



Plug and play solution for managing lan users  
with MikroTik RouterOS

Presented By Mohammad Javad Sabri

MikroTik MUM Yerevan October 10, 2017

# About me



- Mohammad Javad Sabri
- MikroTik Certified Trainer
- MikroTik Academy Trainer
- MikroTik Certified Consultant
- Master of Science Computer engineering
- MTCNA, MTCWE, MTCTCE, MTCUME, MTCRE, MTCIPv6E
- **I Love MikroTik**

# MikroTik Class



MikroTik MUM Yerevan October 10, 2017

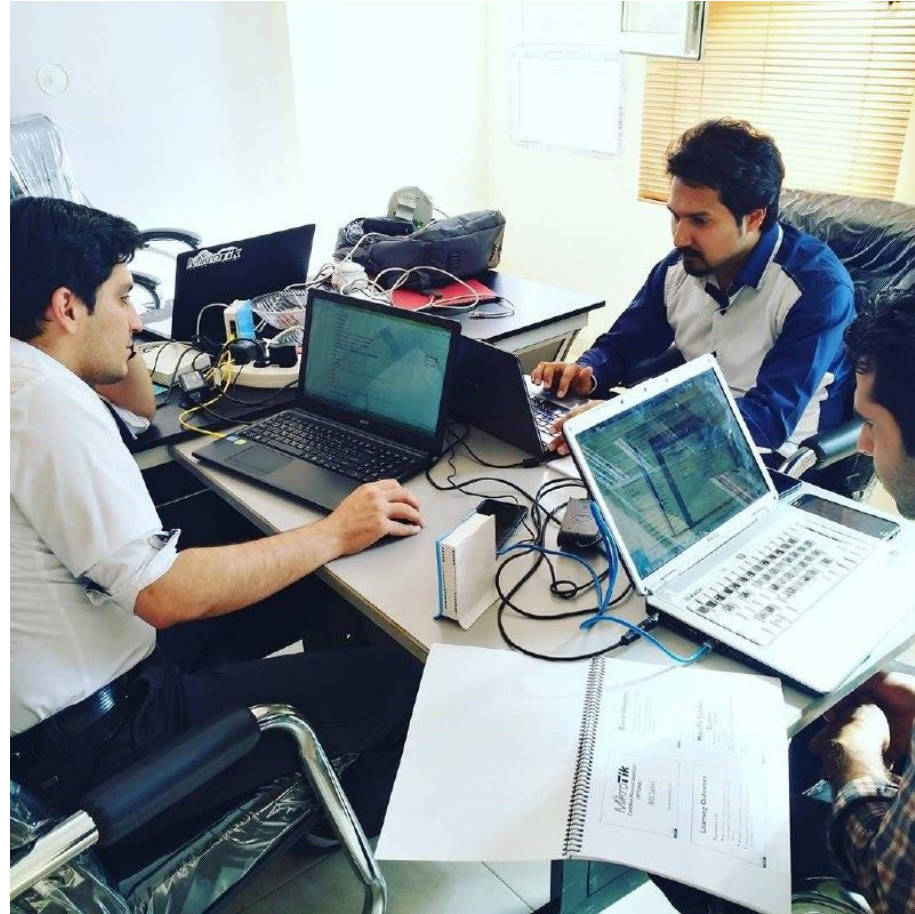
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# MikroTik Class





# MikroTik Class



# MikroTik Class



# Contact me

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- Applications
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- What is Goal ?
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- Getting start to Configuring Hotspot
- Configuring in User Manager



# Applications

For every place that you need plug and play authentication on wired network

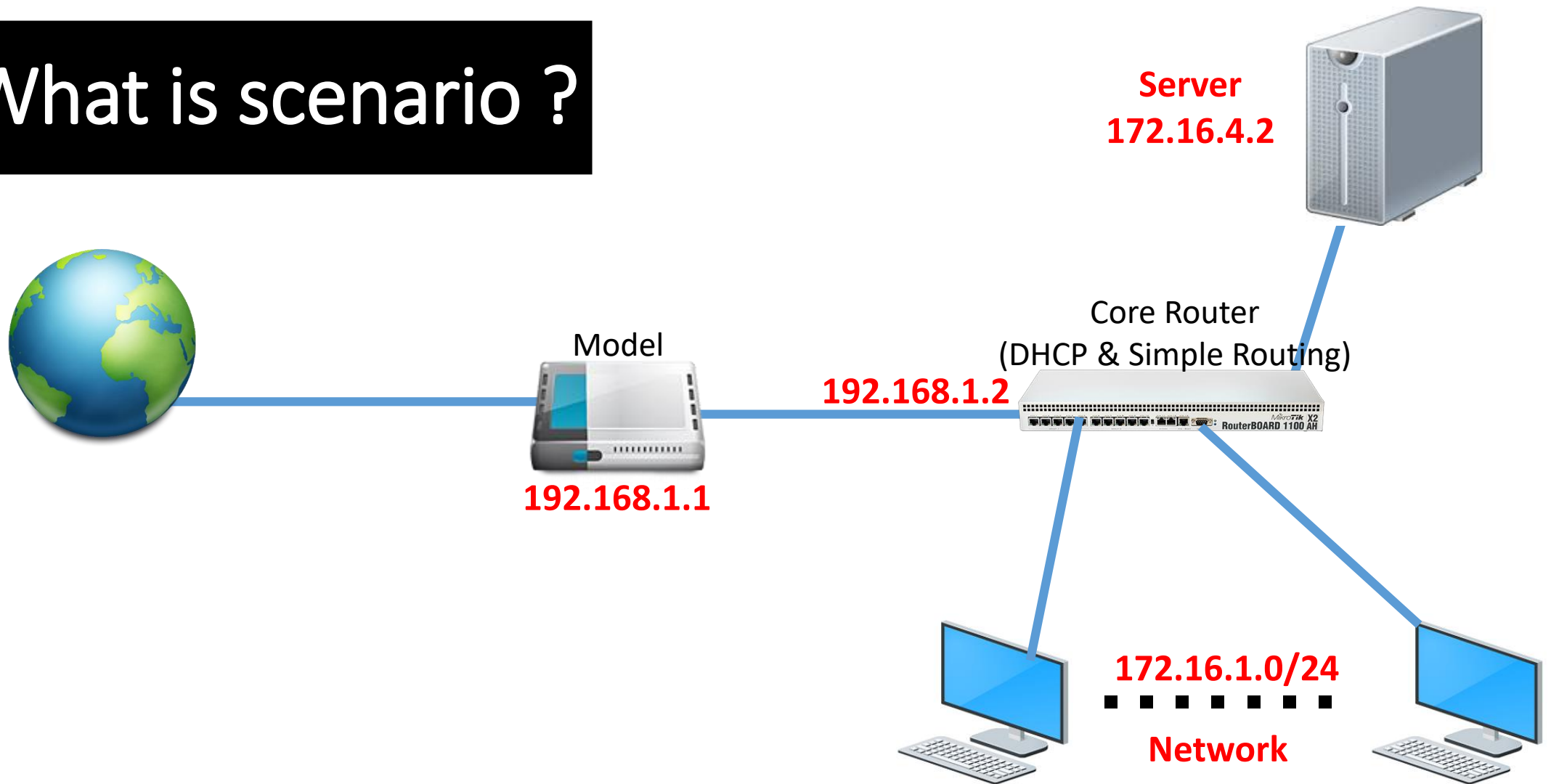


**large Office**



**University**

# What is scenario ?



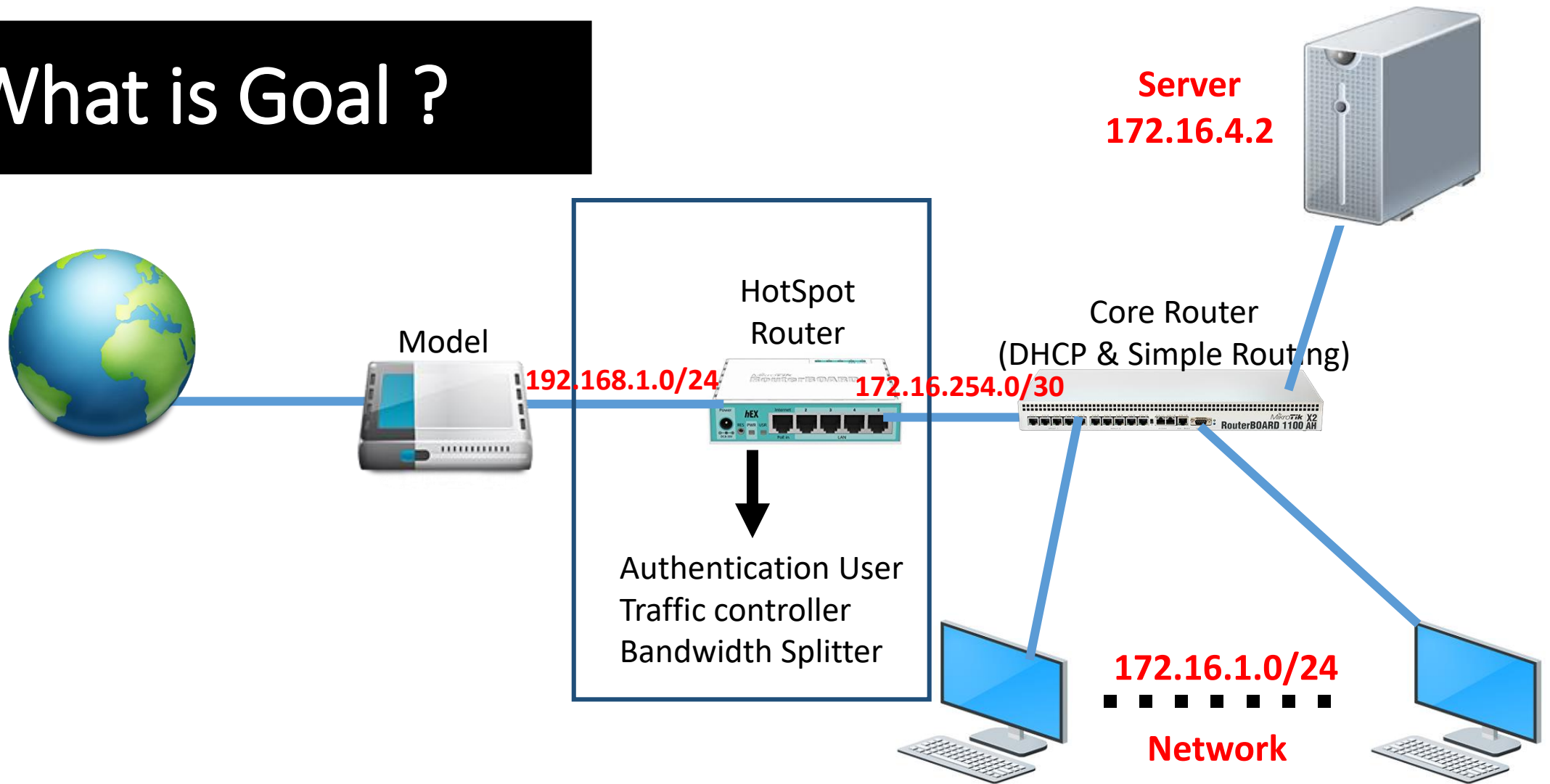


me

My Clients



# What is Goal ?





me

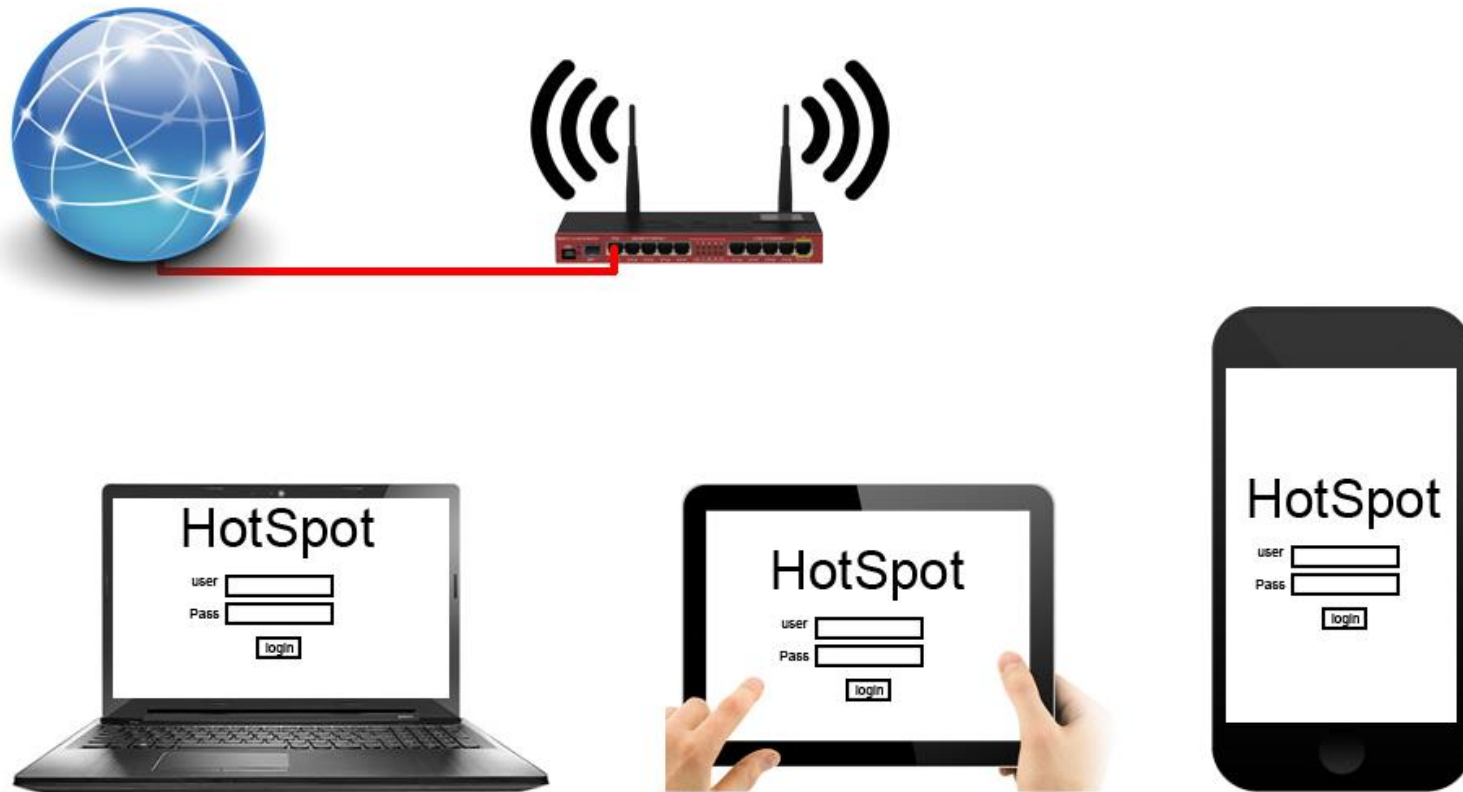
My Clients



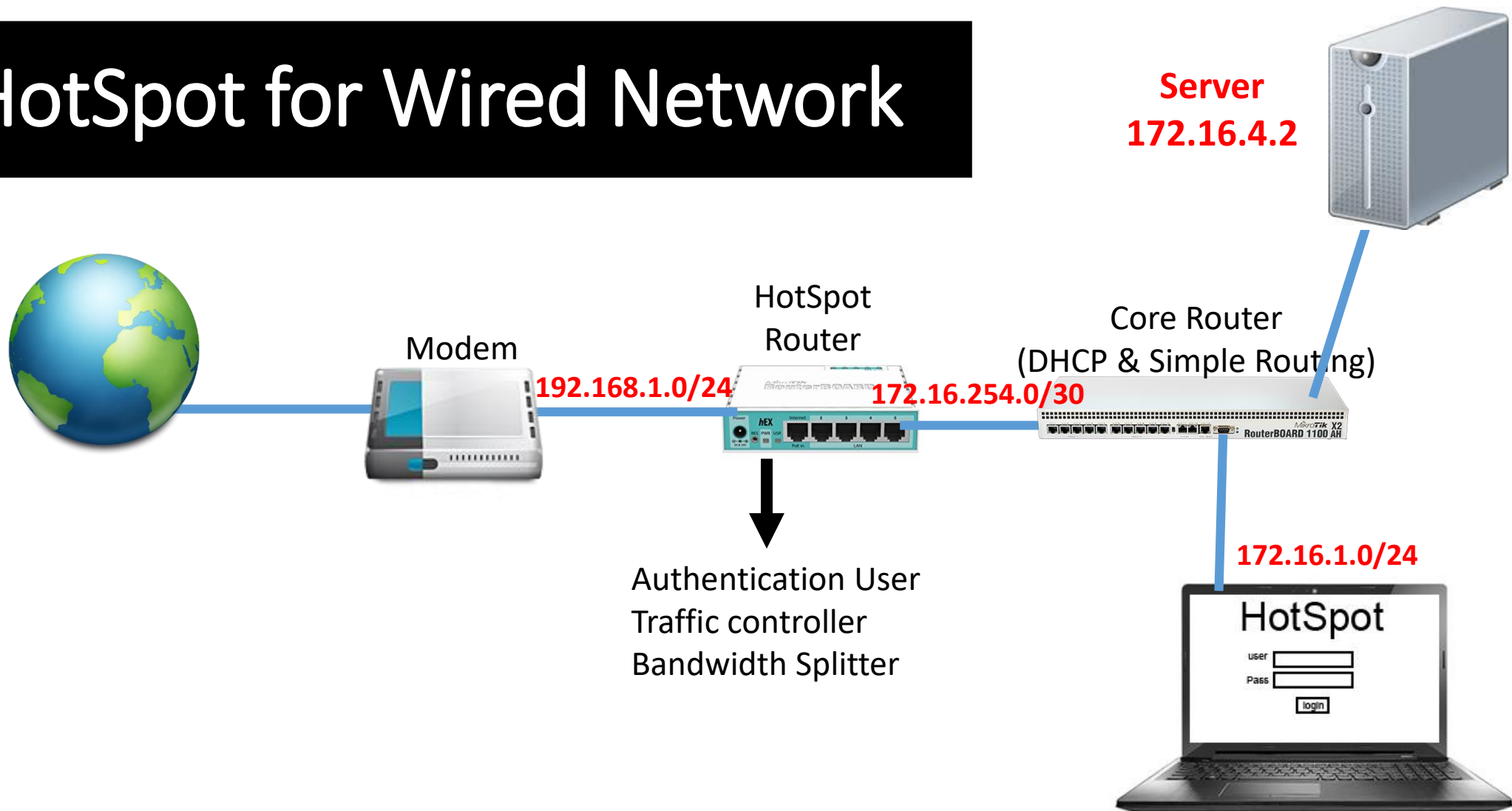
QuotesPics.net



# What is HotSpot ?

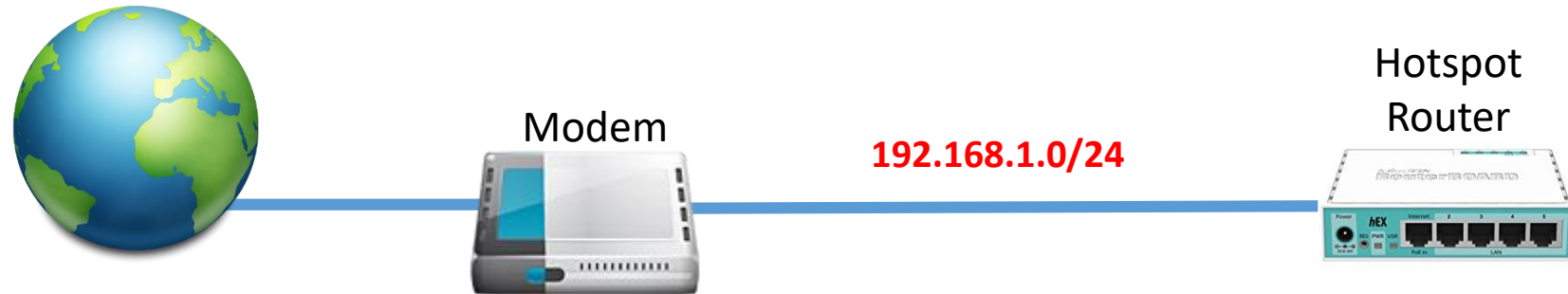


# HotSpot for Wired Network

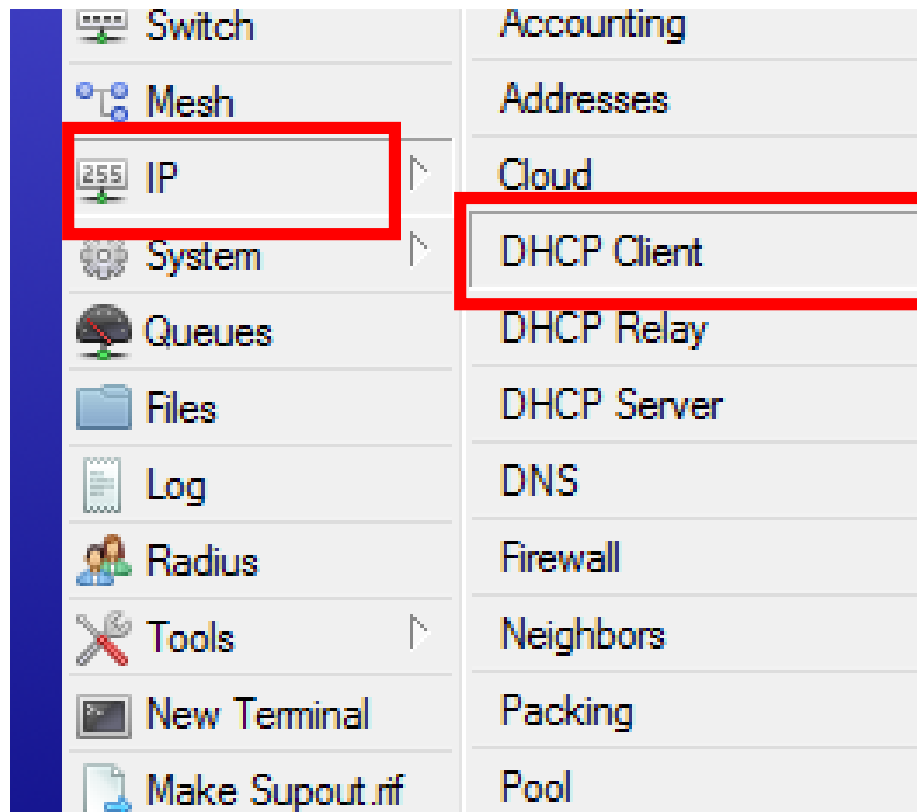


# Adding Hotspot Router to Wired Network

# HotSpot Router To Modem

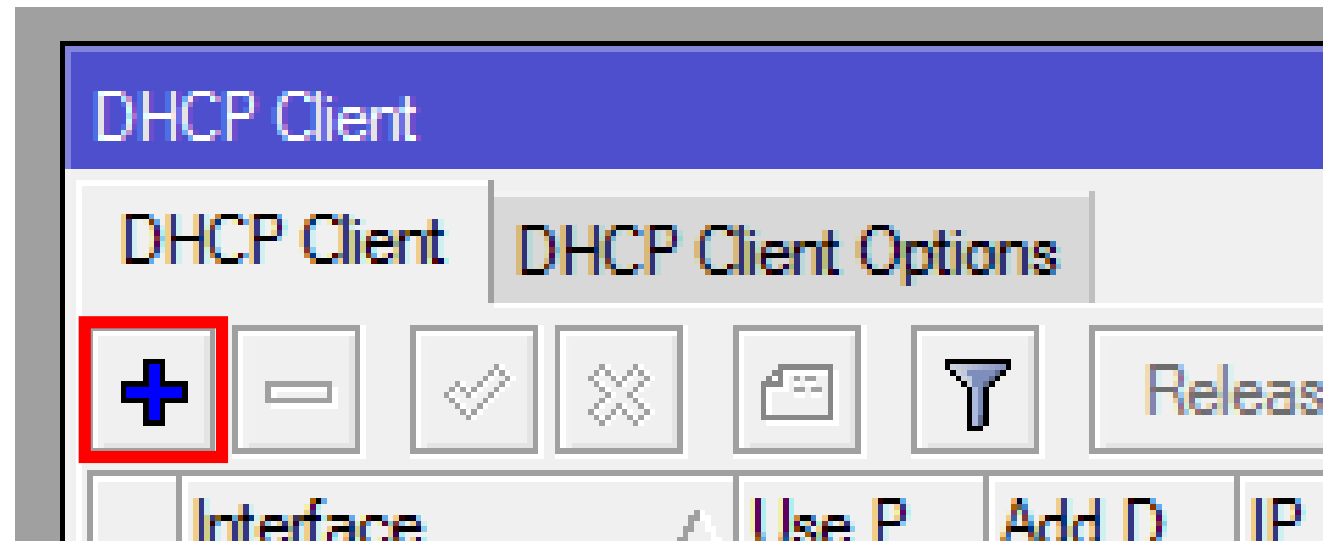


# DHCP client

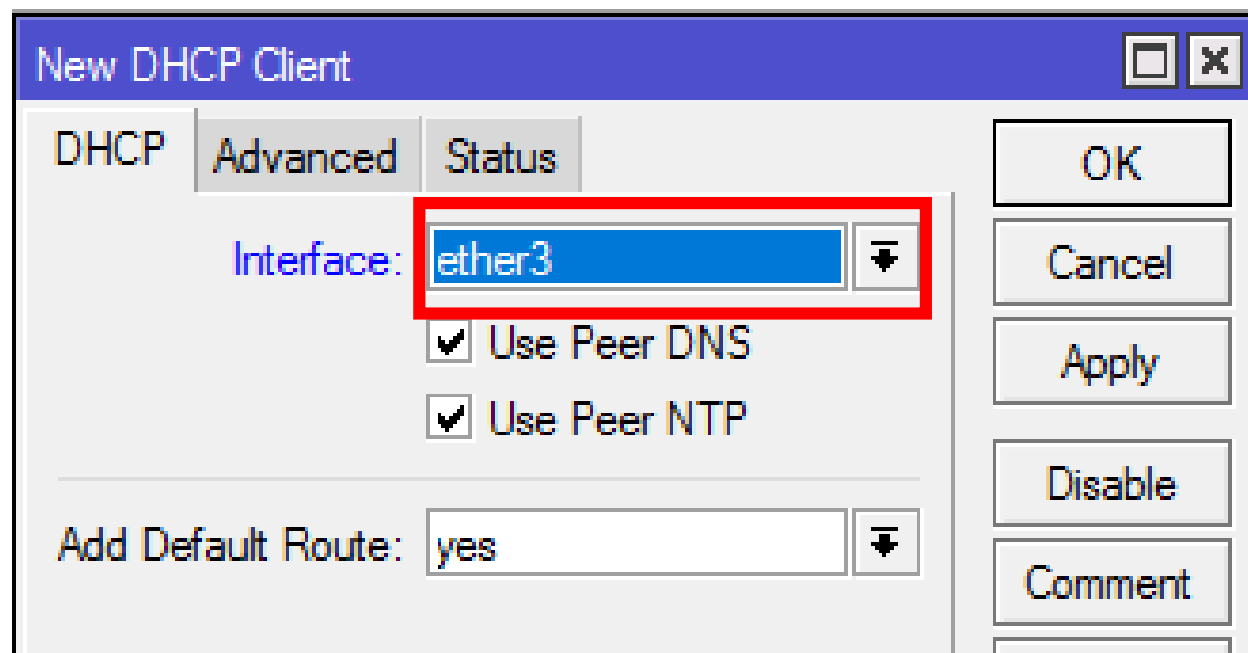




# DHCP client



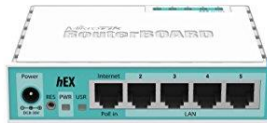
# DHCP client



**Select interface that is connected to modem**

# HotSpot Router To Core Router

HotSpot Router



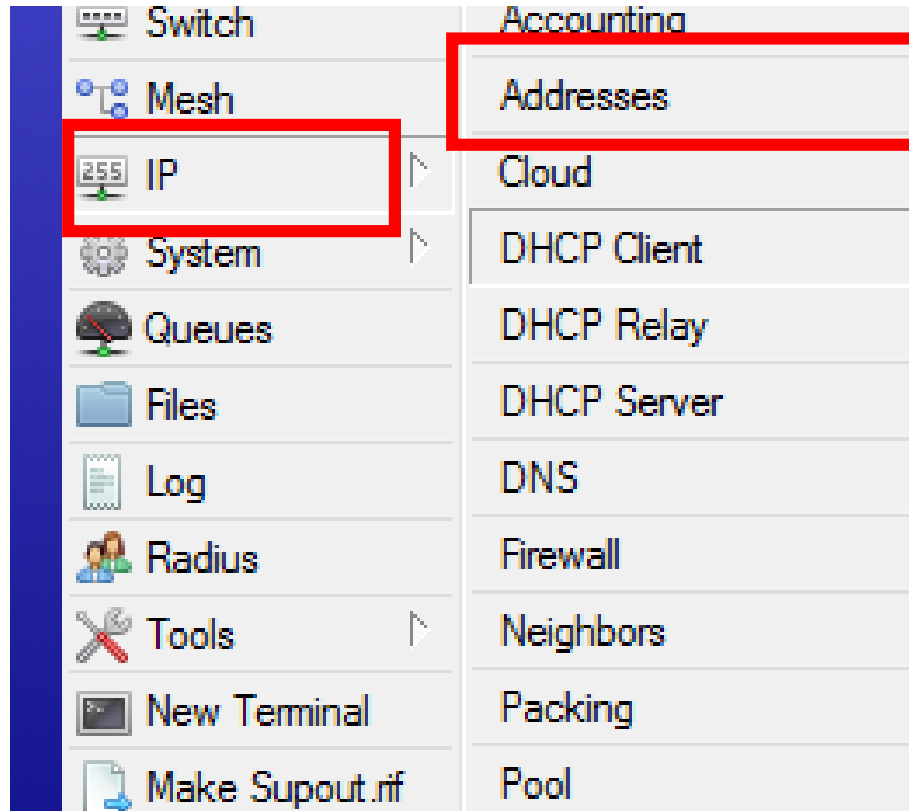
172.16.254.0/30

Core Router  
(DHCP & Simple Routing)



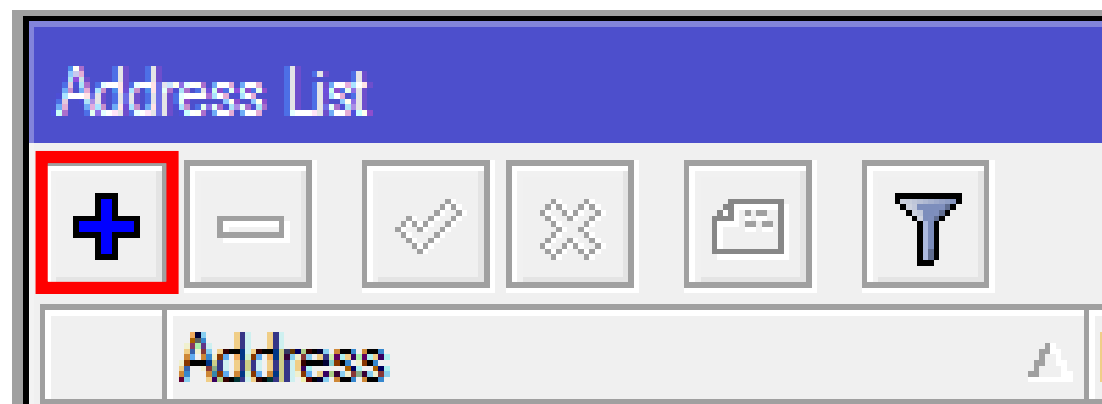
# Set IP Address

## Set IP on HotSpot Router



# Set IP Address

## Set IP on HotSpot Router





# Set IP Address

## Set IP on HotSpot Router

The screenshot shows a 'New Address' dialog box with the following fields and values:

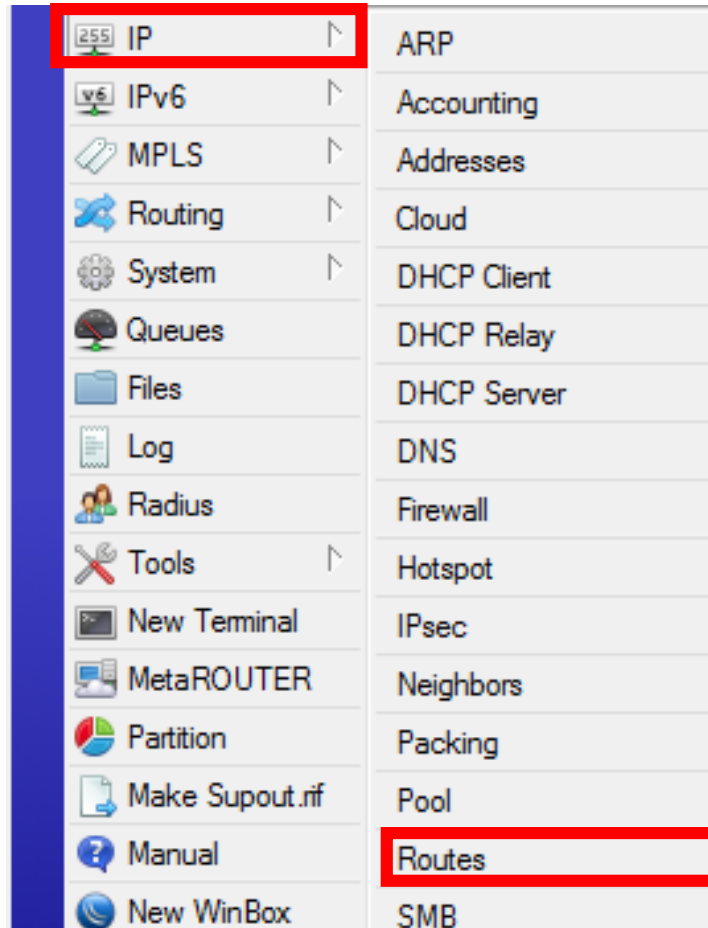
- Address:** 172.16.254.1/30 (highlighted with a red box)
- Network:** (empty dropdown)
- Interface:** Ether 2 (highlighted with a red box)

Buttons on the right side of the dialog include OK, Cancel, Apply, and Disable.

Select interface that is connected to Core Router in Network

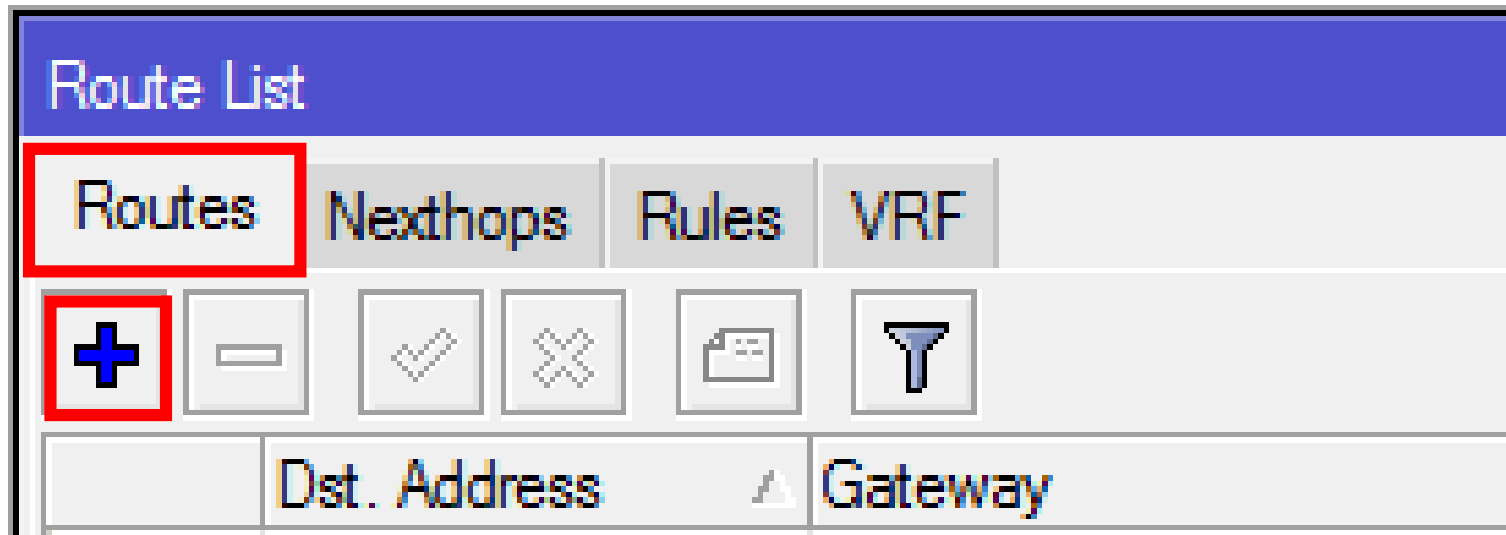
# Set Static Route

## Set static Route on HotSpot Router



# Set Static Route

Set static Route on HotSpot Router



# Set Static Route

Set static Route on HotSpot Router

New Route

General Attributes

Dst. Address: 172.16.1.0/24

Gateway: 172.16.254.2

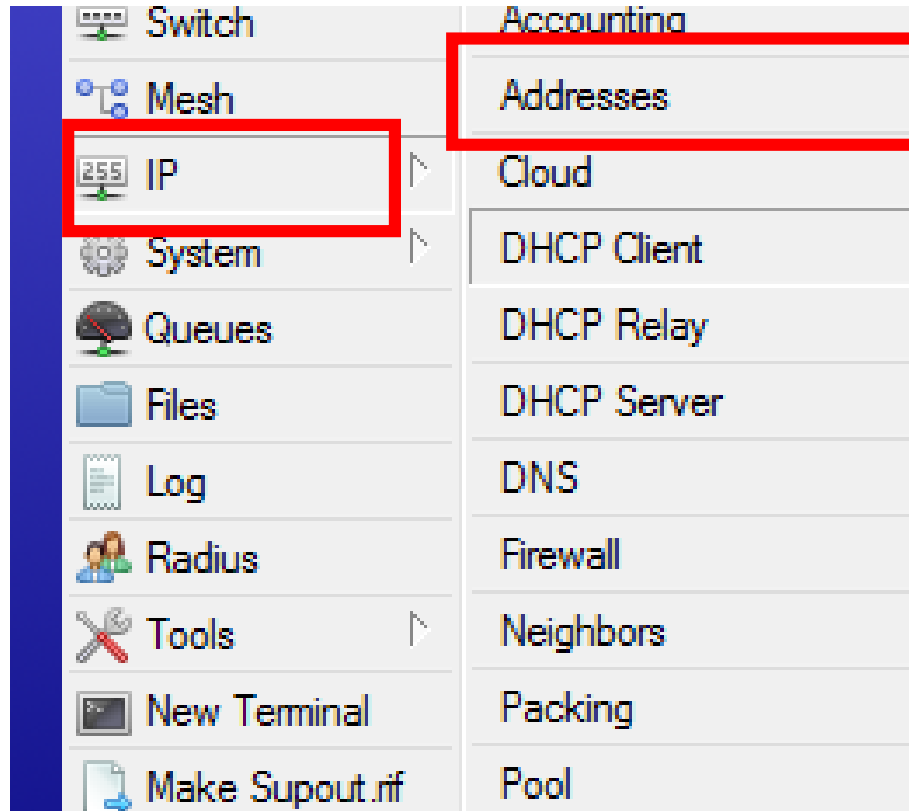
OK

Cancel

Apply

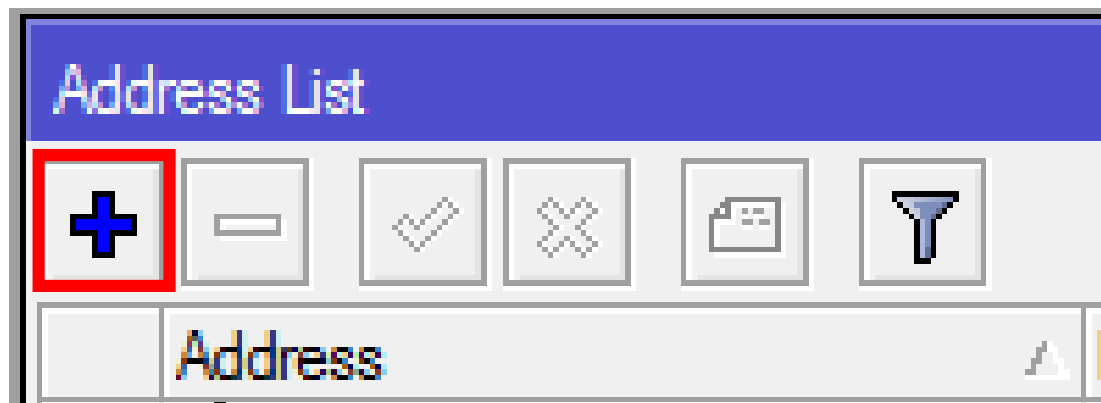
# Set IP Address

## Set IP on Core Router



# Set IP Address

## Set IP on Core Router



# Set IP Address

## Set IP on Core Router

Address <172.16.254.2/30>

Address: 172.16.254.2/30

Network: 172.16.254.0

Interface: Ether 1

OK

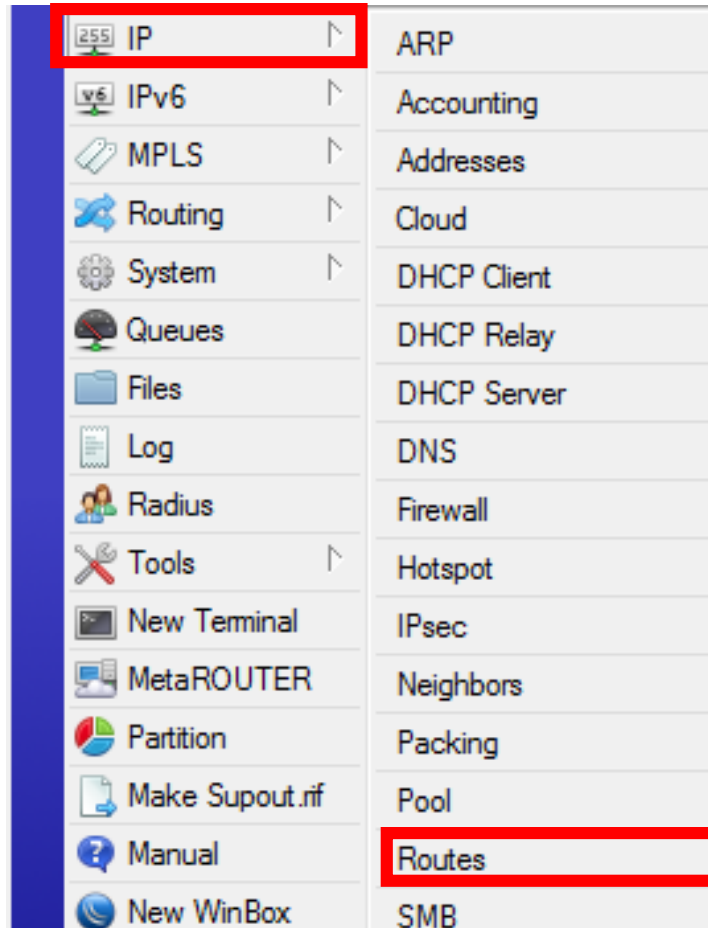
Cancel

Apply

Select interface that is connected to HotSpot Router

# Set Default Route

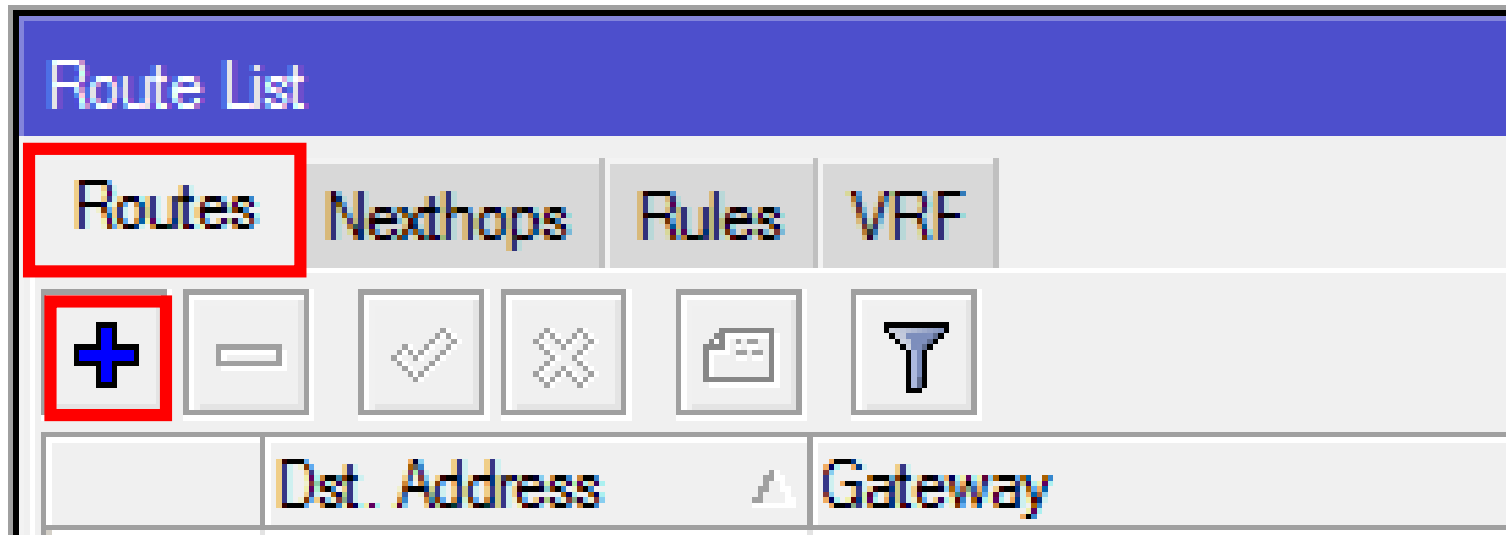
## Set default route on Core Router





# Set Default Route

Set default route on Core Router



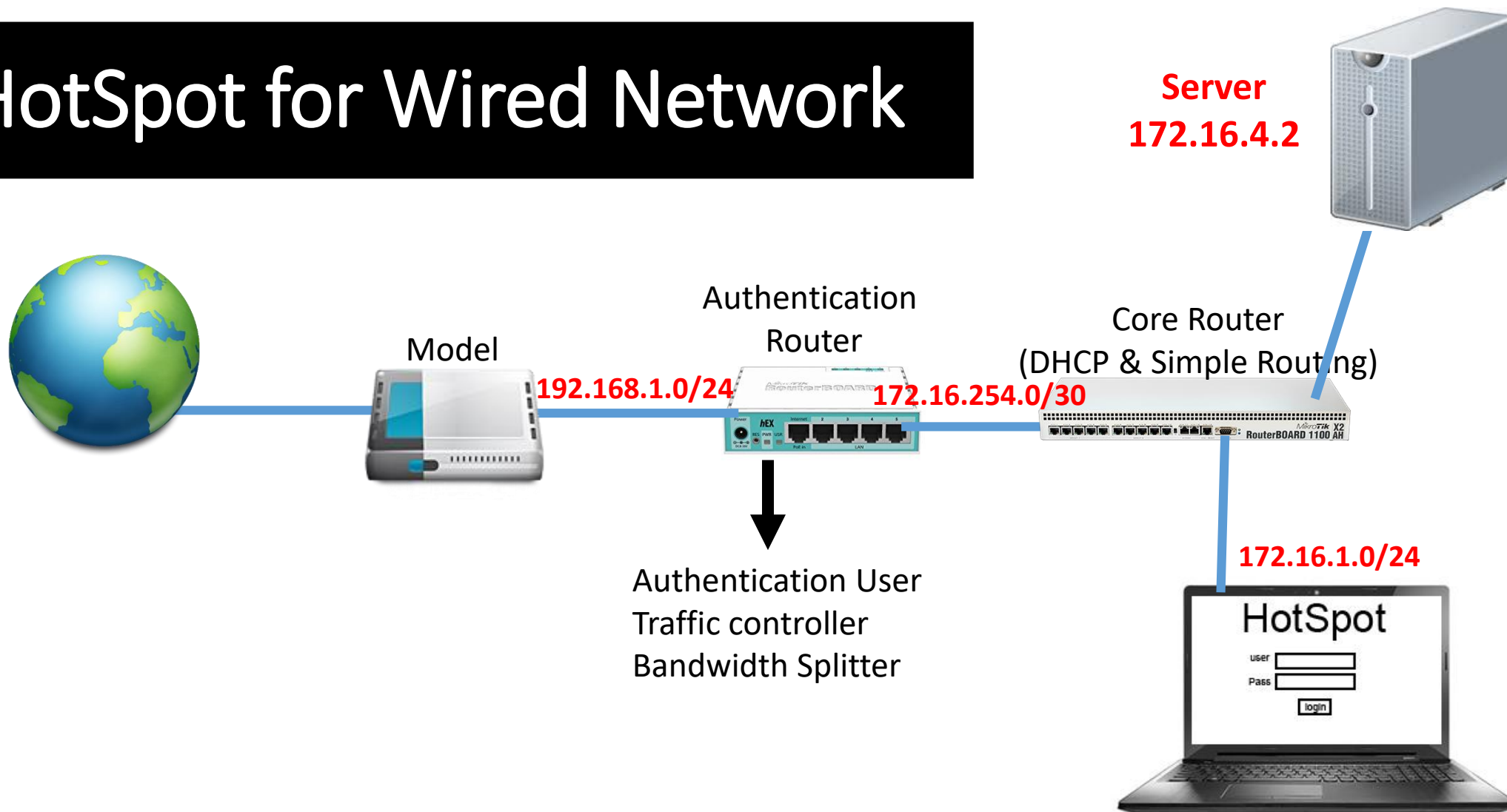
# Set Default Route

Set default route on Core Router

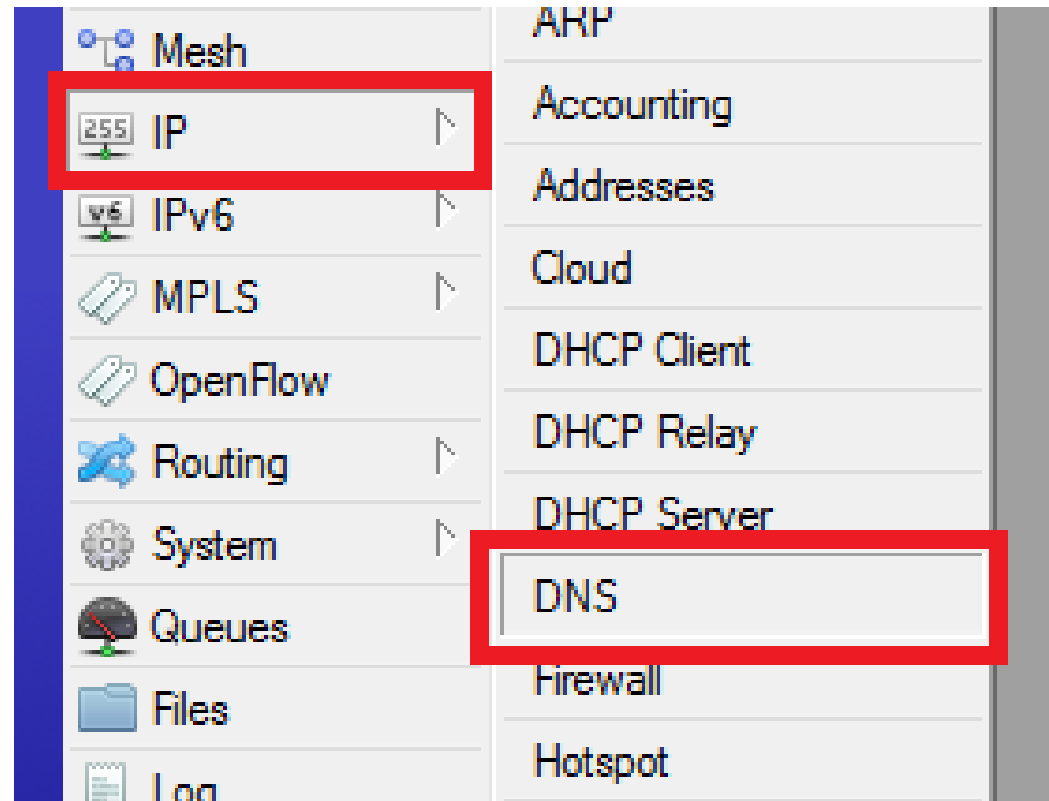
The screenshot shows the 'New Route' dialog box in Mikrotik WinBox. The 'General' tab is active. The 'Dst. Address' field contains '0.0.0.0/0'. The 'Gateway' field contains '172.16.254.1'. The 'OK' button is highlighted with a red box. Other buttons visible include 'Cancel', 'Apply', 'Disable', and 'Comment'.

# Getting start to Configuring Advanced Hotspot for Wired Network

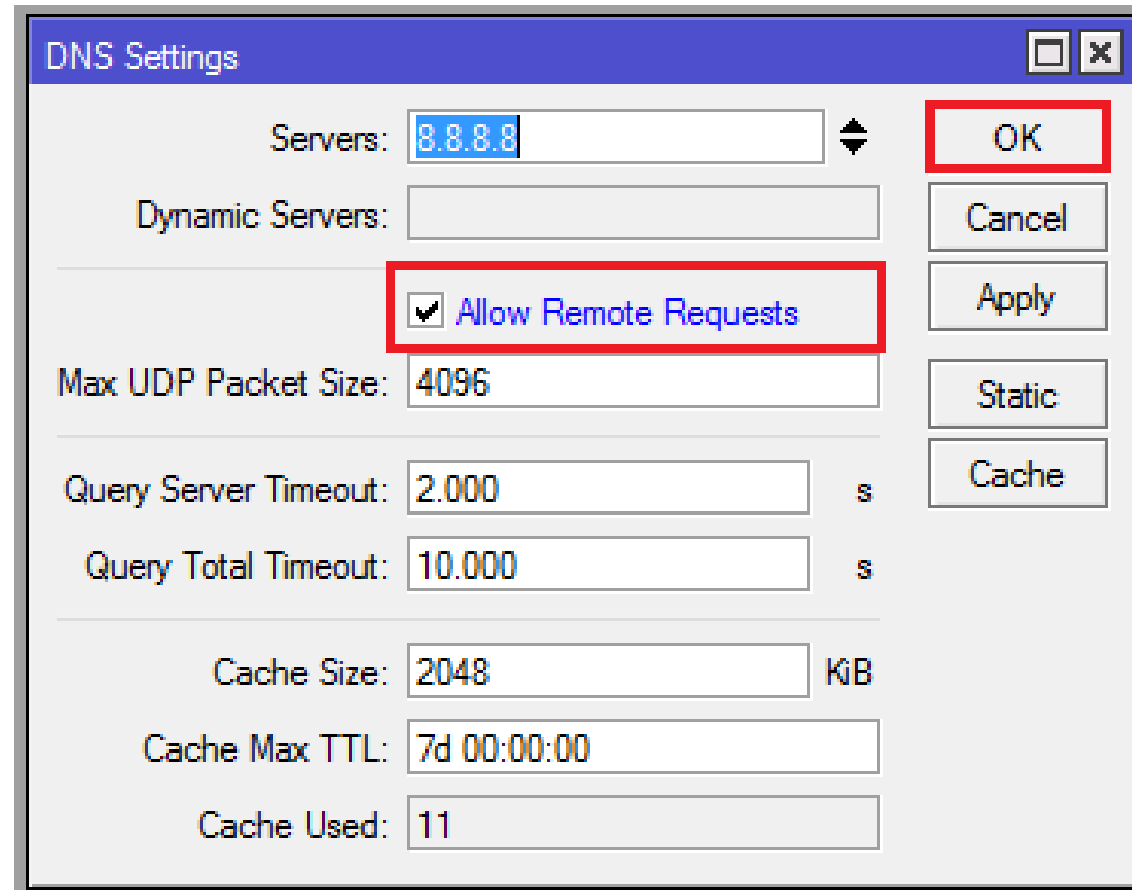
# HotSpot for Wired Network



# DNS



# DNS



DNS Settings

Servers: 8.8.8.8

Dynamic Servers:

Allow Remote Requests

Max UDP Packet Size: 4096

Query Server Timeout: 2.000 s

Query Total Timeout: 10.000 s

Cache Size: 2048 KB

Cache Max TTL: 7d 00:00:00

Cache Used: 11

OK

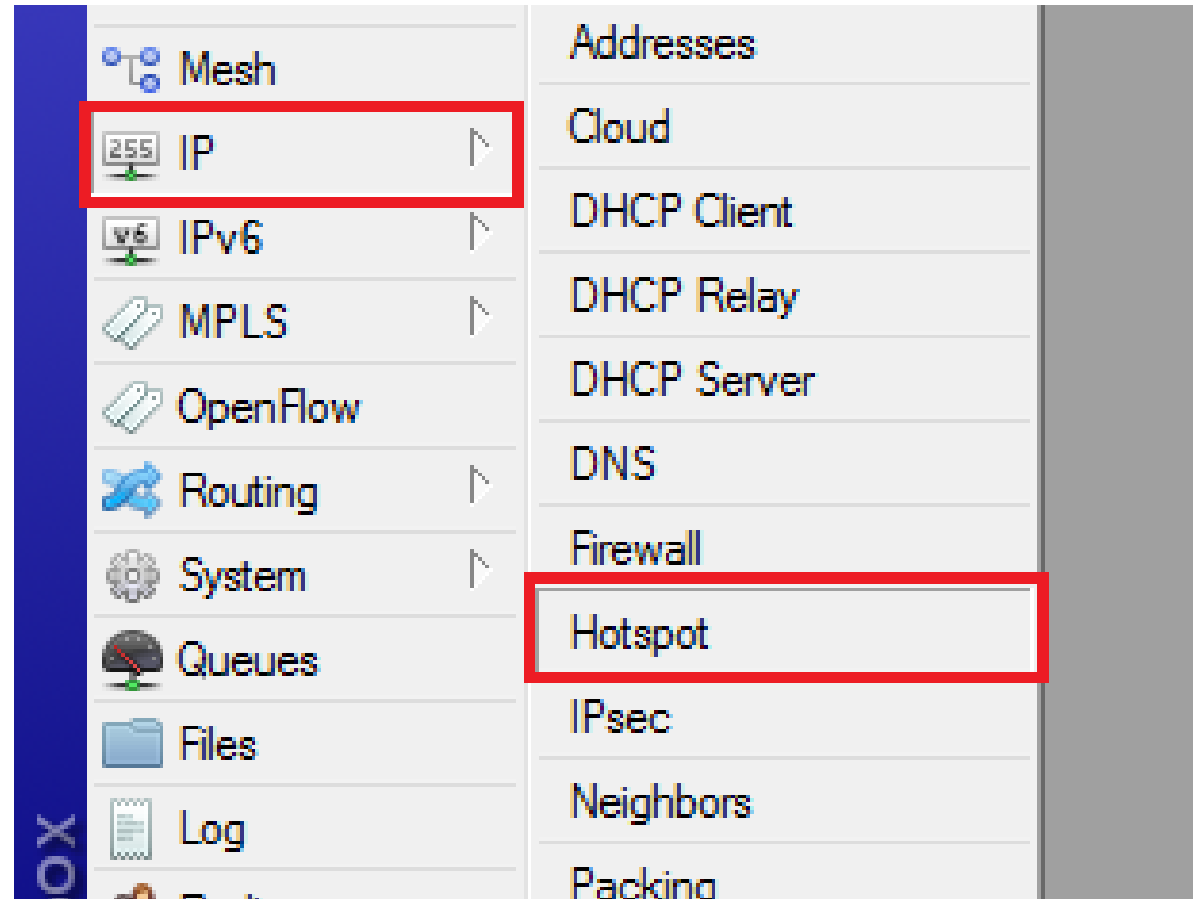
Cancel

Apply

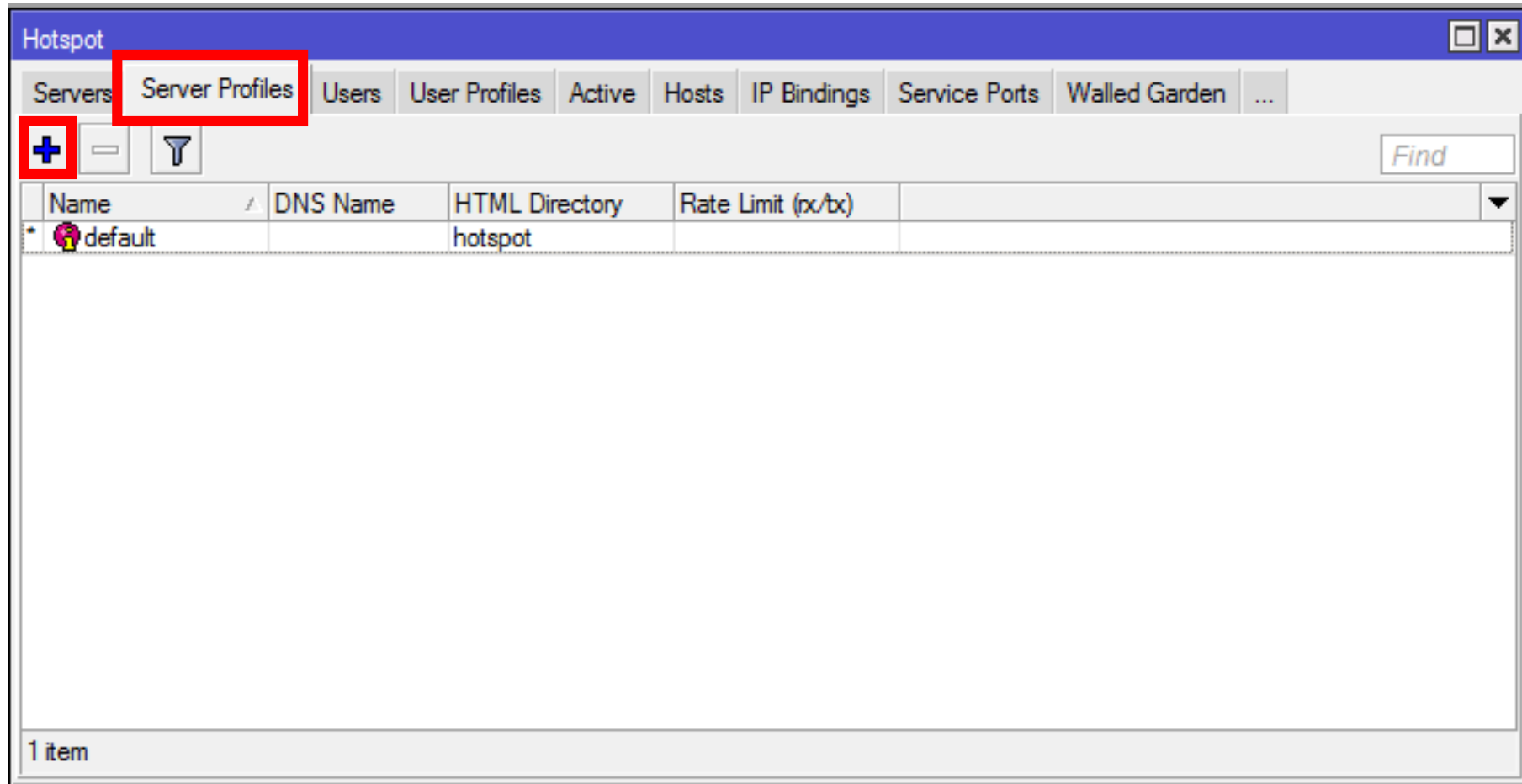
Static

Cache

# HotSpot setup



# HotSpot setup





# HotSpot setup

Hotspot Server Profile <hspof1>

General Login RADIUS

Name: hspof1

Hotspot Address: 172.16.254.1

DNS Name: hotspot.afratik.com

HTML Directory: hotspot

HTML Directory Override:

Rate Limit (rx/tx):

HTTP Proxy:

OK

Cancel

Apply

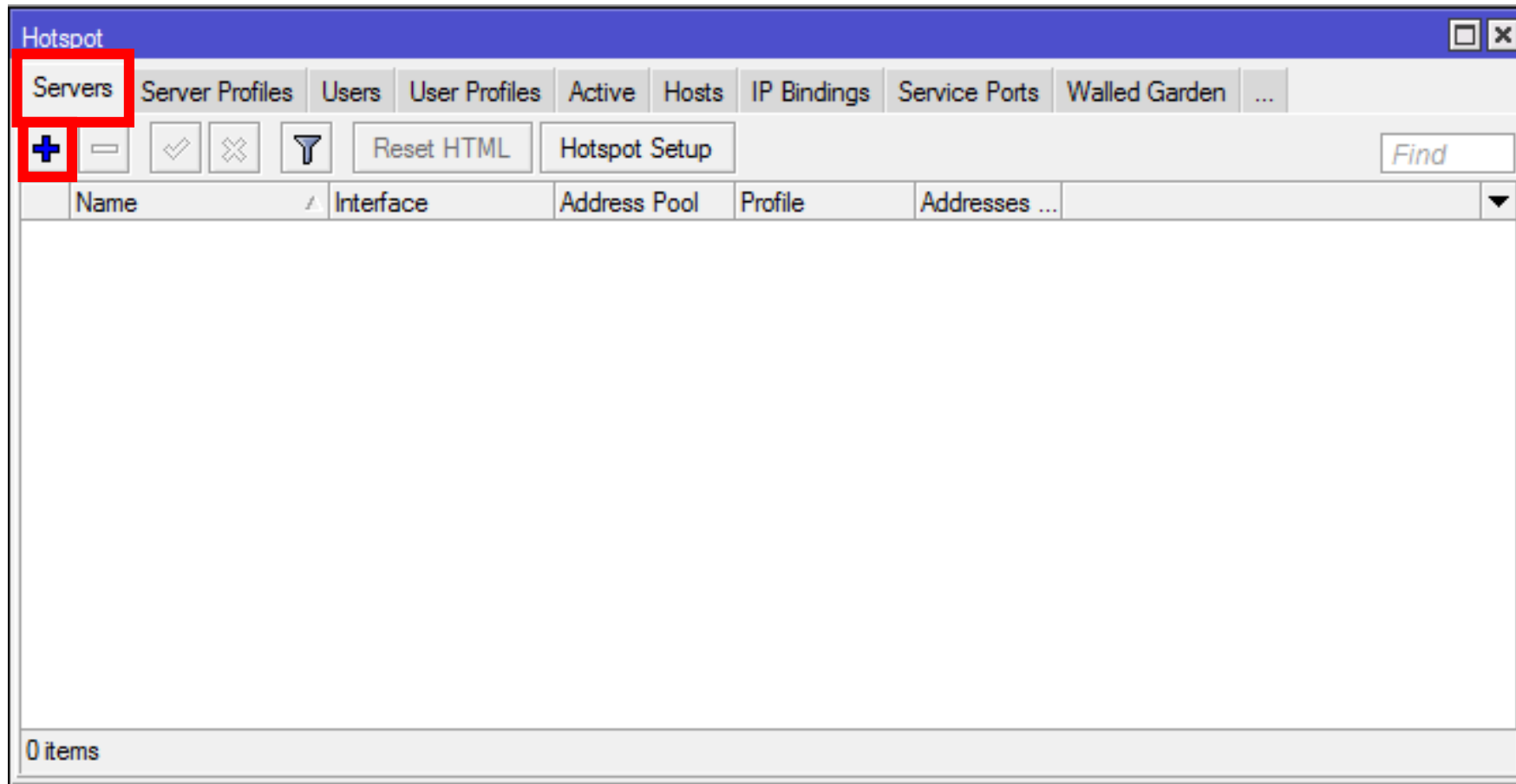
Copy

Remove

# HotSpot setup

Name	DNS Name	HTML Directory	Rate Limit (rx/tx)
default		hotspot	
hsprof1	hotspot.MikroTikTC.com	hotspot	

# HotSpot setup



# HotSpot setup

Hotspot Server <server1>

Name:

Interface:  ▼

Address Pool:  ▼

Profile:  ▼

Idle Timeout:  ▼

Keepalive Timeout:  ▼

OK

Cancel

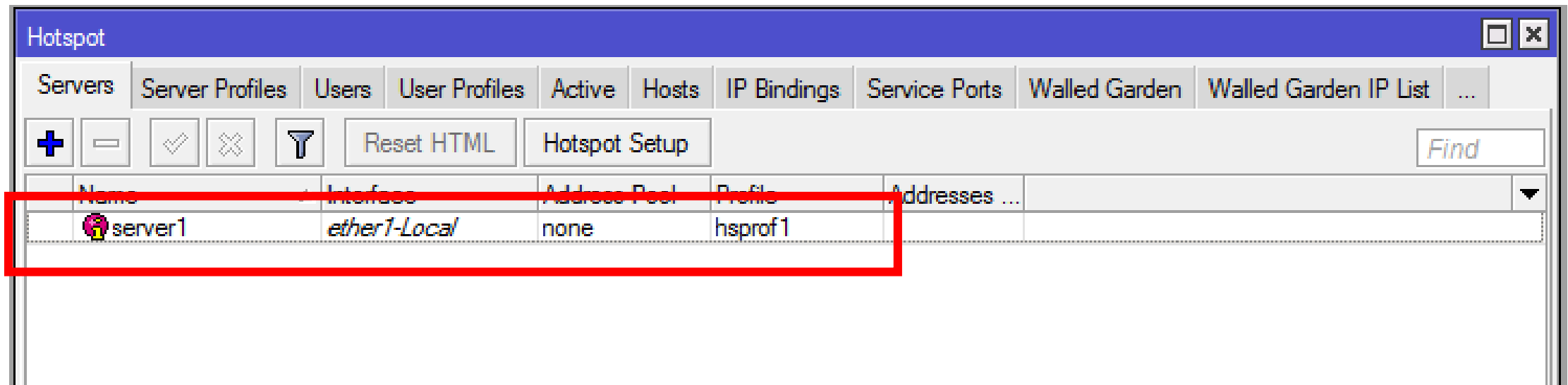
Apply

Disable

Copy

Remove

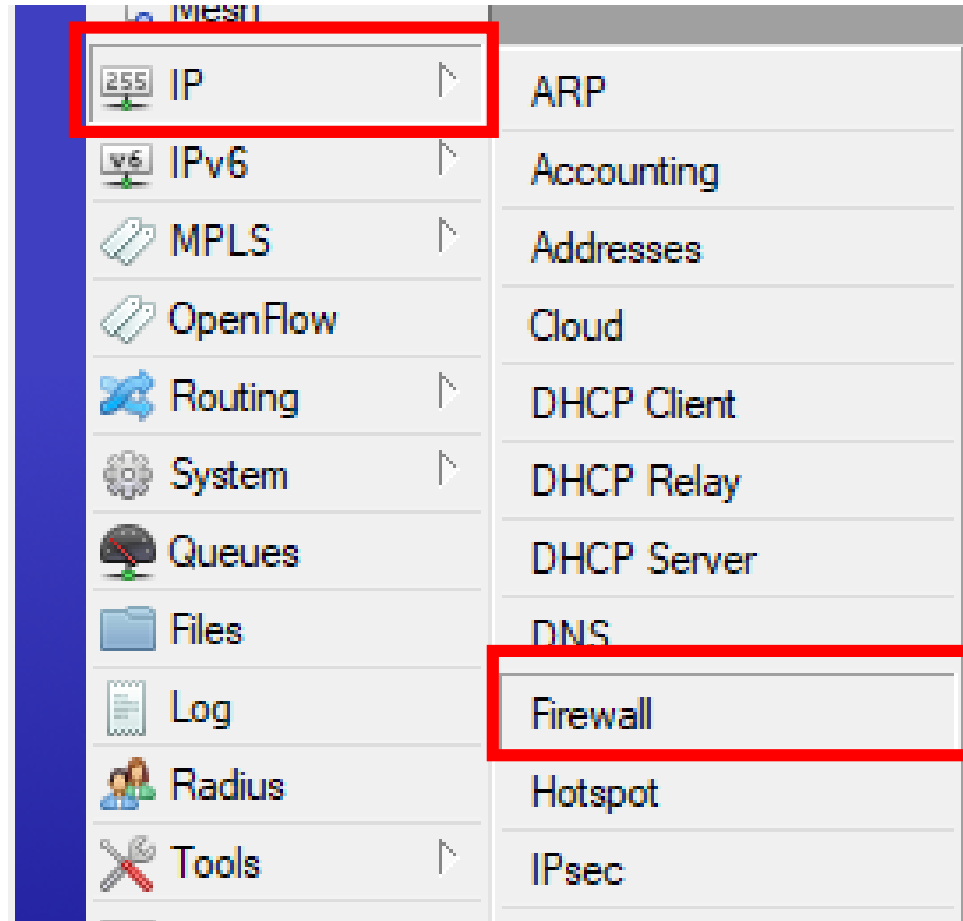
# HotSpot setup



The screenshot shows the Mikrotik WinBox interface for Hotspot Setup. The window title is "Hotspot". The top menu bar includes "Servers", "Server Profiles", "Users", "User Profiles", "Active", "Hosts", "IP Bindings", "Service Ports", "Walled Garden", and "Walled Garden IP List". Below the menu bar is a toolbar with icons for adding (+), removing (-), saving (checkmark), deleting (X), and filtering (funnel), along with buttons for "Reset HTML" and "Hotspot Setup", and a "Find" search box. A table below the toolbar lists the hotspots. The first row is highlighted with a red border and contains the following data:

Name	Interface	Address Pool	Profile	Addresses ...
server1	ether1-Local	none	hsprof1	

# NAT



# NAT

Firewall

Filter Rules NAT Mangle Raw Service Ports Connection

+ - ✓ ✗ 📄 🌊 00 Reset Counters 00

#	Action	Chain	Src. Address	Dst. Address	P
---	--------	-------	--------------	--------------	---

# NAT

New NAT Rule

General | Advanced | Extra | Action | ...

Chain:  ▾

Src. Address:   ▲

Dst. Address:  ▾

Protocol:  ▾

Src. Port:  ▾

Dst. Port:  ▾

Any. Port:  ▾

In. Interface:  ▾

Out. Interface:   ▾ ▲

OK

Cancel

Apply

Disable

Comment

Copy

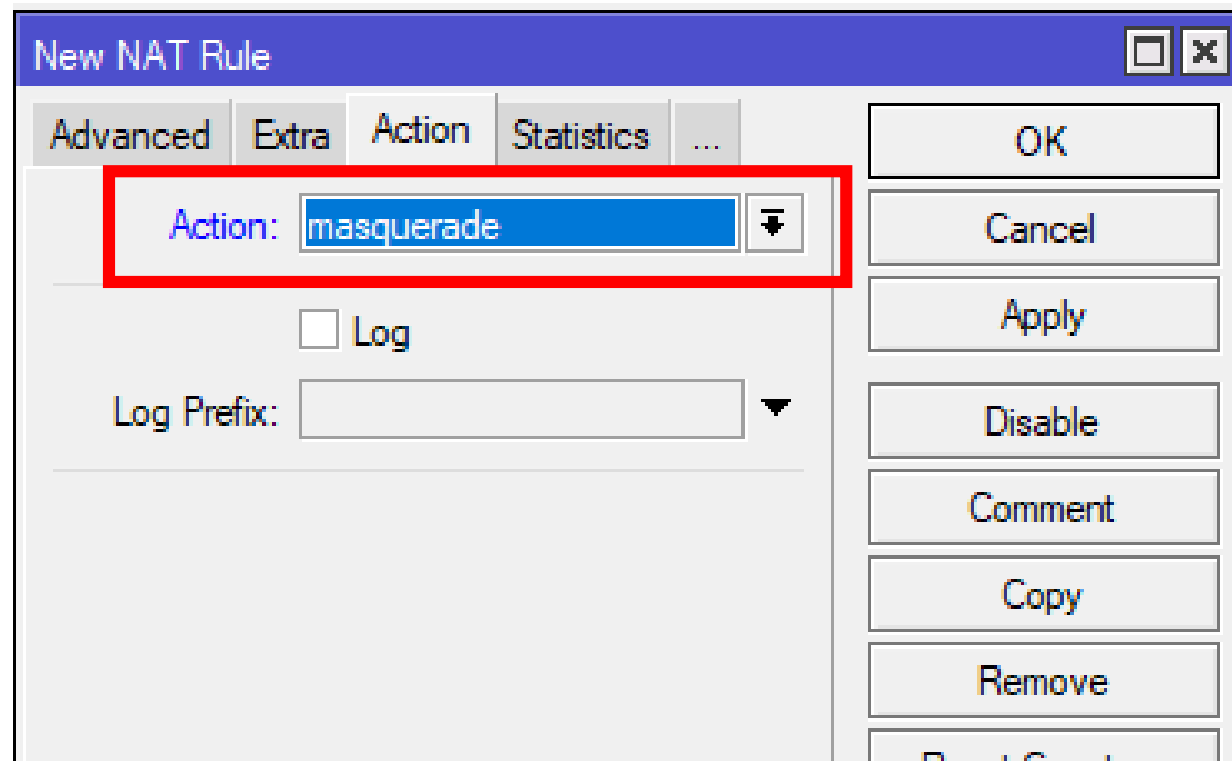
Remove

Reset Counters

Reset All Counters



# NAT



# Login page

Please log on to use the internet hotspot service

login

password

HOTSPOT GATEWAY  
powered by *MikroTik*

Powered by MikroTik RouterOS

# Login page

login User1

password ●●●●

OK

HOTSPOT GATEWAY

powered by *MikroTik*

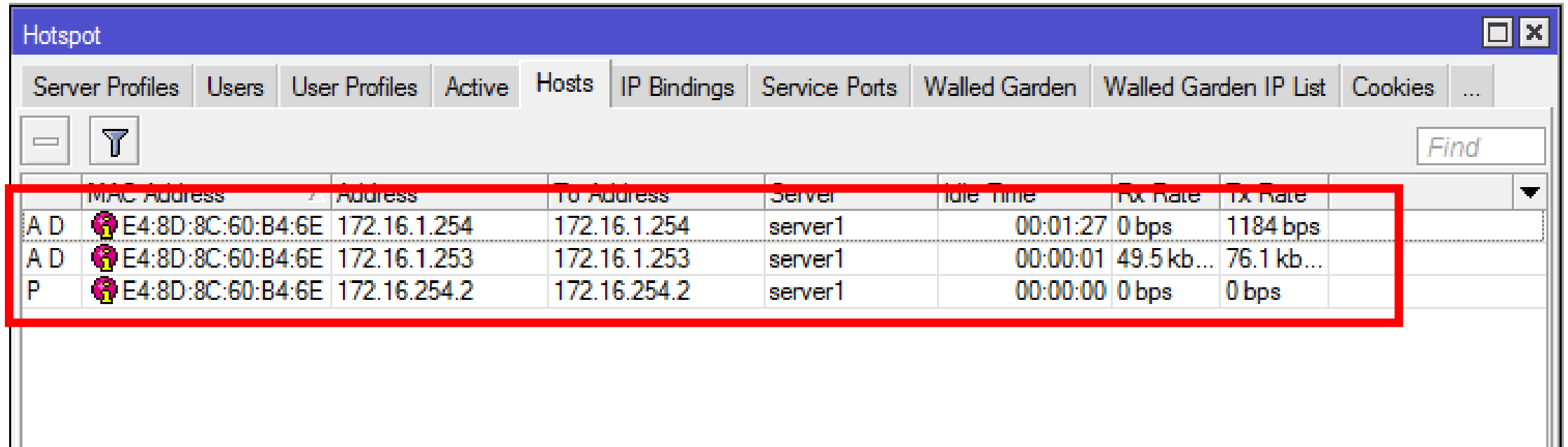
# Test Solution

Welcome User1!

<u>IP address:</u>	<u>10.5.50.254</u>
<u>bytes up/down:</u>	<u>310.4 KiB / 841.6 KiB</u>
<u>connected:</u>	<u>2m12s</u>
status refresh:	1m

log off

# HotSpot setup



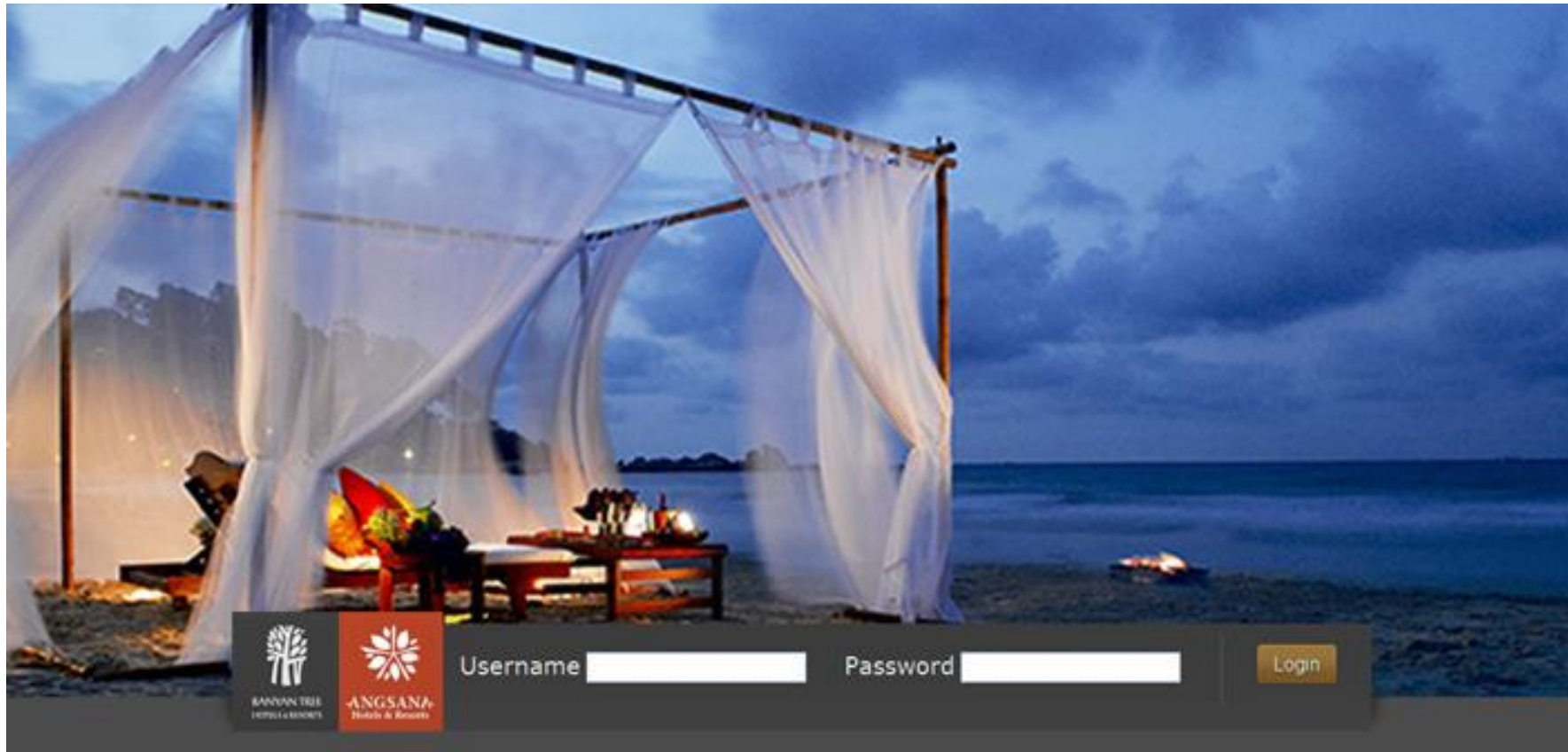
Hotspot

Server Profiles Users User Profiles Active Hosts IP Bindings Service Ports Walled Garden Walled Garden IP List Cookies ...

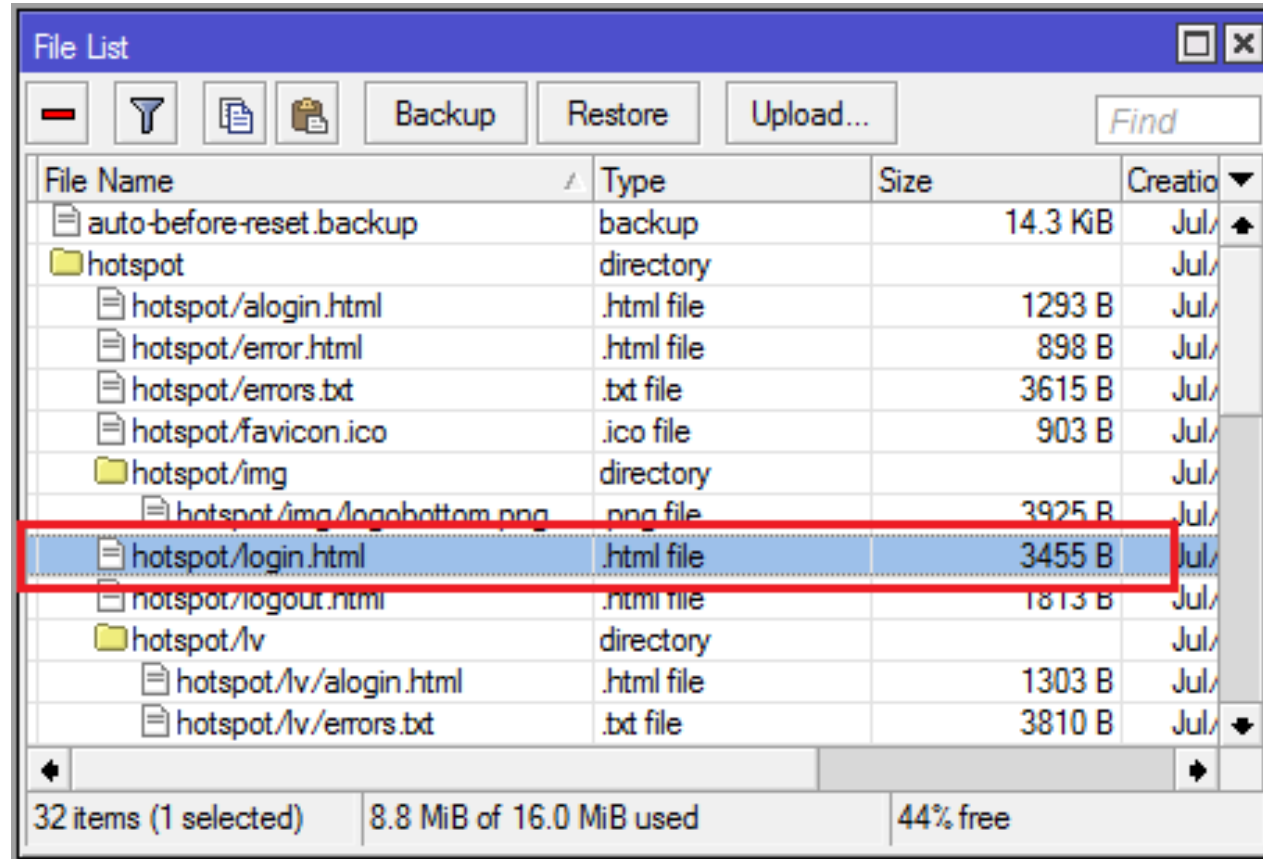
Find

	MAC Address	Address	To Address	Server	Idle Time	Rx Rate	Tx Rate
A D	E4:8D:8C:60:B4:6E	172.16.1.254	172.16.1.254	server1	00:01:27	0 bps	1184 bps
A D	E4:8D:8C:60:B4:6E	172.16.1.253	172.16.1.253	server1	00:00:01	49.5 kb...	76.1 kb...
P	E4:8D:8C:60:B4:6E	172.16.254.2	172.16.254.2	server1	00:00:00	0 bps	0 bps

# Customize page



# Customize page



The screenshot shows a 'File List' window with a toolbar containing icons for file operations and buttons for 'Backup', 'Restore', and 'Upload...'. A search box labeled 'Find' is also present. The main area is a table listing files and directories. The file 'hotspot/login.html' is selected and highlighted with a red rectangle.

File Name	Type	Size	Creation
auto-before-reset.backup	backup	14.3 KiB	Jul/
hotspot	directory		Jul/
hotspot/login.html	.html file	1293 B	Jul/
hotspot/error.html	.html file	898 B	Jul/
hotspot/errors.txt	.txt file	3615 B	Jul/
hotspot/favicon.ico	.ico file	903 B	Jul/
hotspot/img	directory		Jul/
hotspot/img/logobottom.png	.png file	3925 B	Jul/
hotspot/login.html	.html file	3455 B	Jul/
hotspot/logout.html	.html file	1813 B	Jul/
hotspot/lv	directory		Jul/
hotspot/lv/login.html	.html file	1303 B	Jul/
hotspot/lv/errors.txt	.txt file	3810 B	Jul/

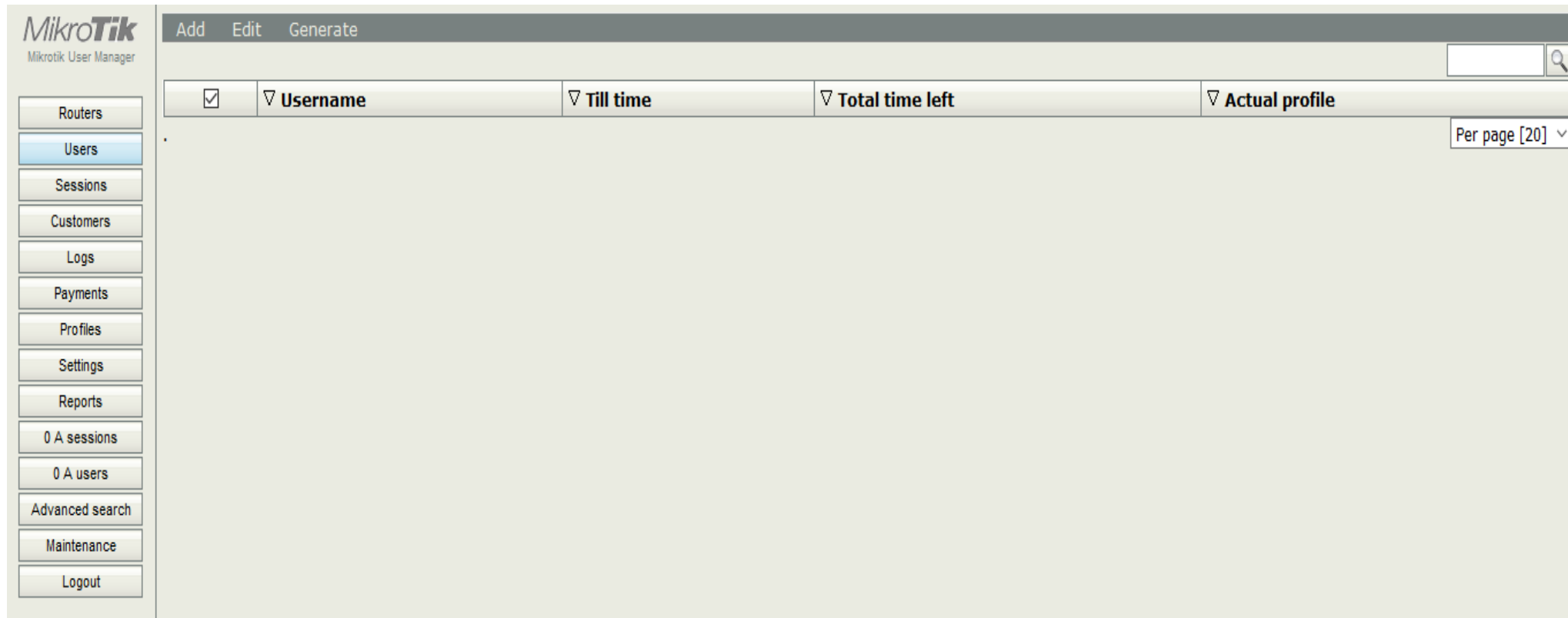
32 items (1 selected) | 8.8 MiB of 16.0 MiB used | 44% free

# Accounting

- User manager
  - Full power accounting
  - It is free
  - You don't need to another servers



# Accounting



The screenshot shows the MikroTik User Manager Accounting interface. On the left is a sidebar with navigation buttons: Routers, Users (highlighted), Sessions, Customers, Logs, Payments, Profiles, Settings, Reports, 0 A sessions, 0 A users, Advanced search, Maintenance, and Logout. The main content area has a top bar with 'Add', 'Edit', and 'Generate' buttons, a search box, and a table with columns: Username, Till time, Total time left, and Actual profile. A 'Per page [20]' dropdown is on the right. The table is currently empty.

[Refer to my presentation in MikroTik MUM Dubai 2016](#)

# References

1. [http://wiki.mikrotik.com/wiki/Manual:User Manager](http://wiki.mikrotik.com/wiki/Manual:User_Manager)
2. <http://wiki.mikrotik.com/wiki/Manual:IP/Hotspot>
3. [http://wiki.mikrotik.com/wiki/User Manager/Hotspot Example](http://wiki.mikrotik.com/wiki/User_Manager/Hotspot_Example)
4. [http://wiki.mikrotik.com/wiki/Manual:RADIUS Client](http://wiki.mikrotik.com/wiki/Manual:RADIUS_Client)
5. [http://wiki.mikrotik.com/wiki/User Manager/Users](http://wiki.mikrotik.com/wiki/User_Manager/Users)
6. [http://wiki.mikrotik.com/wiki/User Manager/Profiles](http://wiki.mikrotik.com/wiki/User_Manager/Profiles)
7. [http://wiki.mikrotik.com/wiki/Manual:Customizing Hotspot](http://wiki.mikrotik.com/wiki/Manual:Customizing_Hotspot)

# Thank You