

Nama : Afif Maulana Hakim
Kelas : PSJ

Rancang Bangun Jaringan Berbasis Kabel dan Nirkabel dengan VLAN dan Routing

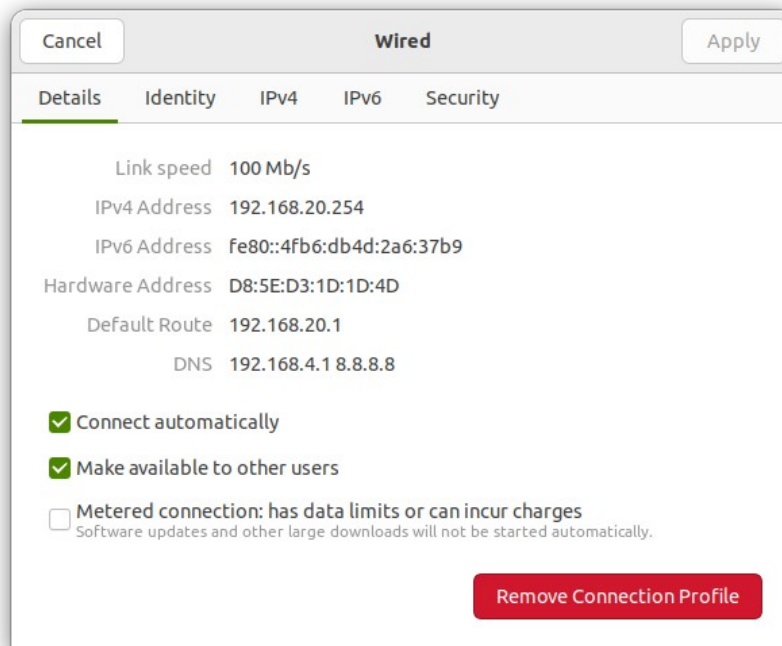
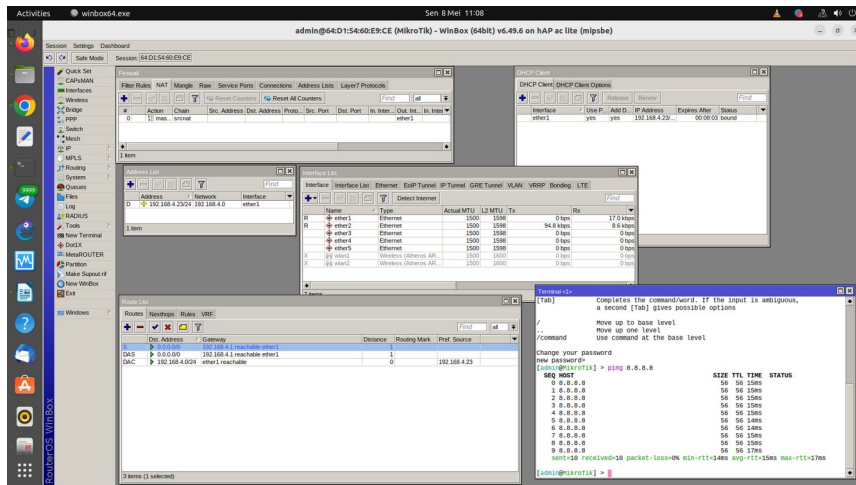
Dalam kegiatan uji kompetensi ini anda bertindak sebagai Teknisi Jaringan. Tugas anda sebagai teknisi adalah merancang bangun dan mengkonfigurasi sebuah jaringan. Wifi Router berfungsi sebagai Gateway Internet, Hotspot, DHCP server, dan Bandwidth Limiter, kemudian internet tersebut dishare ke client melalui jalur kabel (non hotspot) dan wireless (hotspot).

Dengan konfigurasi sebagai berikut:

b. Konfigurasi

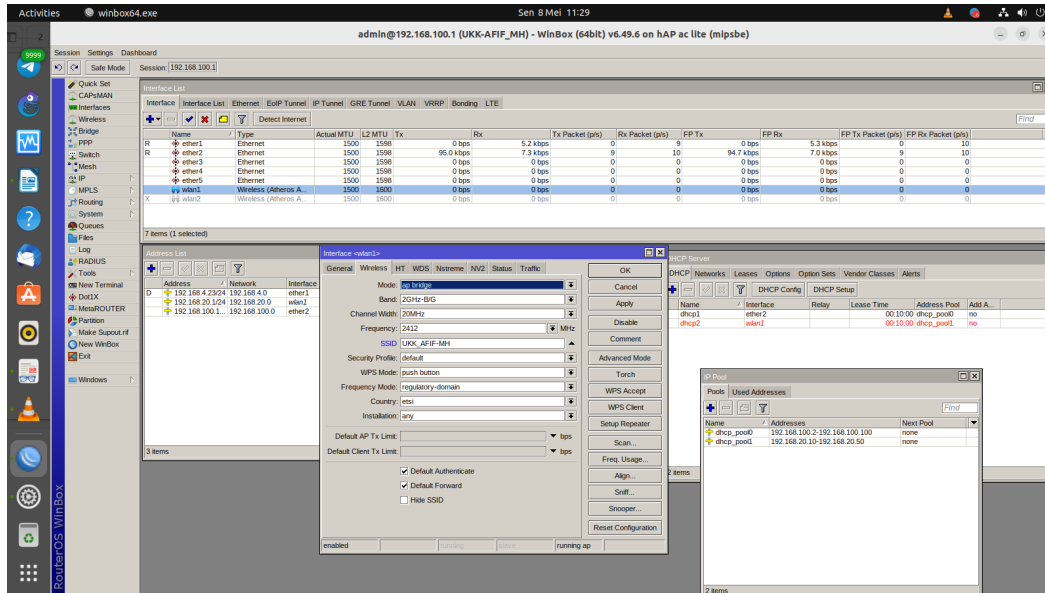
Ether 1:

- IP Ether1
- : Sesuai dengan Network yang diberikan ISP
- Gateway
- : Sesuai dengan IP yang diberikan ISP



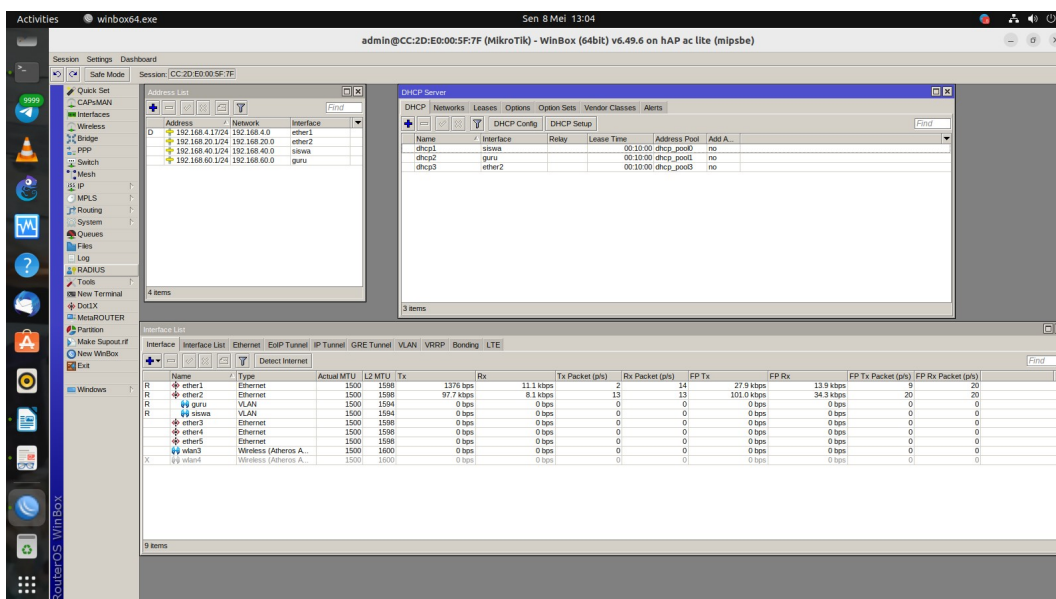
WLAN :

- IP WLAN
- : 192.168.20.1/24
- SSID
- : UKK_Nama
- Password
- : 12345678
- DHCP Pool
- : 192.168.20.10 – 192.168.20.50



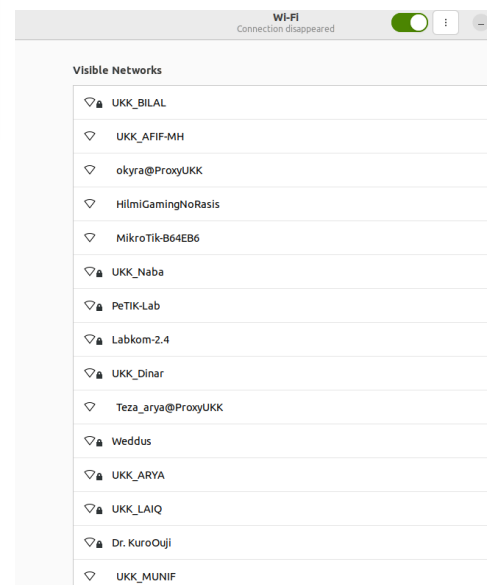
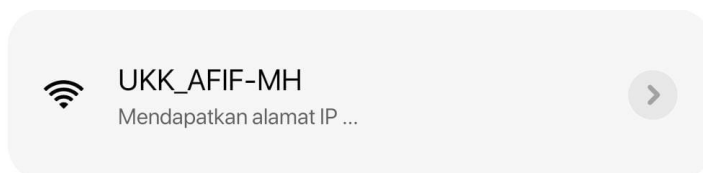
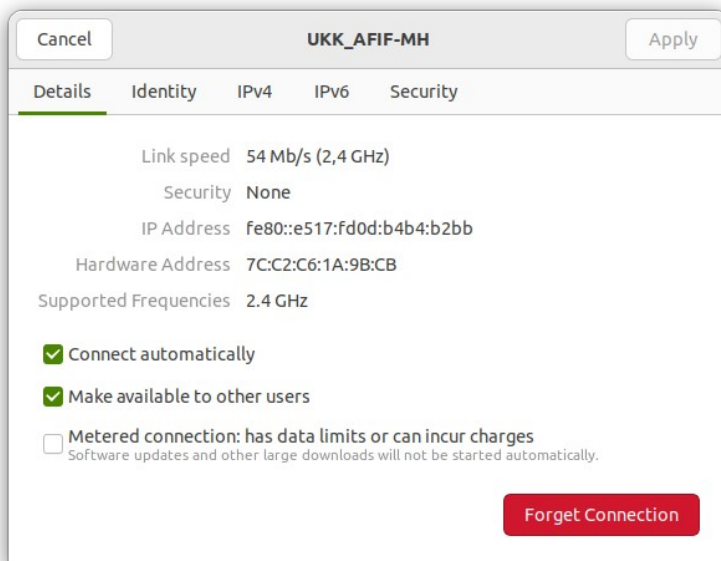
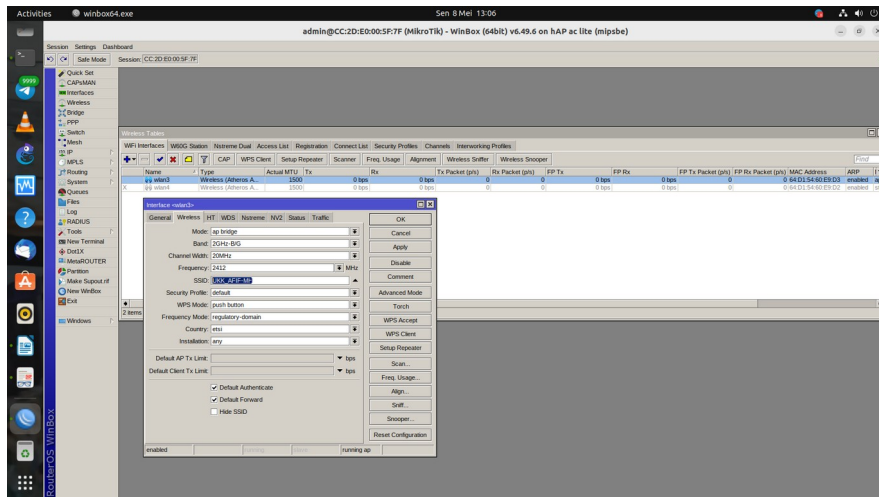
Ether 2 digunakan untuk jaringan LAN:

- a) VLAN 1
- IP VLAN 1
- : 192.168.40.1/24
- DHCP Pool
- : 192.168.40.10 – 192.168.40.50
- b) VLAN 2
- IP VLAN 2
- : 192.168.60.1/24
- DHCP Pool
- : 192.168.60.10 – 192.168.60.50



WLAN :

- IP WLAN
- : 192.168.20.1/24
- SSID
- : UKK_Nama
- Password
- : 12345678
- DHCP Pool
- : 192.168.20.10 – 192.168.20.50



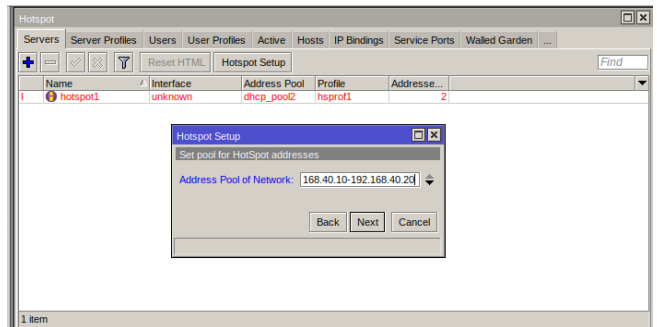
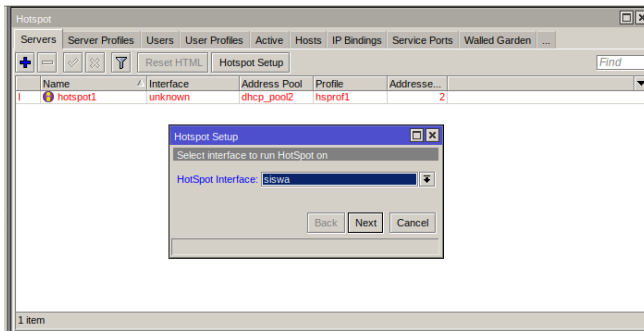
a. Konfigurasi VLAN pada Ether2 dengan ketentuan:

1) VLAN 1

- VLAN ID : 10

- Name

: siswa

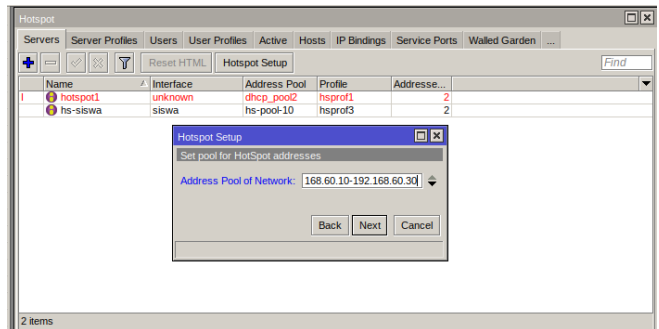
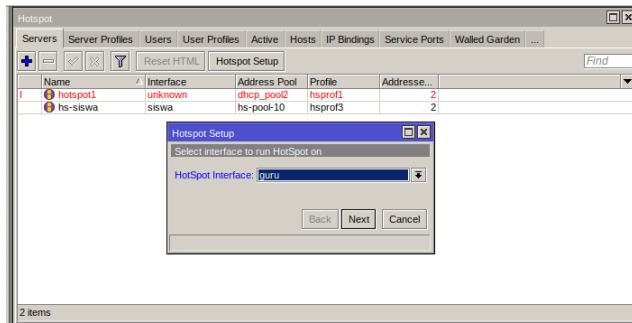


2) VLAN 2

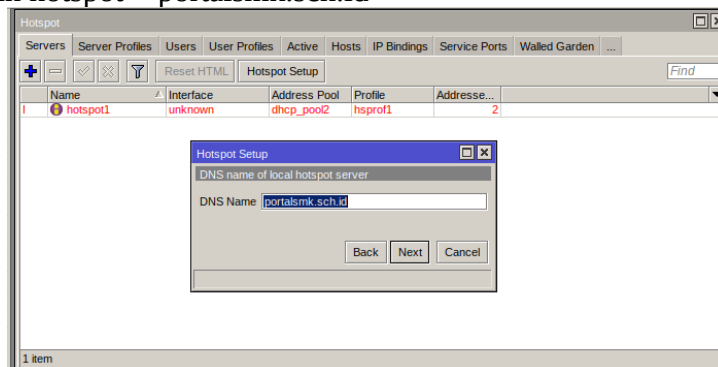
- VLAN ID : 20

- Name

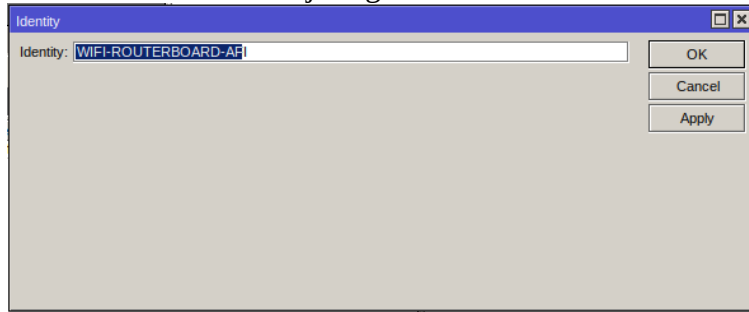
: guru



- Hotspot: alamat login hotspot = portalsmk.sch.id



1. Identifikasi dan buatlah daftar kebutuhan jaringan



Konfigurasi Wifi Routerboard dengan ketentuan sebagai berikut:

a. Konfigurasi VLAN pada Ether2 dengan ketentuan:

1) VLAN 1

- VLAN ID : 10

- Name

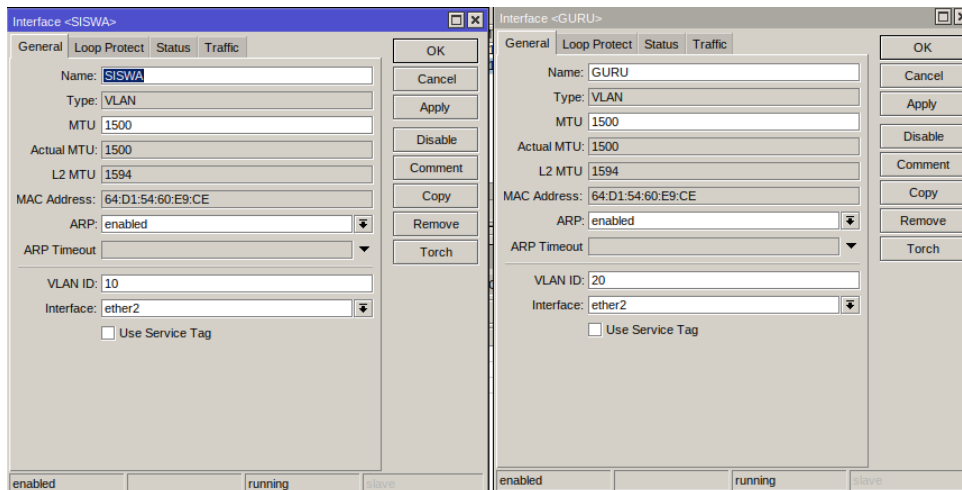
: siswa

2) VLAN 2

- VLAN ID : 20

- Name

: guru



Konfigurasi

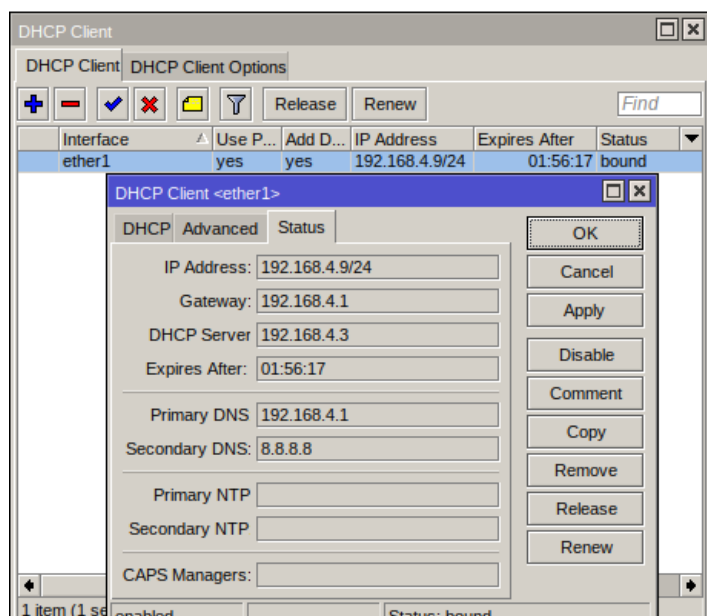
Ether 1:

- IP Ether1

: Sesuai dengan Network yang diberikan ISP

- Gateway

: Sesuai dengan IP yang diberikan ISP



Ether 2 digunakan untuk jaringan LAN:

a) VLAN 1

- IP VLAN 1

: 192.168.40.1/24

- DHCP Pool

: 192.168.40.10 – 192.168.40.50

b) VLAN 2

- IP VLAN 2

: 192.168.60.1/24

- DHCP Pool

: 192.168.60.10 – 192.168.60.50

WLAN :

- IP WLAN

: 192.168.20.1/24

- SSID

: UKK_Nama

- Password

: 12345678

- DHCP Pool

: 192.168.20.10 – 192.168.20.50

Address	Network	Interface
HOTSPOT		
192.168.20.1/24	192.168.20.0	wlan1
192.168.4.9/24	192.168.4.0	ether1
VLAN1		
192.168.40.1/24	192.168.40.0	SISWA
VLAN2		
192.168.60.1/24	192.168.60.0	GURU

4 items

admin@64-D1:54:60:E9:CE (WIFI-ROUTERBOARD-AFI) - WinBox (64bit) v6.49.6 on hAP ac lite (mipsbe)

Session: 64D15460E9CE

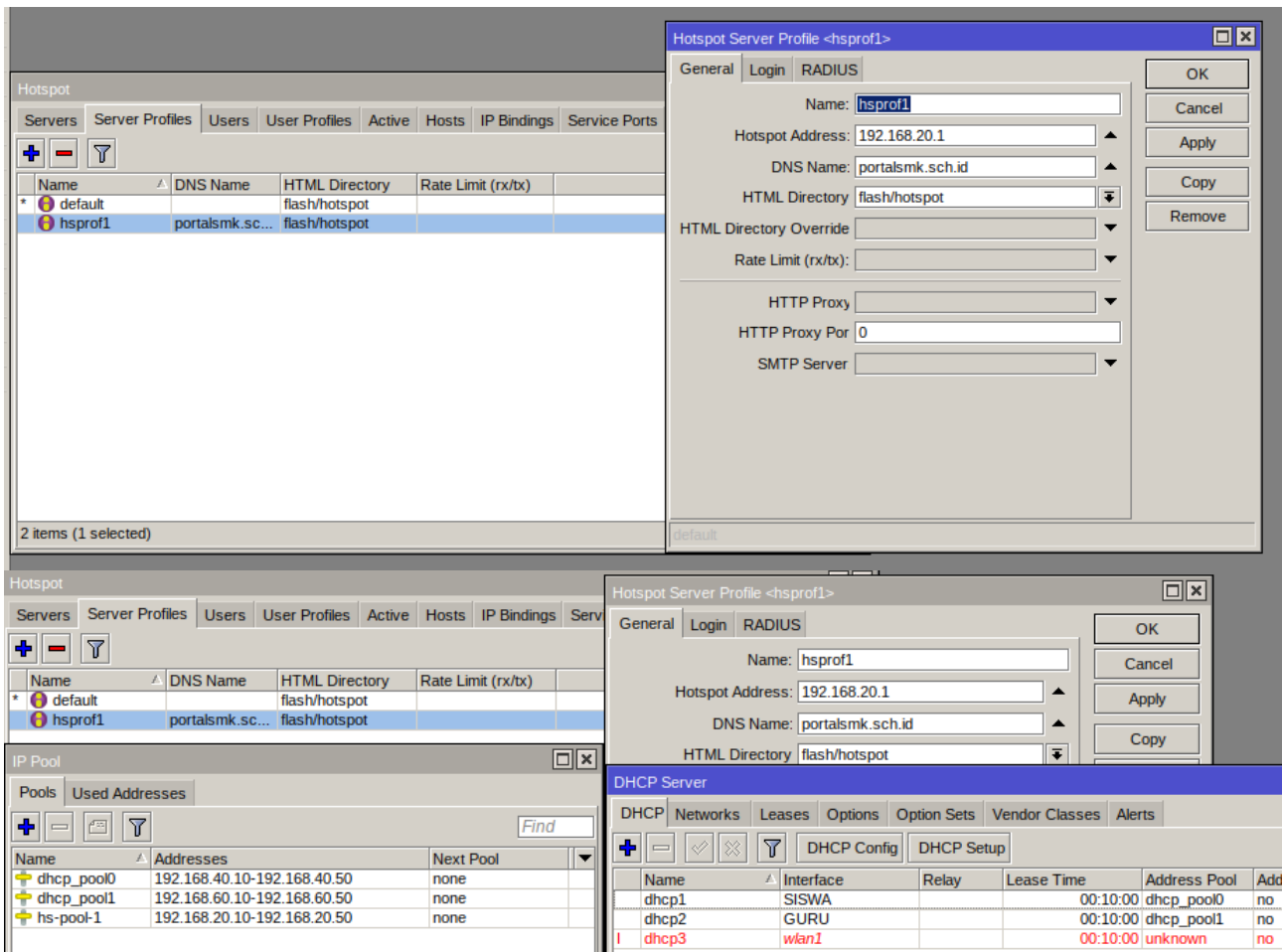
WLAN Settings:

- Mode: **ap bridge**
- Band: 2GHz-SGHN
- Channel Width: 20MHz
- Frequency: 2412
- SSID: UKK_AFP-REMBANG
- Security Profile: default
- WPS Mode: push button
- Frequency Mode: regulatory-domain
- Country: id
- Isolation: any
- Default AP Tx Line: []
- Default Client Tx Line: []
- Default Authenticate
- Default Forward
- Hide SSID

Name	Interface	Relay	Lease Time	Address Pool	Add AR...
dhcp1	SISWA		00:10:00	dhcp_pool0	no
dhcp2	GURU		00:10:00	dhcp_pool1	no
dhcp3	wlan1		00:10:00	unknown	no

3 items

- Hotspot: alamat login hotspot = portalsmk.sch.id



- Ubah tampilan halaman login hotspot sehingga minimal terdapat tampilan tulisan: "Selamat Datang di Hotspot PeTIK"

```

50         <path d="M42.91,1.4c.
1,0,.11,0,.12.11A16.55,16.55,0,0,0,48.26,13a16.6,16.6,0,0,0,12,4.66c-10,4-20.55-5.
fill="#fff" fill-rule="evenodd" /></svg>
51
52
53         <p class="info $(if error)alert$(endif)">
54             $(if error == "")"Selamat Datang di Hotspot PeTIK" $(if
trial == 'yes')<br />Free trial available, <a href="$(link-login-only)?dst=$(link-
orig-esc)&username=T-$(mac-esc)">click here</a>.$(endif)
55             $(endif)
56
57         $(if error)$(error)$(endif)

```

- Buatlah 3 user dengan ketentuan seperti berikut:

Username	password	kecepatan
kepalasekolah	123	512 kbps
Guru	456	256 kbps
Siswa	789	128 kbps

The screenshot shows three Hotspot User configuration windows. The first window is for 'Kepala Sekolah' with password '123' and profile 'Kepala Sekolah'. The second is for 'Guru' with password '456' and profile 'Guru'. The third is for 'Siswa' with password '789' and profile 'Siswa'. A table in the background shows the user list:

Server	Name	Address	MAC Address	Profile	Uptime
all	admin			default	00:00:00
hotspot1	Kepala Sekolah			Kepala Sek...	00:00:00
hotspot1	Guru			Guru	00:00:00

Off Cookie Hotspot(Supaya Bisa Ganti User)

The screenshot shows the 'Hotspot Server Profile' configuration window. Under the 'Login' tab, the 'Cookie' option is selected. Other settings include 'MAC Auth. Mode: MAC as username', 'HTTP Cookie Lifetime: 3d 00:00:00', and 'HTTP Redirect' checked.

Konfigurasi Switch Manage pada router 2

The screenshot shows the 'Switch' configuration window. It displays a table of switch configurations:

Switch	VLAN ID	Ports
switch1	10	ether1, ether2, ether3
switch1	20	ether1, ether4

Below the table, there are two 'Switch VLAN' configuration windows. The first is for 'Switch VLAN <10>' with 'Switch: switch1' and 'VLAN ID: 10'. The second is for 'Switch VLAN <20>' with 'Switch: switch1' and 'VLAN ID: 20'. Both windows show port assignments and the 'Independent Learning' checkbox.