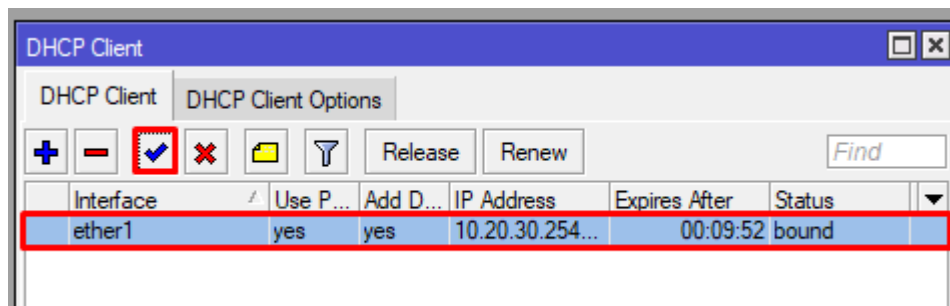
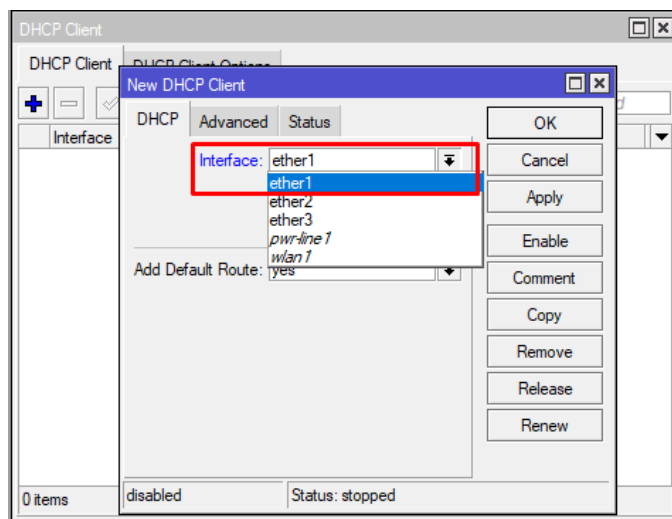
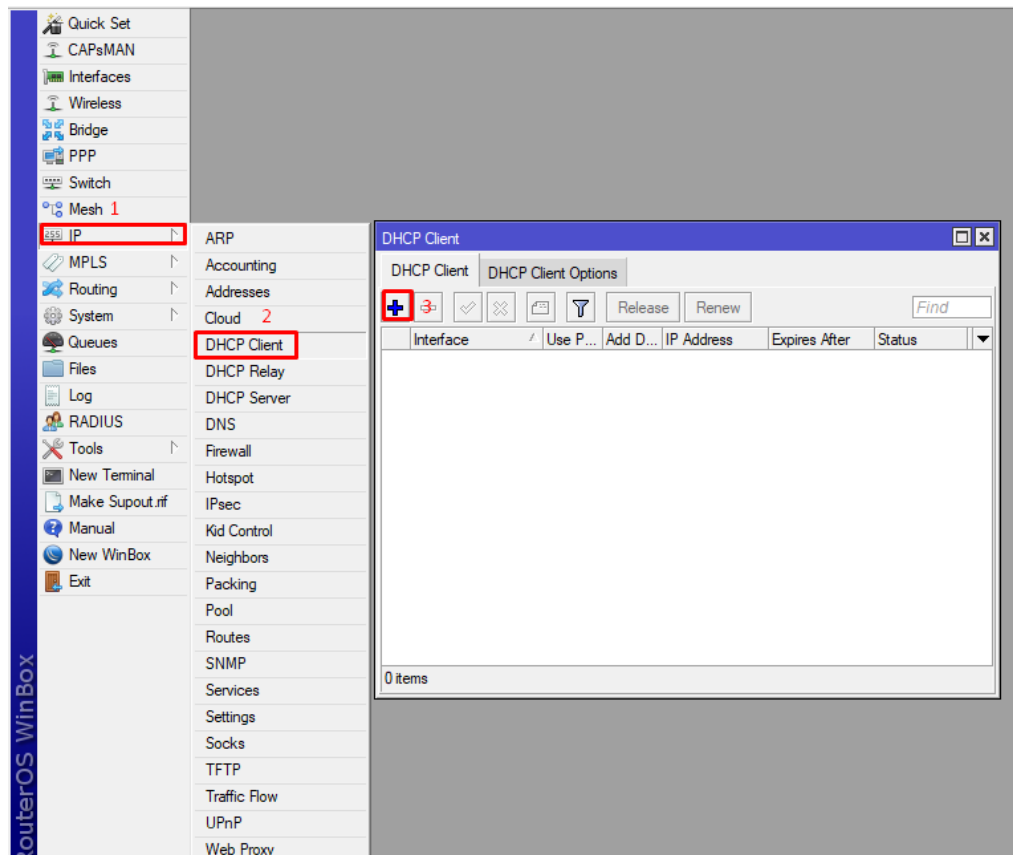
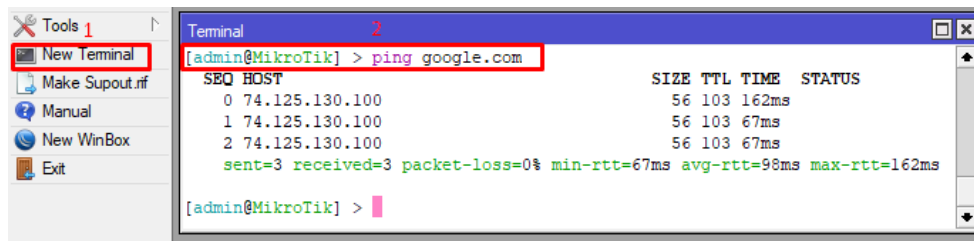


SETTING ROUTER

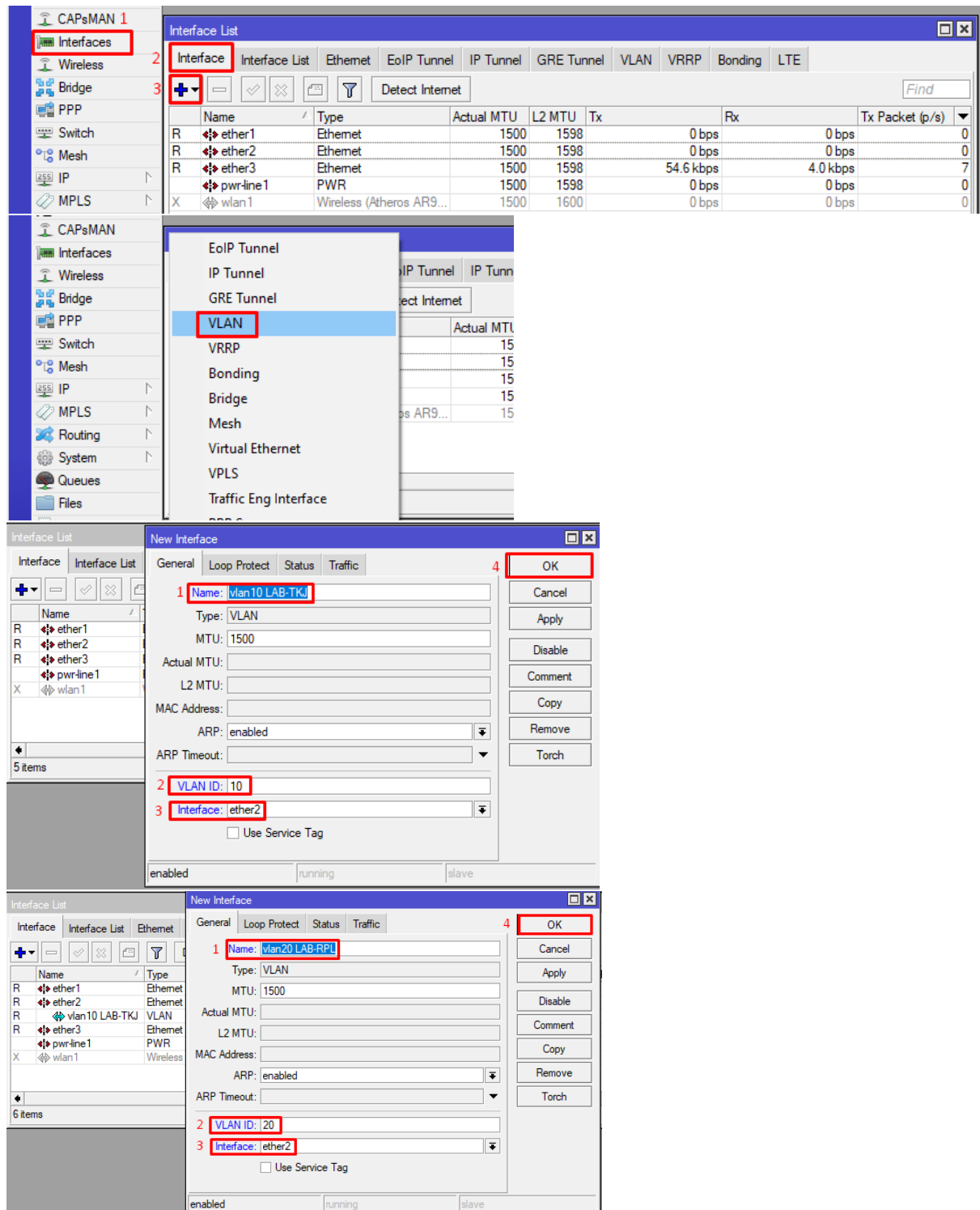
1. Setting DHCP Client



2. Cek Koneksi ke www.google.com



3. Buat dua Vlan di interfaces ether2

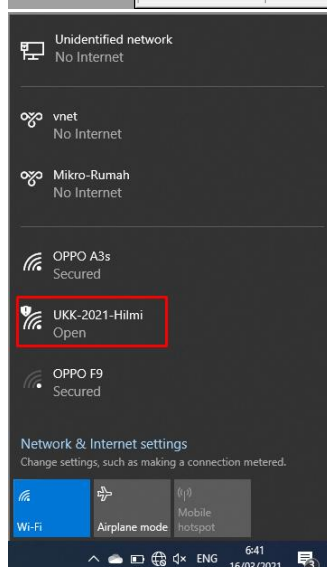


Interface List							
Interface							
Interface List Ethernet EoIP Tunnel IP Tunnel GRE Tunnel VLAN VRRP Bonding LTE							
Detect Internet Find							
Name	Type	Actual MTU	L2 MTU	Tx	Rx		
R ether1	Ethernet	1500	1598	0 bps	0 bps		
R ether2	Ethernet	1500	1598	0 bps	0 bps		
R vlan10 LAB-TKJ	VLAN	1500	1594	0 bps	0 bps		
R vlan20 LAB-RPL	VLAN	1500	1594	0 bps	0 bps		
R ether3	Ethernet	1500	1598	74.3 kbps	5.1 kbps		
pwr-line1	PWR	1500	1598	0 bps	0 bps		
X wlan1	Wireless (Atheros AR9...	1500	1600	0 bps	0 bps		

4. Konfigurasi Wireless untuk jalur Hotspot

Wireless Tables							
WiFi Interfaces W60G Station Nstreme Dual Access List Registration Connect List Security Profiles Channels							
CAP WPS Client Setup Repeater Scanner Freq. Usage Alignment Wireless Sniffer Wireless Snooper Find							
Name	Type	Actual MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)	FP Tx
wlan1	Wireless (Atheros AR9...	1500	0 bps	0 bps	0	0	0

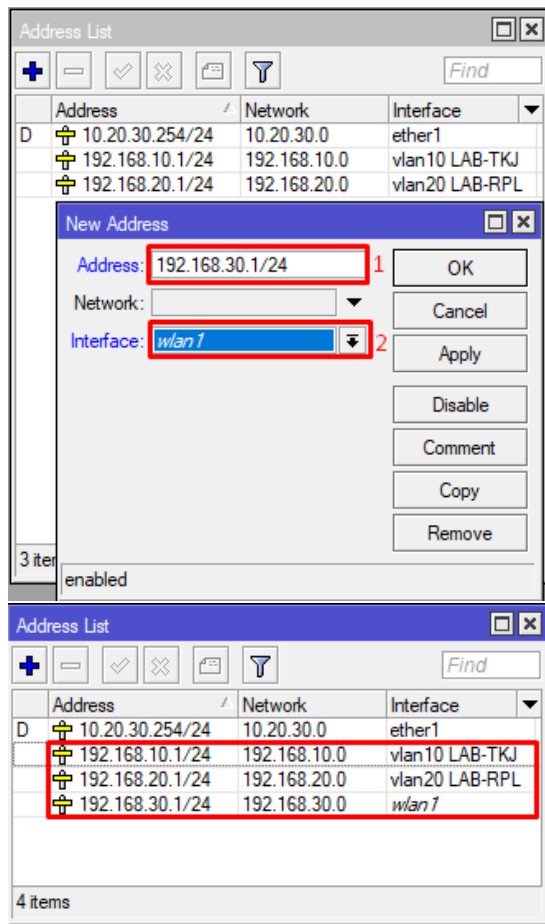
Wireless Tables	Interface <wlan1>
WiFi Interfaces	General Wireless HT HT MCS WDS Nstreme Status Traffic
Name wlan1	Mode: ap bridge Band: 2GHz-B/G/N Channel Width: 20MHz Frequency: 2412 MHz SSID: UKK-2021-Hilmi Frequency Mode: manual-txpower Country: no_country_set Installation: any Antenna Gain: 0 dBi Default AP Tx Limit: bps Default Client Tx Limit: bps ☒ Default Authenticate ☒ Default Forward
1 item out of 7 (1 sel)	OK Cancel Apply Disable Comment Advanced Mode Torch WPS Accept WPS Client Setup Repeater Scan... Freq. Usage... Align... Sniff... Snooper... Reset Configuration
	enabled running slave running ap



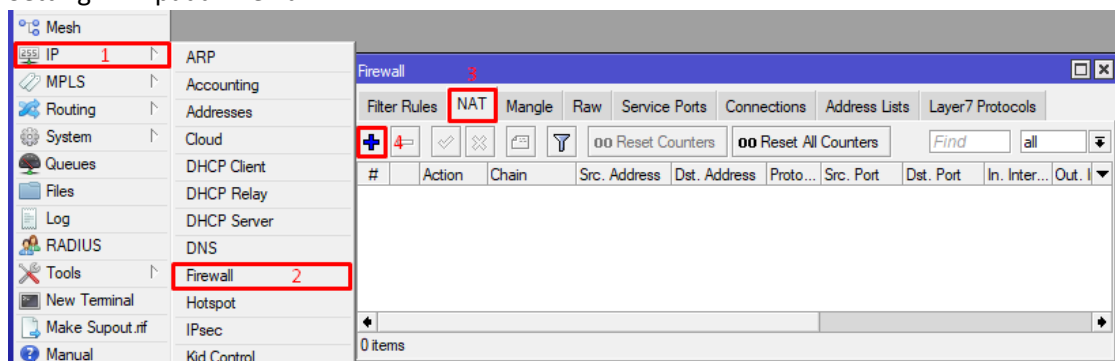
5. Setting IP Address pada interfaces Wireless dan Vlan

The following table represents the 'Address List' shown in the third screenshot:

	Address	Network	Interface
D	10.20.30.254/...	10.20.30.0	ether1
	192.168.10.1/...	192.168.10.0	vlan10 LAB-TKJ



6. Setting NAT pada Firewall



New NAT Rule

General Advanced Extra Action Statistics

Chain: srcnat

Src. Address:

Dst. Address:

Protocol:

Src. Port:

Dst. Port:

Any. Port:

In. Interface:

Out. Interface: ether1

In. Interface List:

Out. Interface List:

Packet Mark:

Connection Mark:

Routing Mark:

Routing Table:

Connection Type:

enabled

OK

Cancel

Apply

Disable

Comment

Copy

Remove

Reset Counters

Reset All Counters

New NAT Rule

General Advanced Extra Action Statistics

Action: masquerade

Log

Log Prefix:

To Ports:

enabled

3 OK

Cancel

Apply

Disable

Comment

Copy

Remove

Reset Counters

Reset All Counters

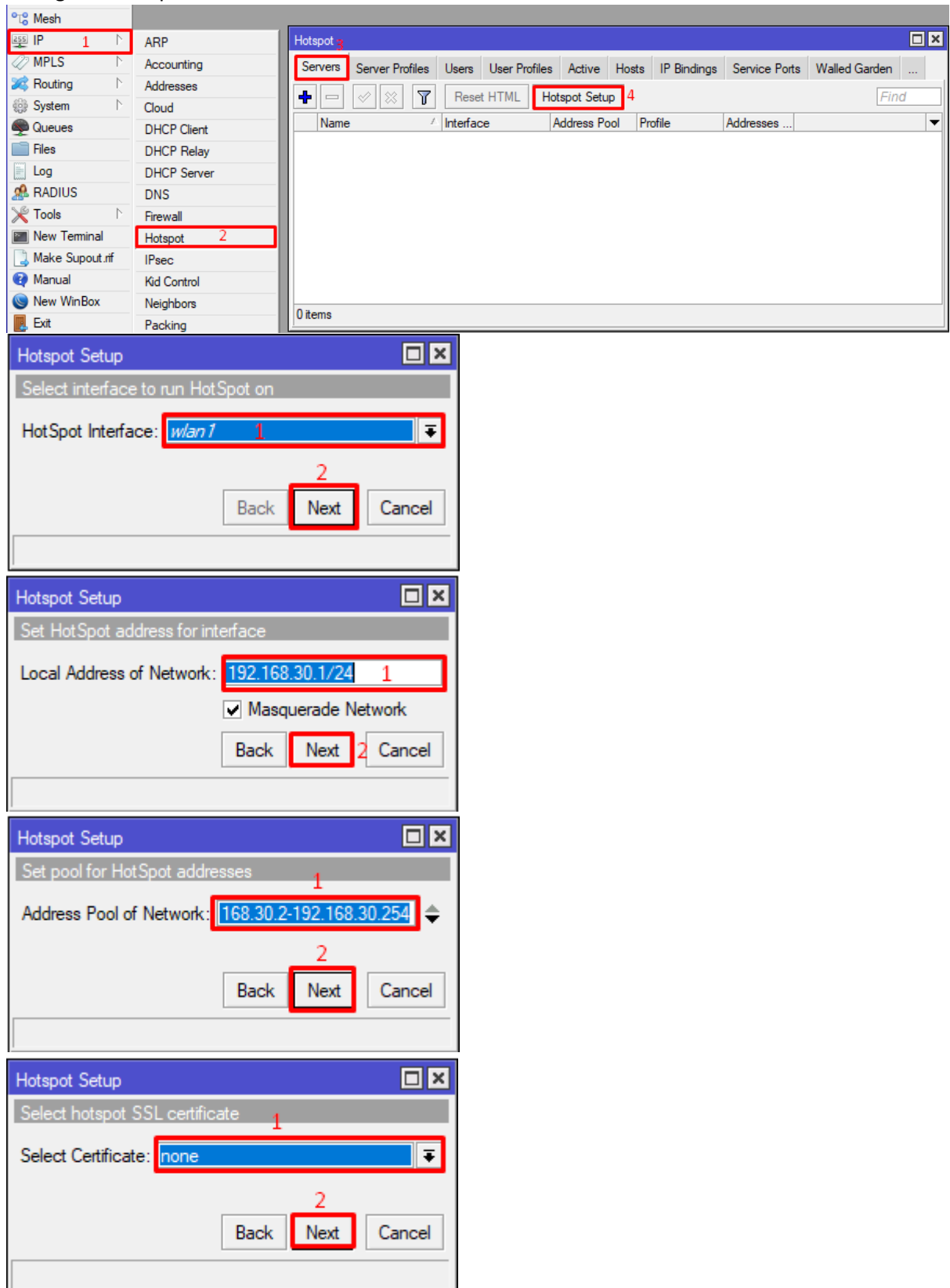
Firewall

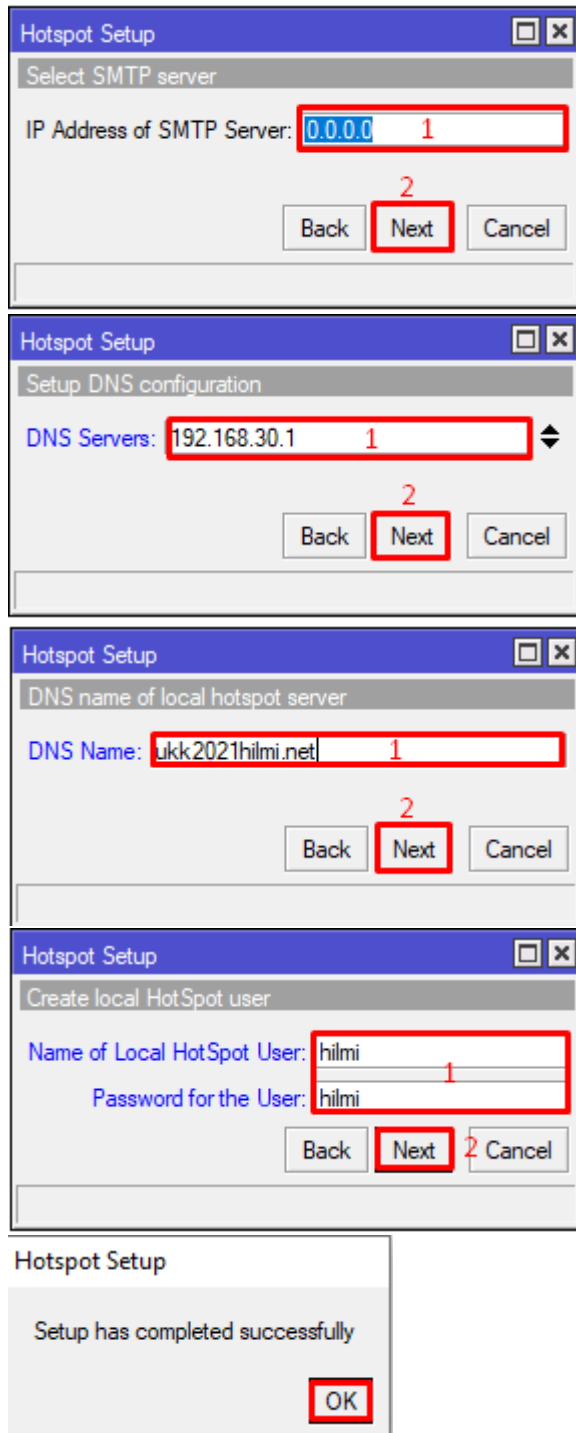
Filter Rules NAT Mangle Raw Service Ports Connections Address Lists Layer7 Protocols

00 Reset Counters 00 Reset All Counters Find all

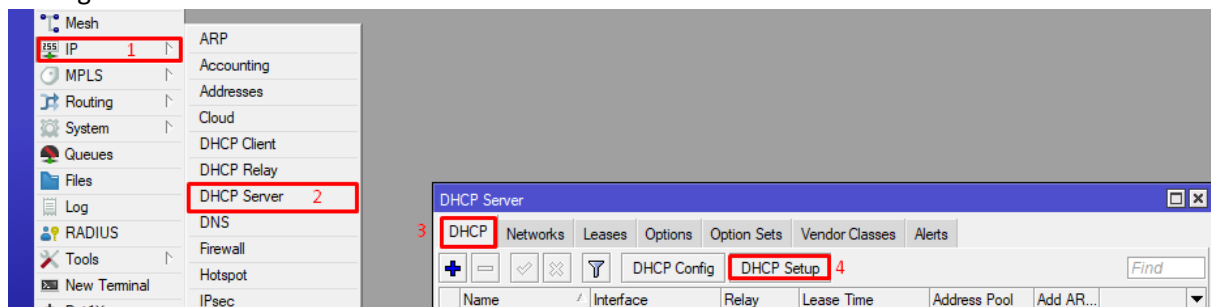
#	Action	Chain	Src. Address	Dst. Address	Proto...	Src. Port	Dst. Port	In. Inter...	Out. I
0	mas...	srcnat							ether1

7. Konfigurasi Hotspot





8. Setting DHCP Server Untuk LAB

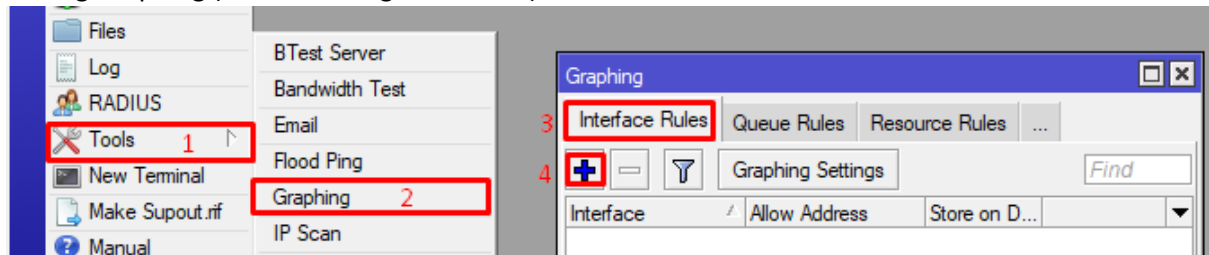


The image displays five sequential screenshots of the DHCP Setup wizard, each with a blue title bar and standard window controls. Red boxes and numbers highlight specific configuration steps.

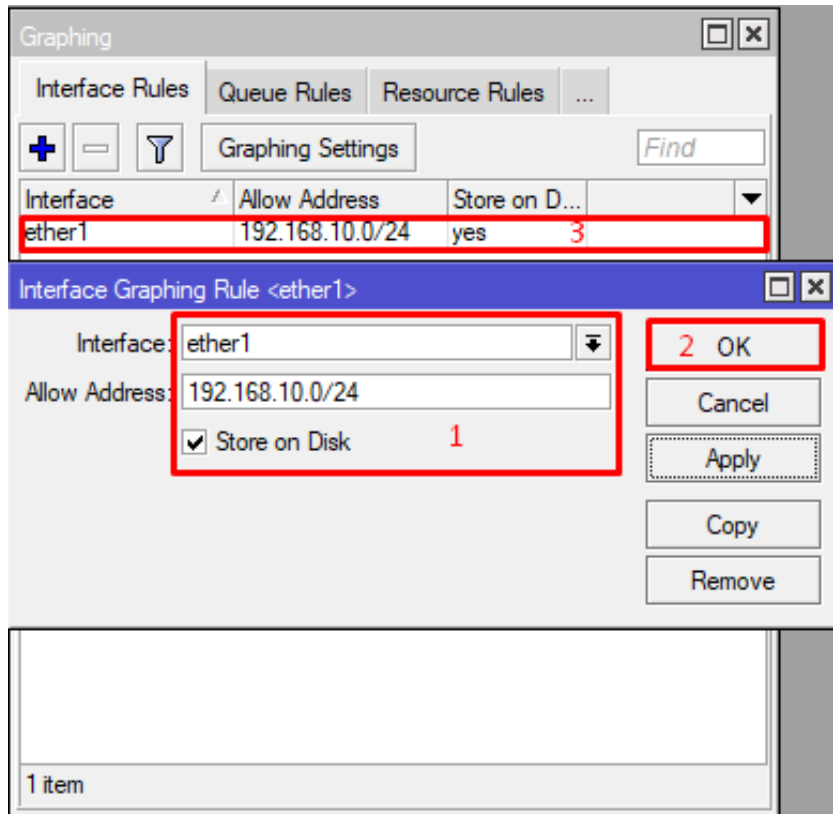
- Screenshot 1:** "Select interface to run DHCP server on". The "DHCP Server Interface:" dropdown is set to "vlan10" (highlighted with a red box and a red "1"). The "Next" button is highlighted with a red box and a red "2".
- Screenshot 2:** "Select network for DHCP addresses". The "DHCP Address Space:" text box contains "192.168.10.0/24" (highlighted with a red box and a red "1"). The "Next" button is highlighted with a red box and a red "2".
- Screenshot 3:** "Select gateway for given network". The "Gateway for DHCP Network:" text box contains "192.168.10.1" (highlighted with a red box and a red "1"). The "Next" button is highlighted with a red box and a red "2".
- Screenshot 4:** "Select pool of ip addresses given out by DHCP server". The "Addresses to Give Out:" dropdown is set to "192.168.10.2-192.168.10.254" (highlighted with a red box and a red "1"). The "Next" button is highlighted with a red box and a red "2".
- Screenshot 5:** "Select DNS servers". The "DNS Servers:" list contains "8.8.8.8" and "8.8.4.4" (both highlighted with a red box and a red "1"). The "Next" button is highlighted with a red box and a red "2".

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

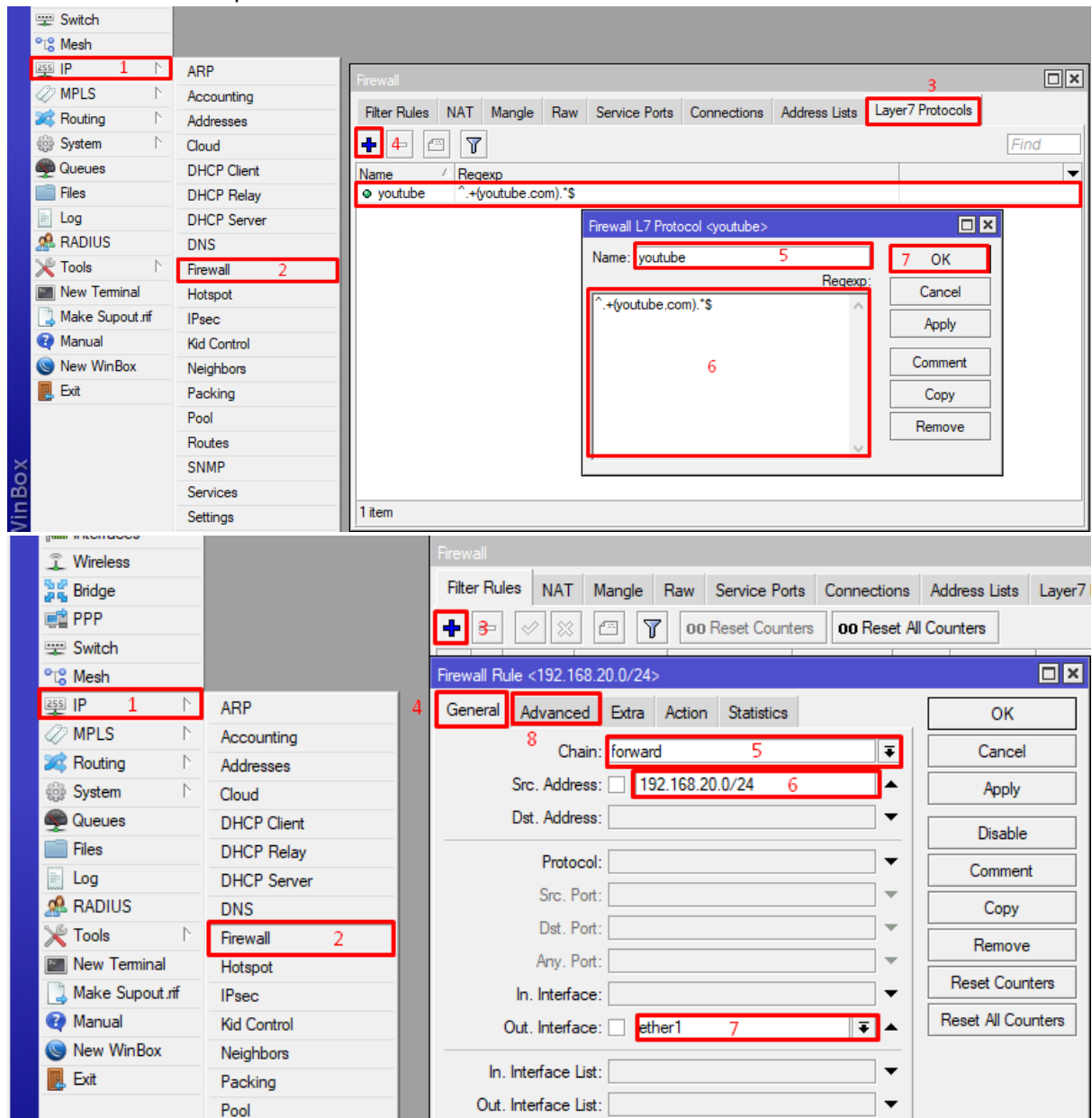
9. Setting Graphing (Memonitoring Bandwidth)

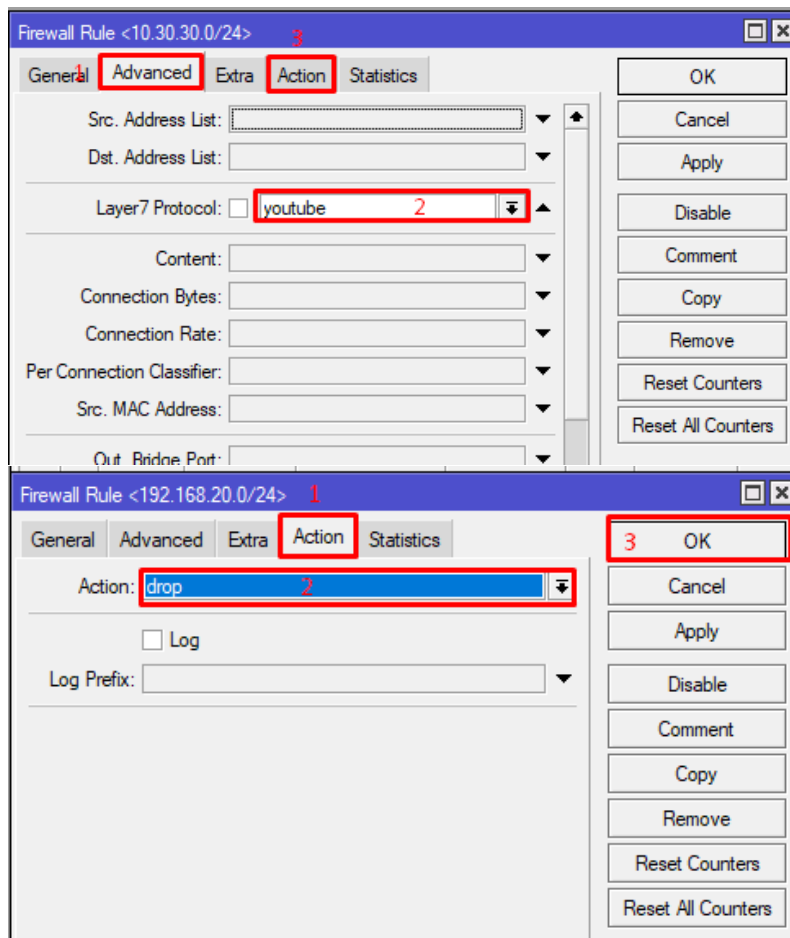


*Hanya bisa diakses oleh LAB-TKJ



10. Block Akses Youtube pada LAB RPL





SETTING SWITCH MANAGEABLE

1. Setting Bridge

The first screenshot shows the 'Bridge 2' configuration window. The 'Bridge' tab is selected. A table lists the bridge configuration:

Name	Type	L2 MTU	Tx	Rx
bridge1	Bridge	65535	0 bps	0 bps

The 'Interface <bridge1>' window is open, showing the 'General' tab. The 'Name' is 'bridge1'. The 'Type' is 'Bridge'. The 'L2 MTU' is '65535'. The 'ARP' is 'enabled'. The 'OK' button is highlighted.

The second screenshot shows the 'Bridge 2' configuration window with the 'Ports' tab selected. A table lists the bridge ports:

Interface	Bridge	Priority (h...)	Path Cost	Horizon	Role
ether1	bridge1	80	10		designated port
ether2	bridge1	80	10		disabled port
ether3	bridge1	80	10		disabled port

The 'Bridge Port <ether1>' window is open, showing the 'General' tab. The 'Interface' is 'ether1'. The 'Bridge' is 'bridge1'. The 'OK' button is highlighted.

The 'Bridge Port <ether2>' window is open, showing the 'General' tab. The 'Interface' is 'ether2'. The 'Bridge' is 'bridge1'. The 'OK' button is highlighted.

The 'Bridge Port <ether3>' window is open, showing the 'General' tab. The 'Interface' is 'ether3'. The 'Bridge' is 'bridge1'. The 'OK' button is highlighted.

2. Setting Switch dan VLAN

Switch Port Configuration Table:

Name	Switch	VLAN Mode	VLAN Header	Default VLAN ID
ether1	switch1	secure	add if missing	0
ether2	switch1	secure	always strip	10
ether3	switch1	secure	always strip	20
ether4	switch1	disabled	leave as is	0
ether5	switch1	disabled	leave as is	0
switch1 cpu	switch1	disabled	leave as is	0

Switch Port Configuration Dialogs:

- Switch Port <ether1>:** Name: ether1, Switch: switch1, VLAN Mode: secure, VLAN Header: add if missing, Default VLAN ID: 0.
- Switch Port <ether2>:** Name: ether2, Switch: switch1, VLAN Mode: secure, VLAN Header: always strip, Default VLAN ID: 10.
- Switch Port <ether3>:** Name: ether3, Switch: switch1, VLAN Mode: secure, VLAN Header: always strip, Default VLAN ID: 20.

VLAN Configuration Table:

Switch	VLAN ID	Ports
switch1	10	ether1, ether2
switch1	20	ether1, ether3

VLAN Configuration Dialogs:

- Switch VLAN <10>:** Switch: switch1, VLAN ID: 10, Ports: ether1, ether2. Buttons: OK, Cancel, Apply, Disable, Copy, Remove.
- Switch VLAN <20>:** Switch: switch1, VLAN ID: 20, Ports: ether1, ether3. Buttons: OK, Cancel, Apply, Disable, Copy, Remove.

PENGUJIAN

LAB TKJ

The screenshot displays a dual-monitor setup. The left monitor shows a YouTube search results page for 'PENDIDIAKN SMK'. The right monitor shows the MikroTik WinBox interface. Overlaid on the WinBox is the 'Ethernet Status' window for interface 'ether1'. The 'General' tab shows the connection is to the Internet. The 'Network Connection Details' tab lists various network parameters:

Property	Value
Connection-specific DN...	Realtek PCIe GBE Family Controller
Description	A8-1E-94-53-9A-16
Physical Address	A8-1E-94-53-9A-16
DHCP Enabled	Yes
IPv4 Address	192.168.10.254
IPv4 Subnet Mask	255.255.255.0
Lease Obtained	17 March 2021 12:51:53
Lease Expires	17 March 2021 13:26:52
IPv4 Default Gateway	192.168.10.1
IPv4 DHCP Server	192.168.10.1
IPv4 DNS Server	8.8.8.8
IPv4 WINS Server	
NetBIOS over Tcpip En...	Yes
Link-local IPv6 Address	fe80::99ef:b7a:8b6e:fb78%4
IPv6 Default Gateway	
IPv6 DNS Server	

To the right of the status window, the 'Interface <ether1> Statistics' window is visible, showing a 5-minute average traffic graph and a 30-minute average traffic graph. The 5-minute graph shows a peak in traffic around 12:00.

LAB RPL

The screenshot displays a dual-monitor setup. The left monitor shows a Google search page with a 'Server Not Found' error message. The right monitor shows the MikroTik WinBox interface. Overlaid on the WinBox is the 'Ethernet Status' window for interface 'ether1'. The 'General' tab shows the connection is to the Internet. The 'Network Connection Details' tab lists various network parameters:

Property	Value
Connection-specific DN...	Realtek PCIe GBE Family Controller
Description	A8-1E-94-53-9A-16
Physical Address	A8-1E-94-53-9A-16
DHCP Enabled	Yes
IPv4 Address	192.168.20.253
IPv4 Subnet Mask	255.255.255.0
Lease Obtained	17 March 2021 13:22:02
Lease Expires	17 March 2021 13:37:00
IPv4 Default Gateway	192.168.20.1
IPv4 DHCP Server	192.168.20.1
IPv4 DNS Server	8.8.8.8
IPv4 WINS Server	
NetBIOS over Tcpip En...	Yes
Link-local IPv6 Address	fe80::99ef:b7a:8b6e:fb78%4
IPv6 Default Gateway	
IPv6 DNS Server	

Hotspot

