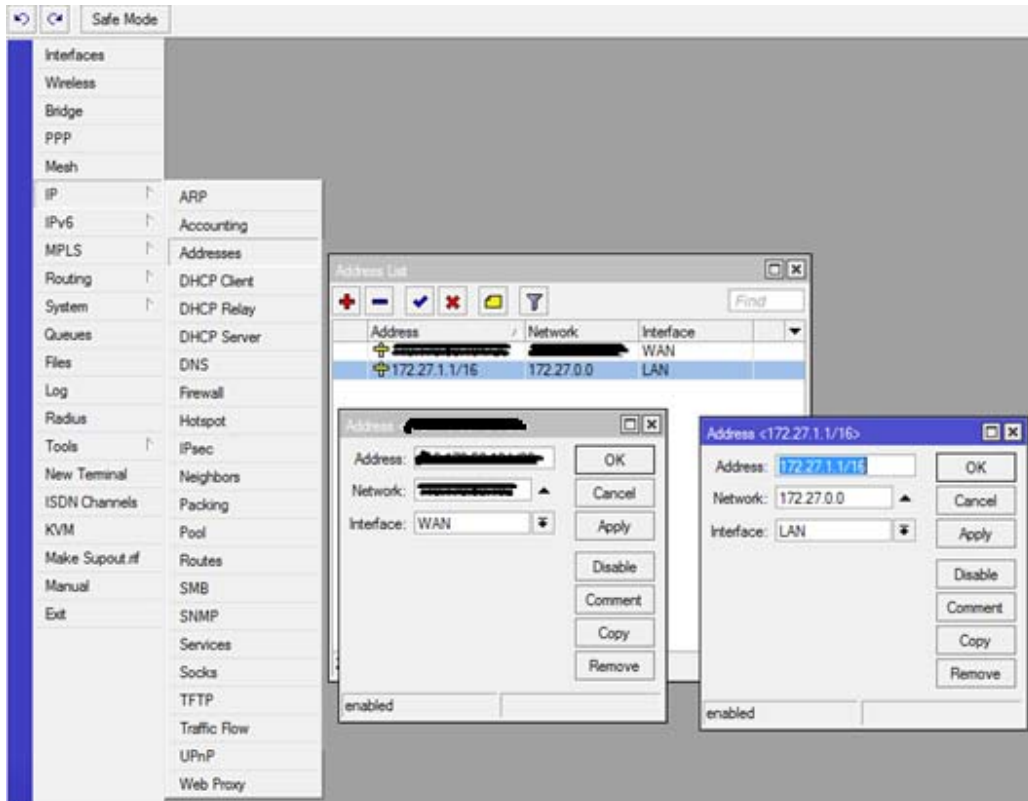
5. Change password for Admin



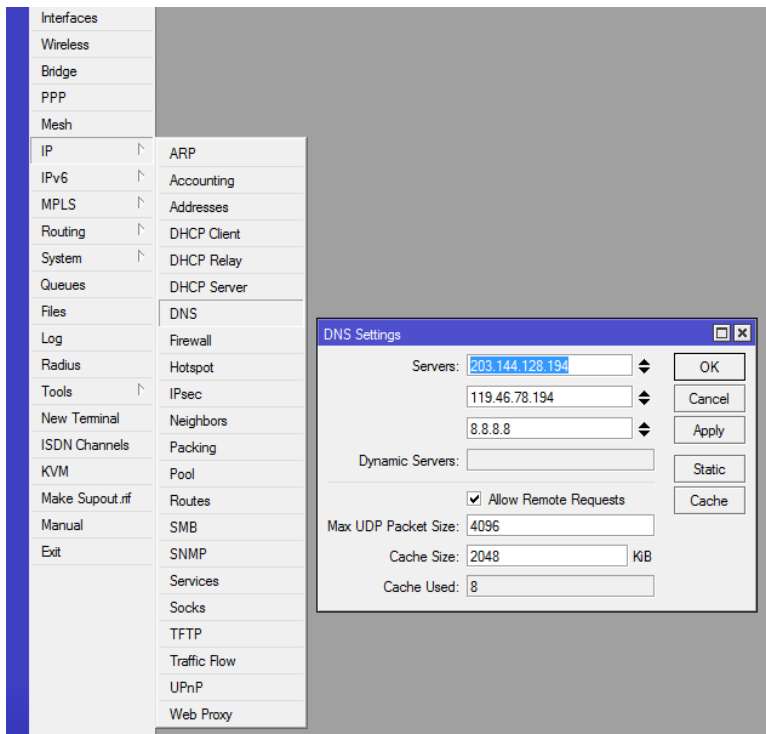
6. rename LAN card name in "Interfaces" menu



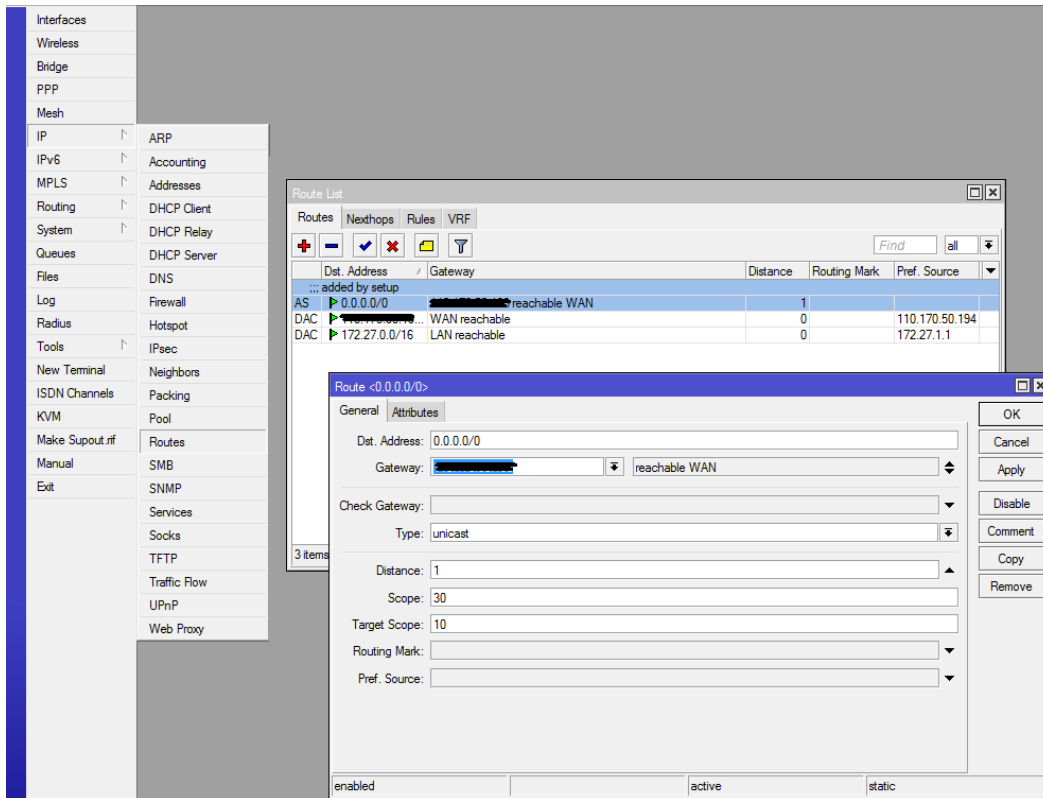
7. Create WAN and LAN IP in Address List



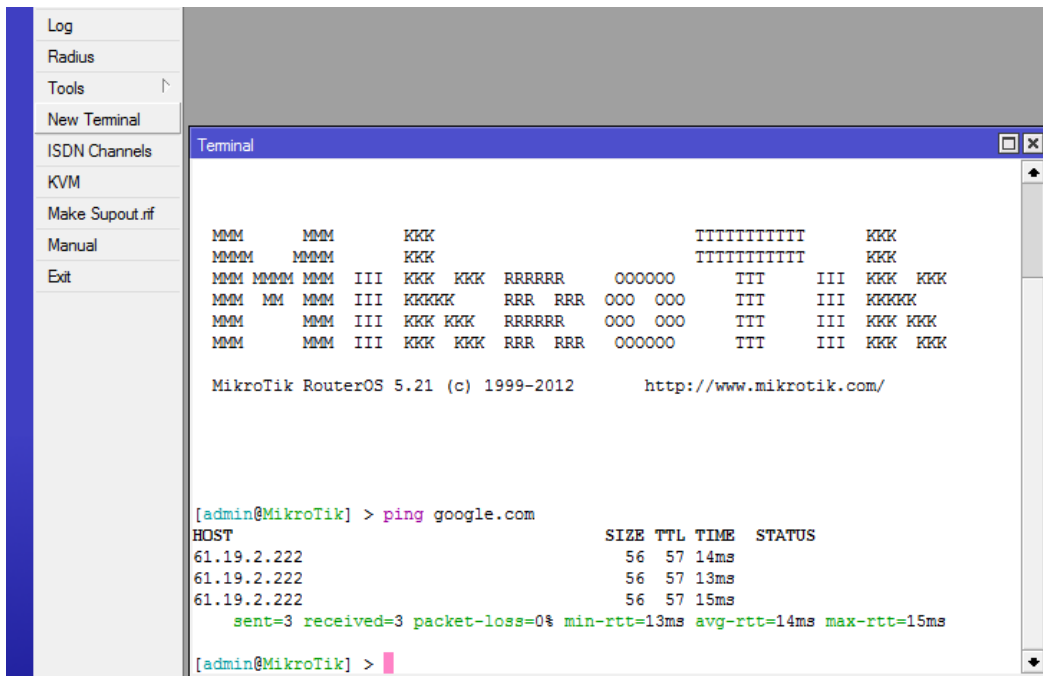
8. Create DNS



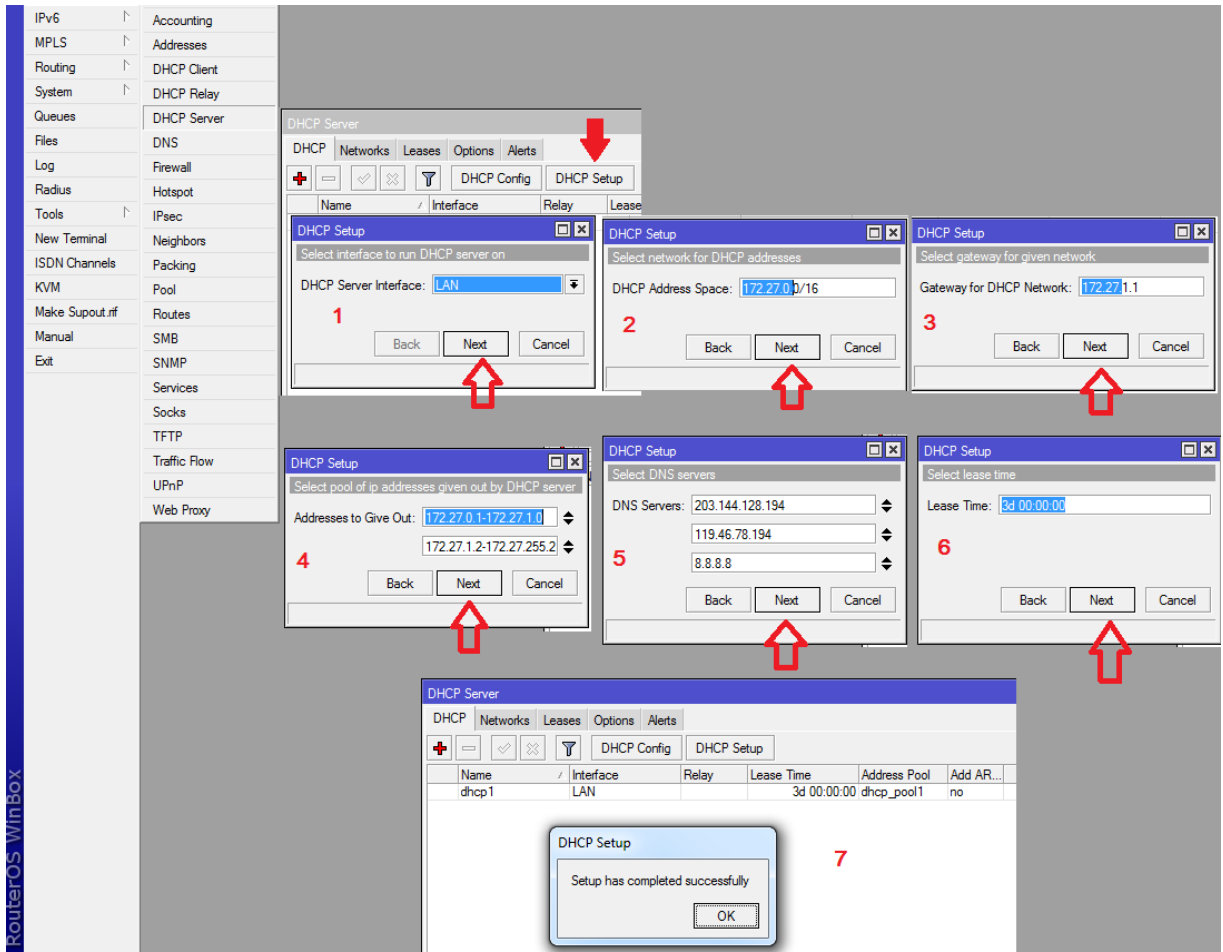
9. Create "Routes"



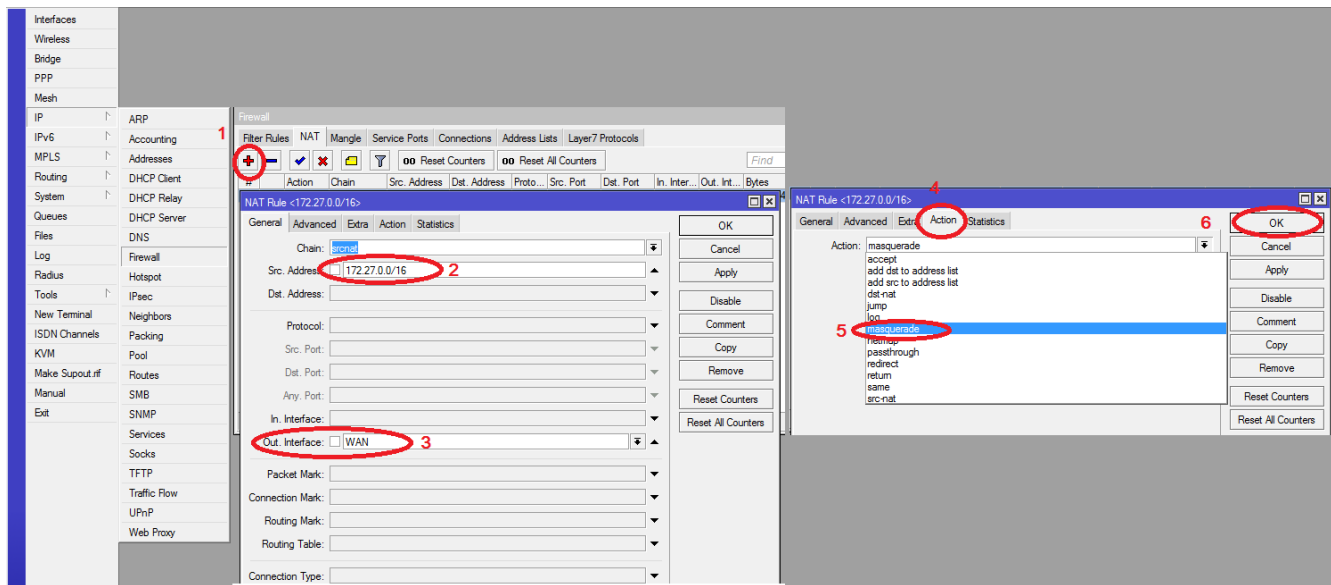
10. Open "New Terminal" and Test ping "google.com"



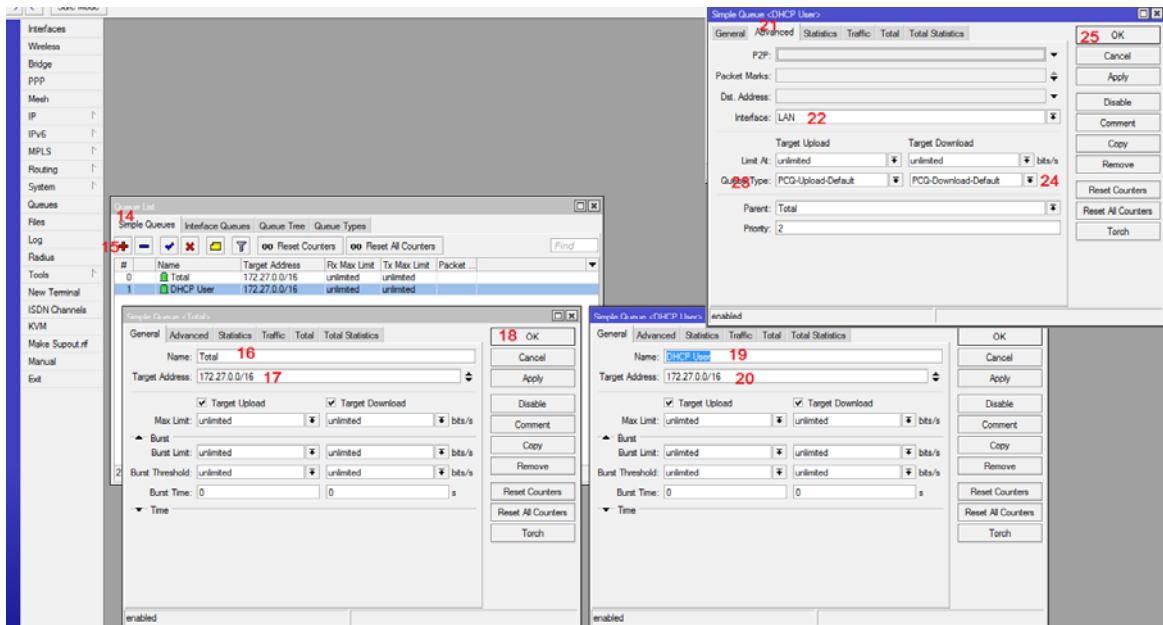
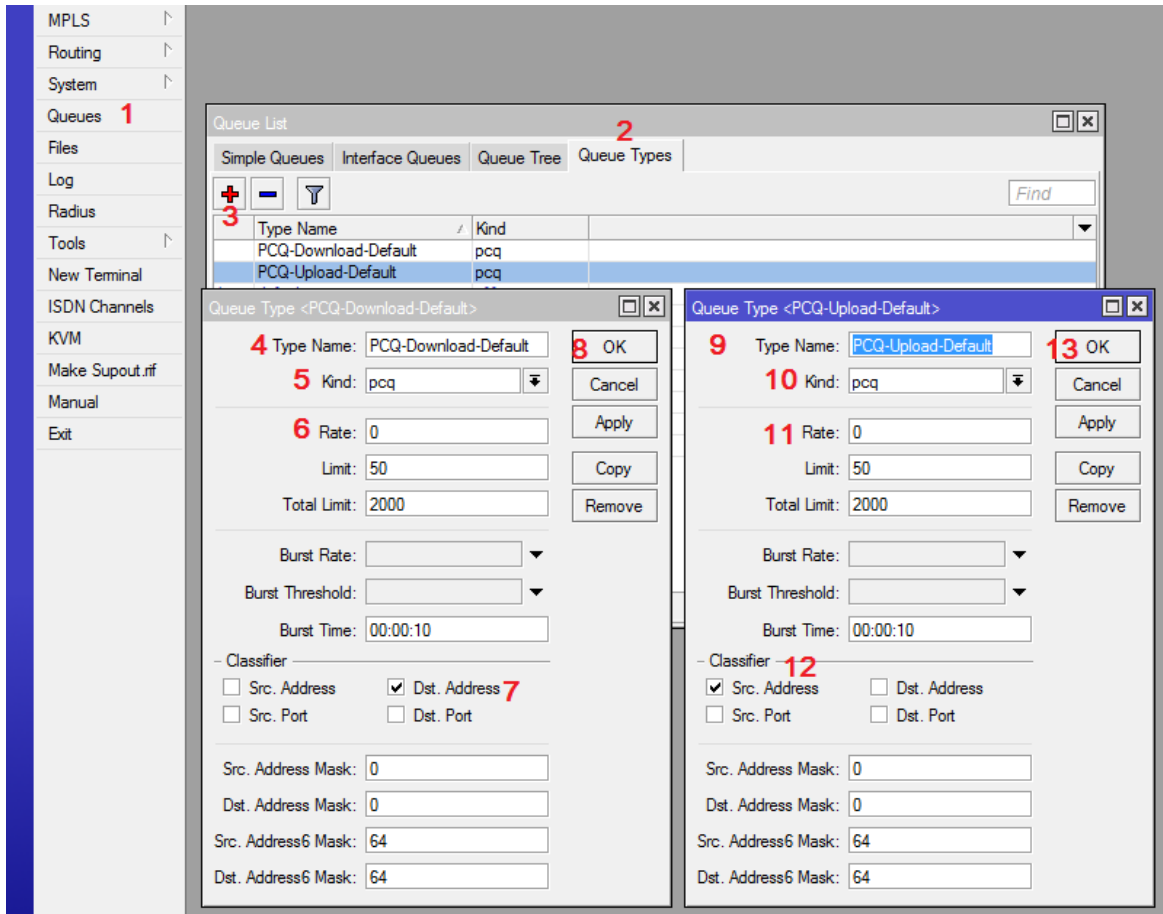
11. DHCP server Configuration



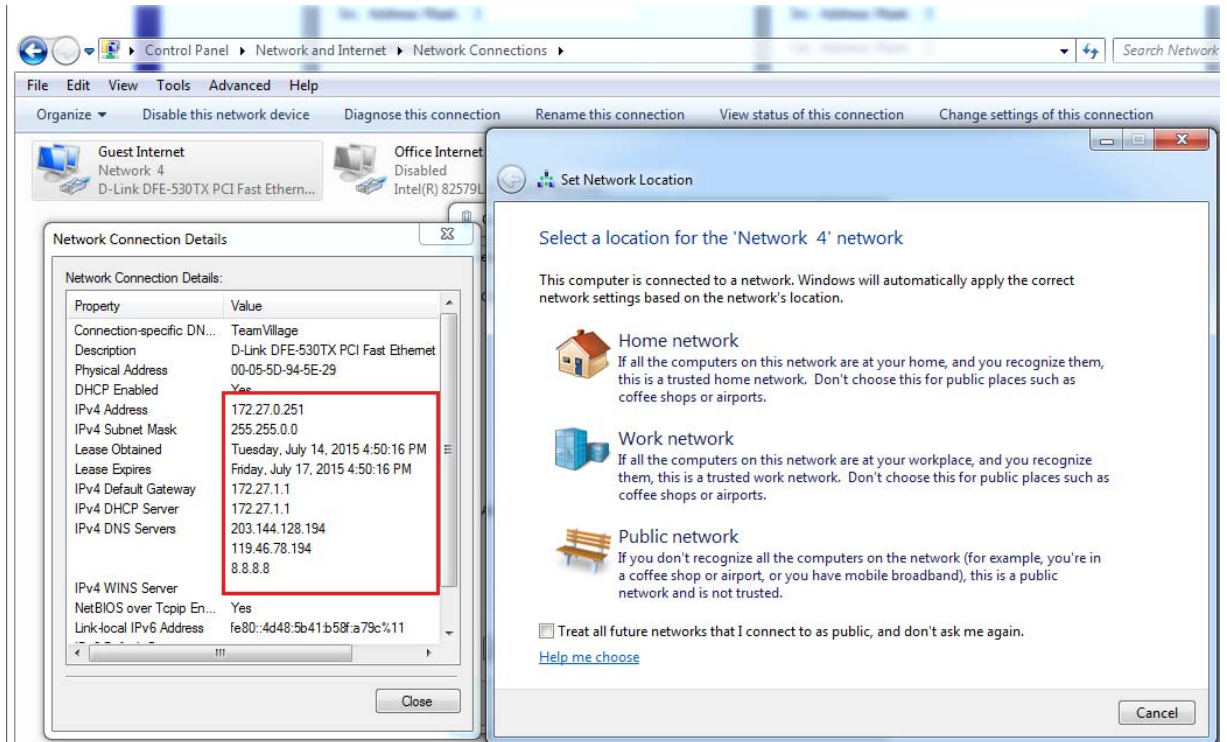
12. NAT configuration



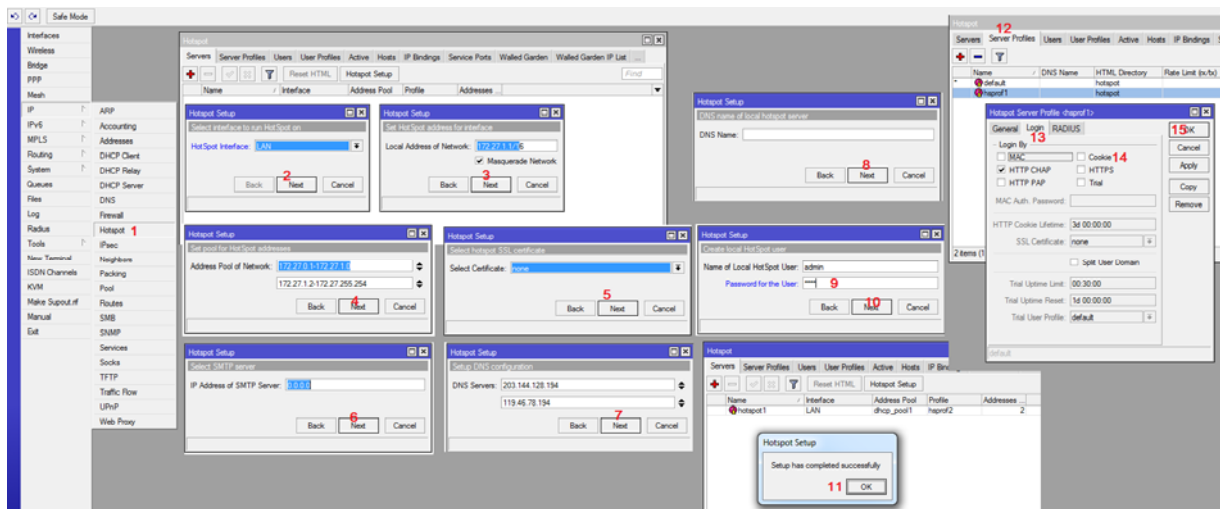
13. Queue List configuration



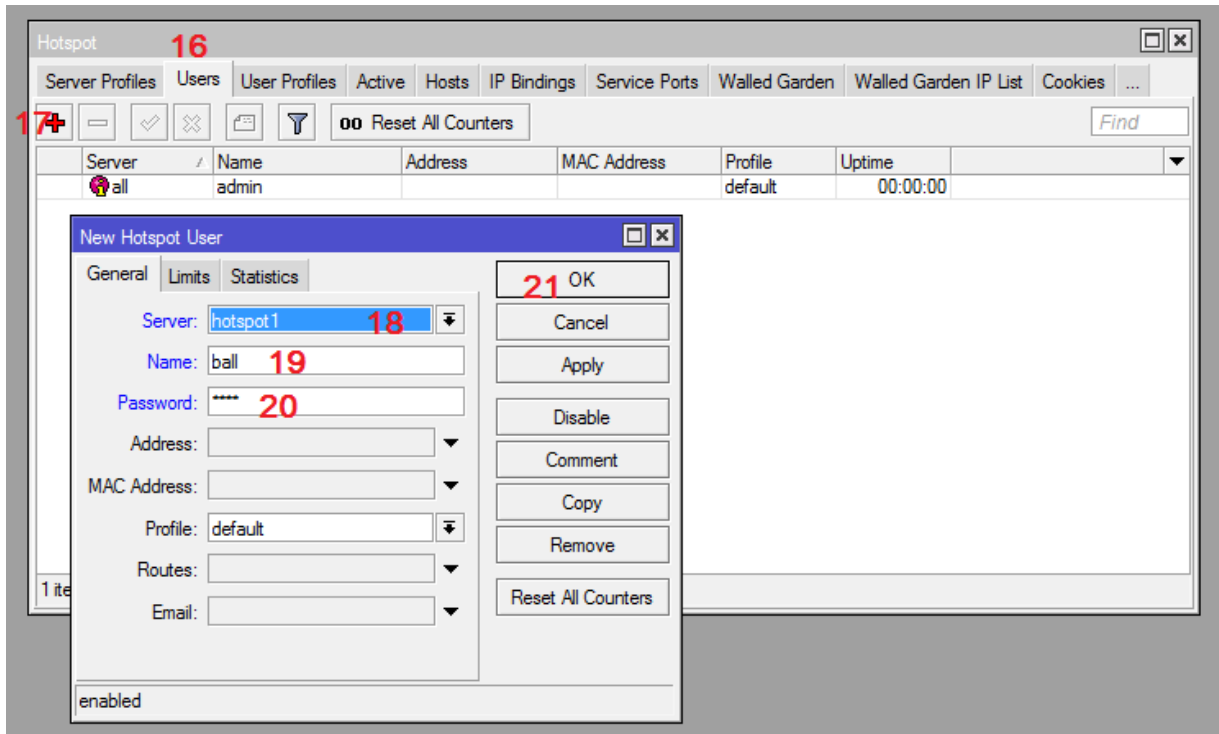
14. Internet access testing



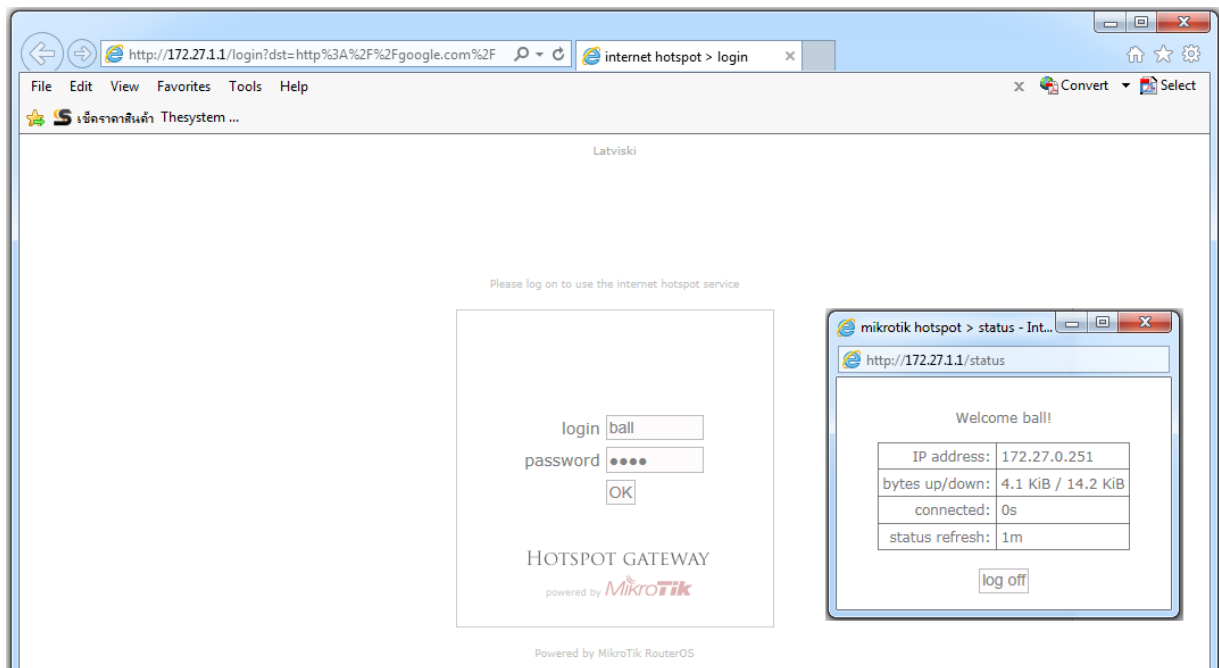
15. Hotspot Configuration



16. Create profile & First Hotspot User

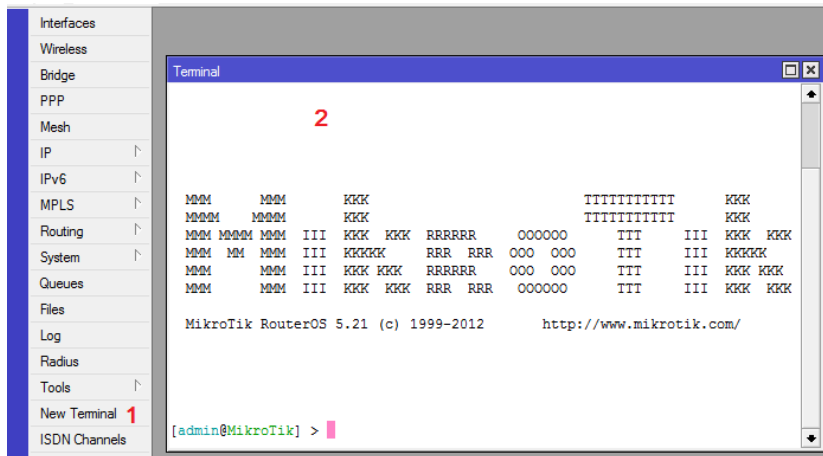


17. Internet access testing for hotspot



19. Firewall configuration (Bit torrent, P2P and Web Content blocked)

- Open new terminal

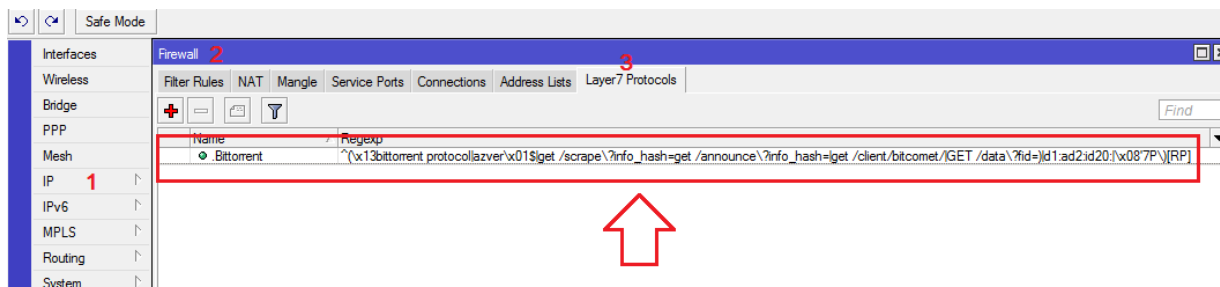


- input as below and Enter

```
/ip firewall layer7-protocol
```

```
add name=.Bittorrent regexp="^(\\x13bittorrent protocol|azver\\x01\\$|get /scra\pe\\|?info_hash=get /announce\\|?info_hash=get /client/bitcomet/|GET /data\\|?fid=)|d1:ad2:id20:|\\x08'7P\\|[RP])"
```

- Automatic create new Layer7 Protocols in firewall.



- Input new filter rules in "Terminal program" and change IP address for your system

```
/ip firewall filter
```

```
add action=add-src-to-address-list address-list=-Bit-Addr \  
address-list-timeout=1m chain=forward disabled=no dst-address-list=\!  
!-Bit-Addr-Unblock hotspot="" p2p=bit-torrent src-address=172.27.0.0/16 \  
src-address-list=!-Bit-Addr-Unblock
```

```
add action=add-src-to-address-list address-list=-Bit-Addr \
address-list-timeout=1m chain=forward disabled=no dst-address-list=\
!-Bit-Addr-Unblock dst-address-type="" layer7-protocol=.Bittorrent \
src-address=172.27.0.0/16 src-address-list=!-Bit-Addr-Unblock \
src-address-type=local
```

```
add action=drop chain=forward disabled=no dst-port=!80,443 protocol=tcp \
src-address-list=-Bit-Addr
```

```
add action=drop chain=forward disabled=no protocol=udp src-address-list=\
-Bit-Addr
```

```
add chain=forward src-address=172.27.0.0/16 p2p=all-p2p action=drop comment=p2p_drop
```

- Automatic create new filter rules in firewall.

#	Action	Chain	Src. Address	Dst. Address	Protocol	Src. Port	Dst. Port	In. Inter...	Out. Int...	Bytes	Packets
0	accept	input			1 (icmp)					2453.9 KB	41 866
1	accept	input						WAN		262.7 MB	196 206
2	accept	input						WAN		0 B	0
3	drop	input						WAN		314.3 KB	3 916
4	jump	forward						WAN		3310.9 MB	2 611 472
5	accept	customer								3308.3 MB	2 565 585
6	accept	customer								142.0 KB	1 214
7	drop	customer								2501.2 KB	44 673
8	add src to address list	forward	172.27.0.0/16							158.4 KB	2 255
9	add src to address list	forward	172.27.0.0/16							0 B	0
10	drop	forward			6 (tcp)		180,443			5.1 MB	103 654
11	drop	forward			17 (udp)					3130.5 KB	28 648
12	drop	forward	172.27.0.0/16							81.3 KB	886

- Bit torrent access testing.

Name	Size	Progress	D...	U...	Time Left	Seeds/Peers...	Share...
Big.Game.2014.1080p.WEBDL.AC3.x264.MASTER.mkv	3.41 GB	40.4%	760kB/s	3kB/s	0:52:55	14/14[30/173]	0.00

Name	Size	Progress	D...	U...	Time Left	Seeds/Peers...	Share...
Big.Game.2014.1080p.WEBDL.AC3.x264.MASTER.mkv	3.41 GB	43.7%	0kB/s	0kB/s	∞	16/16[26/173]	0.00

- Web content blocked

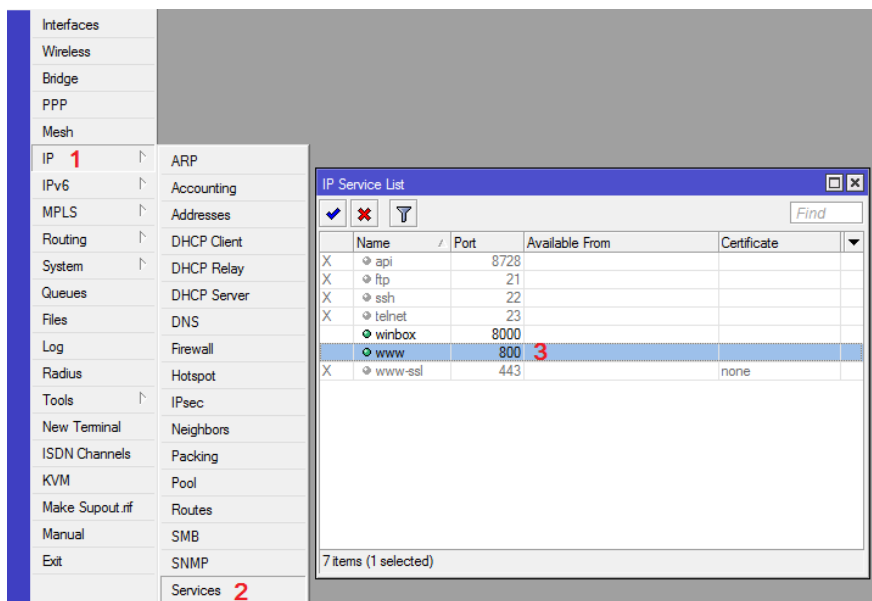
The screenshot shows the Mikrotik WinBox interface for configuring Firewall Rules. The left sidebar lists various system components, with 'Firewall' selected. The main window displays the 'Firewall Rule' configuration dialog, which is open to the 'General' tab. The rule is named 'Youtube_Blocked' and is set to 'drop' the connection. The 'Content' field is configured to block traffic to 'youtube.com'. The rule is applied to the 'customer' interface. A table at the bottom shows the status of various rules, with the 'Youtube_Blocked' rule highlighted in blue and a red box around it. A red arrow points to the '15 items (15 selected)' text at the bottom of the table.

Chain	Outgoing Interface	Incoming Interface	Outgoing Address	Incoming Address	Outgoing Port	Incoming Port	Bytes	Packets
customer							2589.1 KB	46 364
customer							166.3 KB	2 346
customer							0 B	0
customer					6 (tcp)	180.443	5.3 MB	109 100
customer					17 (udp)		3262.3 KB	30 093
customer							81.3 KB	886
customer							245.7 KB	3 096
customer							1729 B	7

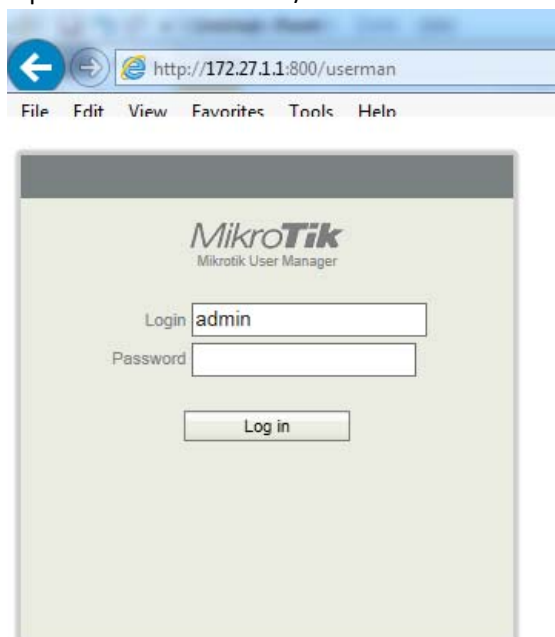
20. User man

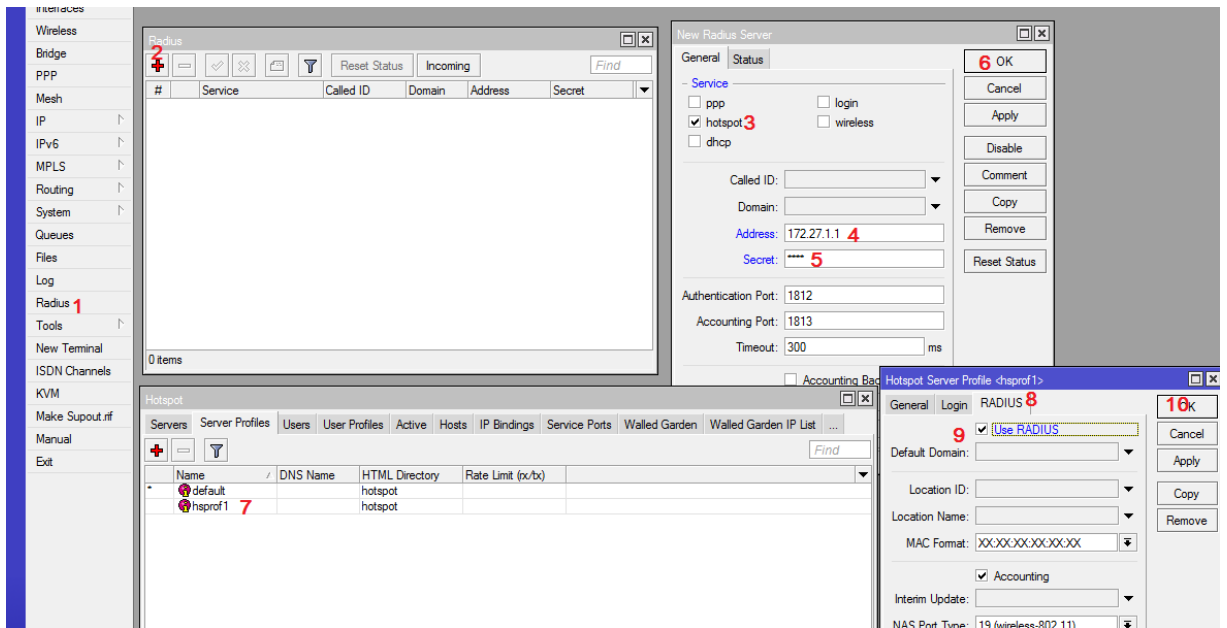
The screenshot shows the Mikrotik WinBox interface for configuring Radius and Hotspot services. The left sidebar lists various system components, with 'Radius' selected. The main window displays the 'New Radius Server' configuration dialog, which is open to the 'General' tab. The 'Service' section is checked for 'hotspot'. The 'Address' field is configured to '172.27.0.0/16'. The 'Authentication Port' is set to '1812' and the 'Accounting Port' is set to '1813'. The 'Timeout' is set to '300' ms. The 'Hotspot' configuration is also visible, showing a list of server profiles. The 'hsprof1' profile is selected. The 'Hotspot Server Profile' configuration dialog is open to the 'General' tab, showing the 'Default Domain' set to 'Use RADIUS' and the 'NAS Port Type' set to '19 (wireless-802.11)'. A red arrow points to the '12 OK' button.

- Change port number for WWW service



- Go to web browser
- Input url: 172.27.1.1:800/userman





- ติดตั้ง userman และเชื่อมต่อเข้ากับ Radius ที่เมนู Router กำหนดค่า
 Name : hotspot
 IP address : 127.27.1.1
 share secret : 1234 (ให้ตรงกับที่กำหนดไว้ตอนสร้าง Radius)

