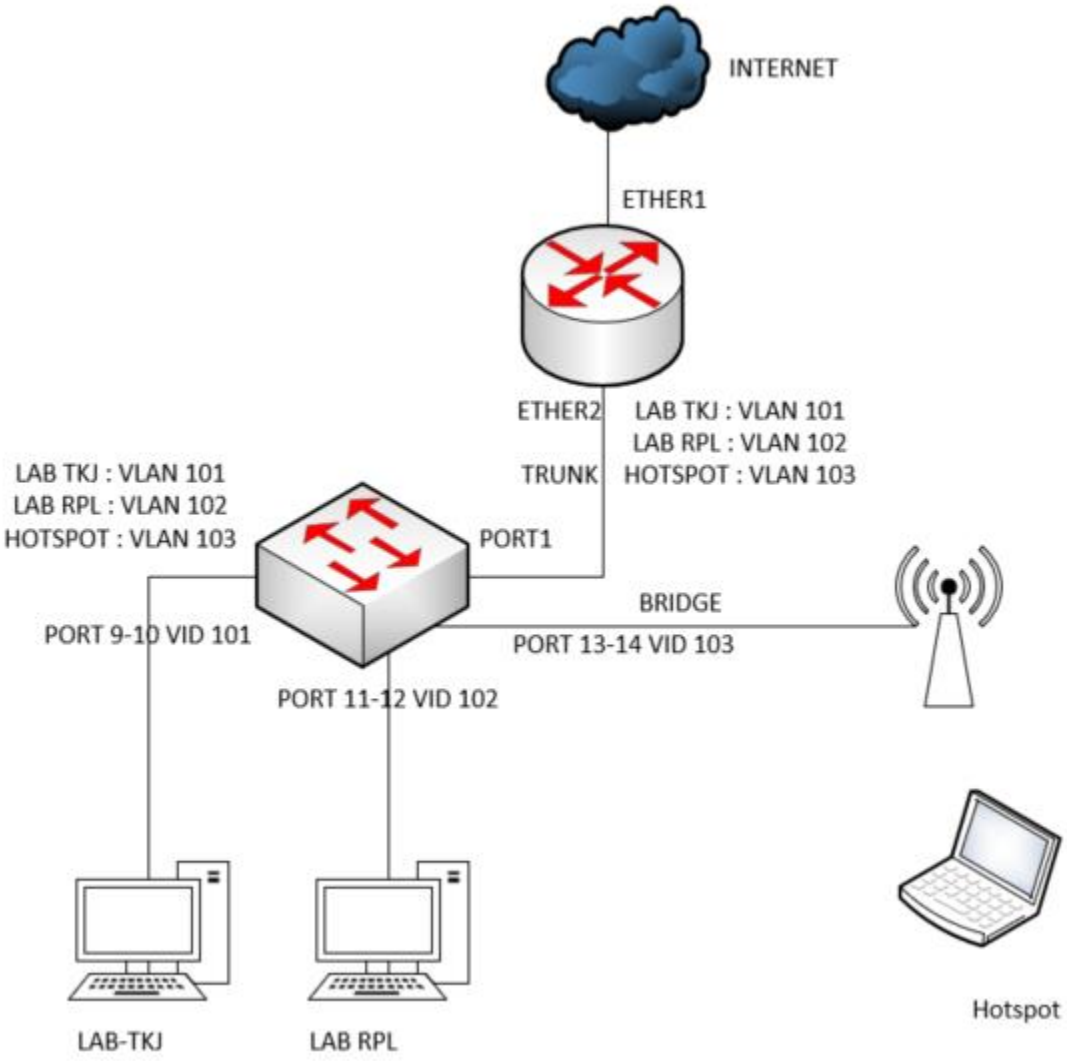
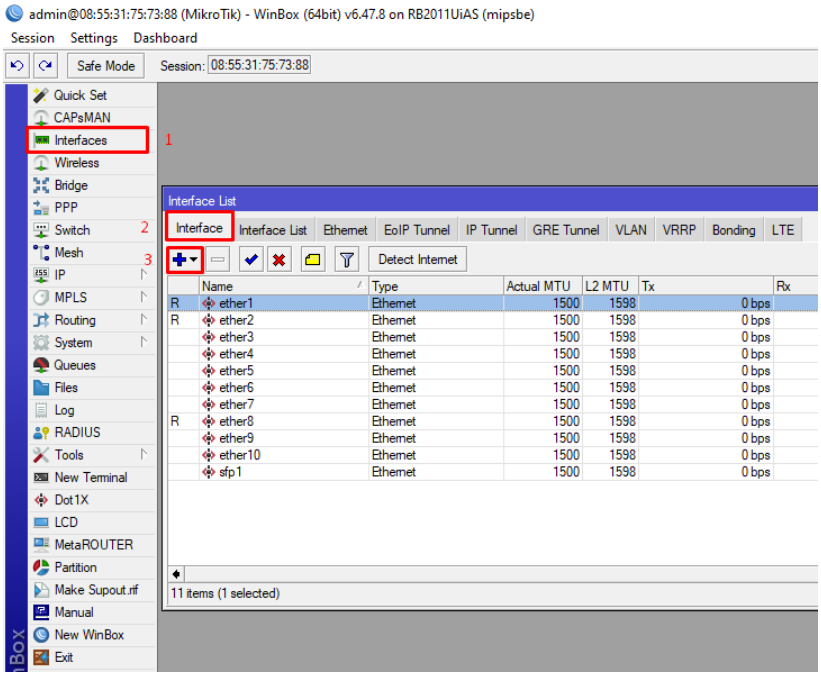
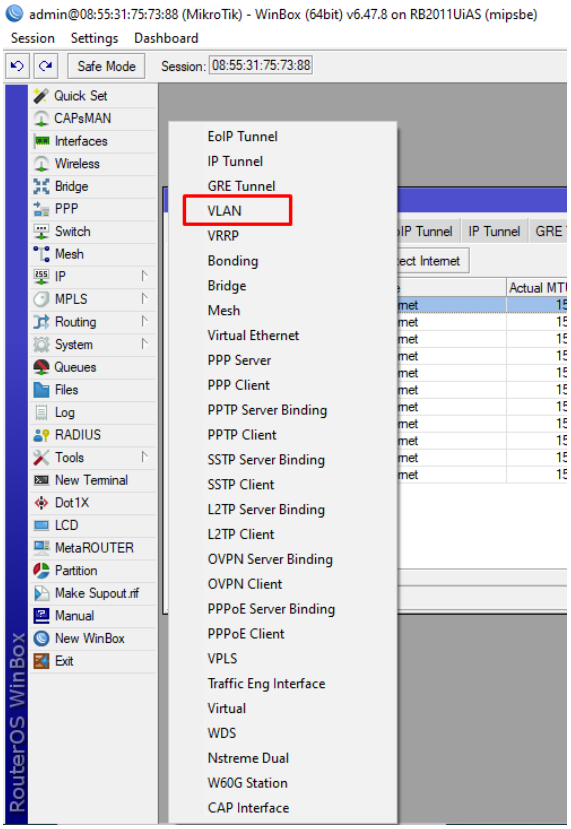
TOPOLOGI

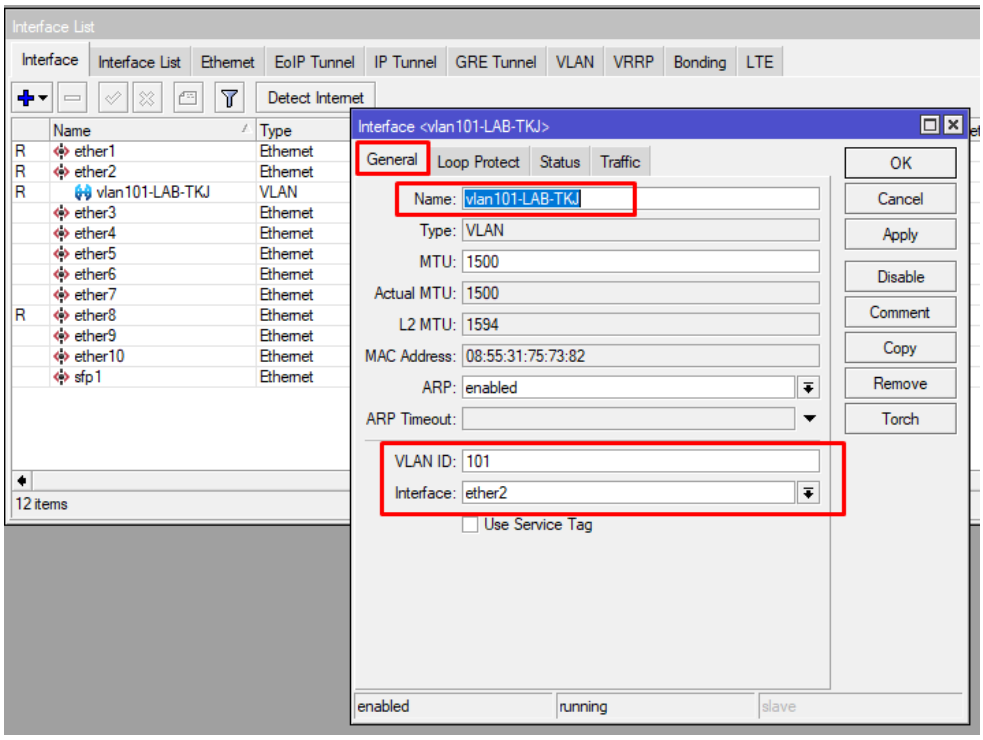

INTERNET
ETHER1
ETHER2
LAB TKJ : VLAN 101
LAB RPL : VLAN 102
HOTSPOT : VLAN 103
TRUNK
LAB TKJ : VLAN 101
LAB RPL : VLAN 102
HOTSPOT : VLAN 103
PORT1
BRIDGE
PORT 13-14 VID 103
PORT 9-10 VID 101
PORT 11-12 VID 102
LAB-TKJ
LAB RPL
Hotspot

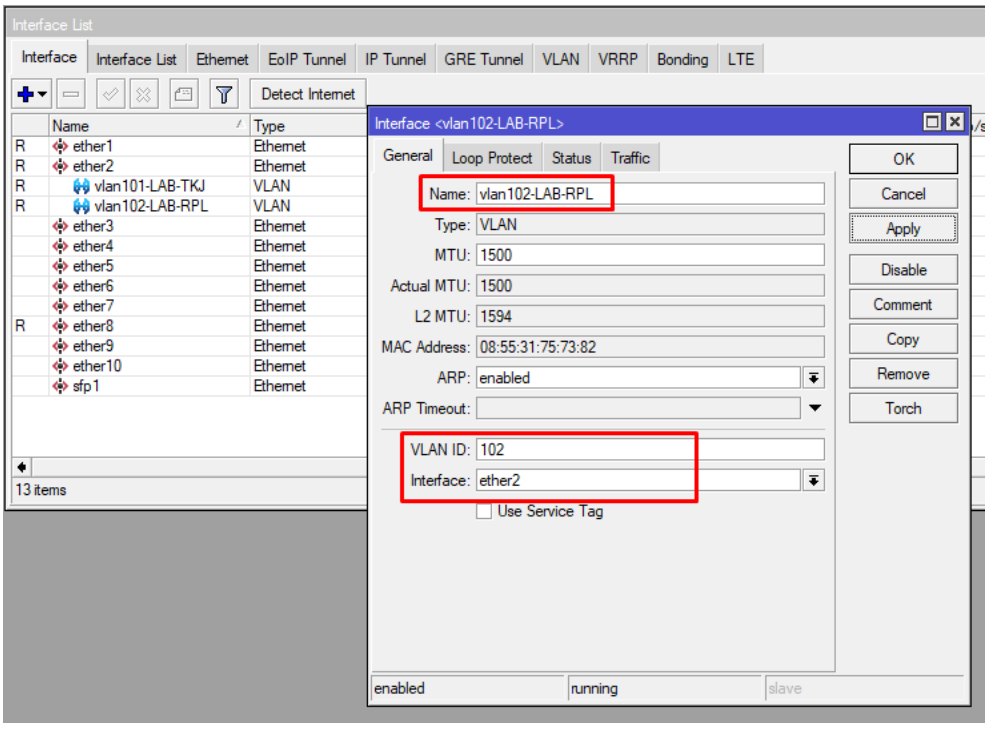
SETTING ROUTER

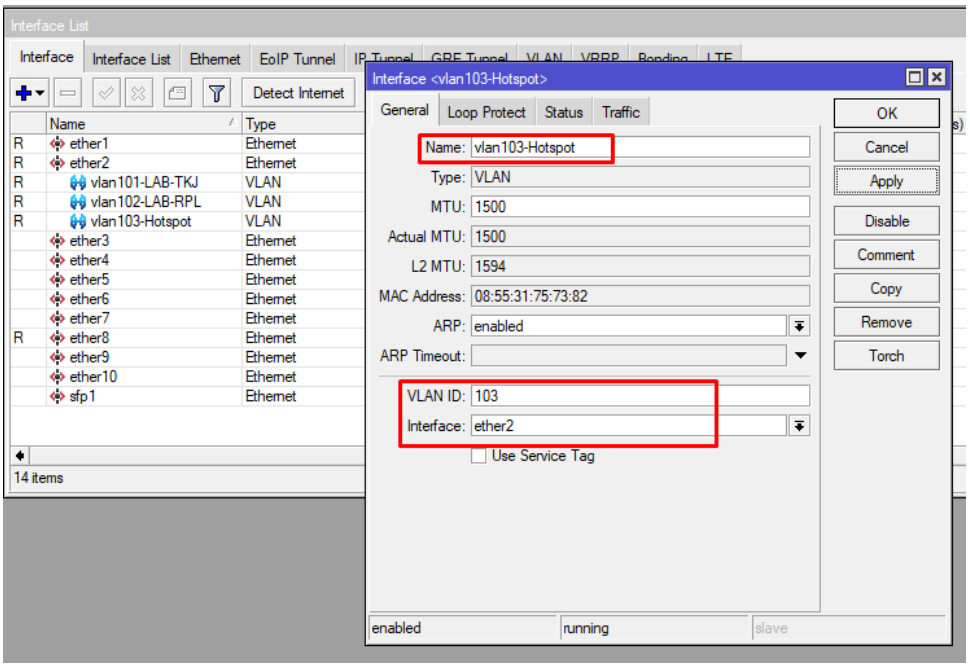
1. Setting Interface dan VLAN

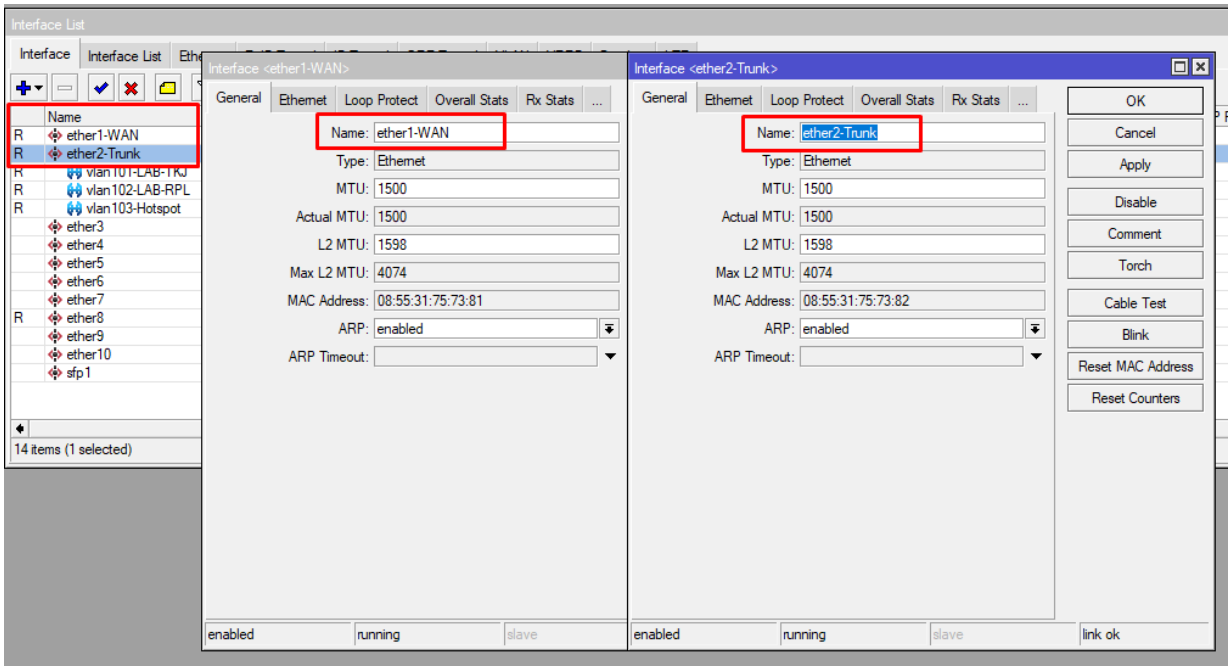




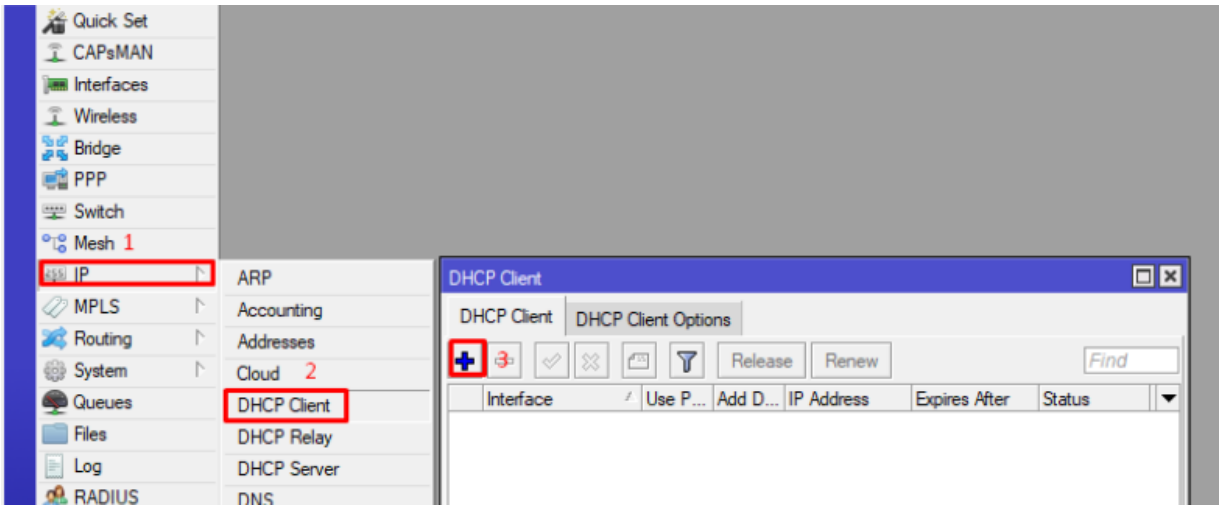

Interface List
Interface
Interface List
Ethernet
EoIP Tunnel
IP Tunnel
GRE Tunnel
VLAN
VRRP
Bonding
LTE
Detect Internet
Name
Type
R ether1 Ethernet
R ether2 Ethernet
R vlan101-LAB-TKJ VLAN
ether3 Ethernet
ether4 Ethernet
ether5 Ethernet
ether6 Ethernet
ether7 Ethernet
R ether8 Ethernet
ether9 Ethernet
ether10 Ethernet
sfp1 Ethernet
12 items
Interface <vlan101-LAB-TKJ>
General
Loop Protect
Status
Traffic
Name: vlan101-LAB-TKJ
Type: VLAN
MTU: 1500
Actual MTU: 1500
L2 MTU: 1594
MAC Address: 08:55:31:75:73:82
ARP: enabled
ARP Timeout:
VLAN ID: 101
Interface: ether2
Use Service Tag
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Torch
enabled
running
slave

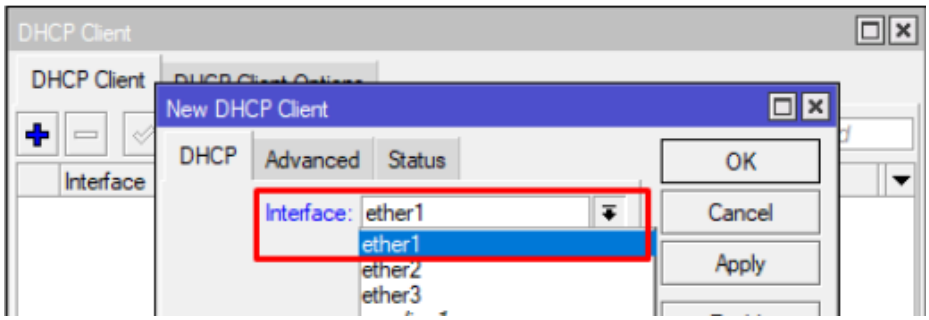

Interface List
Interface
Interface List
Ethernet
EoIP Tunnel
IP Tunnel
GRE Tunnel
VLAN
VRRP
Bonding
LTE
Detect Internet
Name
Type
R ether1 Ethernet
R ether2 Ethernet
R vlan101-LAB-TKJ VLAN
R vlan102-LAB-RPL VLAN
ether3 Ethernet
ether4 Ethernet
ether5 Ethernet
ether6 Ethernet
ether7 Ethernet
R ether8 Ethernet
ether9 Ethernet
ether10 Ethernet
sfp1 Ethernet
13 items
Interface <vlan102-LAB-RPL>
General
Loop Protect
Status
Traffic
Name: vlan102-LAB-RPL
Type: VLAN
MTU: 1500
Actual MTU: 1500
L2 MTU: 1594
MAC Address: 08:55:31:75:73:82
ARP: enabled
ARP Timeout:
VLAN ID: 102
Interface: ether2
Use Service Tag
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Torch
enabled
running
slave

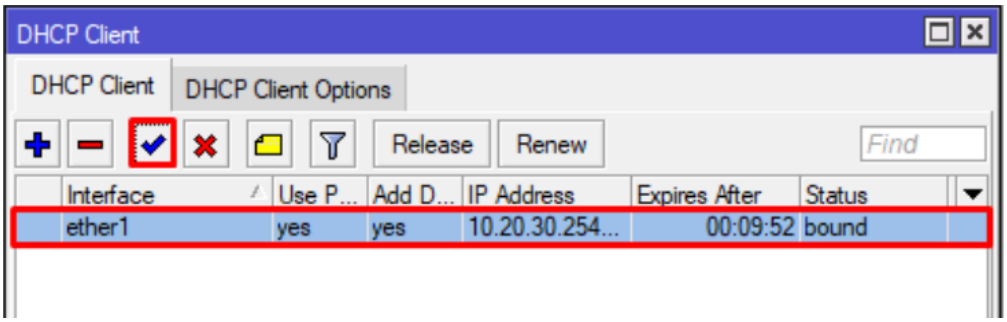

Interface List
Interface
Interface List
Ethernet
EoIP Tunnel
Detect Internet
Name
Type
ether1
ether2
vlan101-LAB-TKJ
vlan102-LAB-RPL
vlan103-Hotspot
ether3
ether4
ether5
ether6
ether7
ether8
ether9
ether10
sfp1
Ethernet
VLAN
14 items
Interface <vlan103-Hotspot>
General
Loop Protect
Status
Traffic
Name: vlan103-Hotspot
Type: VLAN
MTU: 1500
Actual MTU: 1500
L2 MTU: 1594
MAC Address: 08:55:31:75:73:82
ARP: enabled
ARP Timeout:
VLAN ID: 103
Interface: ether2
Use Service Tag
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Torch
enabled
running
slave


Interface List
Interface
Interface List
Name
ether1-WAN
ether2-Trunk
vlan101-LAB-TKJ
vlan102-LAB-RPL
vlan103-Hotspot
ether3
ether4
ether5
ether6
ether7
ether8
ether9
ether10
sfp1
14 items (1 selected)
Interface <ether1-WAN>
General
Ethernet
Loop Protect
Overall Stats
Rx Stats
Name: ether1-WAN
Type: Ethernet
MTU: 1500
Actual MTU: 1500
L2 MTU: 1598
Max L2 MTU: 4074
MAC Address: 08:55:31:75:73:81
ARP: enabled
ARP Timeout:
enabled
running
slave
Interface <ether2-Trunk>
Name: ether2-Trunk
Type: Ethernet
MTU: 1500
Actual MTU: 1500
L2 MTU: 1598
Max L2 MTU: 4074
MAC Address: 08:55:31:75:73:82
ARP: enabled
ARP Timeout:
enabled
running
slave
link ok
OK
Cancel
Apply
Disable
Comment
Torch
Cable Test
Blink
Reset MAC Address
Reset Counters

2. Setting DHCP Client

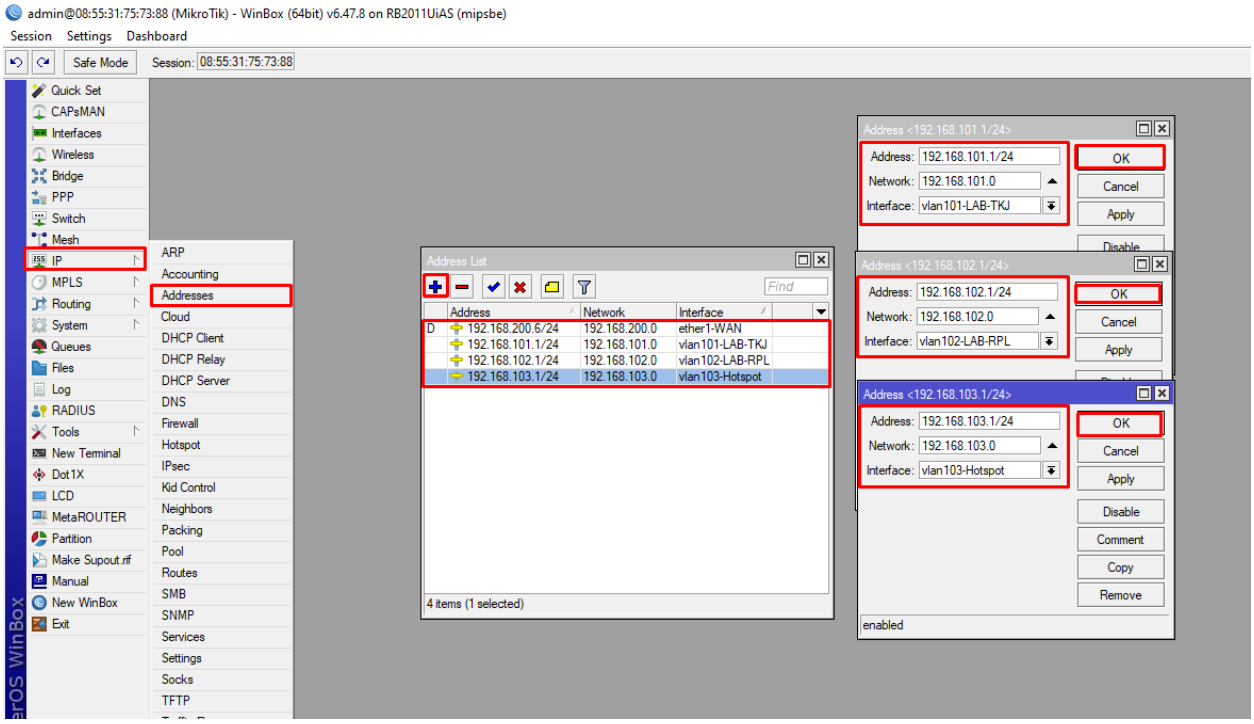




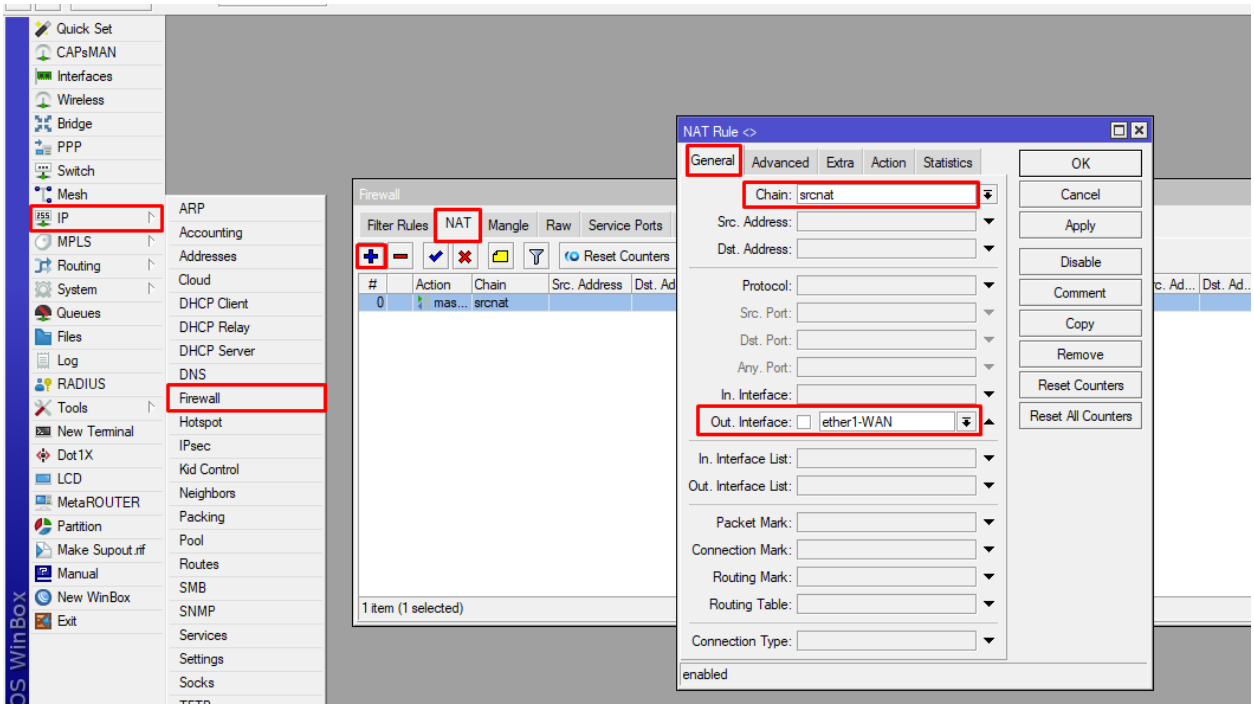


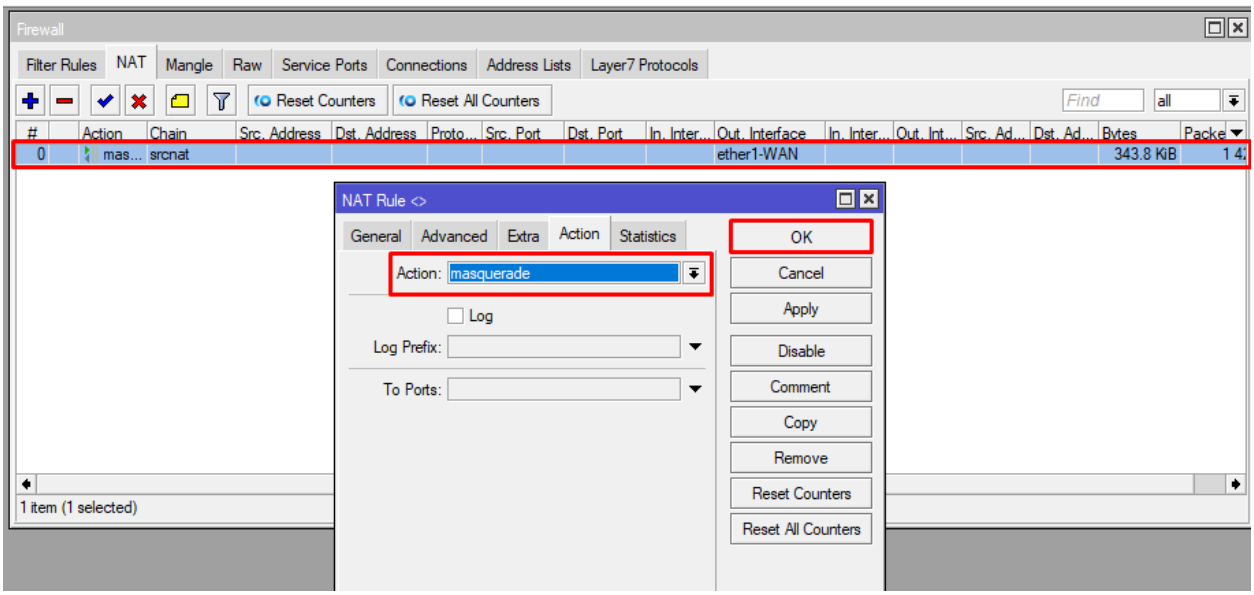
3. Cek Koneksi Internet

4. Setting IP Address

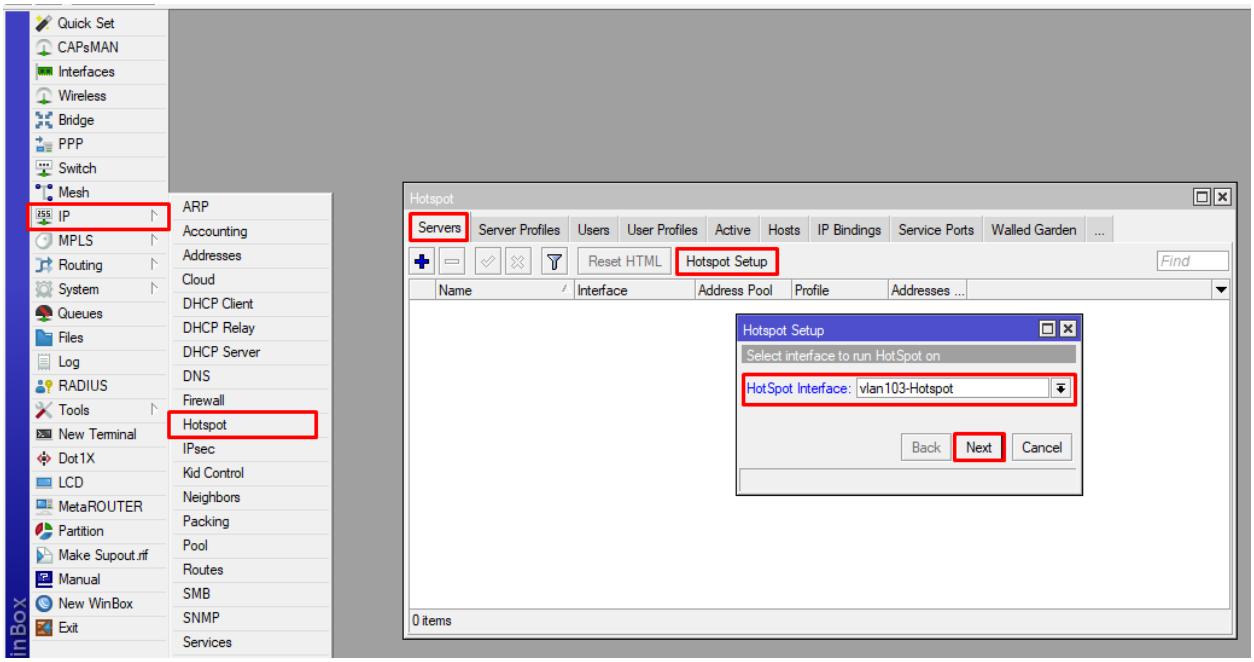


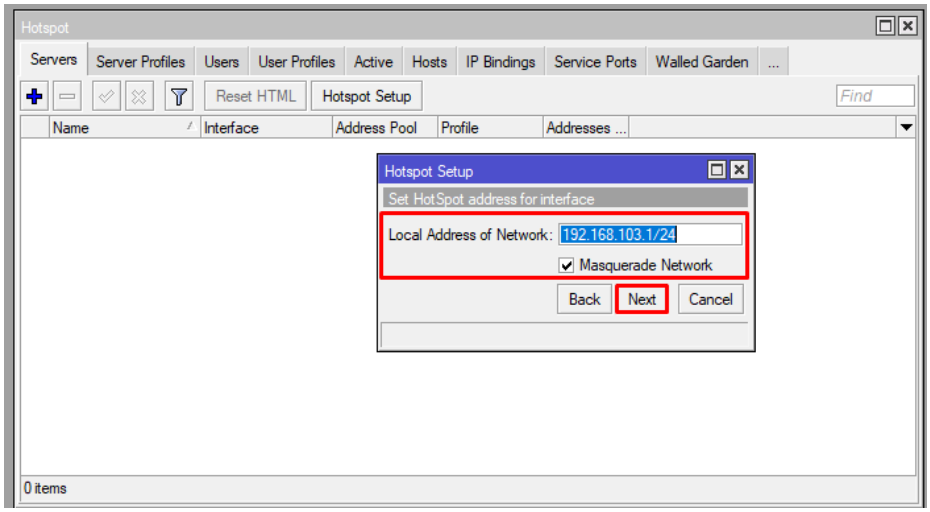
5. Setting NAT

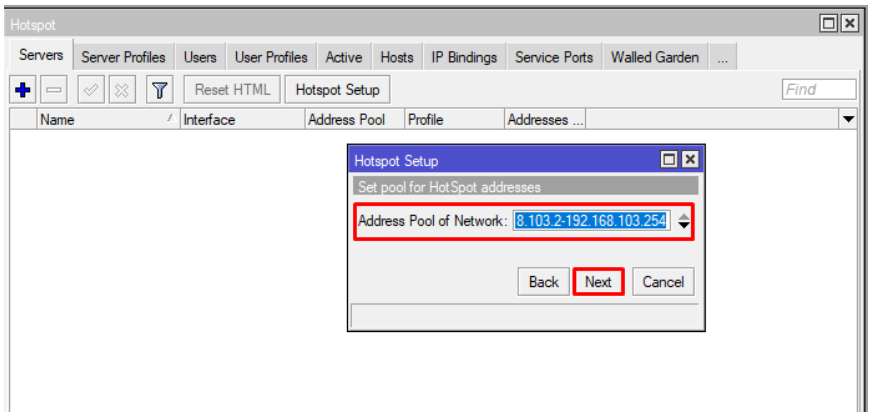


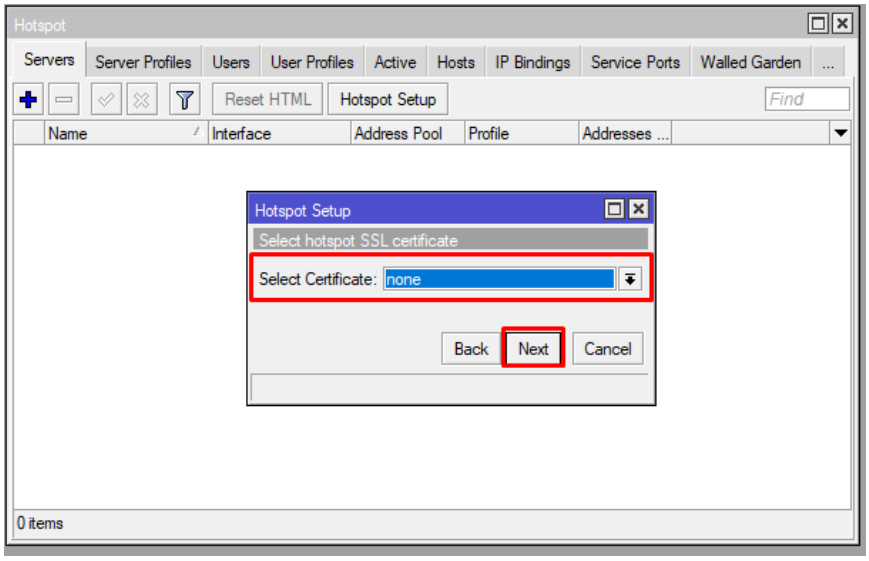


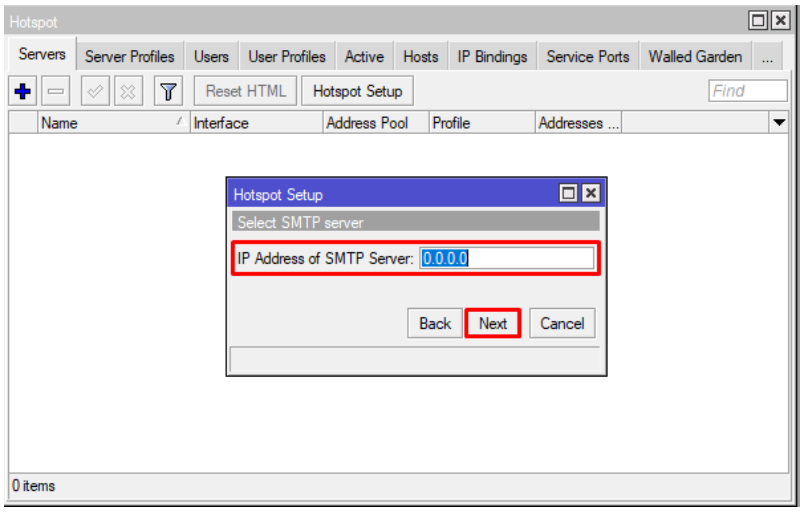
6. Setting Hotspot

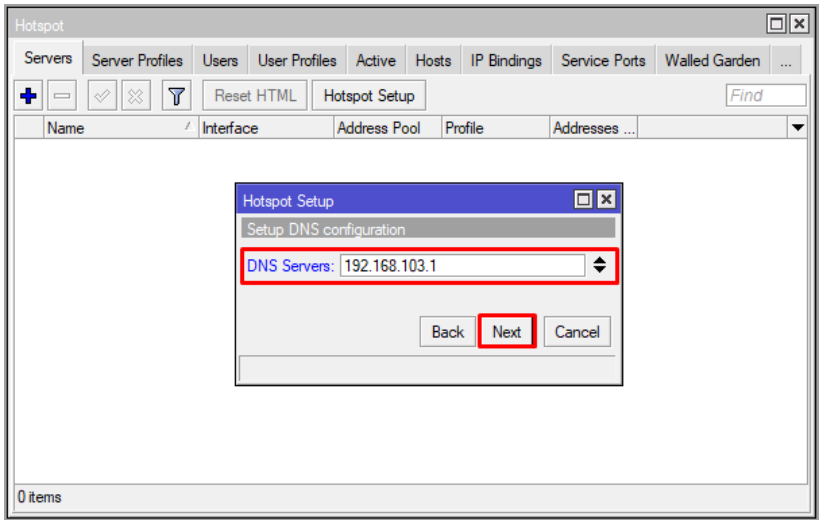


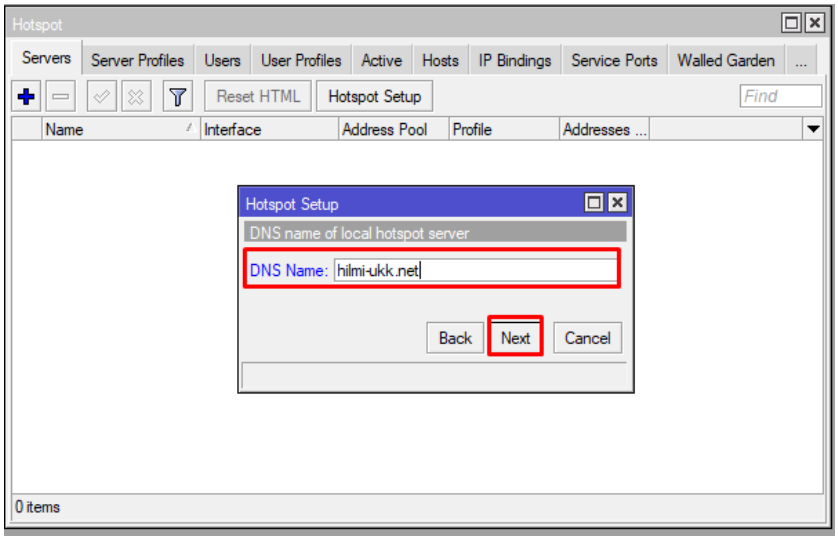

Hotspot
Servers
Server Profiles
Users
User Profiles
Active
Hosts
IP Bindings
Service Ports
Walled Garden
...
Reset HTML
Hotspot Setup
Find
Name
Interface
Address Pool
Profile
Addresses ...
Hotspot Setup
Set HotSpot address for interface
Local Address of Network:
192.168.103.1/24
Masquerade Network
Back
Next
Cancel
0 items

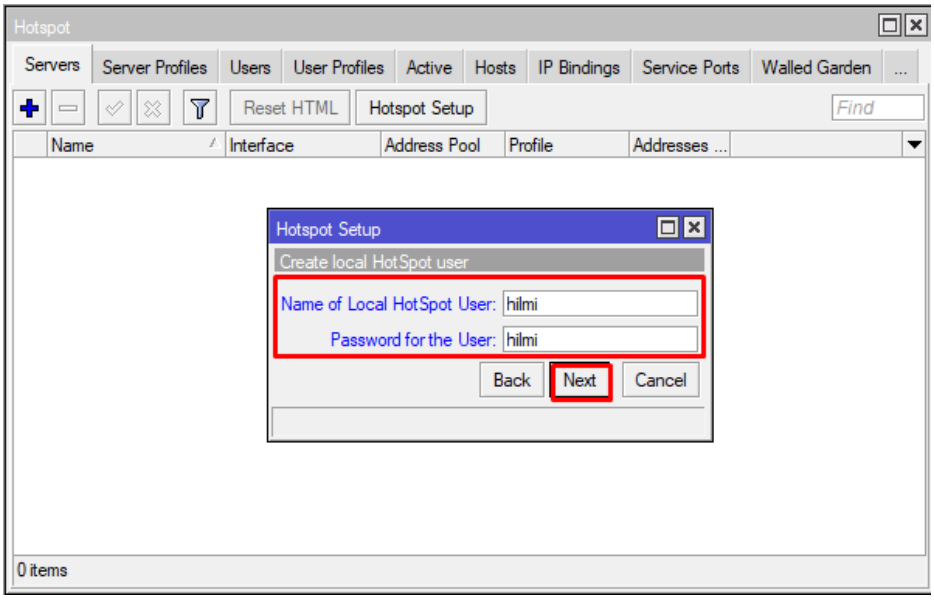

Hotspot
Servers
Server Profiles
Users
User Profiles
Active
Hosts
IP Bindings
Service Ports
Walled Garden
...
Reset HTML
Hotspot Setup
Find
Name
Interface
Address Pool
Profile
Addresses ...
Hotspot Setup
Set pool for HotSpot addresses
Address Pool of Network:
8.103.2-192.168.103.254
Back
Next
Cancel

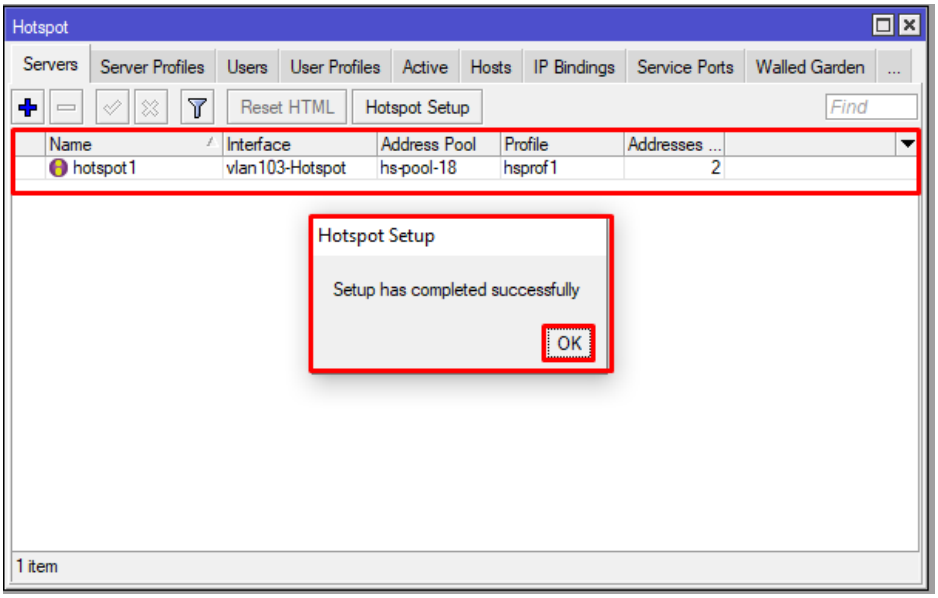

Hotspot
Servers
Server Profiles
Users
User Profiles
Active
Hosts
IP Bindings
Service Ports
Walled Garden
...
Reset HTML
Hotspot Setup
Find
Name
Interface
Address Pool
Profile
Addresses ...
Hotspot Setup
Select hotspot SSL certificate
Select Certificate:
none
Back
Next
Cancel
0 items


Hotspot
Servers
Server Profiles
Users
User Profiles
Active
Hosts
IP Bindings
Service Ports
Walled Garden
Reset HTML
Hotspot Setup
Find
Name
Interface
Address Pool
Profile
Addresses ...
Hotspot Setup
Select SMTP server
IP Address of SMTP Server: 0.0.0.0
Back
Next
Cancel
0 items

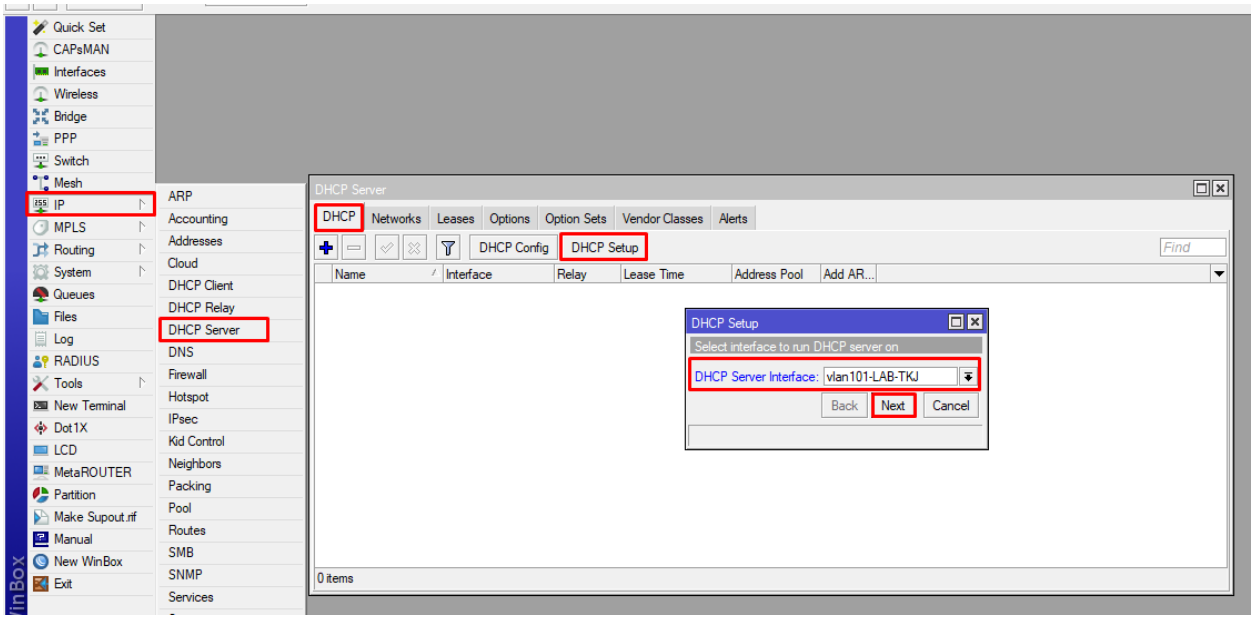

Hotspot
Servers
Server Profiles
Users
User Profiles
Active
Hosts
IP Bindings
Service Ports
Walled Garden
Reset HTML
Hotspot Setup
Find
Name
Interface
Address Pool
Profile
Addresses ...
Hotspot Setup
Setup DNS configuration
DNS Servers: 192.168.103.1
Back
Next
Cancel
0 items

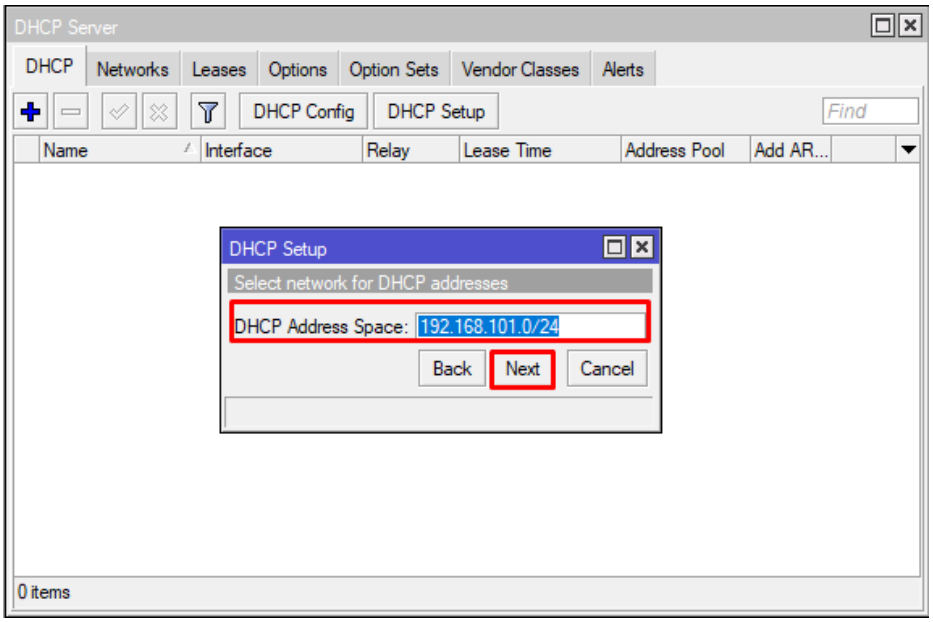

Hotspot
Servers
Server Profiles
Users
User Profiles
Active
Hosts
IP Bindings
Service Ports
Walled Garden
Reset HTML
Hotspot Setup
Find
Name
Interface
Address Pool
Profile
Addresses ...
Hotspot Setup
DNS name of local hotspot server
DNS Name: hilmi-ukk.net
Back
Next
Cancel
0 items

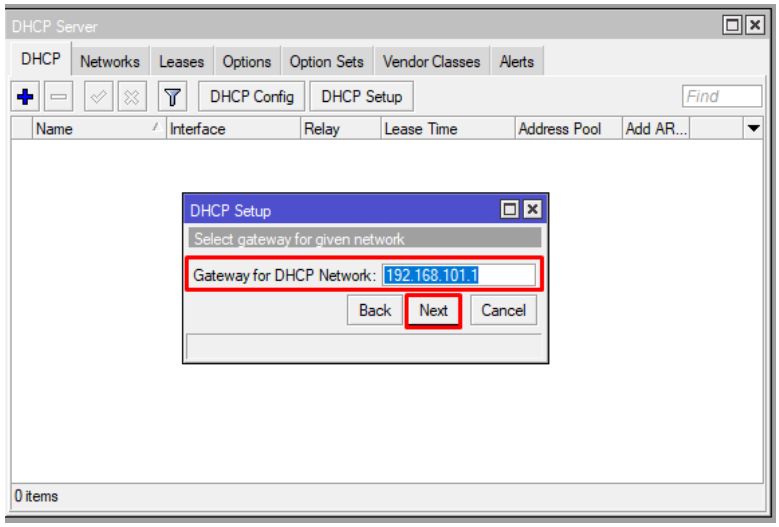

Hotspot
Servers
Server Profiles
Users
User Profiles
Active
Hosts
IP Bindings
Service Ports
Walled Garden
...
Reset HTML
Hotspot Setup
Find
Name
Interface
Address Pool
Profile
Addresses ...
Hotspot Setup
Create local HotSpot user
Name of Local HotSpot User:
hilmi
Password for the User:
hilmi
Back
Next
Cancel
0 items

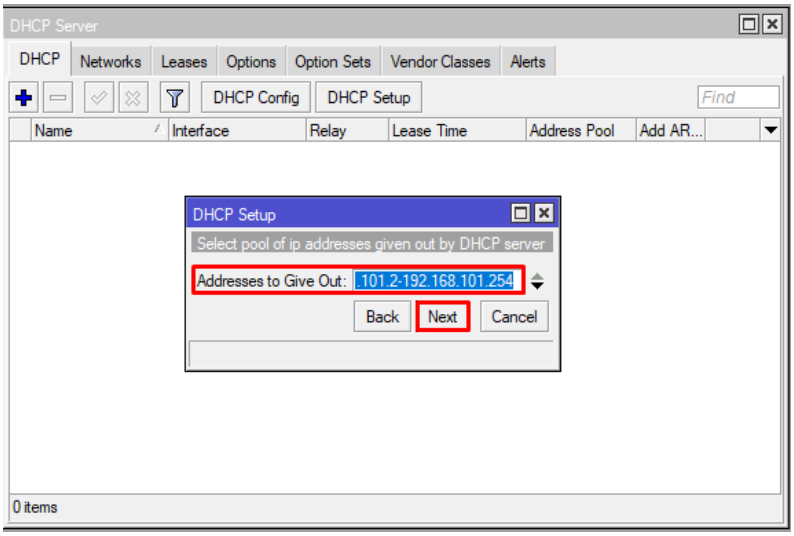

Hotspot
Servers
Server Profiles
Users
User Profiles
Active
Hosts
IP Bindings
Service Ports
Walled Garden
...
Reset HTML
Hotspot Setup
Find
Name
Interface
Address Pool
Profile
Addresses ...
hotspot1
vlan103-Hotspot
hs-pool-18
hsprof1
2
Hotspot Setup
Setup has completed successfully
OK
1 item

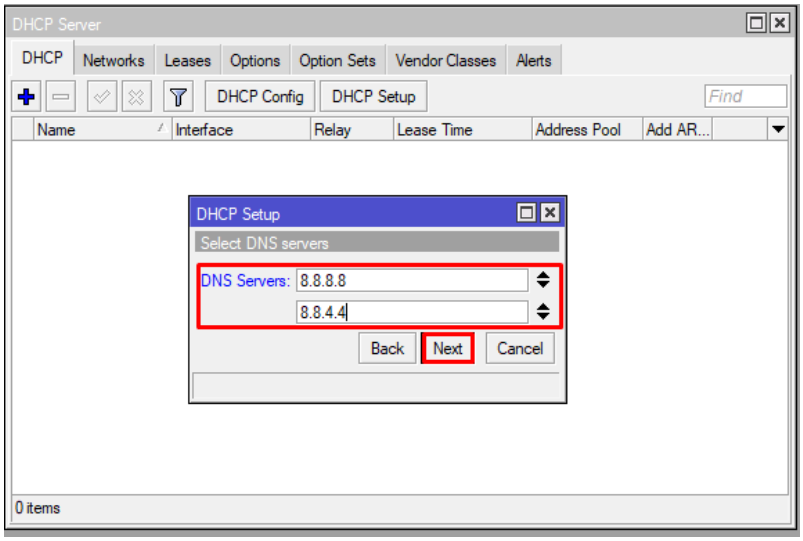
7. DHCP Server

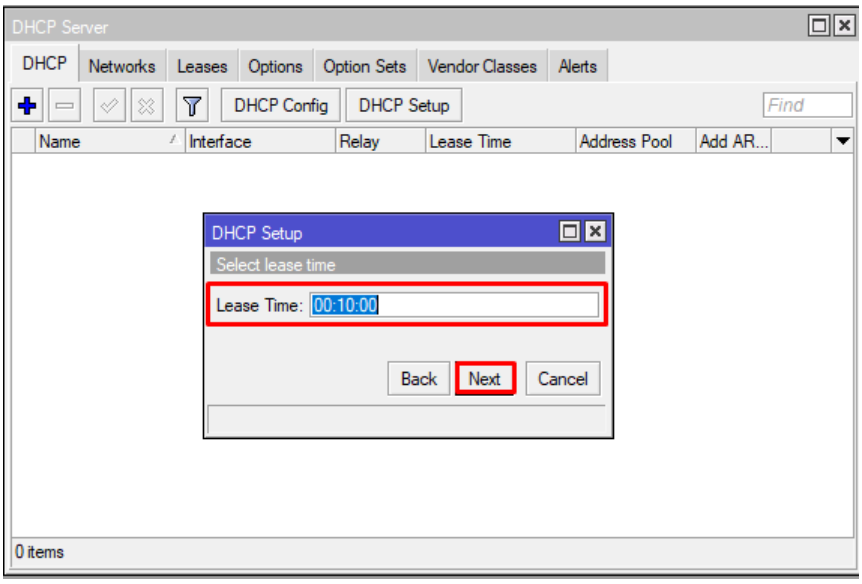


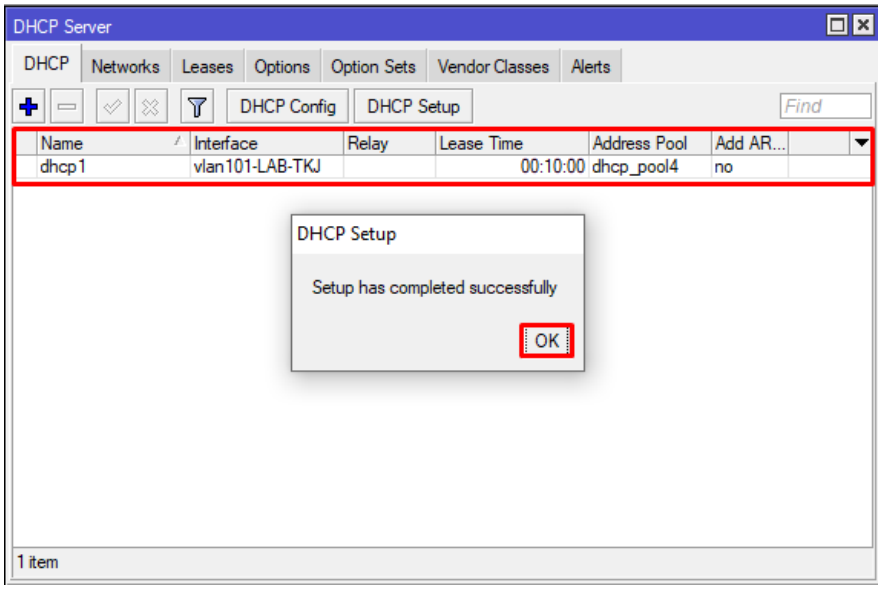



DHCP Server
DHCP
Networks
Leases
Options
Option Sets
Vendor Classes
Alerts
DHCP Config
DHCP Setup
Find
Name
Interface
Relay
Lease Time
Address Pool
Add AR...
DHCP Setup
Select gateway for given network
Gateway for DHCP Network: 192.168.101.1
Back
Next
Cancel
0 items


DHCP Server
DHCP
Networks
Leases
Options
Option Sets
Vendor Classes
Alerts
DHCP Config
DHCP Setup
Find
Name
Interface
Relay
Lease Time
Address Pool
Add AR...
DHCP Setup
Select pool of ip addresses given out by DHCP server
Addresses to Give Out: .101.2-192.168.101.254
Back
Next
Cancel
0 items

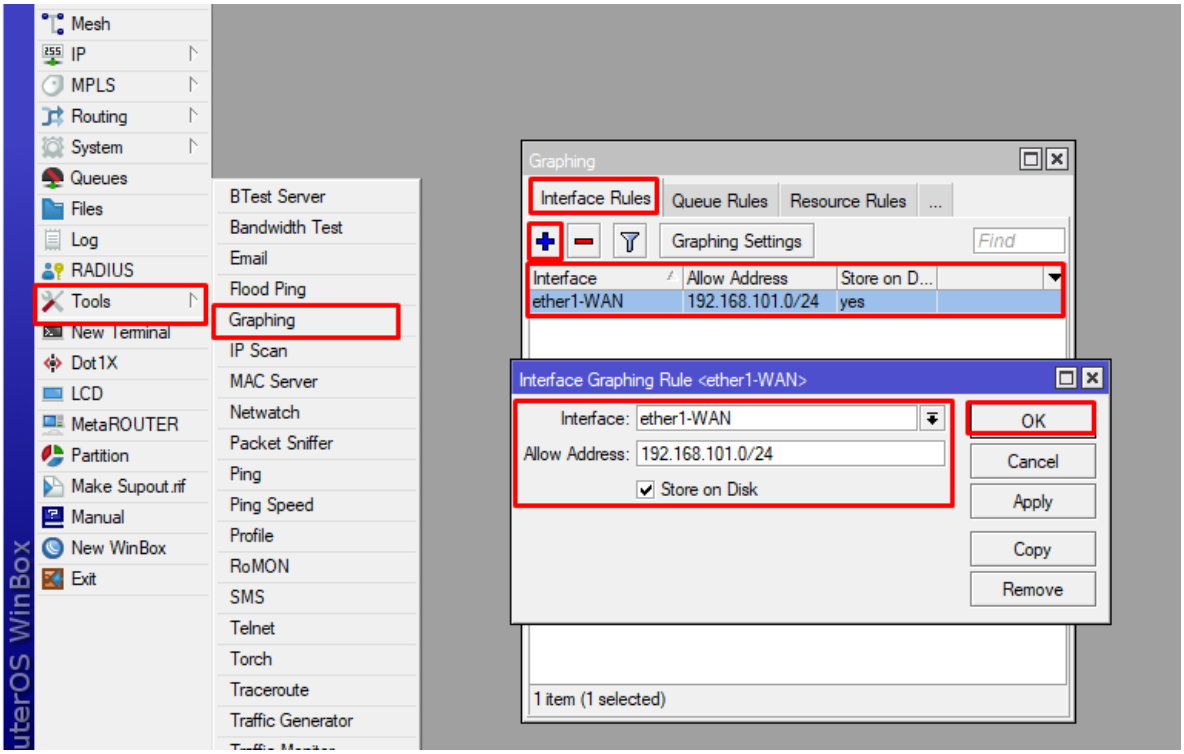

DHCP Server
DHCP
Networks
Leases
Options
Option Sets
Vendor Classes
Alerts
DHCP Config
DHCP Setup
Find
Name
Interface
Relay
Lease Time
Address Pool
Add AR...
DHCP Setup
Select DNS servers
DNS Servers: 8.8.8.8
8.8.4.4
Back
Next
Cancel
0 items



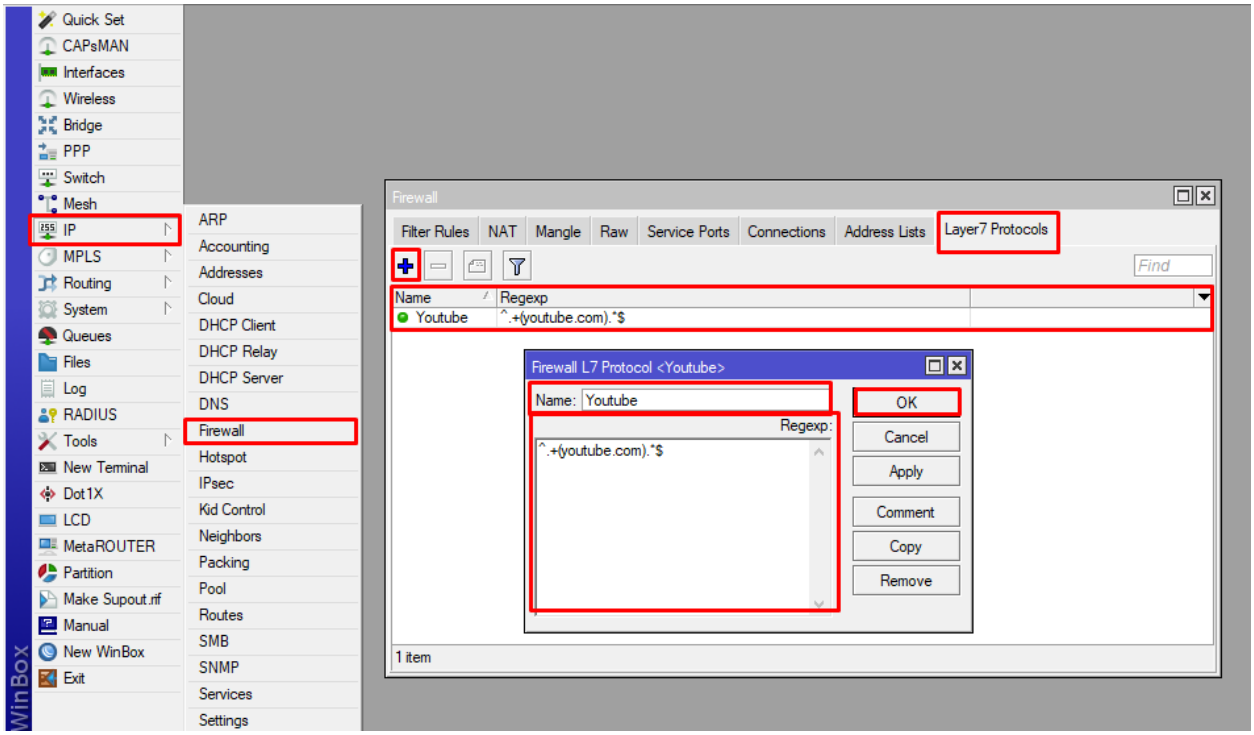


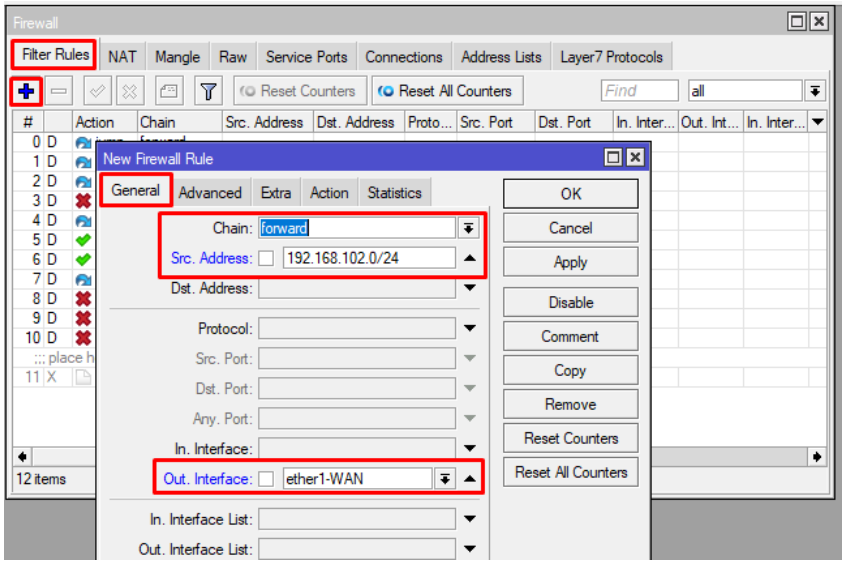
*Lakukan hal yang sama Server DHCP untuk LAB berikutnya, terkecuali untuk jalur Hotspot karna sudah dilakukan pada saat mengkonfigurasi Hotspot.

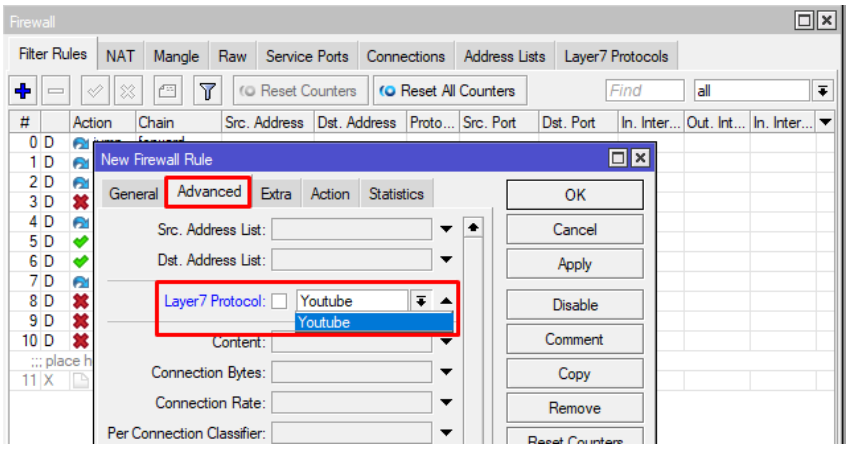
8. Setting Graphing (Monitoring Bandwidth)

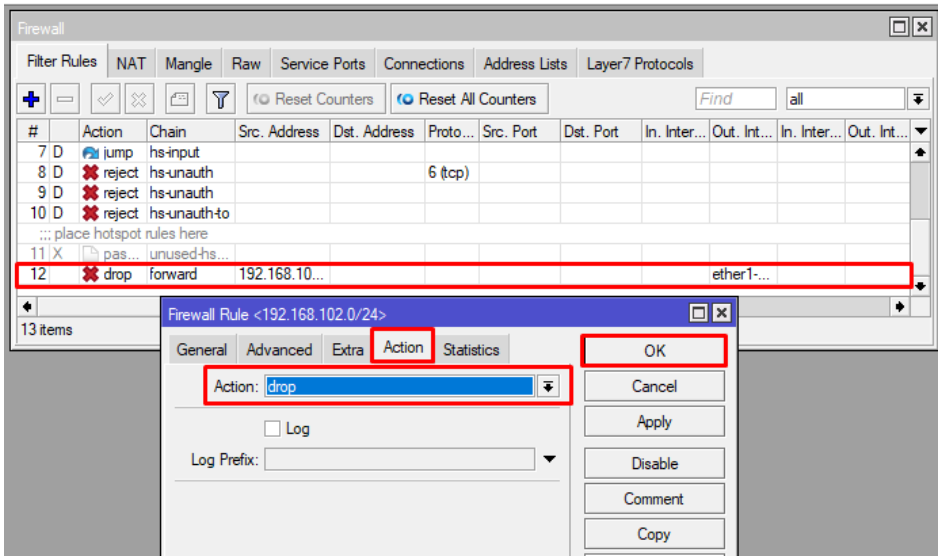


9. Block Akses Youtube pada LAB RPL



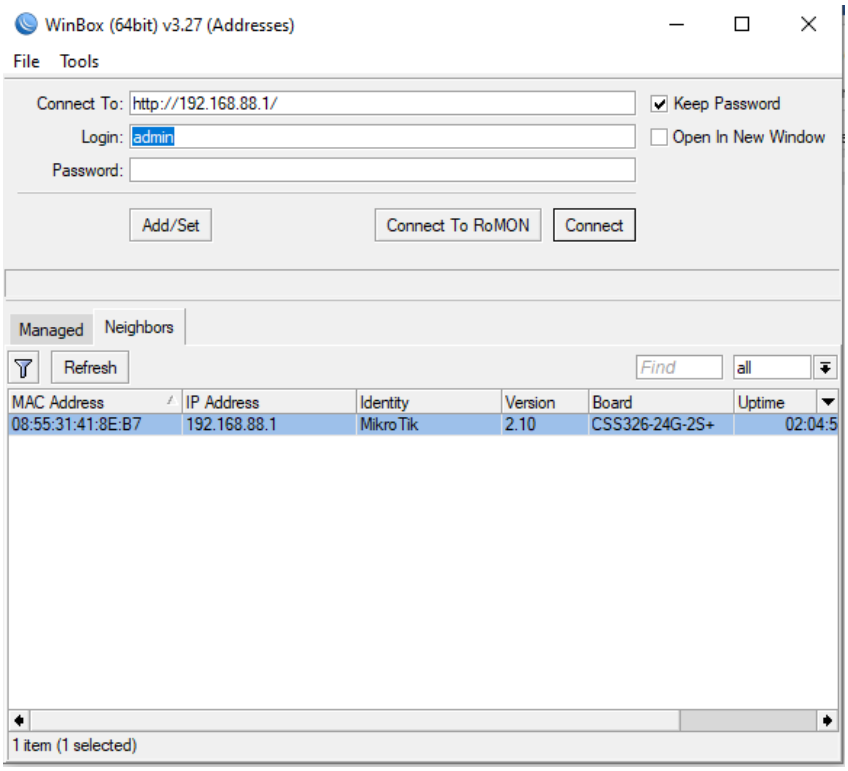

Firewall
Filter Rules
NAT
Mangle
Raw
Service Ports
Connections
Address Lists
Layer7 Protocols
Reset Counters
Reset All Counters
Find
all
New Firewall Rule
General
Advanced
Extra
Action
Statistics
Chain: forward
Src. Address: 192.168.102.0/24
Dst. Address:
Protocol:
Src. Port:
Dst. Port:
Any. Port:
In. Interface:
Out. Interface: ether1-WAN
In. Interface List:
Out. Interface List:
OK
Cancel
Apply
Disable
Comment
Copy
Remove
Reset Counters
Reset All Counters
12 items


Firewall
Filter Rules
NAT
Mangle
Raw
Service Ports
Connections
Address Lists
Layer7 Protocols
New Firewall Rule
General
Advanced
Extra
Action
Statistics
Src. Address List:
Dst. Address List:
Layer7 Protocol: Youtube
Youtube
Content:
Connection Bytes:
Connection Rate:
Per Connection Classifier:
OK
Cancel
Apply
Disable
Comment
Copy
Remove

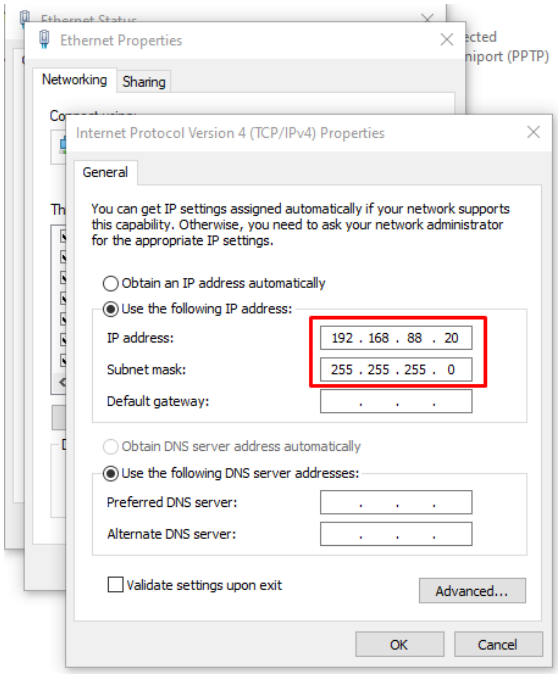

Firewall
Filter Rules
NAT
Mangle
Raw
Service Ports
Connections
Address Lists
Layer7 Protocols
7 D jump hs-input
8 D reject hs-unauth 6 (tcp)
9 D reject hs-unauth
10 D reject hs-unauth-to
;;; place hotspot rules here
11 X pas... unused-hs...
12 drop forward 192.168.10... ether1-...
13 items
Firewall Rule <192.168.102.0/24>
General
Advanced
Extra
Action
Statistics
Action: drop
Log
Log Prefix:
OK
Cancel
Apply
Disable
Comment
Copy

SETTING SWITCH MANAGEABLE

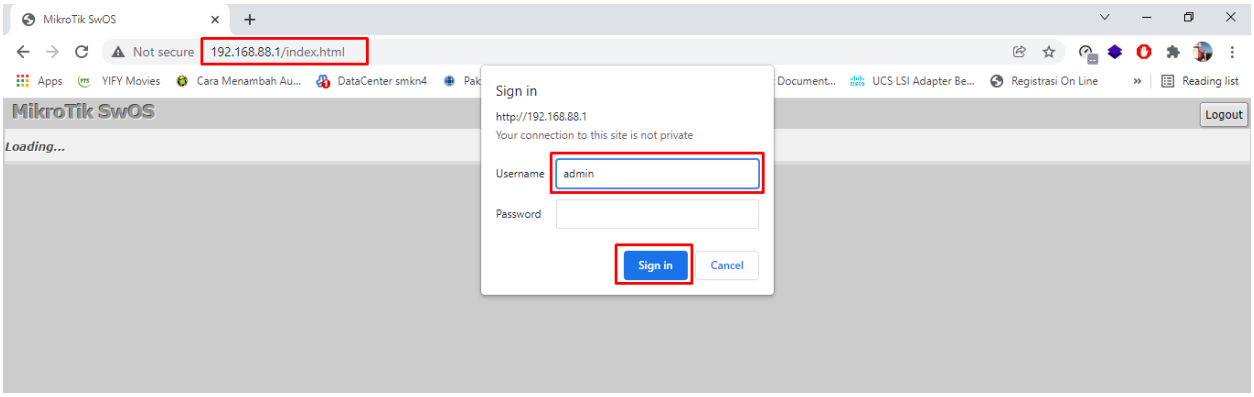
1. Deteksi IP Switch dengan Winbox



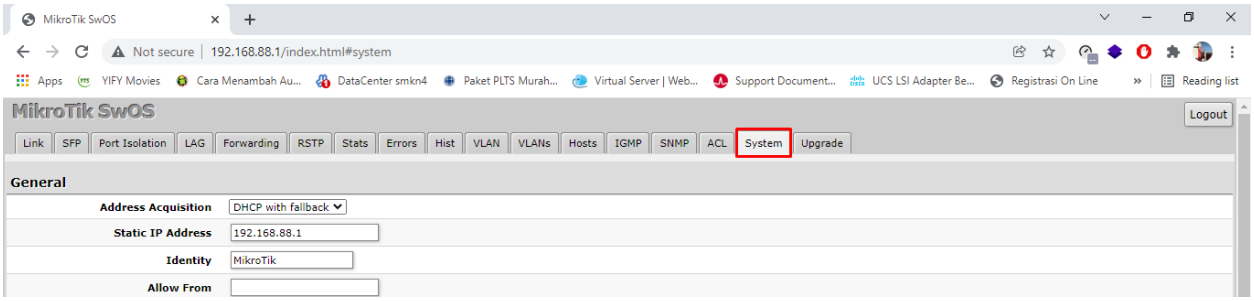
2. Setting IP Komputer
   sesuaikan dengan jalur IP pada switch



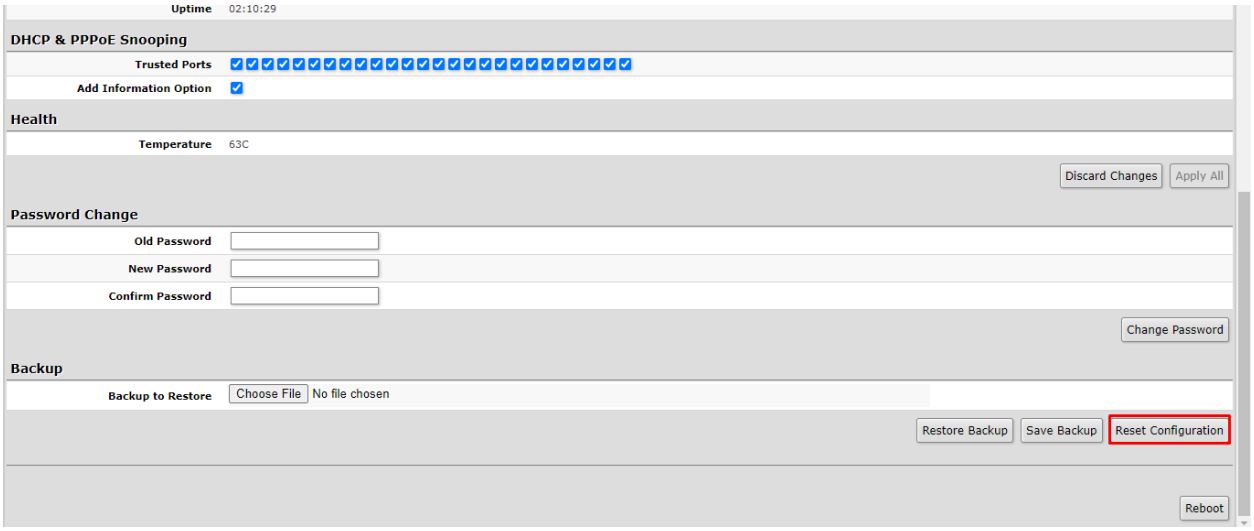
3. Login Switch
   User admin dan password kosongkan



4. Reset System pada Switch
   Masuk ke Tab “System”



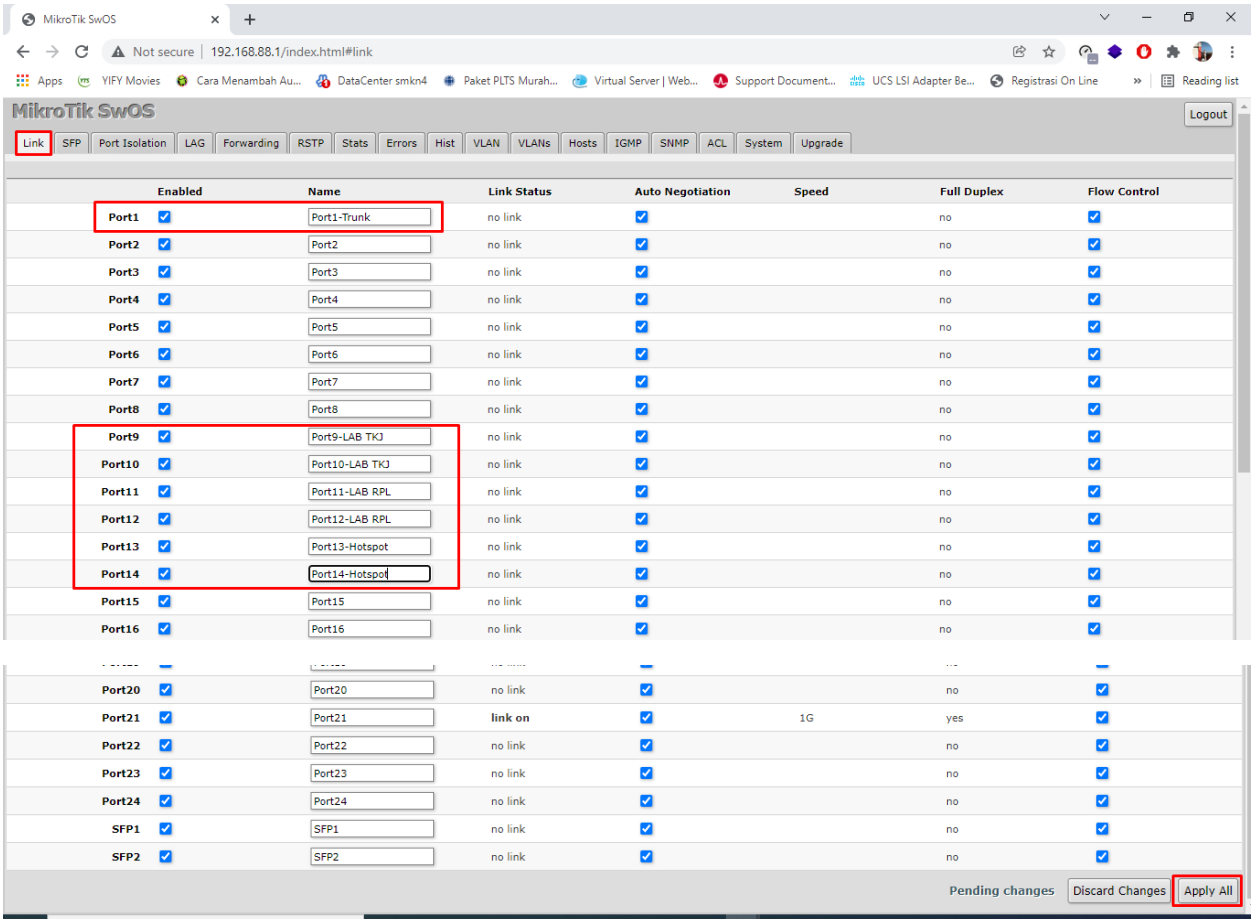
Secroll kebawah dan klik “Reset Configuration”



Setelah Switch berhasil di reset switch akan merestart tunggu sampai proses restart selesai, jika sudah merestart silahkan login Kembali dengan menggunakan user dan password di atas.

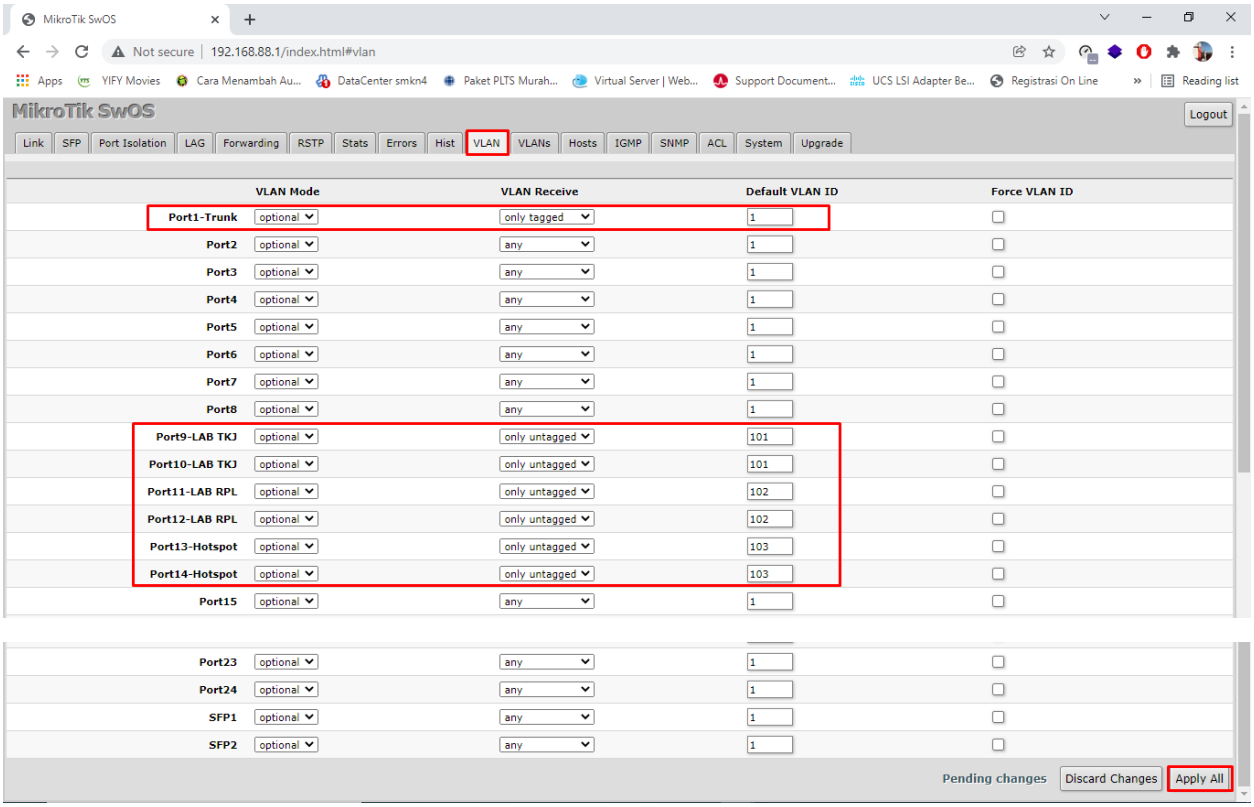
5. Setting Interface Switch

   Ketika sudah login silahkan masuk ke Tab Link, dan buat penamaan pada setiap port seperti gambar diabwah ini kemudian scroll kebawah dan klik “Apply All”



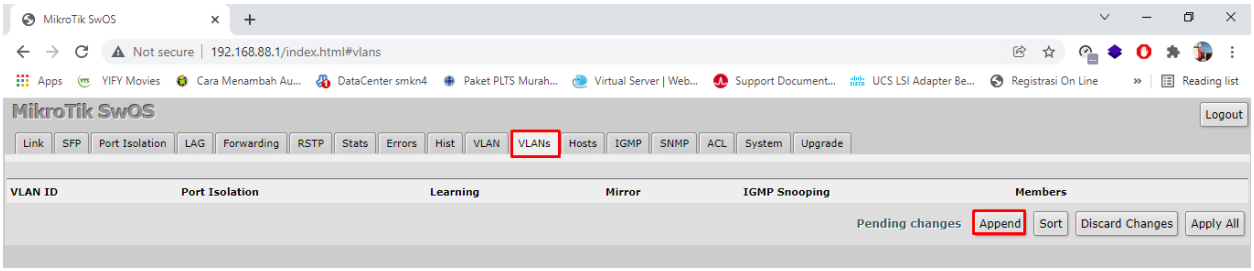
6. Setting VLAN

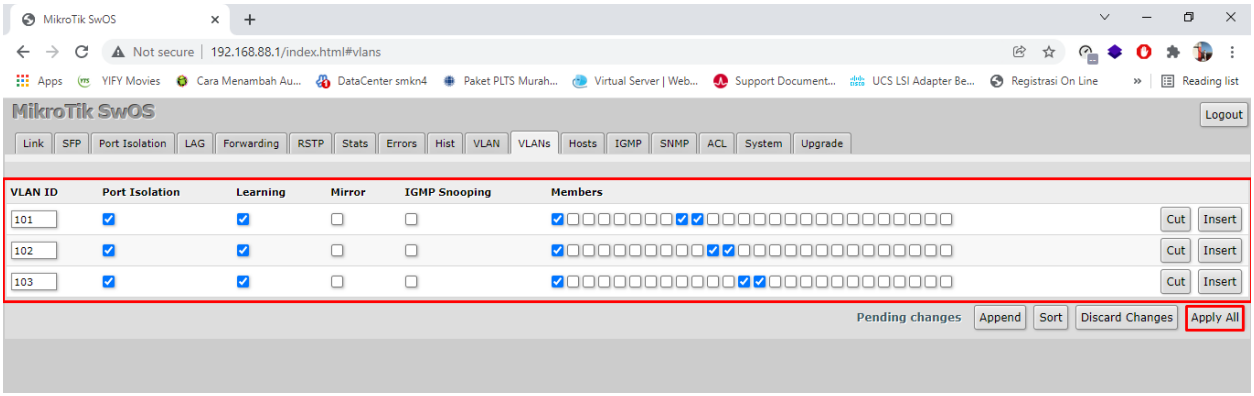
   Masuk Ke Tab “VLAN”, Silahkan setting VLAN dan Trunk sesuai dengan gambar dibawah ini, jika sudah klik “Apply All”



7. Setting Trunk

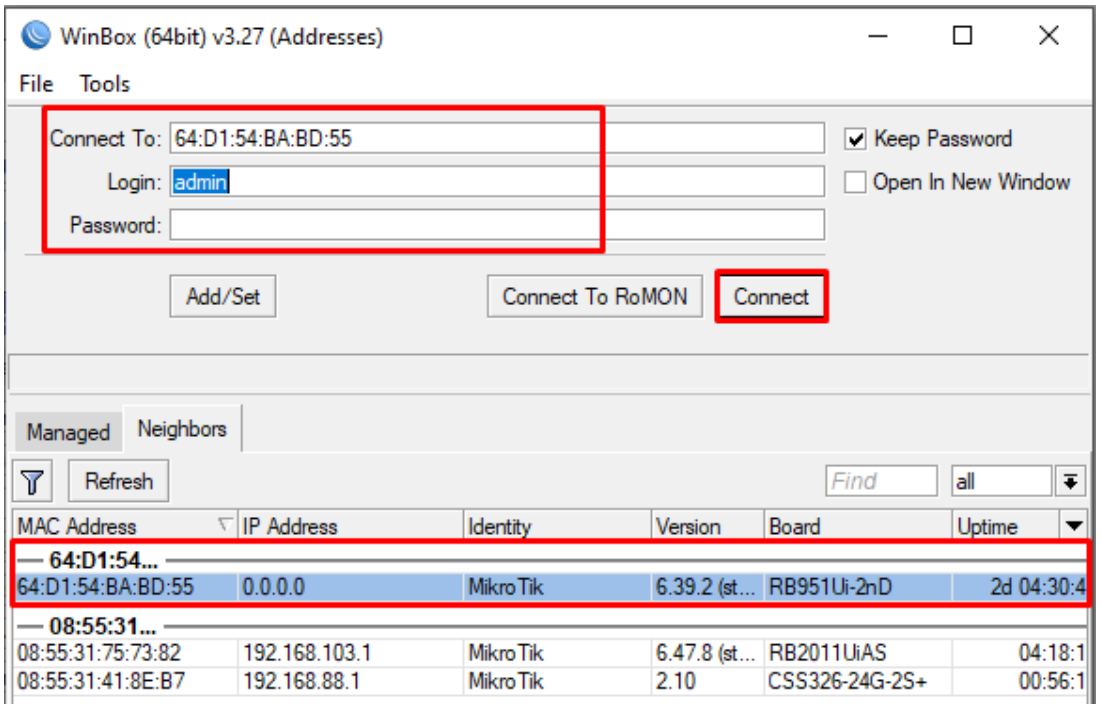
   Masuk lagi ke Tab “VLANs” untuk setting Trunking, kemudian klik “Append” untuk menambahkan dan jika sudah selesai klik “Apply All”





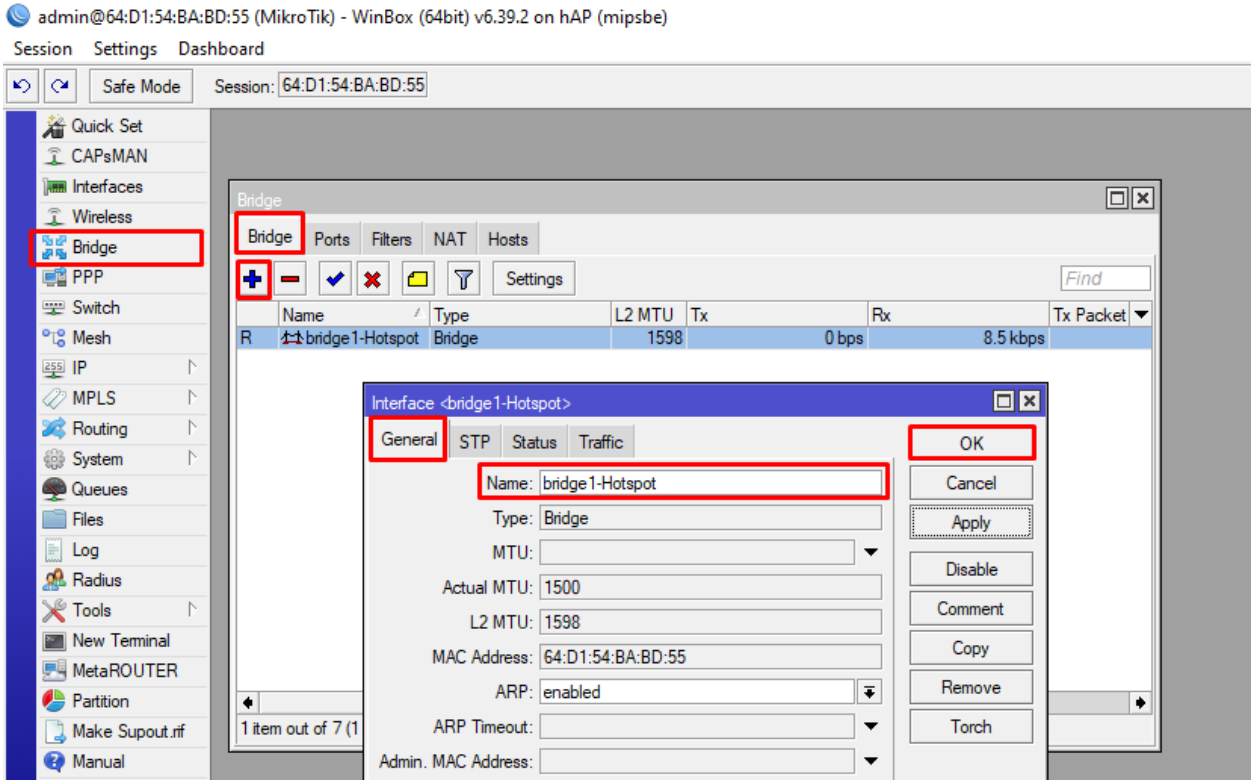
SETTING ACCESS POINT ROUTER

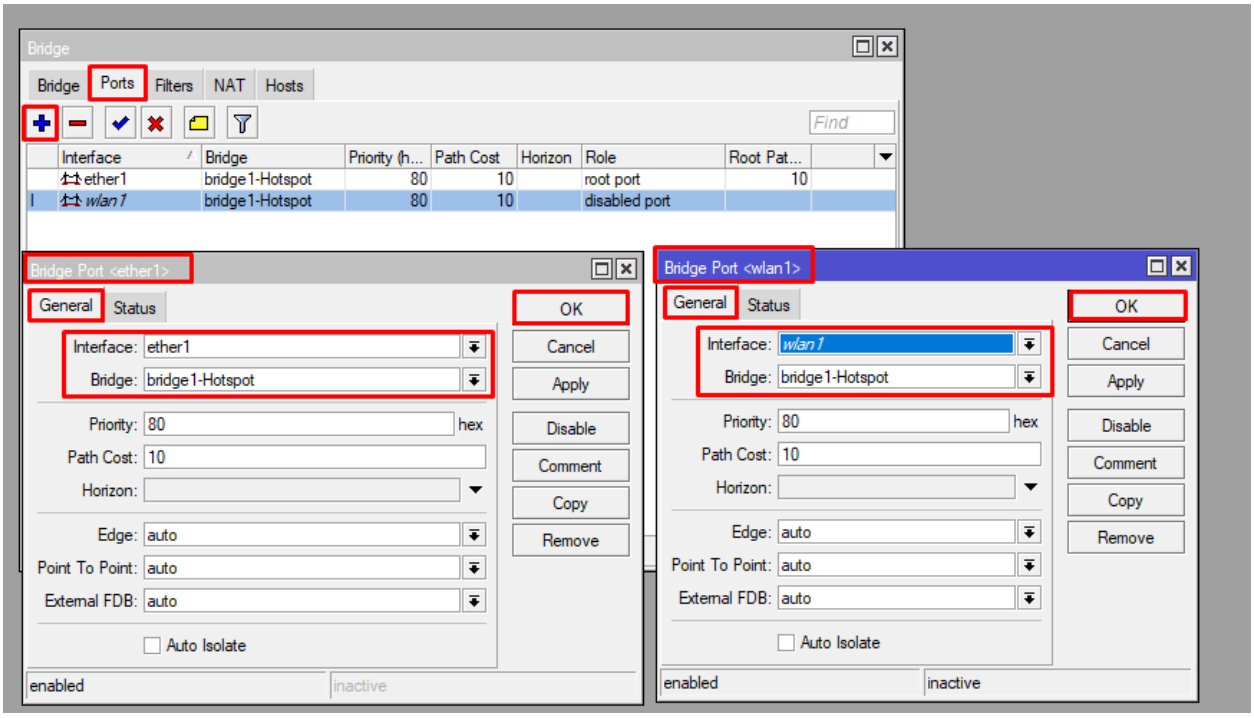
1. Login AP Router
   Hubungkan AP Router ke port vlan Hotspot pada Switch, kemudian login dengan menggunakan winbox cari “Access Point Router”



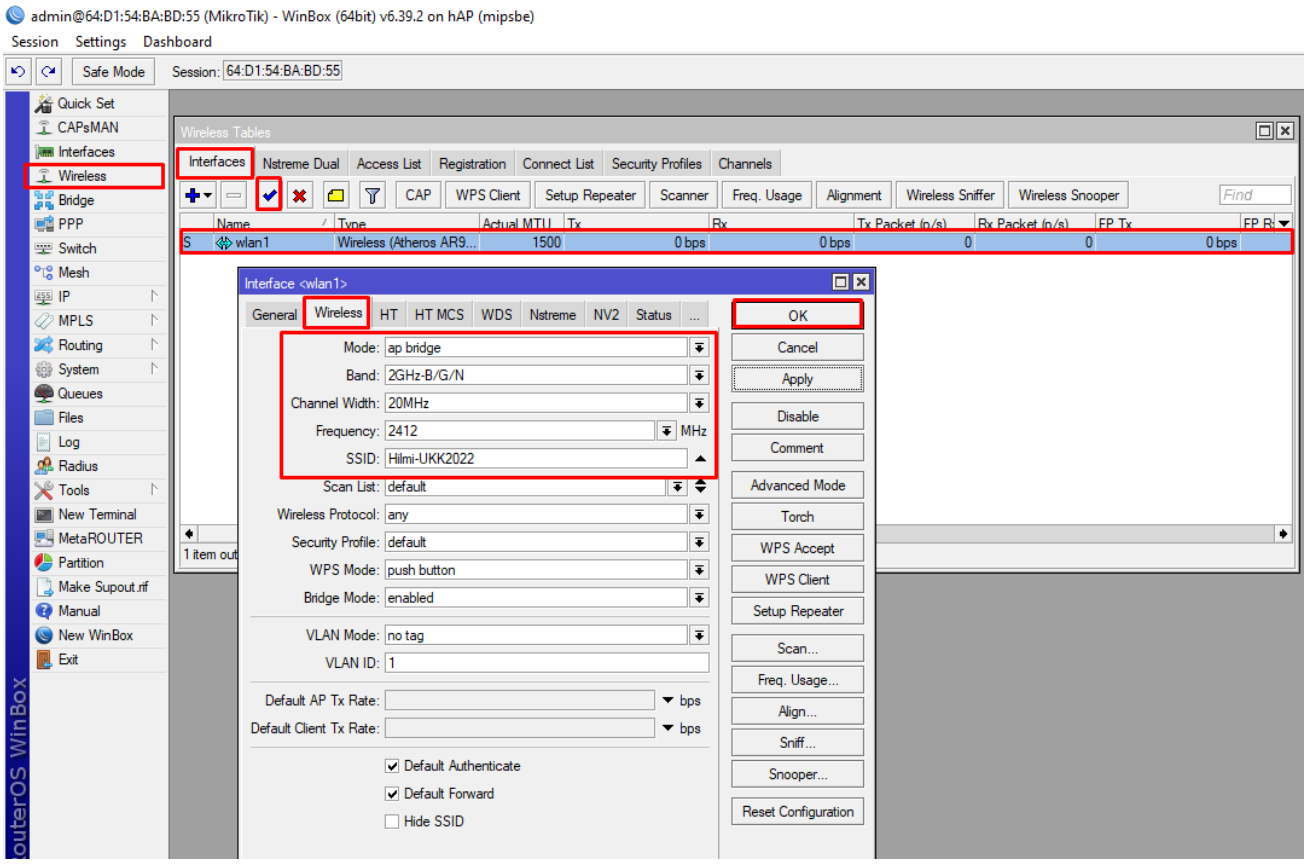
2. Setting Bridge

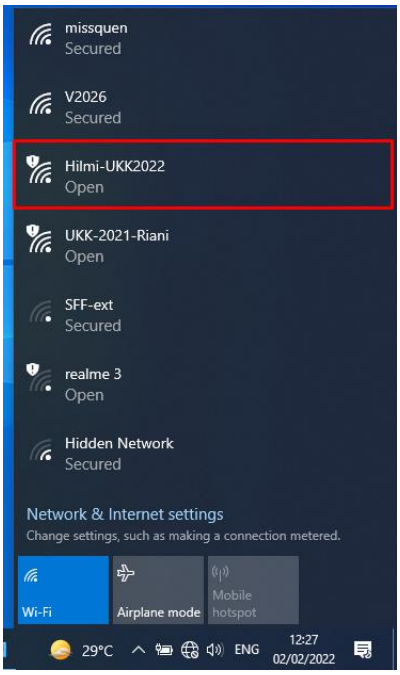
Setting Mode Bridge pada AP Router untuk interface Ether1 dan Wlan1 seperti gambar dibawah ini





3. Setting Wireless LAN / Hotspot

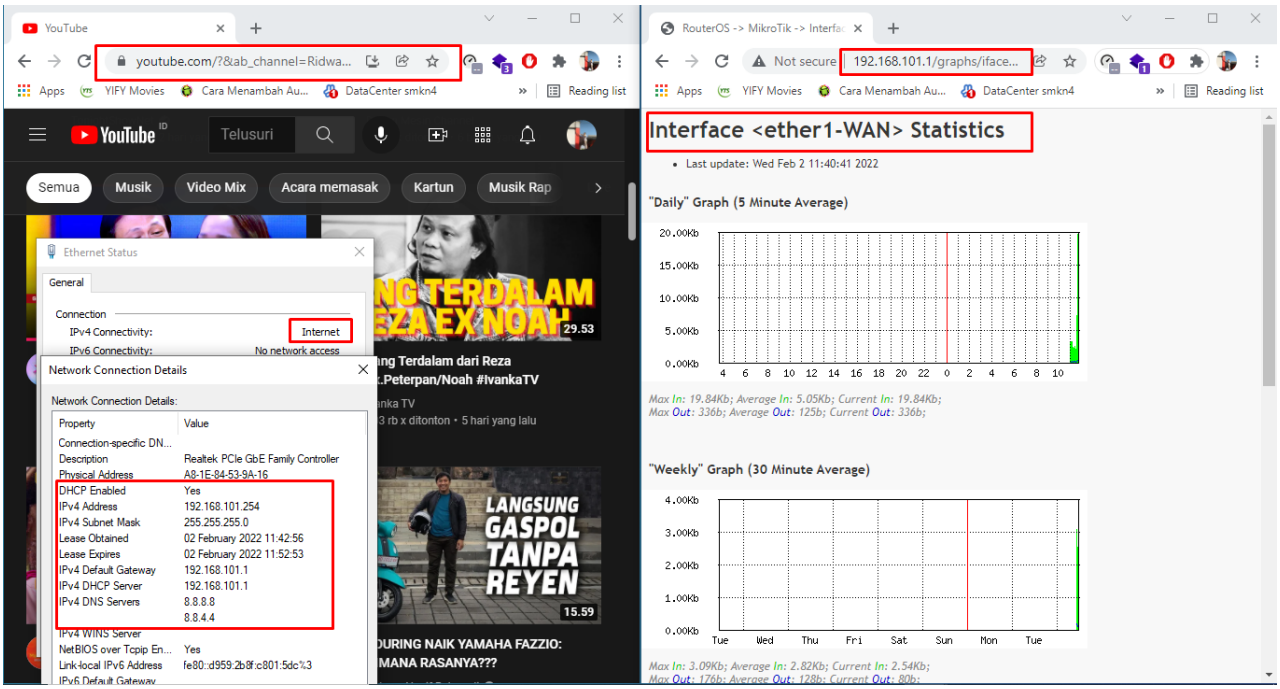




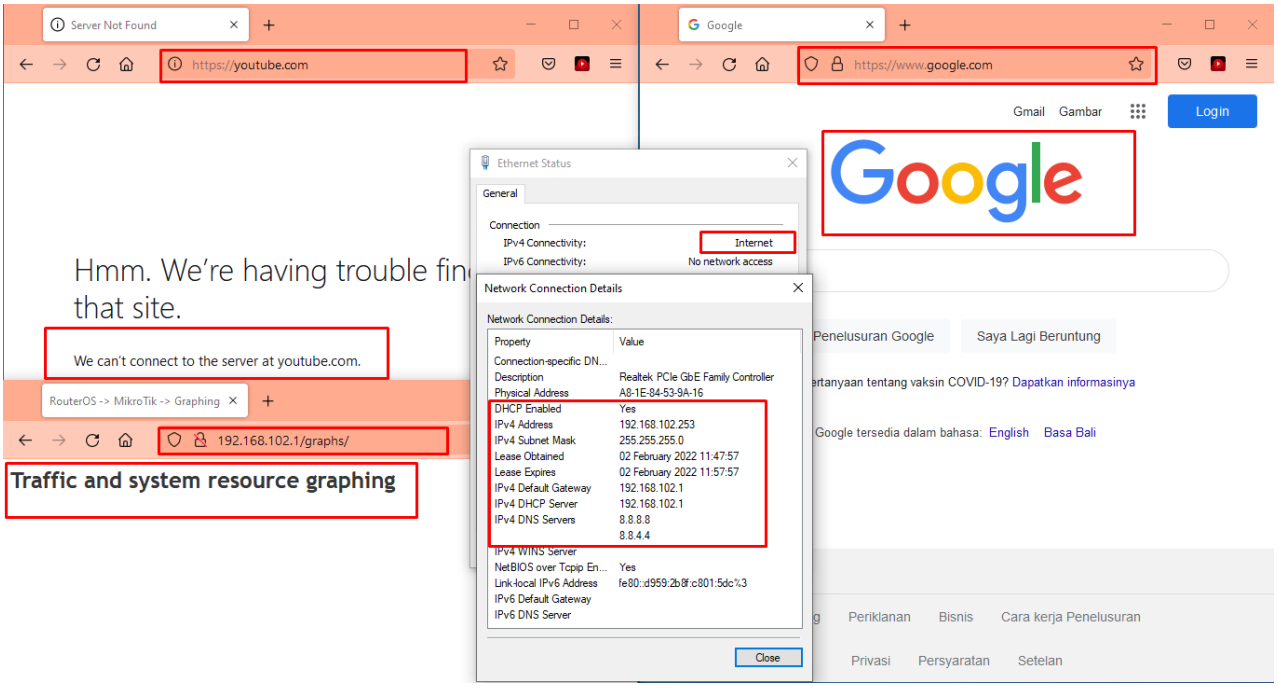
PENGUJIAN

Silahkan lakukan pengujian pada masing masing port dan vlan yang sudah di setting dari switch dan router, untuk pengujian silahkan colokan pada masing-masing port yang sudah di setting vlan pada switch.

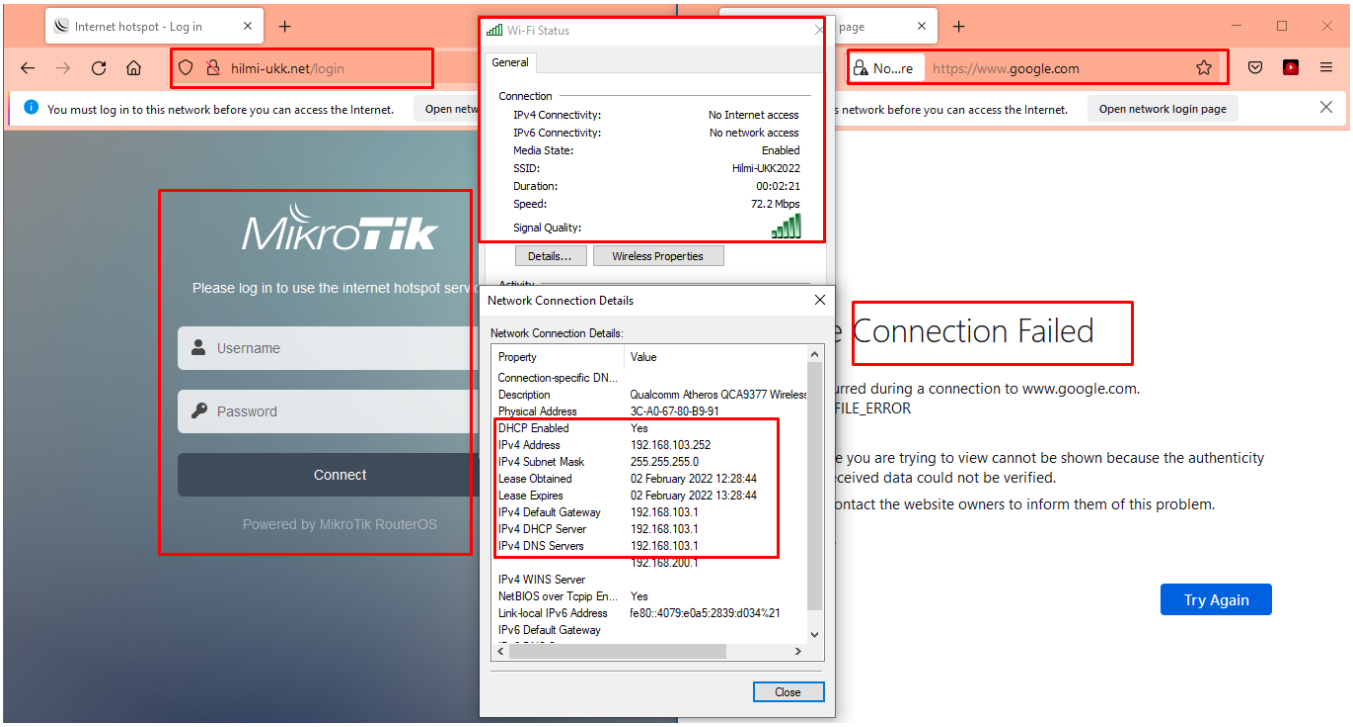
*PENGUJIAN LAB TKJ

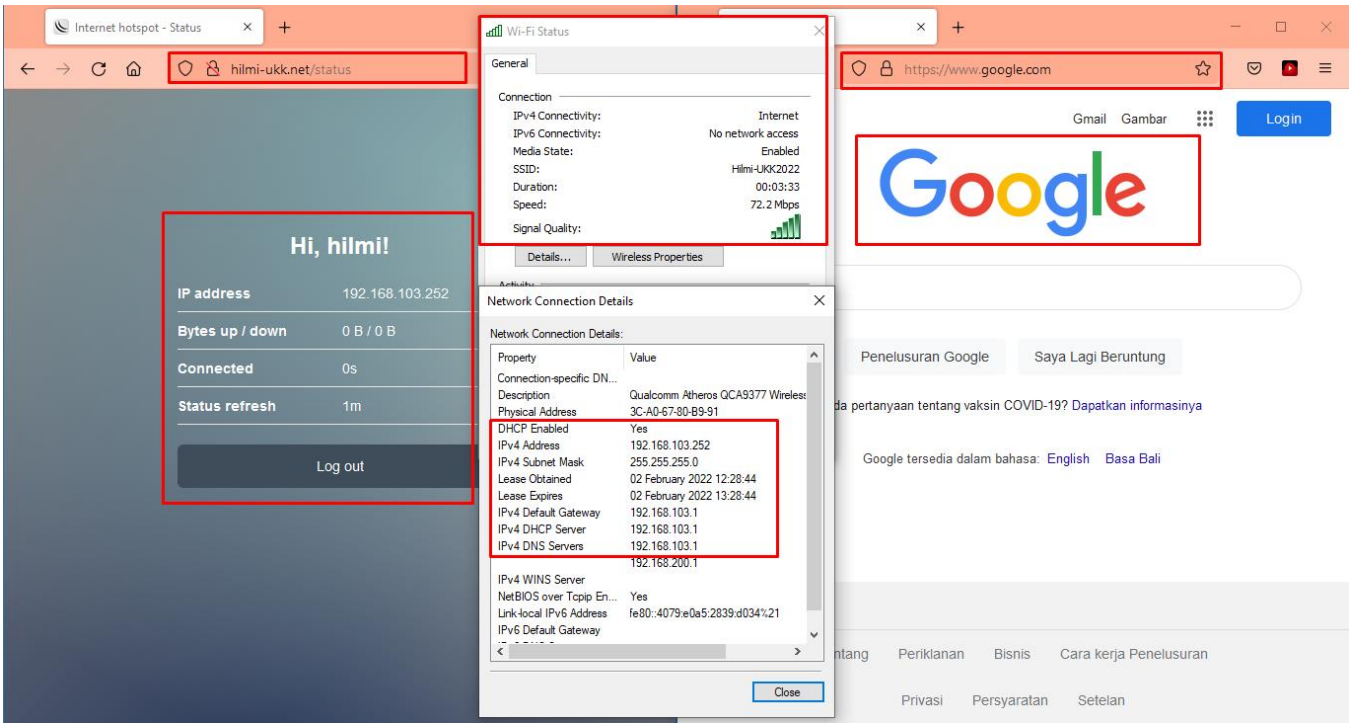


*PENGUJIAN LAB RPL



*PENGUJIAN HOTSPOT





SELESAI