



Radius  
Networks

# How to Build 2 Radius Server Hotspot in 1 Router

*MikroTik*

# Perkenalan diri

**IRFAN DIVI ZIANKA**

- **PELAJAR SMKN 1 KOTA BEKASI.**
- **ALUMNI PESANTREN NETWORKERS 2015/2016.**

**SERTIFIKASI  
( MTCNA & MTCRE )**

**KONTAK HP : +62-822-1410-2714  
EMAIL : ZHIANKA007@GMAIL.COM**

# Tentang sekolah



Alamat : Jalan Bintara 8 No. 2, Bintara, Bekasi Barat,  
Kota Bks, Jawa Barat 17134, Indonesia



# Mikrotik academy



# Tentang Pesantren Networkers

**STUDY NETWORK**

**LEARN**

**CREATION**

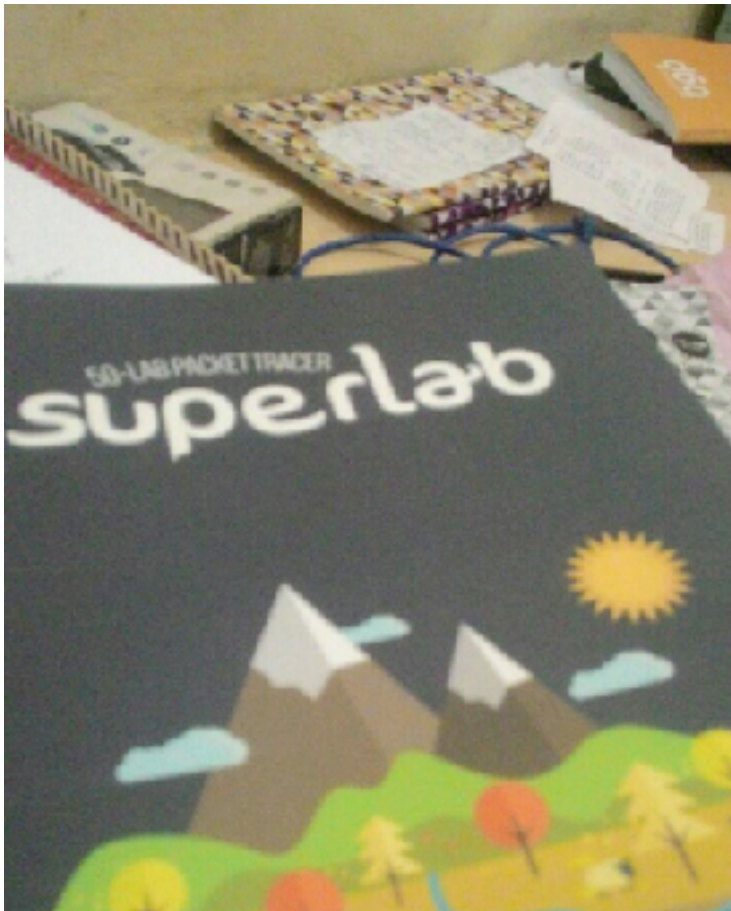
**STUDY LANGUAGE  
( ENGLISH AND ARAB )**

# TEMAN – TEMAN PESANTREN NETWORKERS



# AKTIVITAS PESANTREN NETWORKER

Pray – config – eat – sleep – no take a bath



# AGENDA

Introduction about RADIUS

The Concepts ( topology )

Configuration

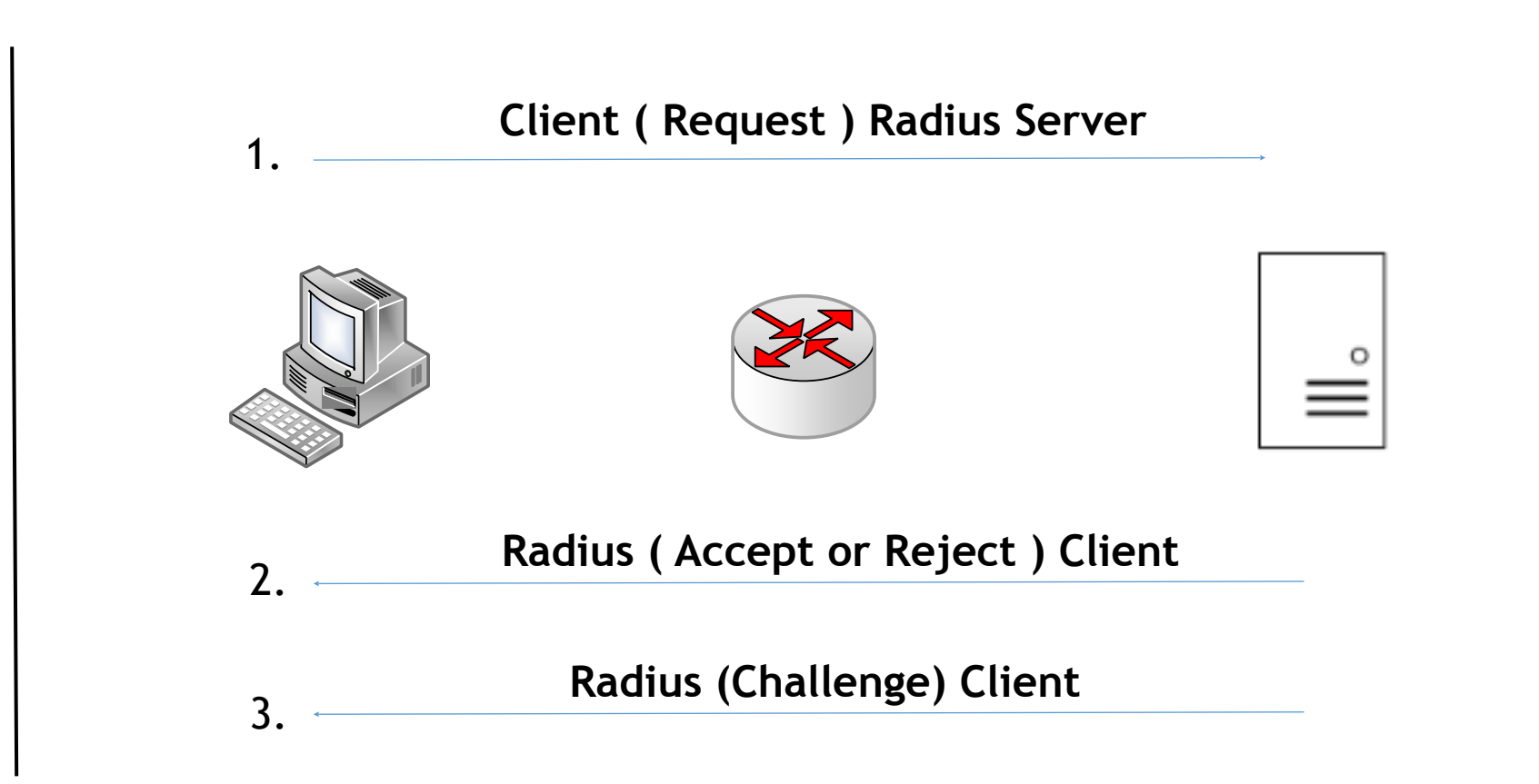
Result



# Introduksi Radius Server

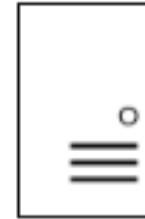
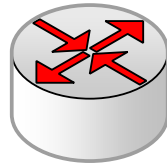
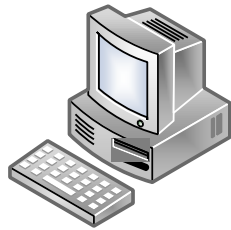
- RADIUS (Remote Authentication Dial-In User Service) adalah sebuah protokol keamanan komputer yang digunakan untuk melakukan Authentication , Authorization & Accounting secara terpusat untuk mengakses jaringan.
- Radius menggunakan metode Client – Server dalam konsep jaringan.

# Packet Flow Authentication & Authorization



# Packet Flow Accounting

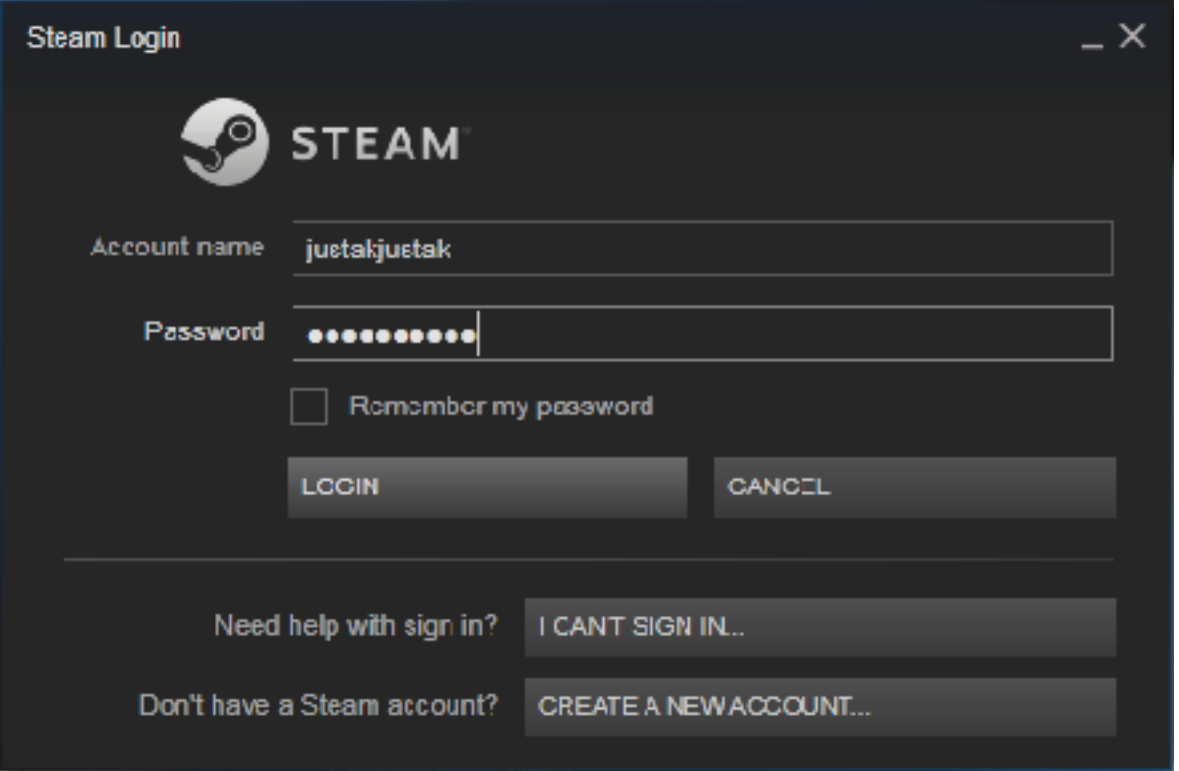
Client Request ( Status : Start, Interim Update, Stop ) Radius Server



Radius Server ( Responses ) Client

# Authentication ( who is allowed to access )

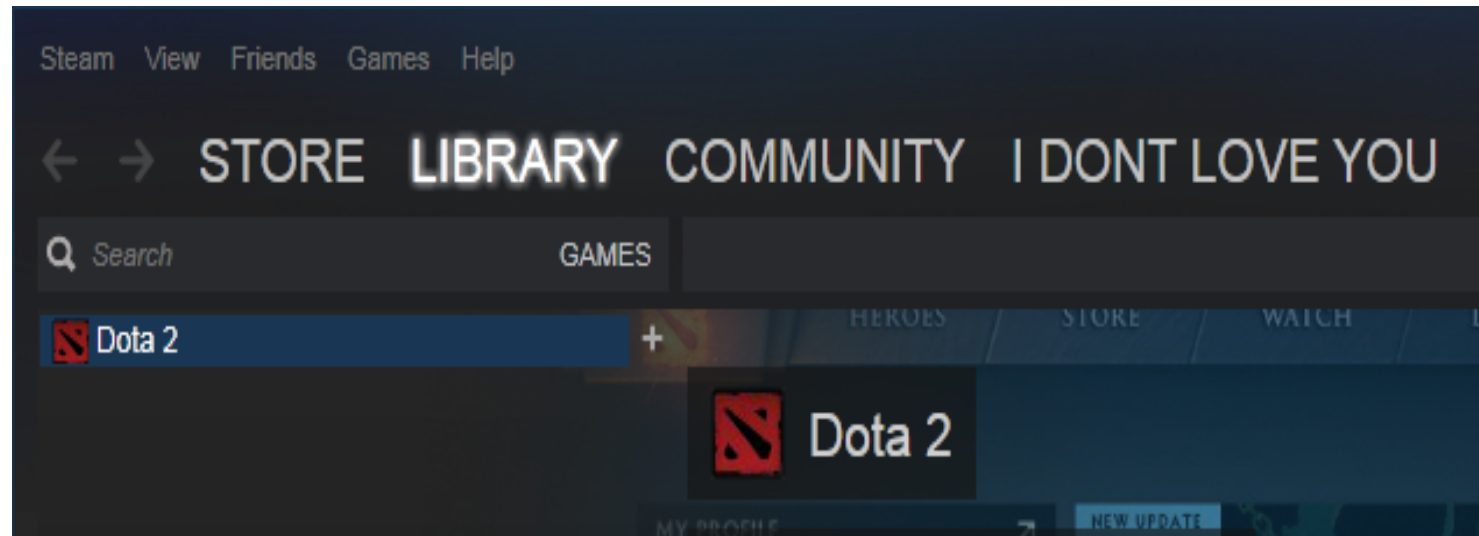
Merupakan sebuah metode untuk memverifikasi user berdasarkan pada username dan password. Username dan Password merupakan syarat utama dalam proses autentikasi



The image shows a screenshot of the Steam Login window. The window title is "Steam Login". It features the Steam logo and the word "STEAM" in a large font. Below the logo, there are two input fields: "Account name" with the text "justakjustak" and "Password" with a masked password represented by dots. There is a checkbox labeled "Remember my password" which is currently unchecked. Below the input fields are two buttons: "LOGIN" and "CANCEL". At the bottom of the window, there are two links: "Need help with sign in?" with a button labeled "I CANT SIGN IN.." and "Don't have a Steam account?" with a button labeled "CREATE A NEW ACCOUNT..".

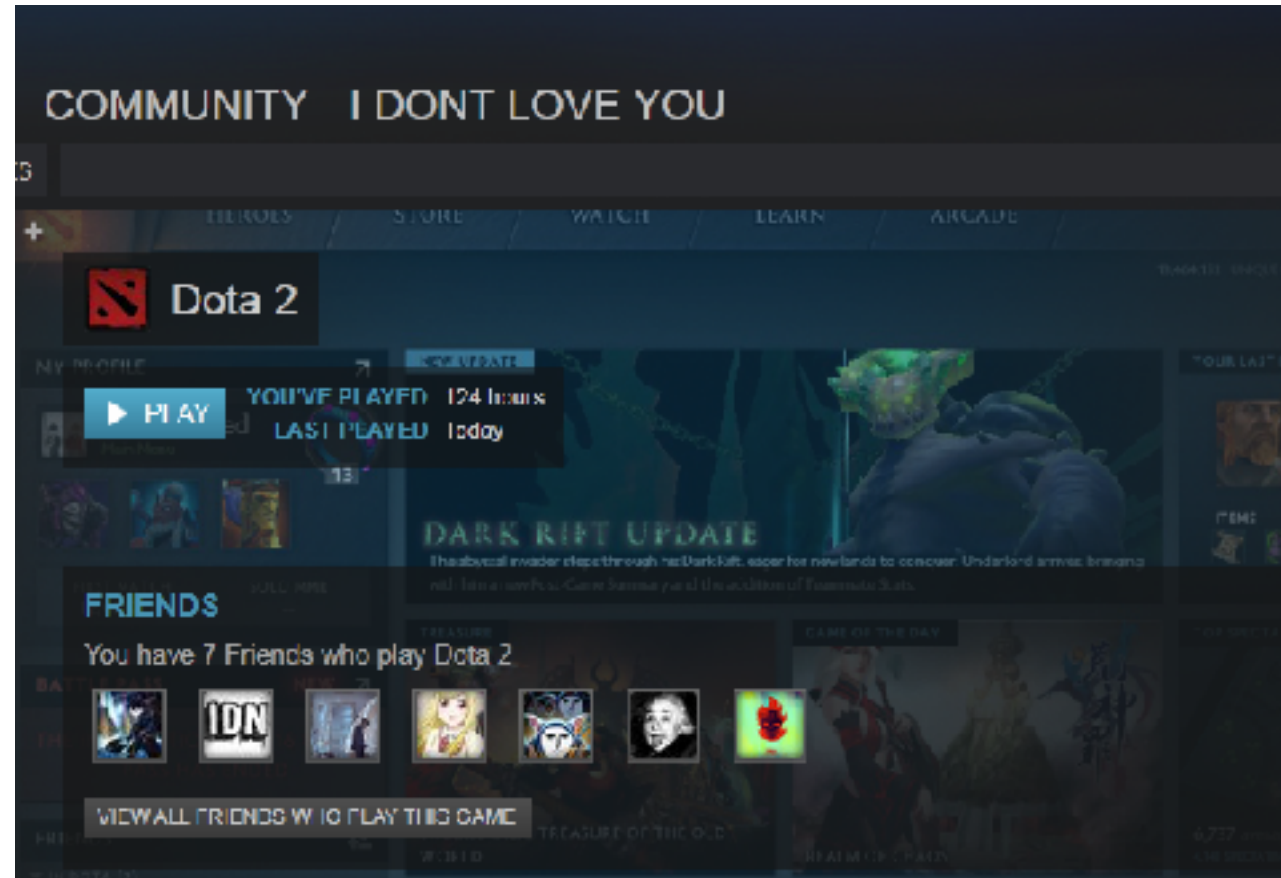
# Authorization ( allowed services )

Metode yang bertugas untuk menyediakan access control terhadap resource atau operasi apa saja yang dapat dilakukan oleh user.



# Accounting ( user monitoring )

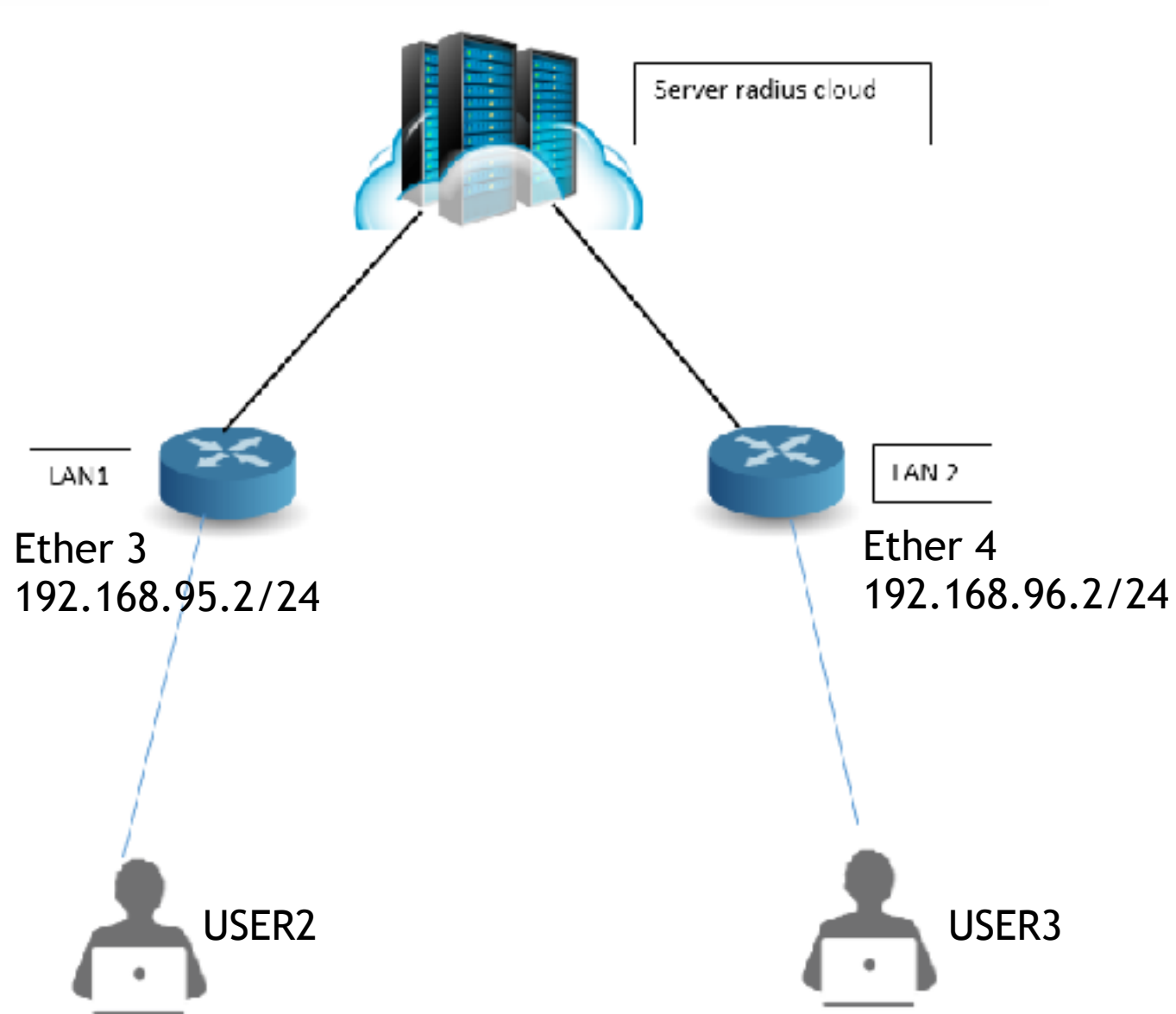
Metode yang bertugas untuk menelusuri tindakan user, resource yang diakses dan lamanya mengakses suatu resource.



# Concepts

- Setting ip address
- Setting internet connection
- Setting radius & hotspot server
- Setting hotspot server profile
- Setting user manager

# Topologi





# PENJELASAN KONSEP

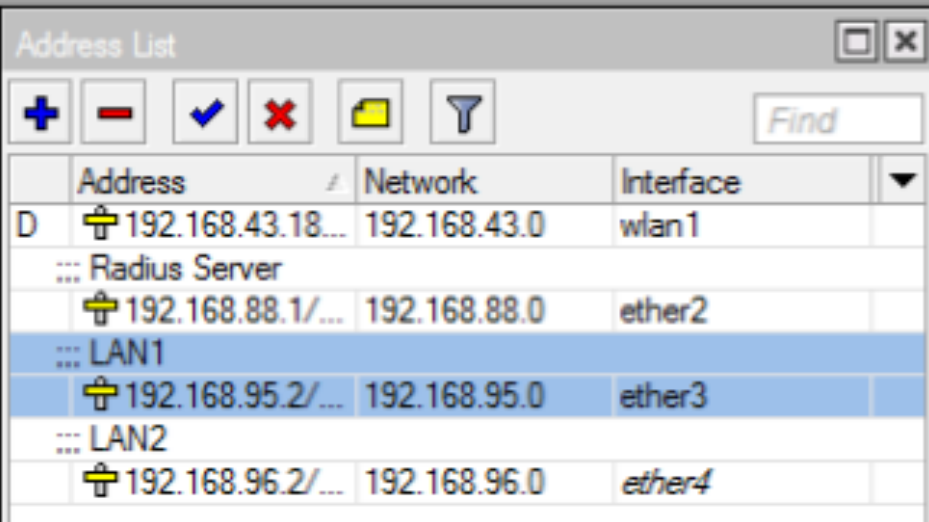
- Saya memiliki RB-951 yang akan bertindak sebagai Radius & Hotspot Server.
- Beberapa interfacenya ( Ether 3 dan 4 ) digunakan sebagai Gateway dari 2 Network yang berbeda ( LAN 1 dan LAN 2 ).
- Dalam pembuatan user & password beserta status router, saya menggunakan user manager dan untuk tiap networknya sudah ditentukan masing – masing usernya.
- User yang akan melakukan autentikasi akan di proses oleh User Manager terkait dengan hak akses yang diberikan, jika match maka user tersebut akan mendapatkan alokasi IP untuk akses Internet.

# Configuration

- Siapkan user dengan spesifikasi sebagai berikut

Nama User	Server Radius	Nama Profile	Nama Router
USER2	Local-IP	LAN1	Local-IP
USER3	Local-IP2	LAN2	Local-IP2

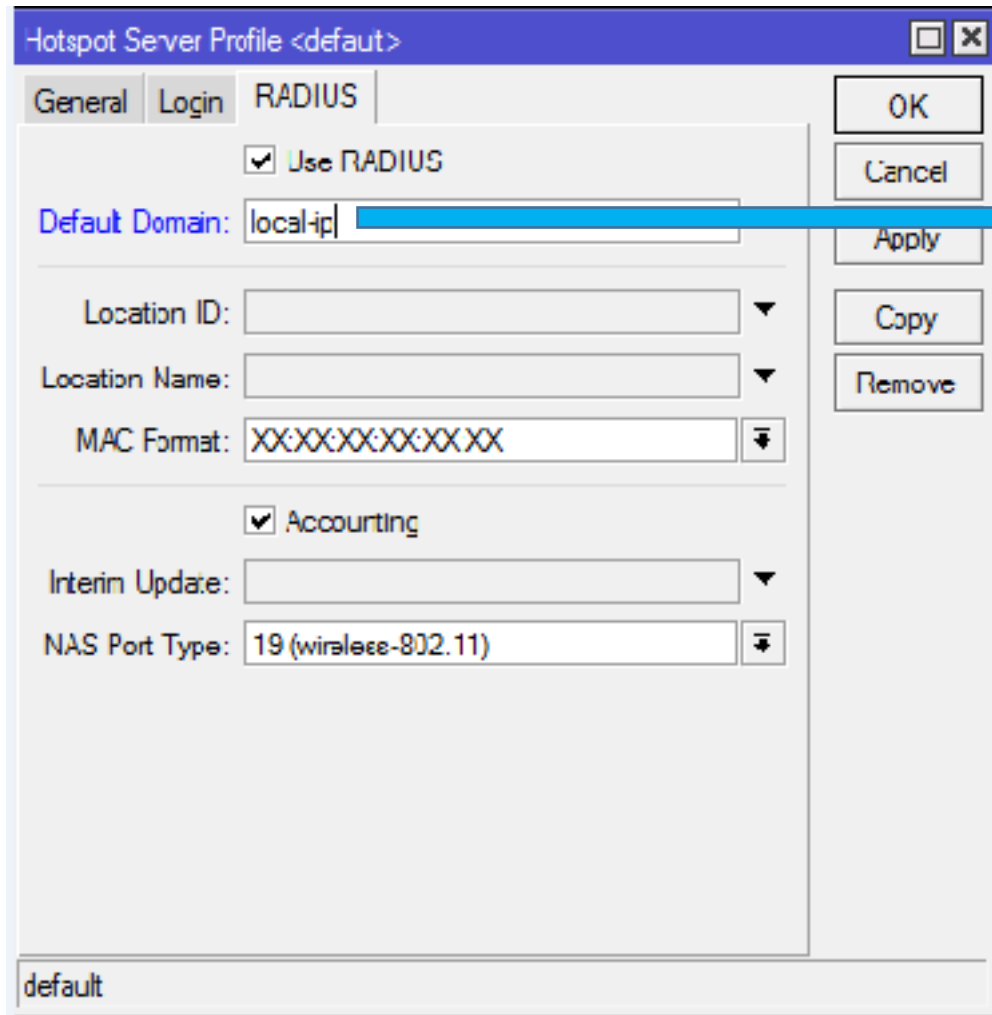
- Dan alokasikan ip address sebagai berikut



The screenshot shows a window titled "Address List" with a toolbar containing icons for adding (+), removing (-), checking (✓), unchecking (✗), saving (floppy), and filtering (funnel), along with a "Find" search box. The table below lists the configured IP addresses and their associated interfaces.

	Address	Network	Interface
D	192.168.43.18...	192.168.43.0	wlan1
::: Radius Server			
	192.168.88.1/...	192.168.88.0	ether2
::: LAN1			
	192.168.95.2/...	192.168.95.0	ether3
::: LAN2			
	192.168.96.2/...	192.168.96.0	ether4

# Masuk ke menu IP Hotspot > Server Profile



The screenshot shows a window titled "Hotspot Server Profile <default>". It has three tabs: "General", "Login", and "RADIUS". The "RADIUS" tab is active. The window contains several configuration fields and checkboxes. A blue arrow points from the "Default Domain" field to the text "Isikan nama Domain dari LAN1".

Field/Option	Value
Use RADIUS	<input checked="" type="checkbox"/>
Default Domain	local-ip
Location ID	
Location Name	
MAC Format	XX:XX:XX:XX:XX:XX
Accounting	<input checked="" type="checkbox"/>
Interim Update	
NAS Port Type	19 (wireless-802.11)

Isikan nama Domain dari LAN1

# Konfigurasi HOTSPOT SERVER UNTUK LAN1.

New Hotspot Server

Name:

Interface:  ▾

Address Pool:  ▾

Profile:  ▾

Idle Timeout:  ▾

Keepalive Timeout:  ▾

Login Timeout:  ▾

Addresses Per MAC:  ▾

IP of DNS Name:

Proxy Status:

Apply

Disable

Copy

Remove

Reset HTML

enabled | HTTPS

Isikan dengan Server1 sebagai identitas Gateway LAN1

Merupakan interface yang digunakan sebagai Gateway LAN1

Menu yang digunakan sebagai tempat atau lokasi dari Hotspot Server

# Konfigurasi HOTSPOT SERVER UNTUK LAN2.

New Hotspot Server

Name: server2

Interface: ether4

Address Pool: none

Profile: server2

Idle Timeout: [dropdown]

Keepalive Timeout: [dropdown]

Login Timeout: [dropdown]

Addresses Per MAC: [dropdown]

IP of DNS Name: 0.0.0.0

Proxy Status: enabled

Buttons: OK, Cancel, Apply, Disable, Copy, Remove, Reset HTML

Nama Server untuk LAN2

Interface yang digunakan sebagai Gateway LAN2

Profile yang dipakai untuk LAN2

# Konfigurasi local-IP sebagai Radius server UNTUK LAN1.

The image shows two windows from Mikrotik WinBox. The left window, titled 'Address List', displays a table of IP addresses and their associated networks and interfaces. The right window, titled 'New Radius Server', shows the configuration for a new Radius server.

Address	Network	Interface
192.168.43.18	192.168.43.0	wlan1
:: Radius Server		
192.168.88.1/	192.168.88.0	ether2
:: LAN1		
192.168.95.2/	192.168.95.0	ether3
:: LAN2		
192.168.96.2/	192.168.96.0	ether4

The 'New Radius Server' window has the following configuration:

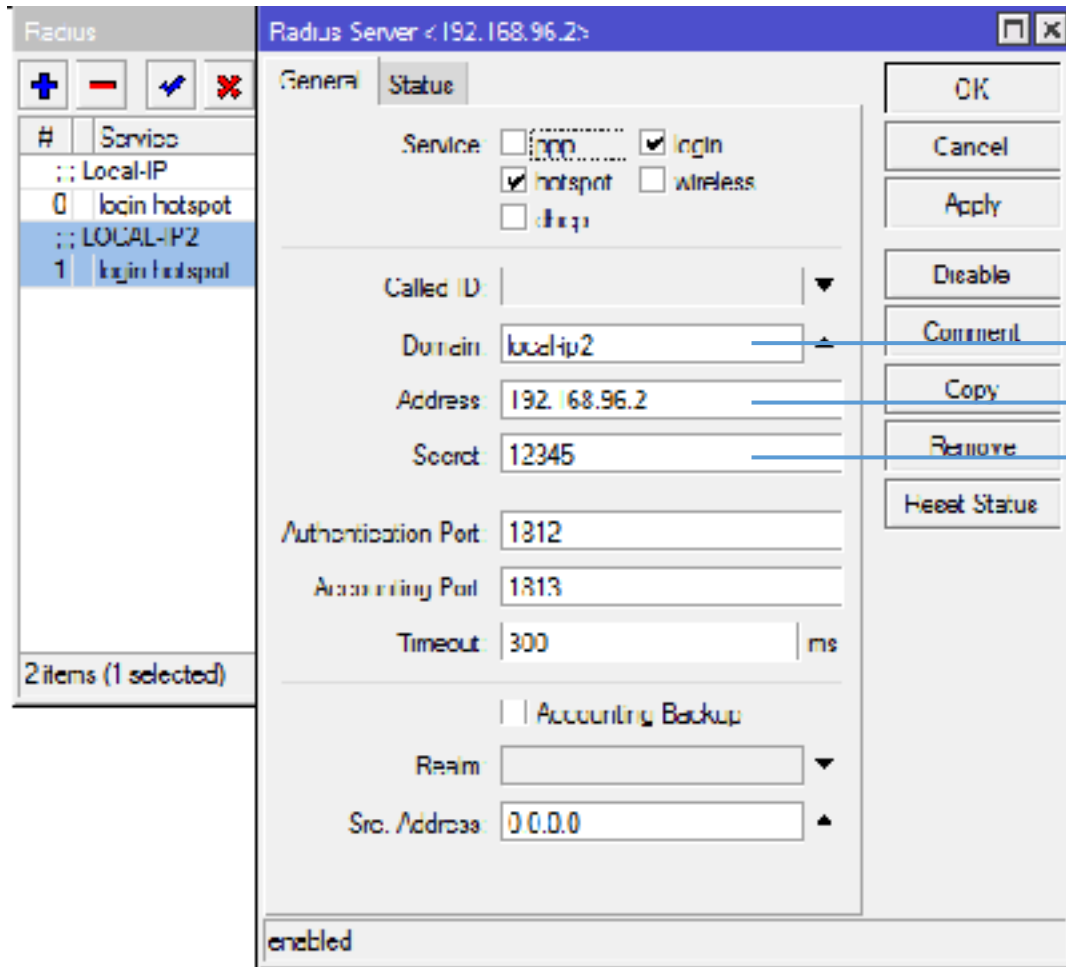
- Service:  ppp,  login,  hotspot,  wireless,  dhcp
- Called ID: [Empty]
- Domain: local-ip
- Address: 192.168.95.2
- Secret: 12345
- Authentication Port: 1812
- Accounting Port: 1813
- Timeout: 300 ms
- Accounting Backup
- Realm: [Empty]
- Src. Address: [Empty]

Berisikan nama Domain Server Radius untuk LAN1

IP Address dari interface ETHER3

Password untuk Radius Server LAN1

# Konfigurasi local-IP2 sebagai Radius server UNTUK LAN2.



- Isikan dengan nama Domain untuk Gateway LAN2
- IP Address ETHER4 untuk Gateway LAN2
- Password untuk Radius Server LAN2

# ACCESS IP ETHER3 LEWAT USER MANAGER UNTUK MEMBUAT PROFILE server radius LAN1.

Router details

▲ Main

Name: local-ip

Owner: admin

IP address: 192.160.95.2

Shared secret: 12345

Time zone: Parent time zone

Disabled:

Log events:

- Authorization success
- Authorization failure
- Accounting success
- Accounting failure

▲ Radius incoming

CoA support:

CoA port: 3799

▼ Request statistics

Add

Pada user manager masuk ke menu > router, untuk menambahkan informasi mengenai router dengan radius servernya.

Isikan nama Domain untuk LAN1

Isikan IP Address ETHER3

Password harus sesuai dengan Radius Server

Incoming port dari Radius Server LAN1

Jika sudah, pilih add kemudian centang konfigurasi router detail untuk LAN1, dan enable konfigurasinya pada menu edit



# ACCESS IP ETHER4 LEWAT USER MANAGER UNTUK MEMBUAT PROFILE server radius LAN2

The screenshot shows the MikroTik User Manager web interface. On the left is a navigation menu with options like Routers, Users, Sessions, Customers, Logs, Payments, Profiles, Settings, Reports, 2 A sessions, 2 A users, Advanced search, Maintenance, and Logout. The main area has 'Add' and 'Edit' buttons at the top. Below them is a table with two entries: 'LocalRadius' and 'Local-IP'. A 'Router details' dialog box is open, showing the configuration for the selected 'Local-IP' profile. The configuration includes fields for Name, Owner, IP address, Shared secret, Time zone, and checkboxes for Disabled, Log events, and CoA support. The 'Add' button is at the bottom right of the dialog.

Name
LocalRadius
Local-IP

**Router details**

▲ Main

Name: Local-IP  
Owner: admin  
IP address: 192.168.96.2  
Shared secret: 12345  
Time zone: Parent time zone  
Disabled:   
Log events:  Authorization success  
 Authorization failure  
 Accounting success  
 Accounting failure

▲ Radius incoming

CoA support:   
CoA port: 3799

Add

Name : Isikan nama LAN2 (Local-IP2)  
IP Address : IP Ether 4  
Shared Secret : 12345

Profiles | Limitations

Profile: LAN2 +

Name: Irfan

Name for users: LAN1  
LAN2

Owner: admin

Validity:

Starts: At first login

Price: 0.000

Shared users: not used

Save profile Remove profile

Unlimited profile

Add new limitation

Menu yang digunakan untuk Create Profile

MikroTik  
Mikrotik User Manager

Routers  
Users  
Sessions  
Customers  
Logs  
Payments  
Reports  
Settings  
2 A sessions  
2 A users  
Advanced search  
Maintenance  
Logout

Add Edit Generate

Username Till t

User details

Main

Username: USER2

Password: 123

Disabled:

Owner: admin

Actual profile

Constraints

Wireless

Private Information

Statistics

Bill

All profiles

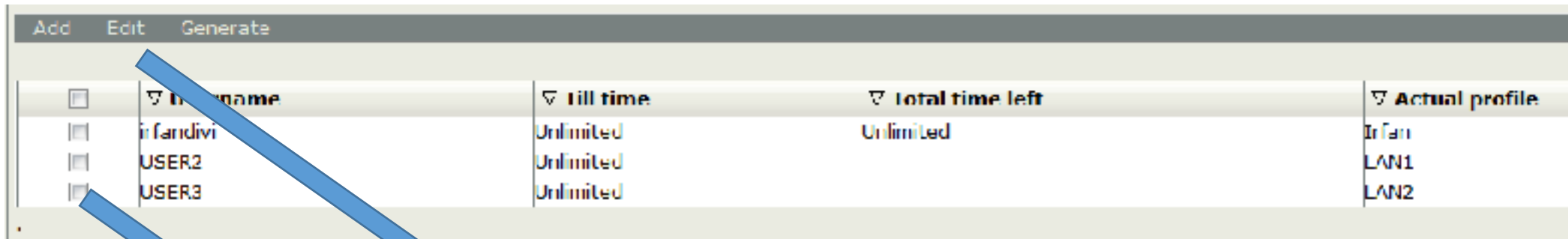
+ Irfan

Show actions Save

Menu yang digunakan untuk membuat User Radius

Kemudian jika sudah, untuk mengaktifkan usernya dengan cara melakukan centang pada user yang dituju.

Kemudian pilih edit dan enable user yang dituju, maka secara otomatis usermanager akan melakukan pengoperasian.



<input type="checkbox"/>	<input type="checkbox"/> Username	<input type="checkbox"/> Till time	<input type="checkbox"/> Total time left	<input type="checkbox"/> Actual profile
<input type="checkbox"/>	irfan	Unlimited	Unlimited	Ir fan
<input type="checkbox"/>	USER2	Unlimited		LAN1
<input type="checkbox"/>	USER3	Unlimited		LAN2

Menu untuk disable, enable, remove user

Menu untuk memilih user mana yang akan di eksekusi

# Result

## Akses login HOTSPOT untuk client lan 1



The image shows a browser window displaying the login page for the Abyfine Hotspot. The browser's address bar shows the URL "192.168.95.2/login". The page has a dark blue header with the text "Selamat Datang - Abyfine Hotspot" and "Wireless Internet Provider Abyfine Bersama Facebook". Below the header, there are input fields for "Username" and "Password", and a "Login Hotspot" button. The main content area features a map of Indonesia with several orange person icons connected by dashed lines, representing a network. Text on the page includes "Tetaplah Terhubung di Abyfine Hotspot", "Kini Abyfine Bisa diakses lebih luas dimana saja", and "Abyfine Hotspot membantu Anda terhubung Ke Internet lebih mudah." To the right of the map is a registration form titled "Mendaftar" with the subtext "Gratis, sampai kapan pun." The form includes fields for "Nama Depan", "Nama Belakang", "Email Anda", "Masukkan Alamat Email Anda Sendiri", "Nama", "Banyak" (with a dropdown menu), and "Tanggal Lahir" (with dropdown menus for "Tanggal", "Bulan", and "Tahun"). Below the form, there is a note: "Mungkin saja harus memberikan tanggal lahir saya?" and a paragraph: "Dengan mendaftar Daftar, Anda menyanggah ketentuan dan Anda telah membaca dan menyetujui Kebijakan Penggunaan Layanan, termasuk Penggunaan Cookie." At the bottom, there is a green "Mendaftar Sekarang" button and a small note: "Masih ada pertanyaan? Kami siap membantu." The browser window also shows standard navigation icons and a search bar.

Selamat Datang - Abyfine Hotspot

Wireless Internet Provider Abyfine Bersama Facebook

Tetaplah Terhubung di Abyfine Hotspot  
Kini Abyfine Bisa diakses lebih luas dimana saja

**Abyfine Hotspot membantu Anda terhubung Ke Internet lebih mudah.**

**Mendaftar**  
Gratis, sampai kapan pun.

Nama Depan:

Nama Belakang:

Email Anda:

Masukkan Alamat Email Anda Sendiri:

Nama:

Banyak:

Banyak:

Tanggal Lahir:

Mungkin saja harus memberikan tanggal lahir saya?

Dengan mendaftar Daftar, Anda menyanggah ketentuan dan Anda telah membaca dan menyetujui Kebijakan Penggunaan Layanan, termasuk Penggunaan Cookie.

**Mendaftar Sekarang**

Masih ada pertanyaan? Kami siap membantu.

# Result

## Sesi pengetesan koneksi internet

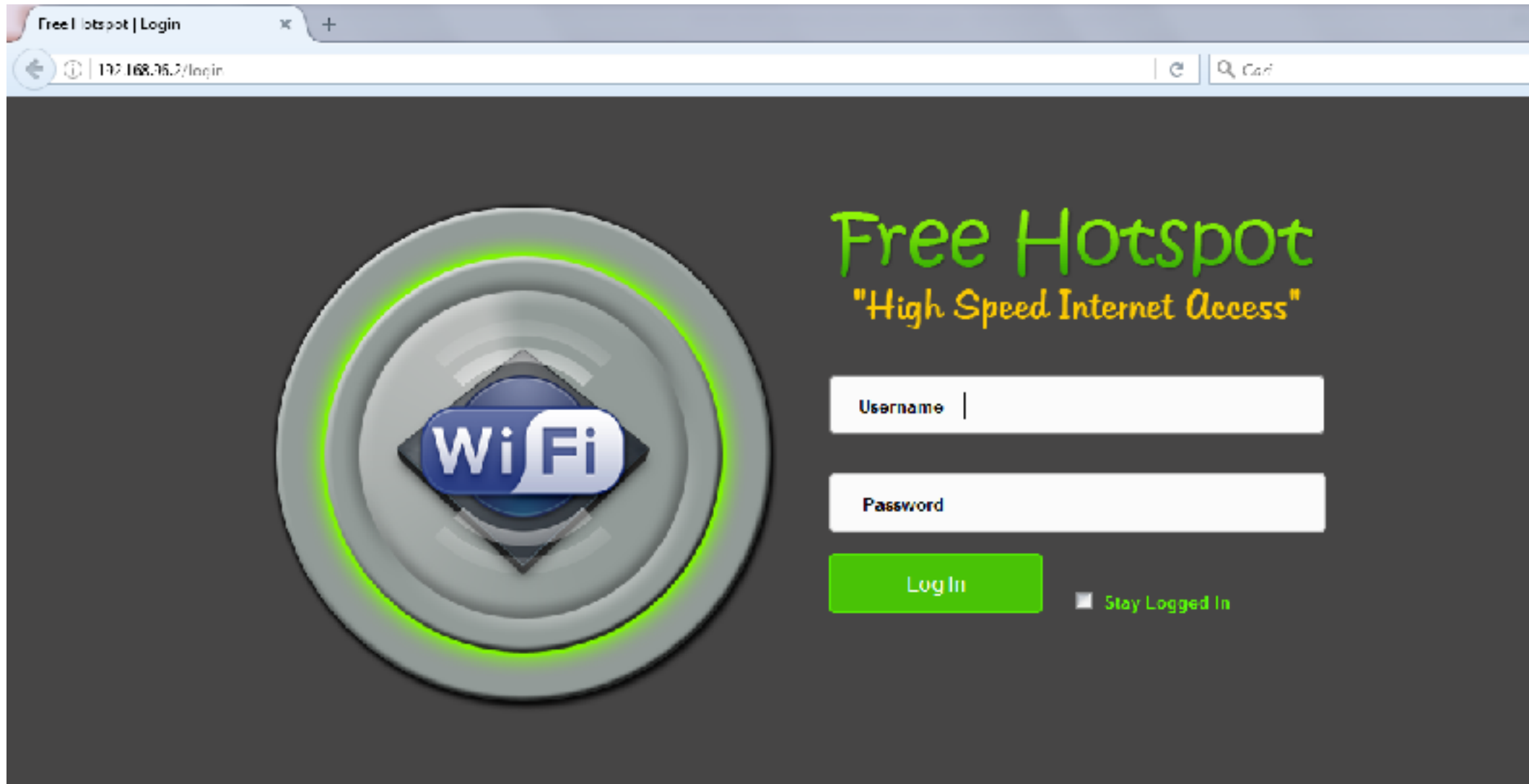


The screenshot shows the MikroTik website with the following content:

- Navigation:** Home, software, hardware, support, downloads, purchase, training, account.
- MikroTik Training:** A section for users to search for training events by region.
  - North America:**
    - June 26-28, 2014, 10-16 support, basic RADIUS configuration (MTCNA, MTCRE, MTCSE, MTCWA), English
    - June 29-30, 2014, UK, Austria, Douglas West (MTCNA), English
    - June 23-24, 2014, USA, Scottie, Douglas West (MTCNA), English
    - June 23-25, 2014, Canada, Saskatoon, Hani Fahmouh - Wireless Network (MTCNA, MTCWA, Introduction, The Dude), English
    - June 28-30, 2014, Denver, Douglas West (MTCNA), English
  - Latin America:**
    - June 11-13, 2014, Venezuela, Compañero, ING, Rubén López, Adrián J. J. (MTCNA), Spanish
    - June 13-15, 2014, Chile, Puerto Varas - DataQuest, Ing. Jorge Flores Oyarzun.com.ar (MTCNA), Spanish
    - June 13-15, 2014, Brazil, Caspovo/TV, Alvo & Voz & Casca (MTCNA), Portuguese
    - June 13-17, 2014, Ecuador, Quinceañil, Academy Xperis (MTCNA), Spanish
    - June 14-17, 2014, Ecuador, Quinceañil, Academy Xperis (MTCNA), Spanish
  - Africa:**
    - June 14-17, 2014, Algeria, Berlin, MISTech Ltd (MTCNA, MTCWA, MTCSE, MTCWA), Arabic
    - June 14-15, 2014, Cameroon, Yaounde, INFOGISE (MTCNA), French
    - June 17-19, 2014, Ivory Coast, ABIDJAN, Orange Technologies (MTCNA, Introduction, The Dude), French
    - June 17-17, 2014, Ghana, Accra, Solvent Computer Limited (Introduction, MTCNA, MTCWA), English
    - June 18-21, 2014, Cameroon, Yaounde, INFOGISE (MTCNA), French
- MikroTik Router 7720 (MTCNA MTCRE):** A product page for the MikroTik Router 7720, featuring a large image of the device and a list of features:
  - WiFi 802.11n
  - 100Mbps
  - Quad-core ARM Cortex A9
  - Wireless product selection guide
  - MUM available
- MikroTik User Meeting (MUM):** A section titled "Ascending the MikroTik User Meeting (MUM) schedule in 2014" listing several events:
  - Latvia in Riga, June 14, Language: English**
  - Pakistan in Karachi, June 17, Language: English**
  - India in Delhi, September 2, Language: English**
  - Thailand in Bangkok, September 7, Language: Thai**
  - Turkey in Istanbul, October 13-14, Language: Turkish**
  - Middle East in Dubai, October 17, Language: English**

# Result

Akses login HOTSPOT untuk client lan 2





Ada pertanyaan

# Result

Lihat di router server dan cek kedua user sedang aktif

Hotspot										
Servers	Server Profiles	Users	User Profiles	Active	Hosts	IP Bindings	Service Ports	Walled Garden	Walled Garden IP List	Cookies
User	Domain	MAC Address	Expires In							
USER2		68:F7:28:7B:4D:6D	2d 23:52:50							
USER3		68:F7:28:7B:4D:6D	2d 23:59:28							

Hotspot										
Servers	Server Profiles	Users	User Profiles	Active	Hosts	IP Bindings	Service Ports	Walled Garden	Walled Garden IP List	Cookies
Server	User	Domain	Address	Uptime	Idle Time	Session Time ...	Rx Rate	Tx Rate		
R  server1	USER2		192.168.95.3	00:00:31	00:00:00		1857 bps	2.1 kbps		
R  server2	USER3		192.168.96.3	00:02:51	00:00:00		34.3 kb...	916.3 k...		