



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

3 / 58

# MikroTik Class

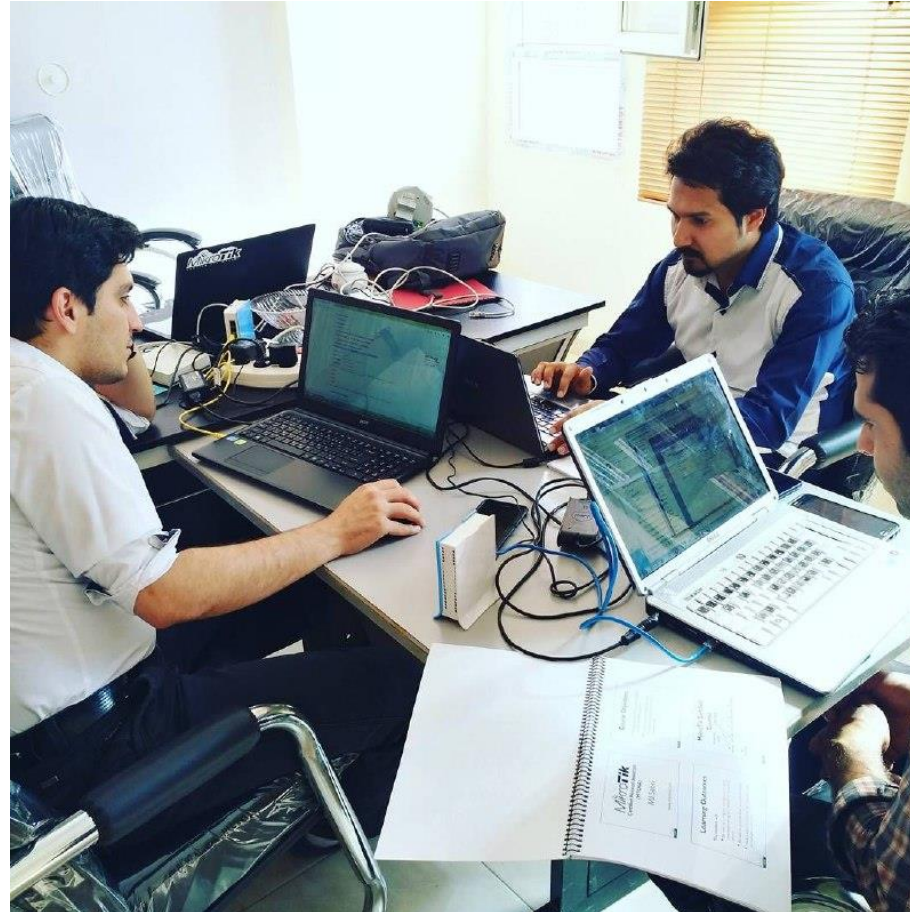


MikroTik MUM Yerevan October 10, 2017

4 / 58



# MikroTik Class



# MikroTik Class



# Contact me

- [www.afratik.com/en](http://www.afratik.com/en)
- [sabri31688@gmail.com](mailto:sabri31688@gmail.com)
- +37455035067 (call , telegram , ...)

# Table of content

- Applications
- What is scenario ?
- What is Goal ?
- What is HotSpot ?
- Adding Hotspot Router to Wired Network
- Getting start to Configuring Hotspot
- Configuring in User Manager



# Applications

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

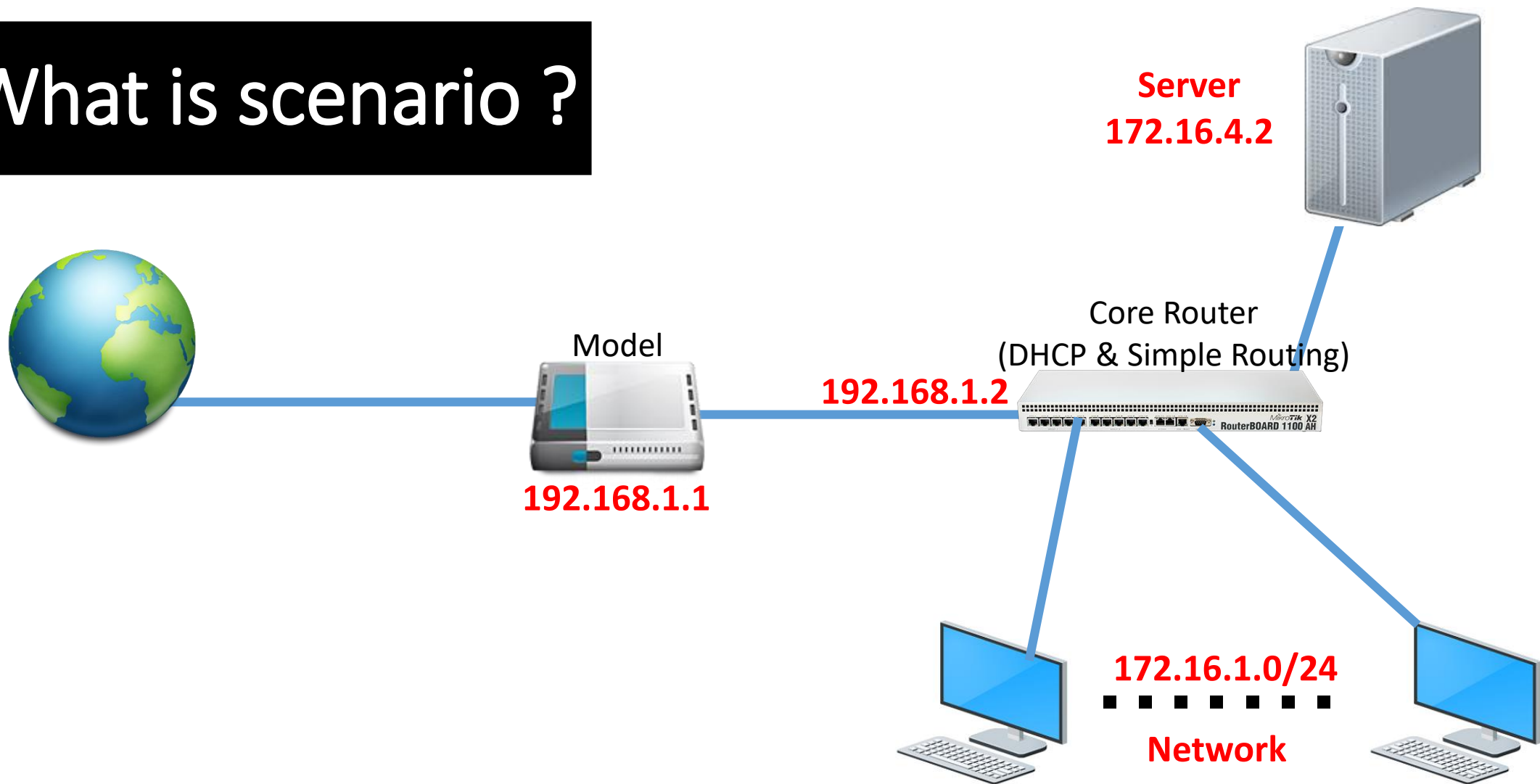


large Office



University

# What is scenario ?



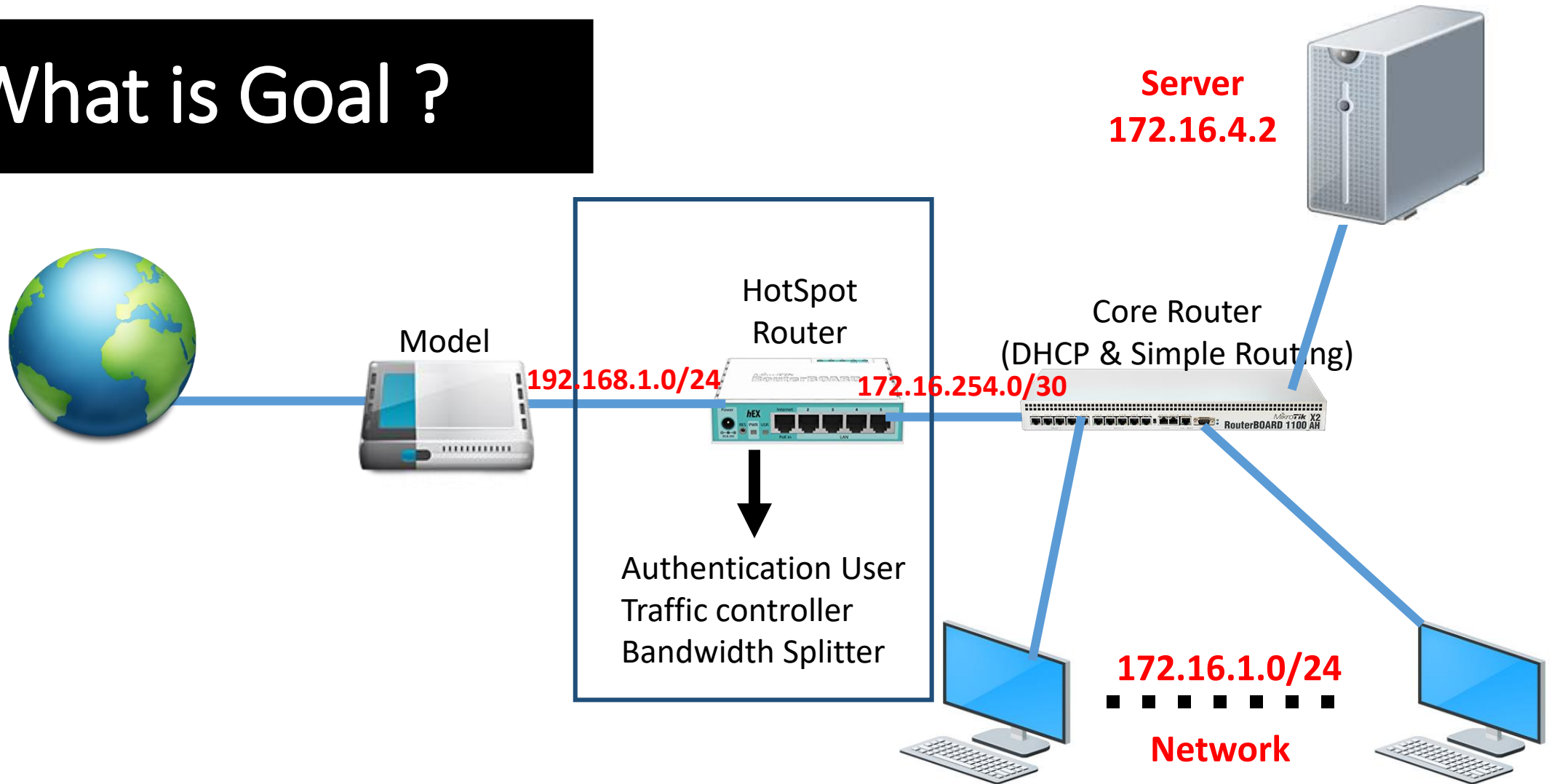


me

My Clients



# What is Goal ?





me

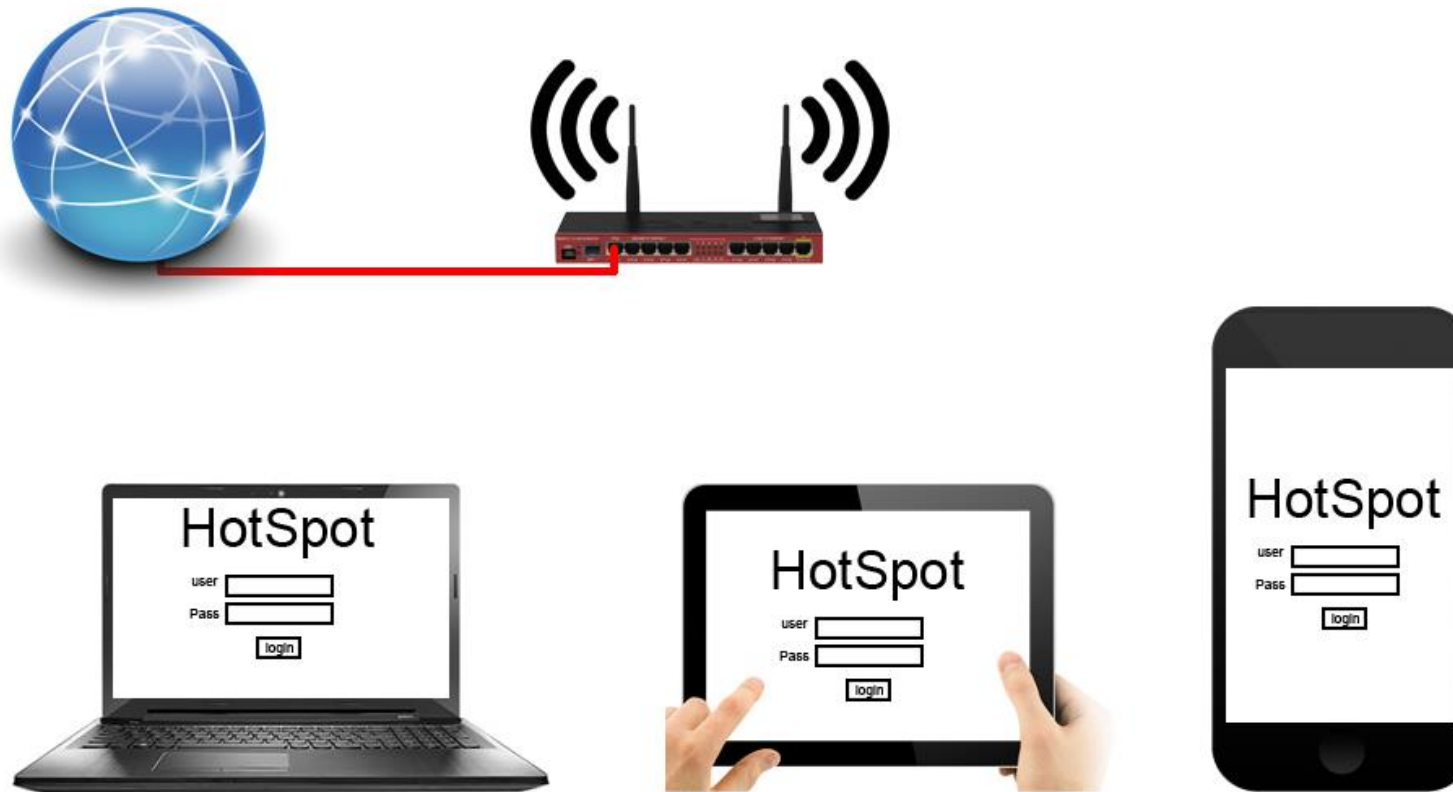
My Clients



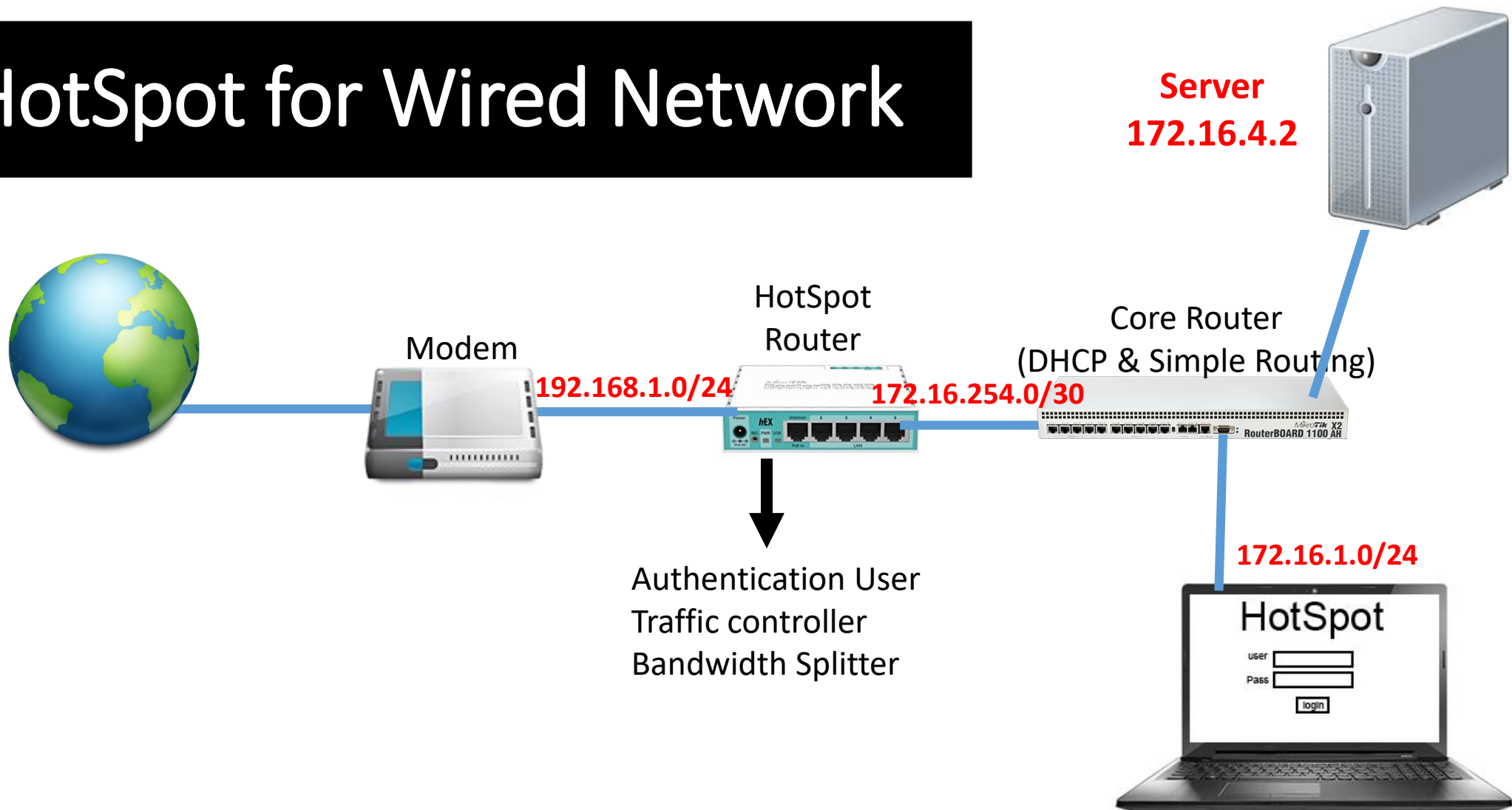
QuotesPics.net



# What is HotSpot ?

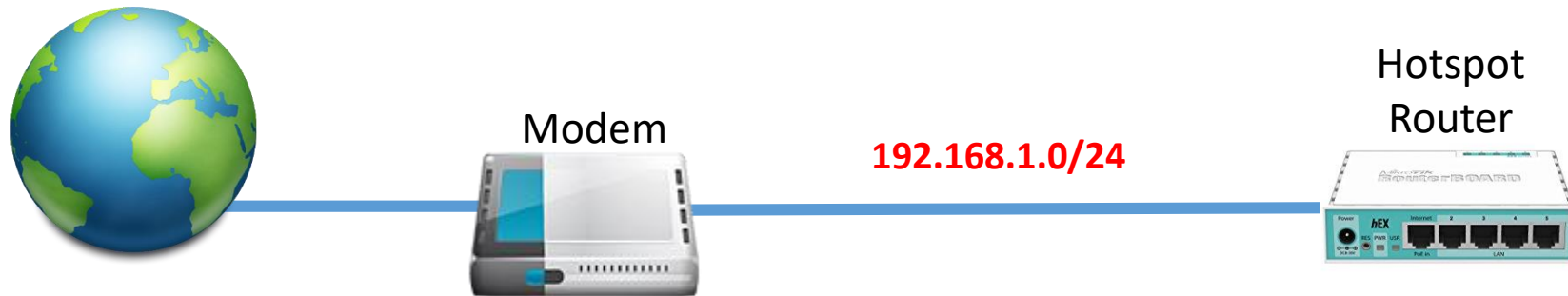


# HotSpot for Wired Network

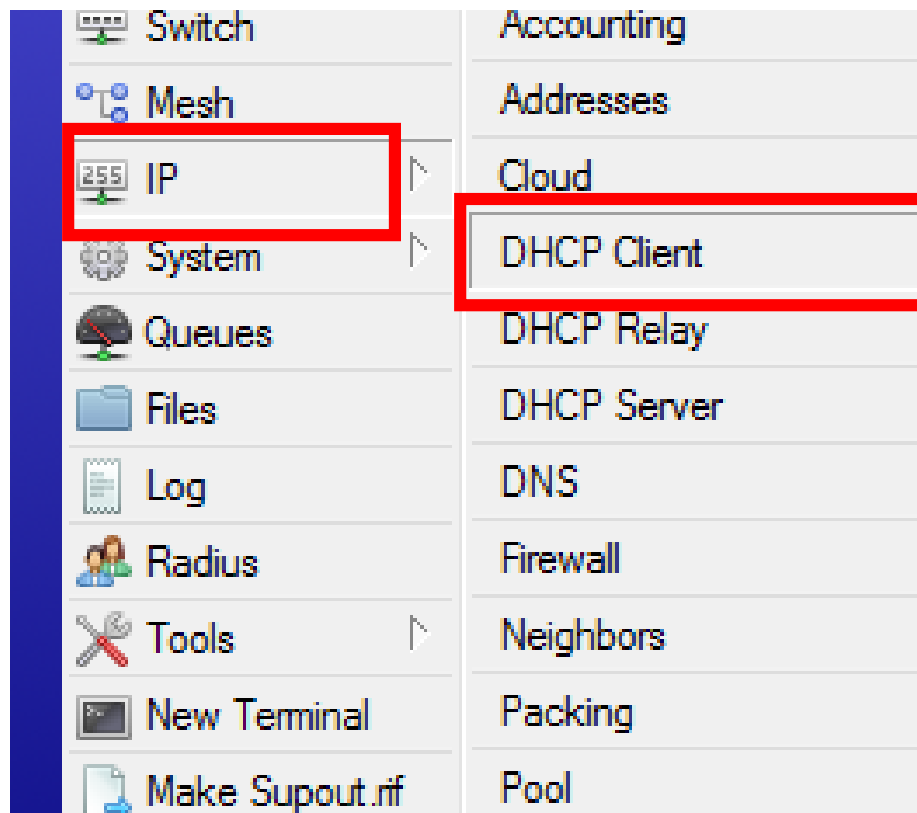


# Adding Hotspot Router to Wired Network

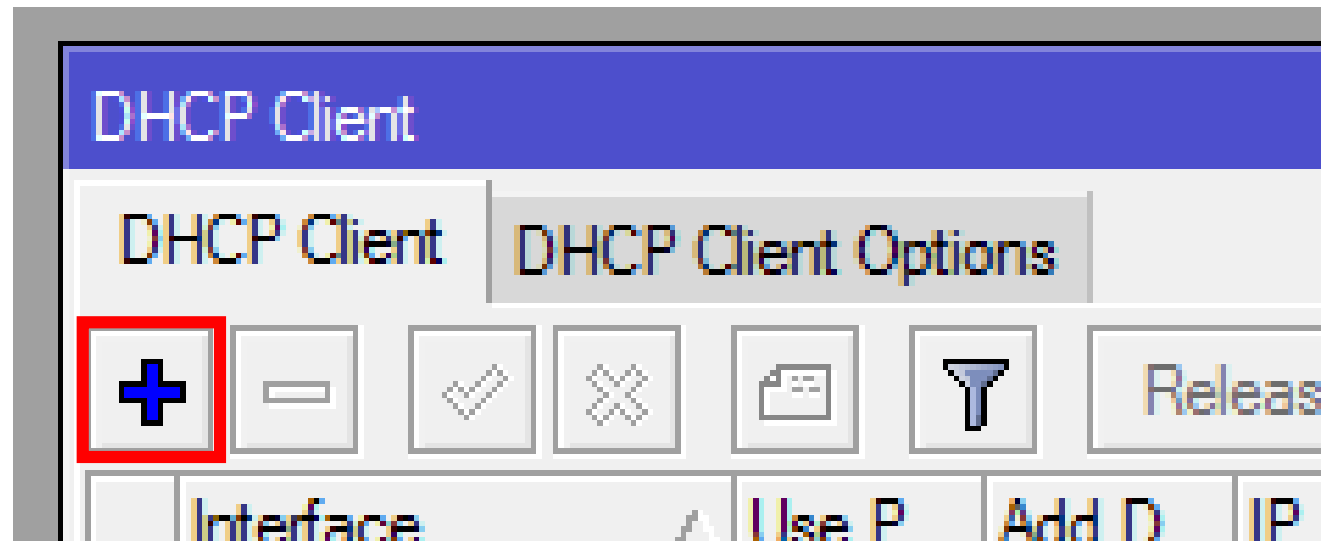
# HotSpot Router To Modem



# DHCP client

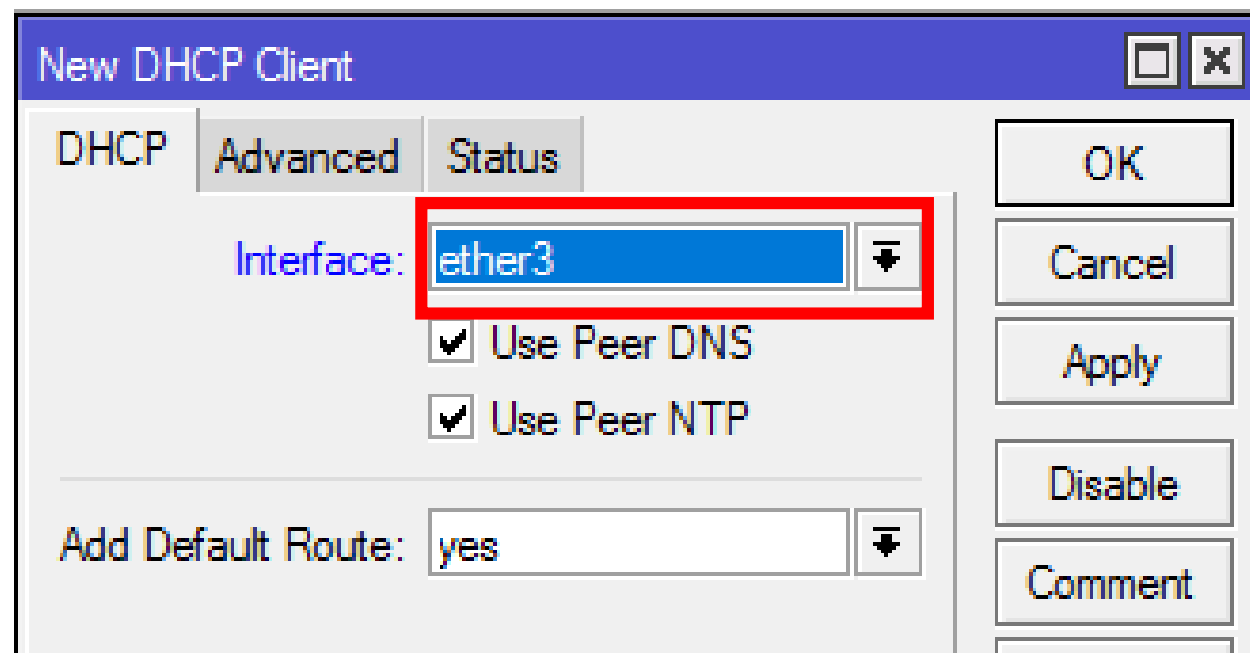


# DHCP client





# DHCP client

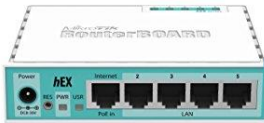


The screenshot shows the 'New DHCP Client' configuration window. The 'Interface' dropdown is highlighted with a red box, showing 'ether3' selected. Below it, 'Use Peer DNS' and 'Use Peer NTP' are both checked. At the bottom, 'Add Default Route' is set to 'yes'. On the right side, there are buttons for 'OK', 'Cancel', 'Apply', 'Disable', and 'Comment'.

**Select interface that is connected to modem**

# HotSpot Router To Core Router

HotSpot Router



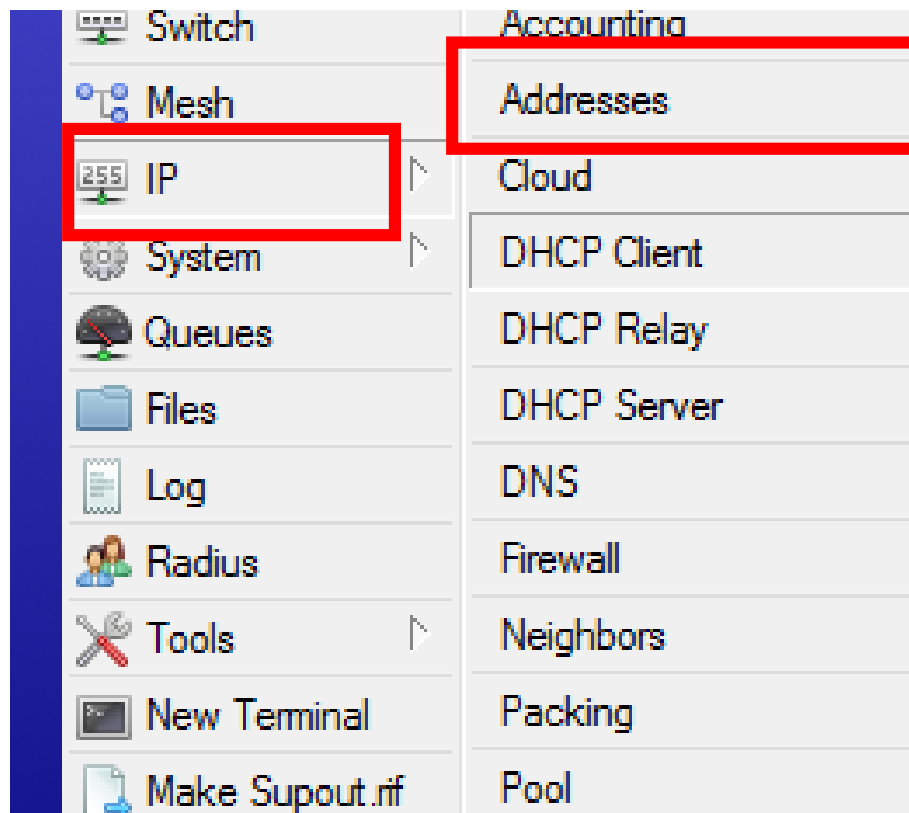
172.16.254.0/30

Core Router  
(DHCP & Simple Routing)



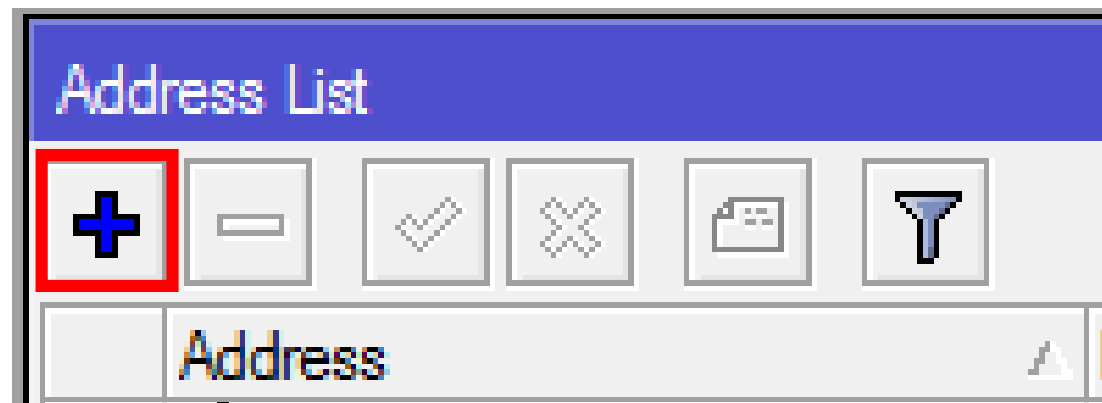
# Set IP Address

## Set IP on HotSpot Router



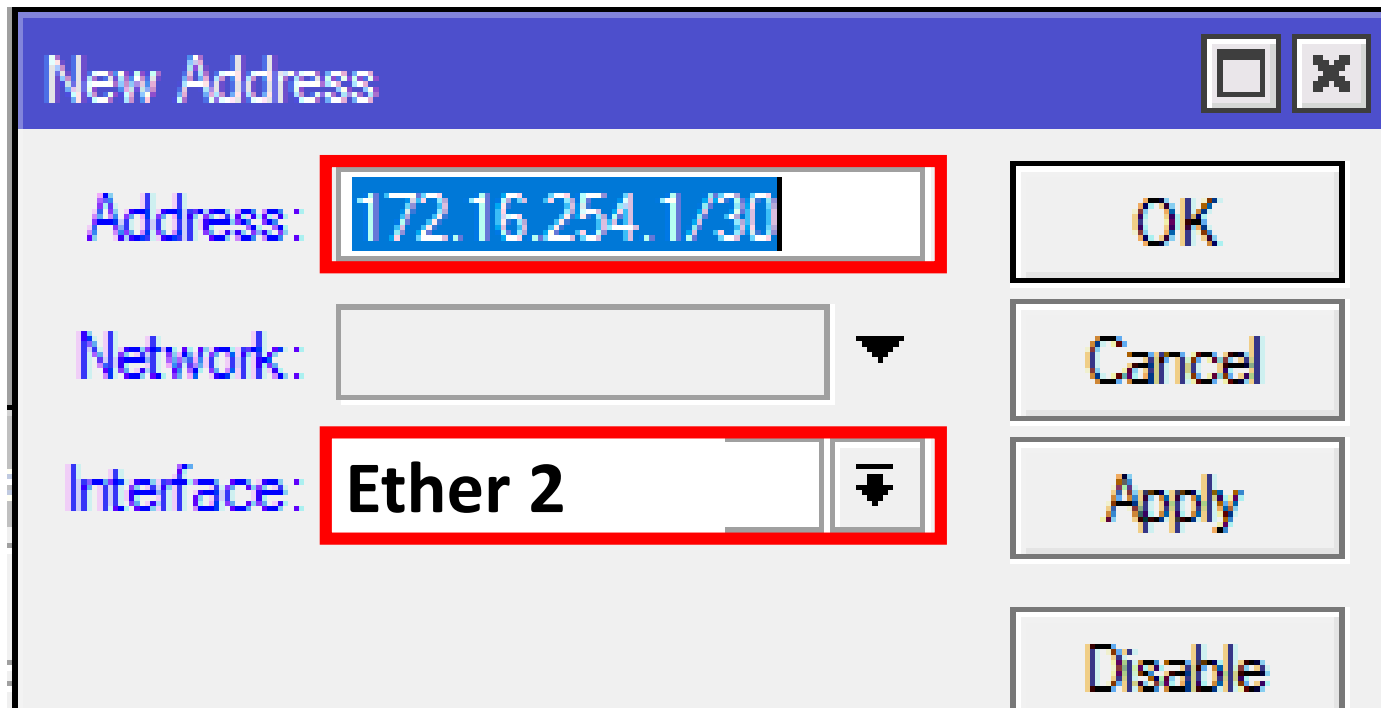
# Set IP Address

## Set IP on HotSpot Router



# Set IP Address

## Set IP on HotSpot Router



New Address

Address: 172.16.254.1/30

Network:

Interface: Ether 2

OK

Cancel

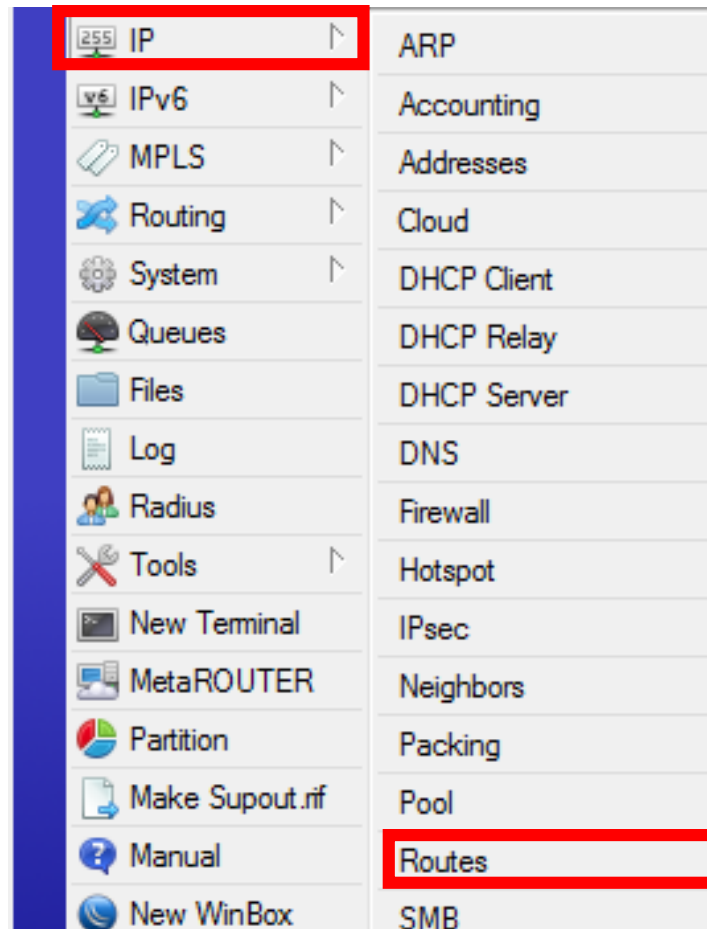
Apply

Disable

Select interface that is connected to Core Router in Network

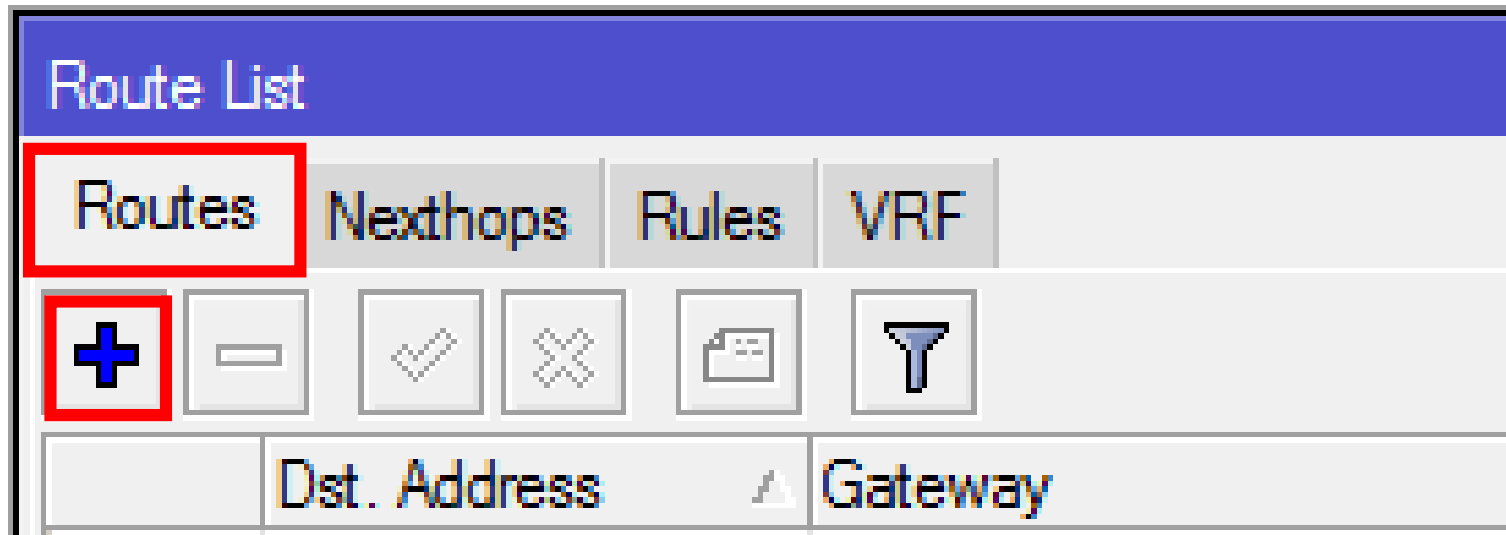
# Set Static Route

## 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

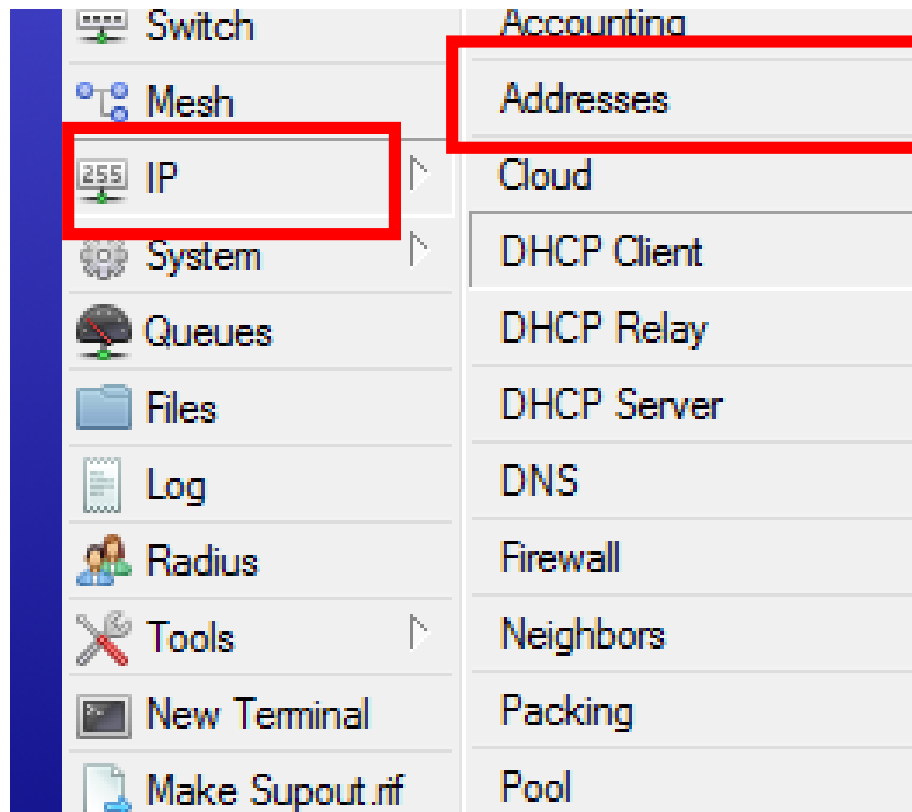
OK

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

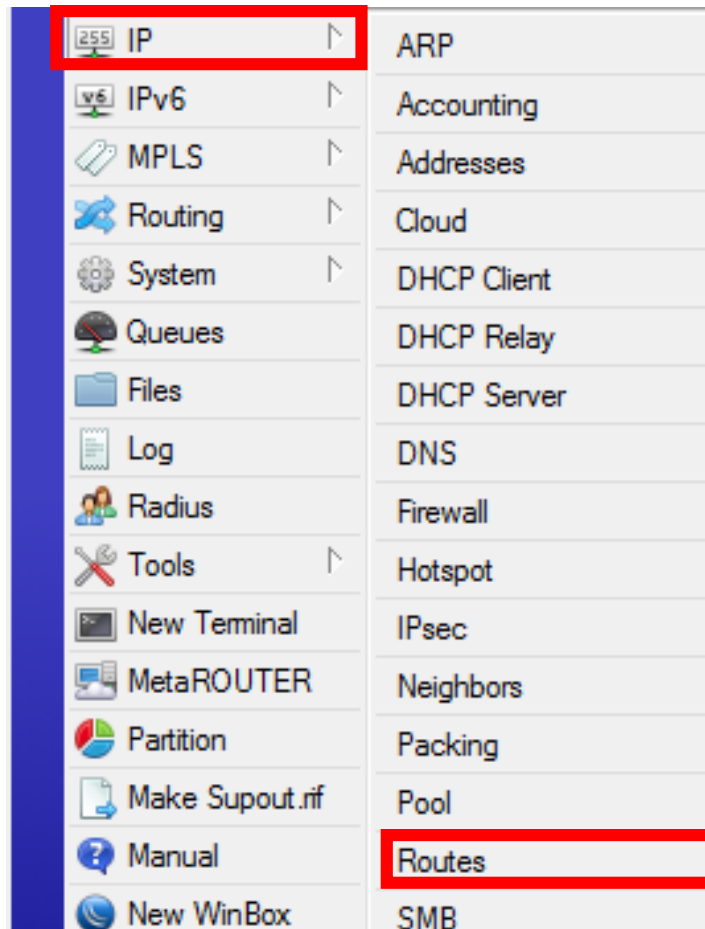
Cancel

Apply

Select interface that is connected to HotSpot Router

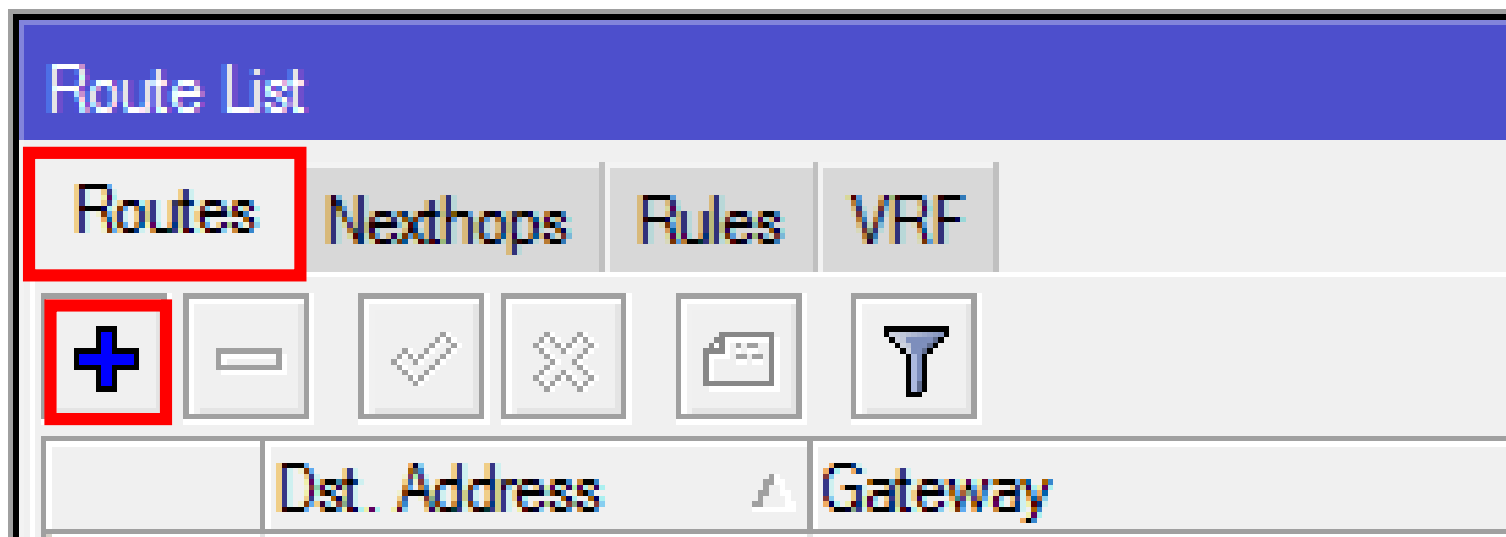
# Set Default Route

Set default route on Core Router



# Set Default Route

Set default route on Core Router



# Set Default Route

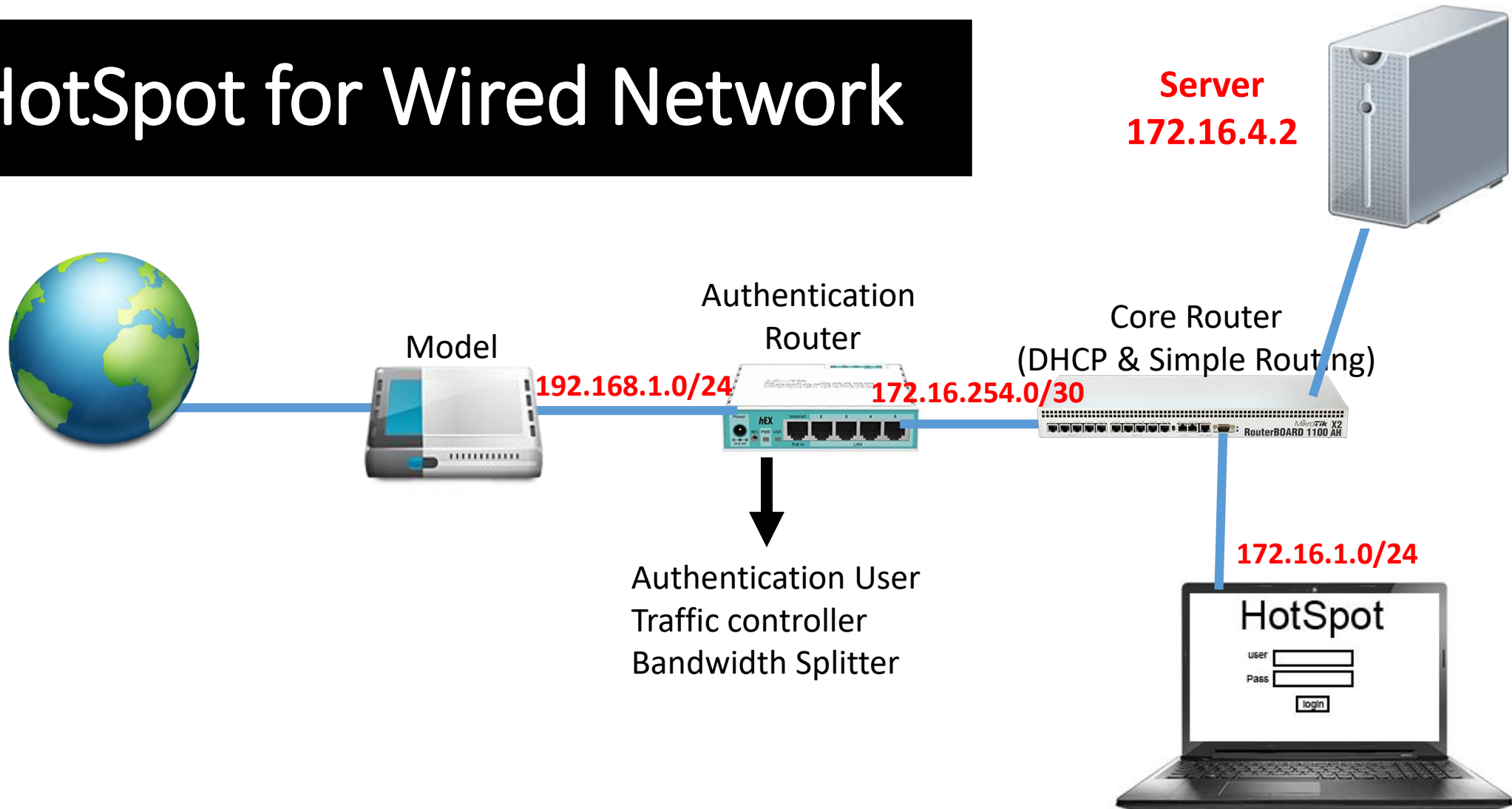
Set default route on Core Router

The screenshot shows the 'New Route' dialog box in MikroTik WinBox. The 'General' tab is selected. 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 rectangle. Other buttons visible include 'Cancel', 'Apply', 'Disable', and 'Comment'.

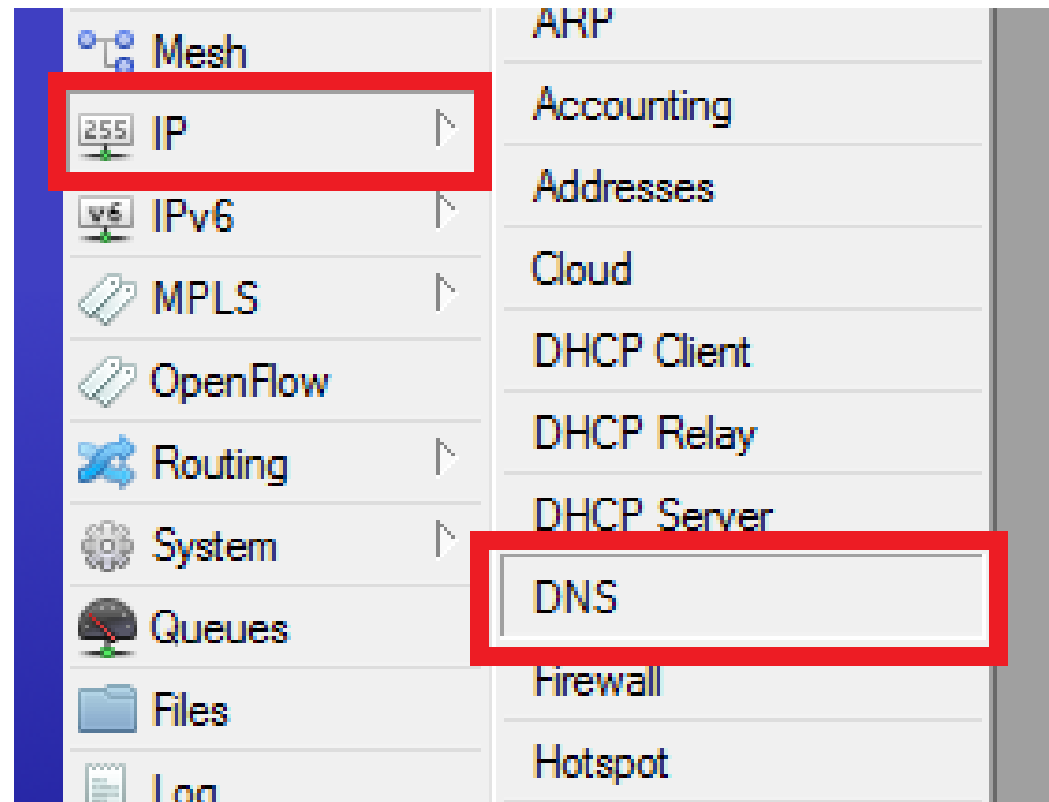
# Getting start to Configuring Advanced Hotspot for Wired Network



# 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

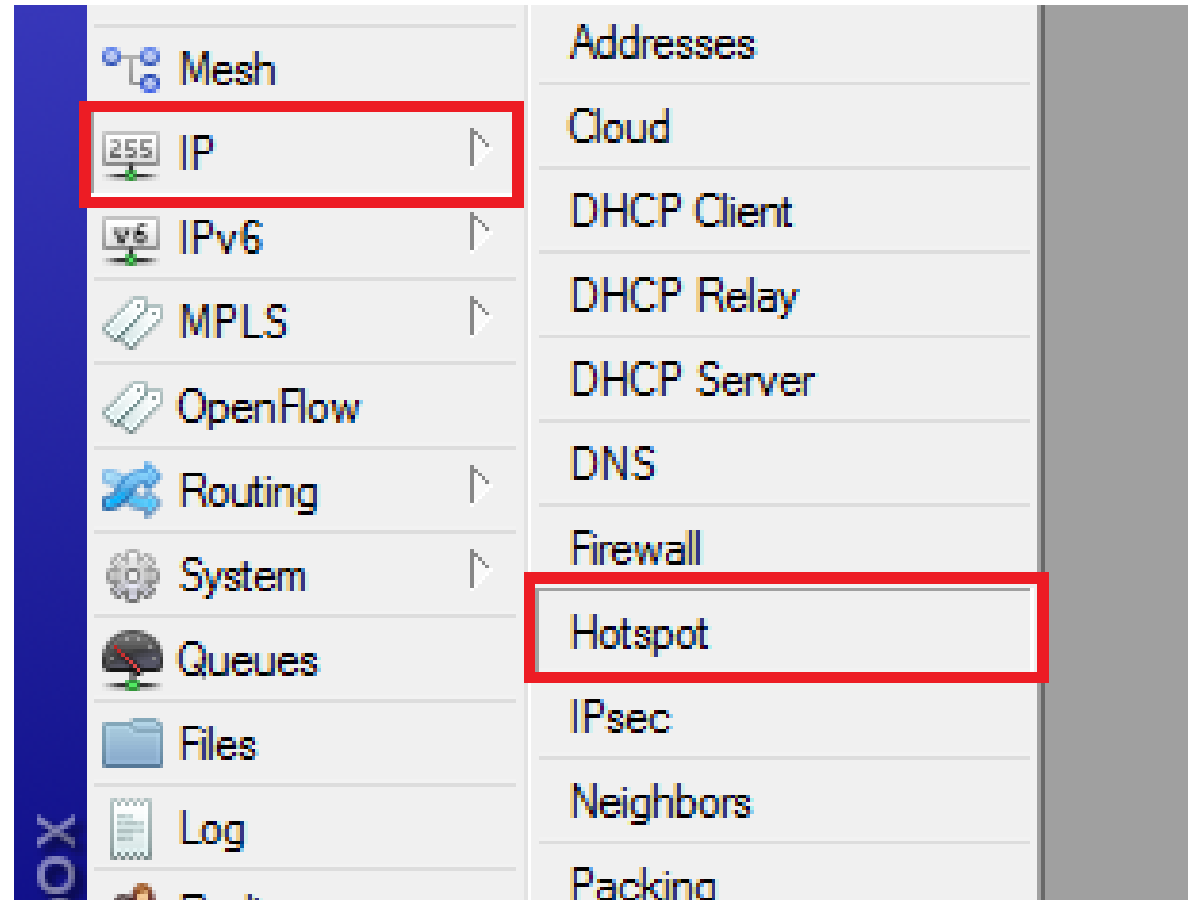
Cancel

Apply

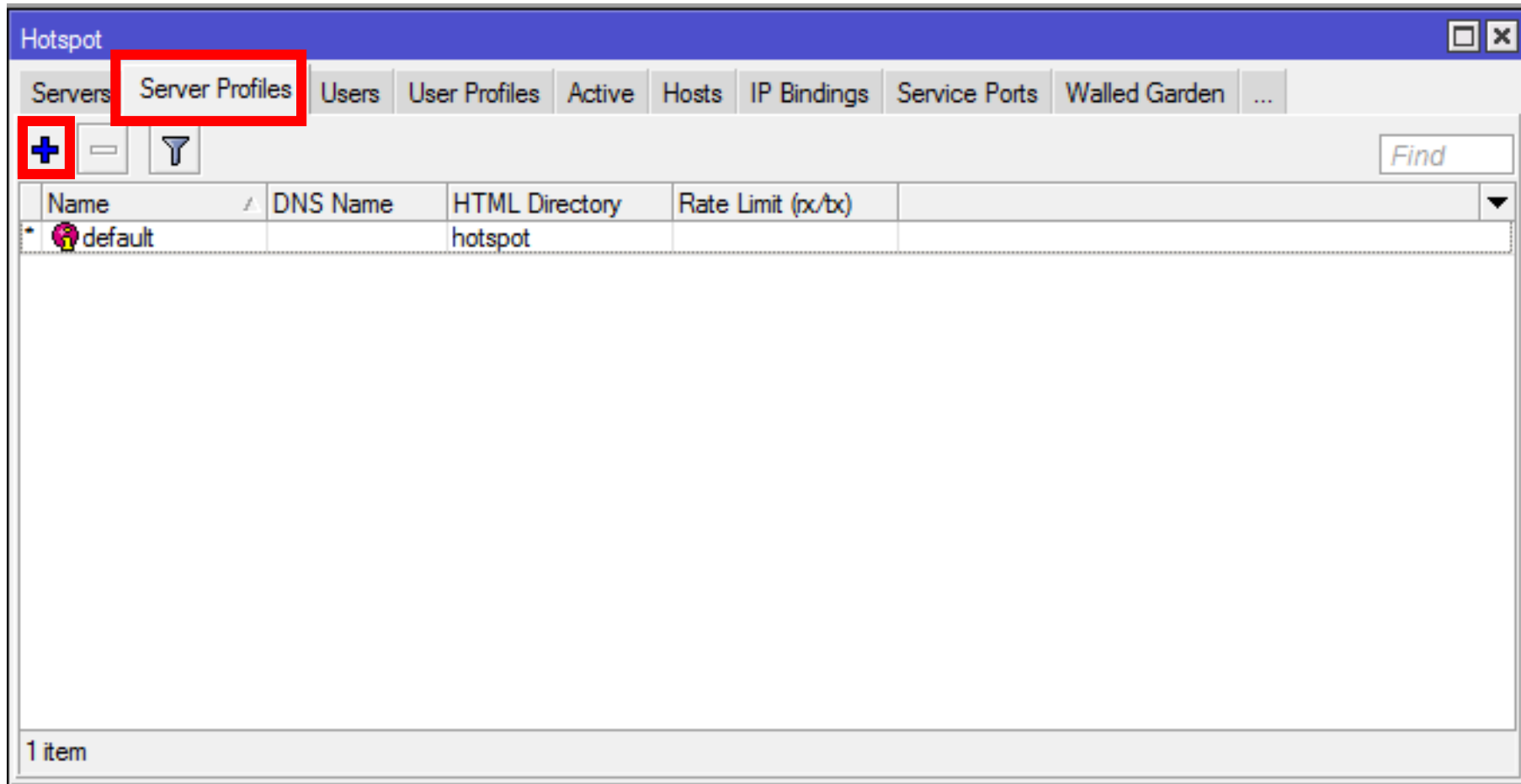
Static

Cache

# HotSpot setup



# HotSpot setup



# HotSpot setup

Hotspot Server Profile <hsprof1>

General Login RADIUS

Name:

Hotspot Address:  ▲

DNS Name:  ▲

HTML Directory:  ▼

HTML Directory Override:

Rate Limit (rx/tx):

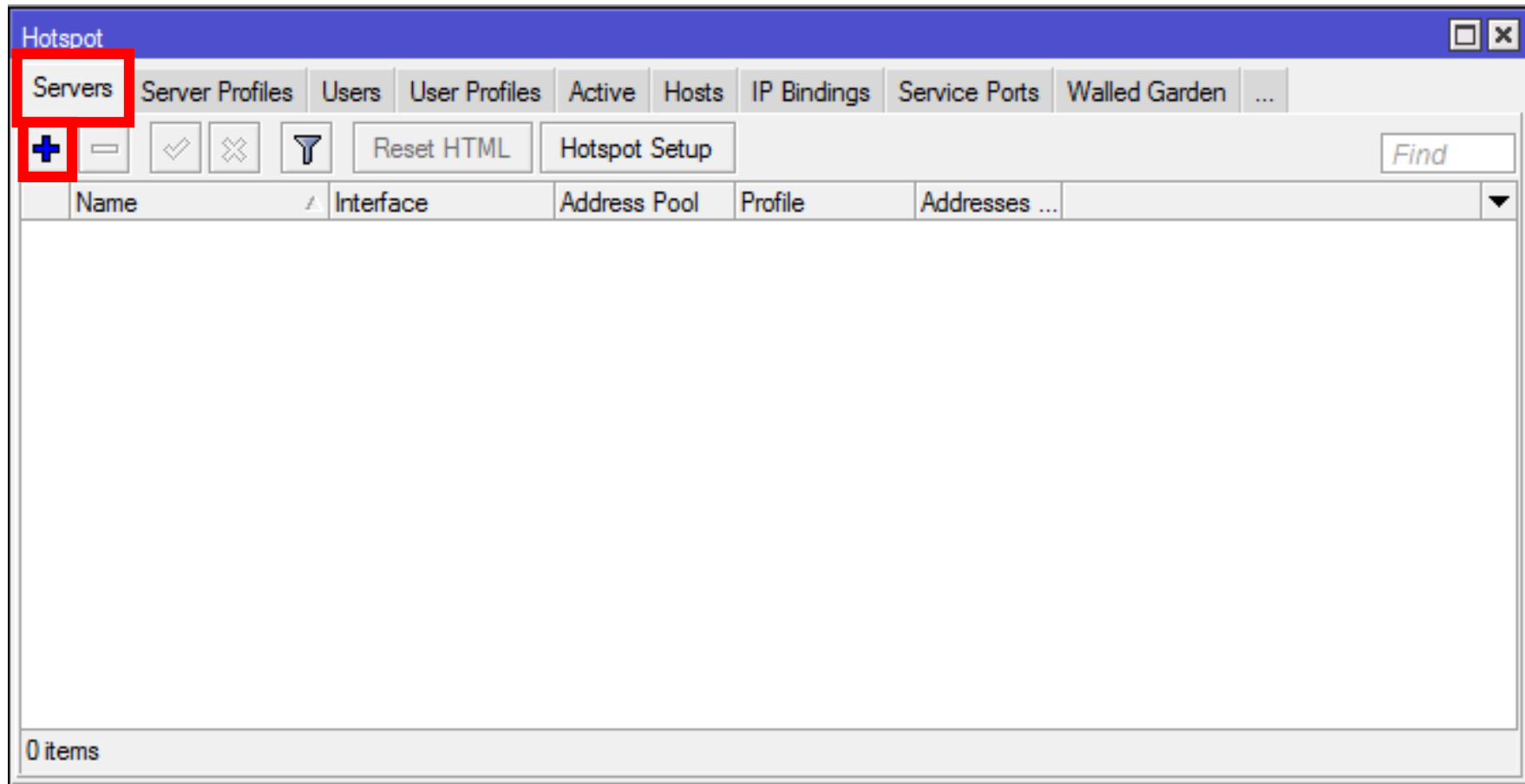
HTTP Proxy:

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:  ▼

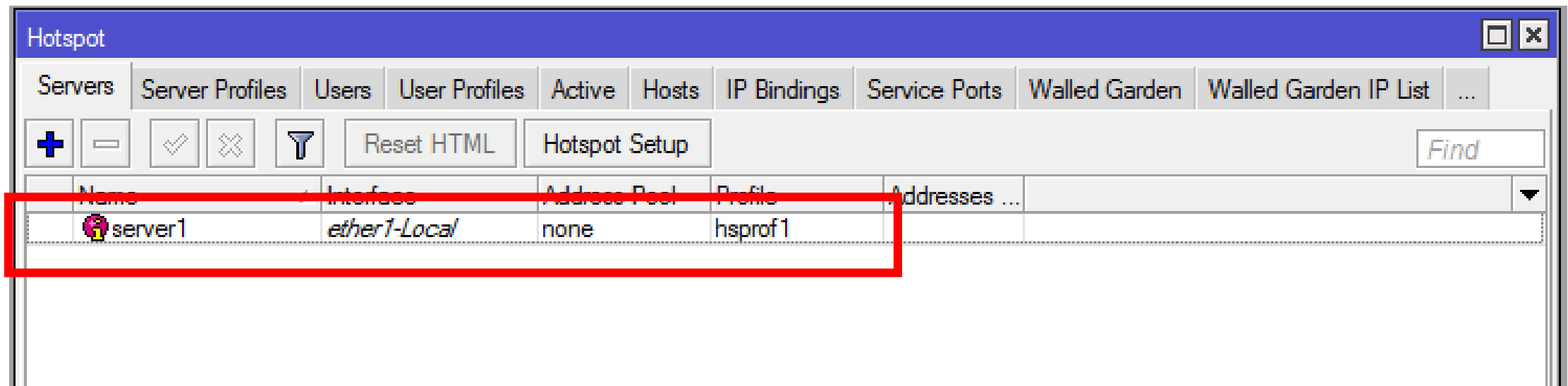
Profile:  ▼

Idle Timeout:

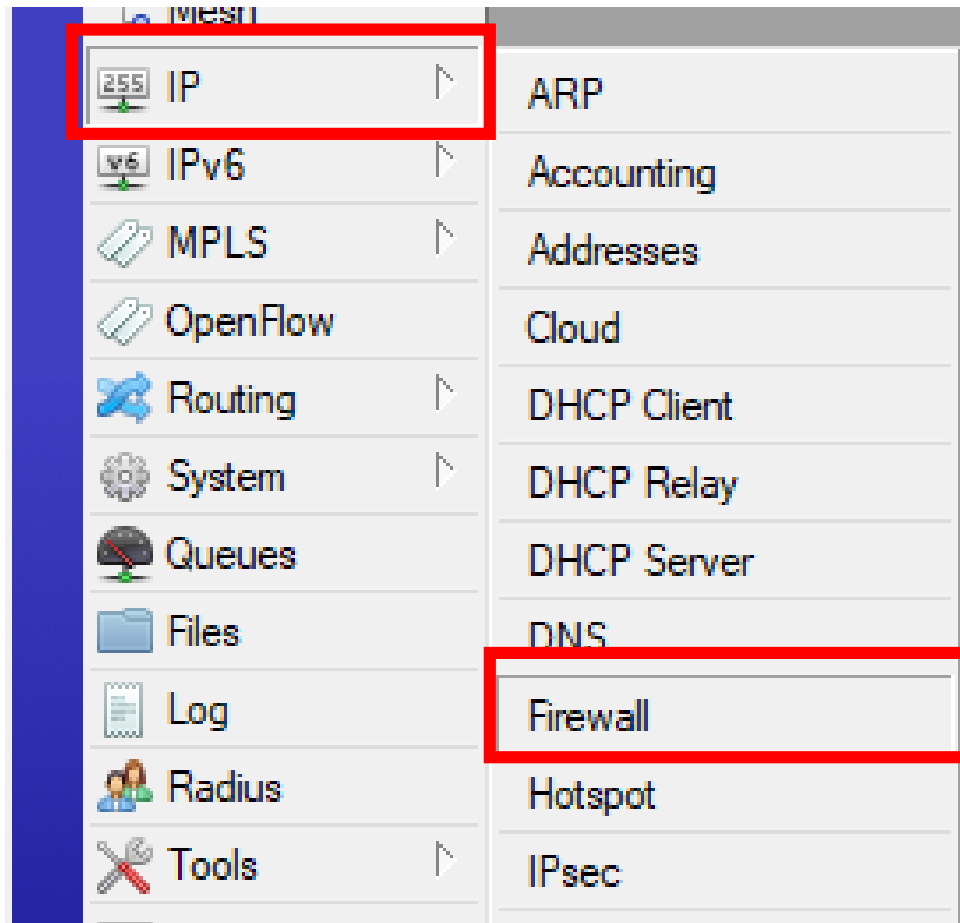
Keepalive Timeout:

OK  
Cancel  
Apply  
Disable  
Copy  
Remove

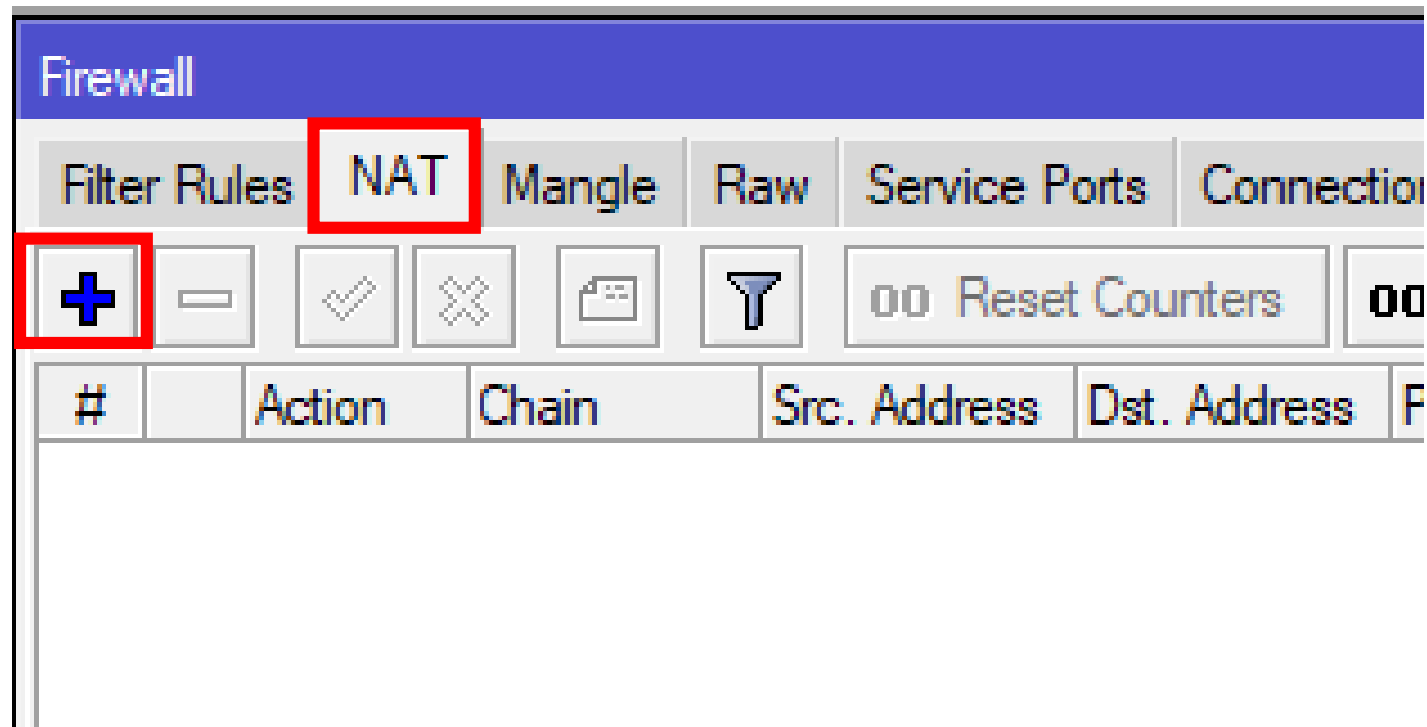
# HotSpot setup



# NAT



# NAT



# 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

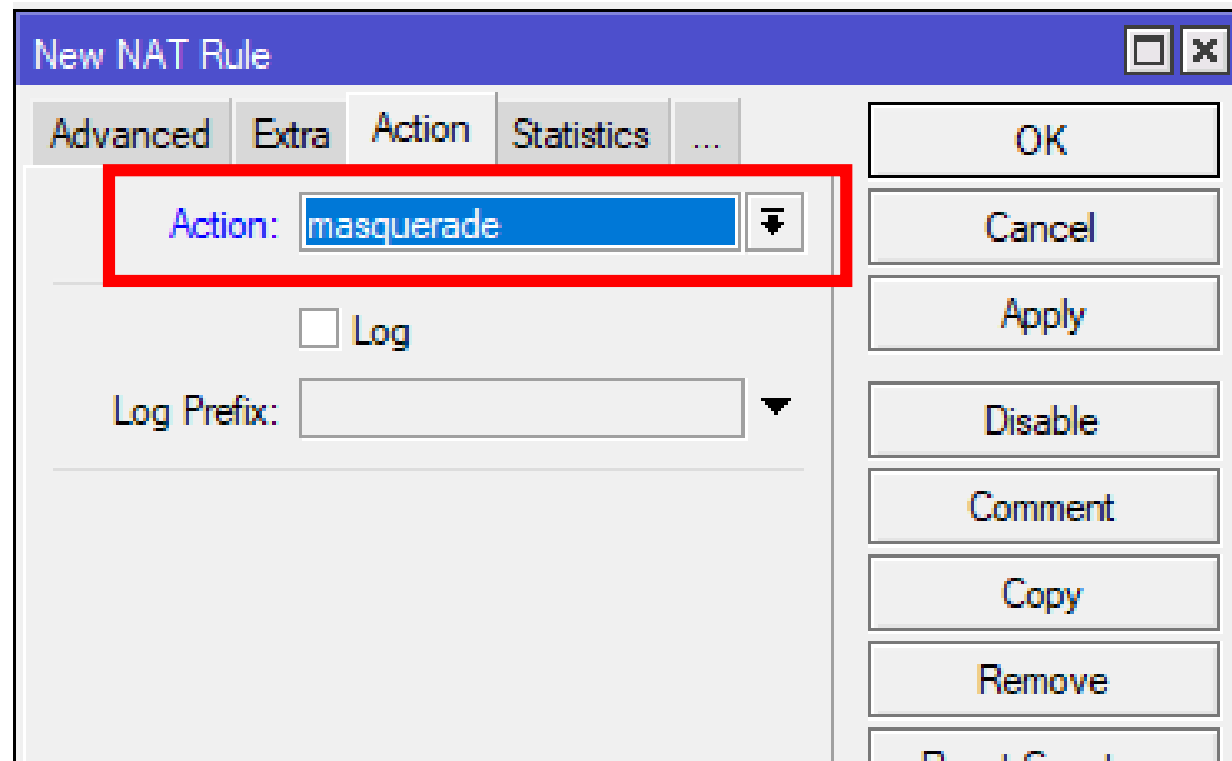
Copy

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*



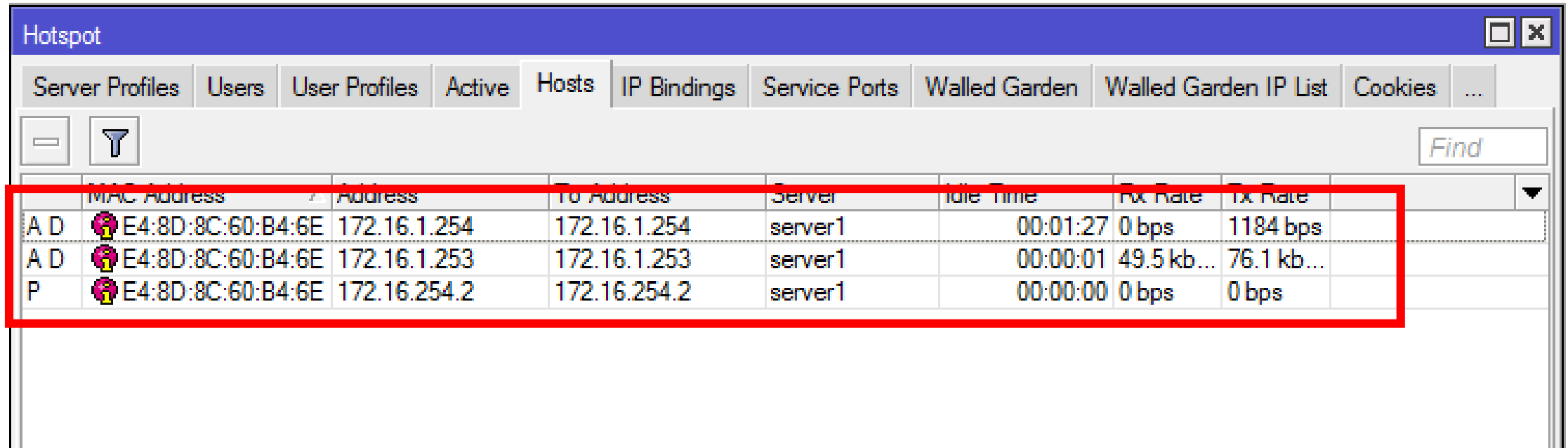
# Test Solution

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                           |

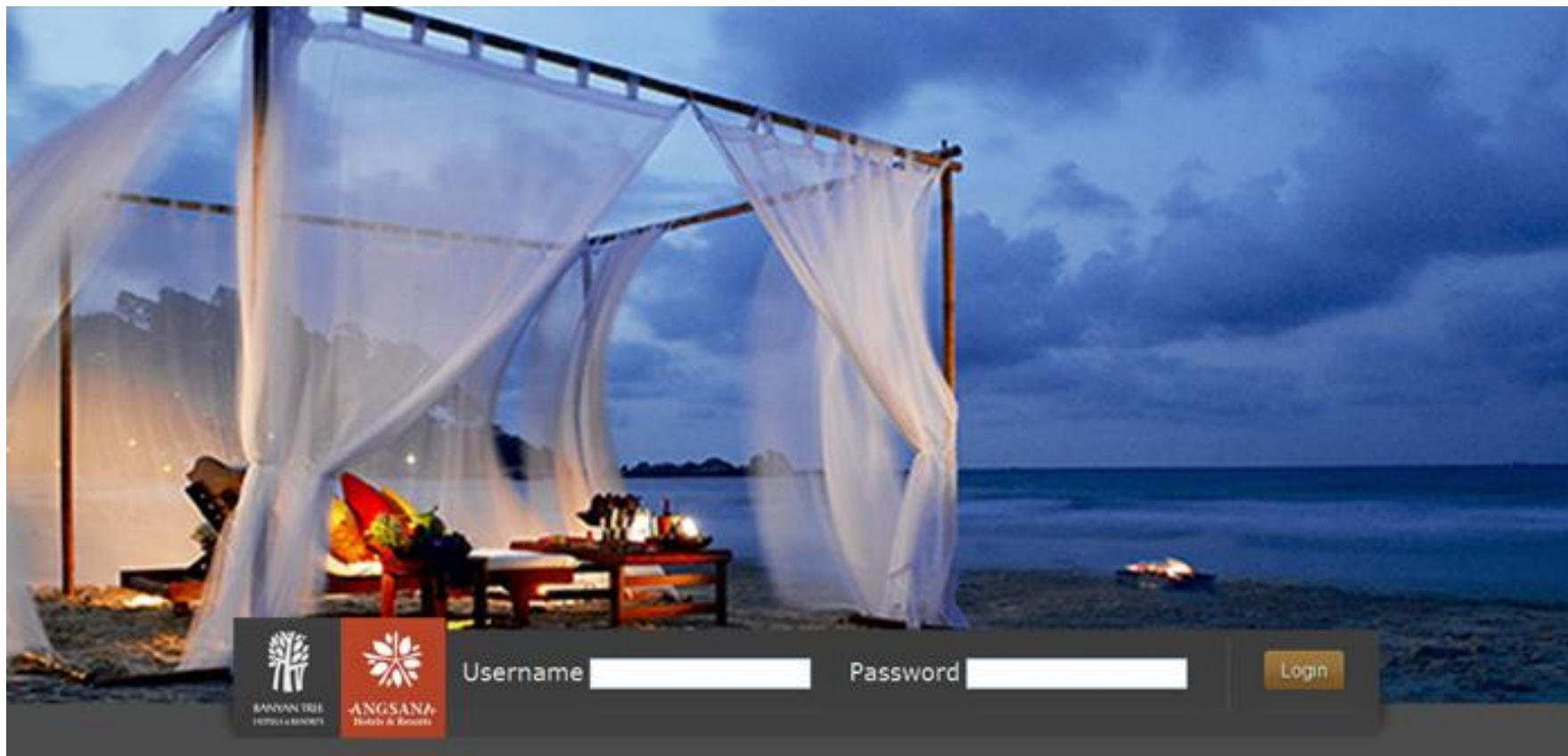
log off

# HotSpot setup

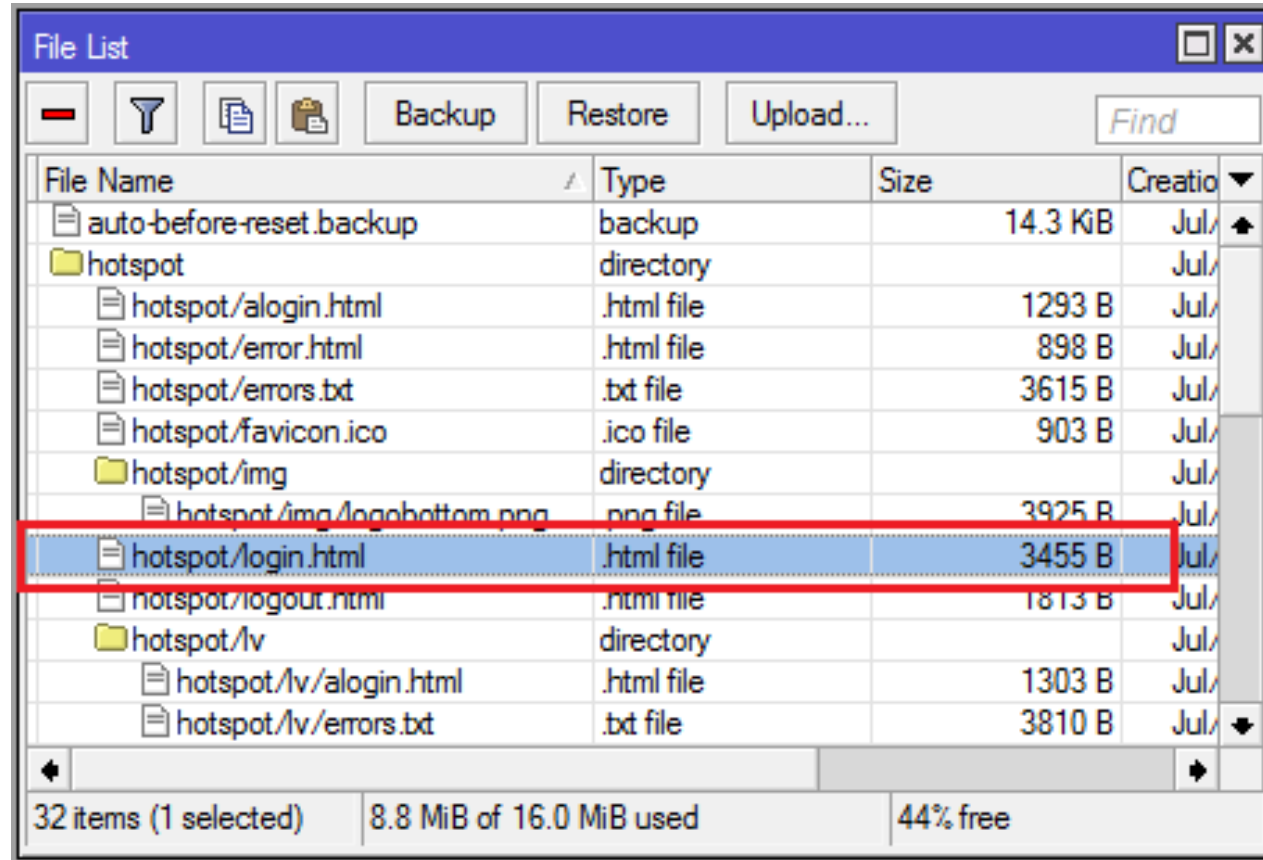


|     | MAC Address       | Address      | To Address   | Server  | Idle Time | Rx Rate    | Tx Rate    |
|-----|-------------------|--------------|--------------|---------|-----------|------------|------------|
| A D | E4:8D:8C:60:B4:6E | 172.16.1.254 | 172.16.1.254 | server1 | 00:01:27  | 0 bps      | 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



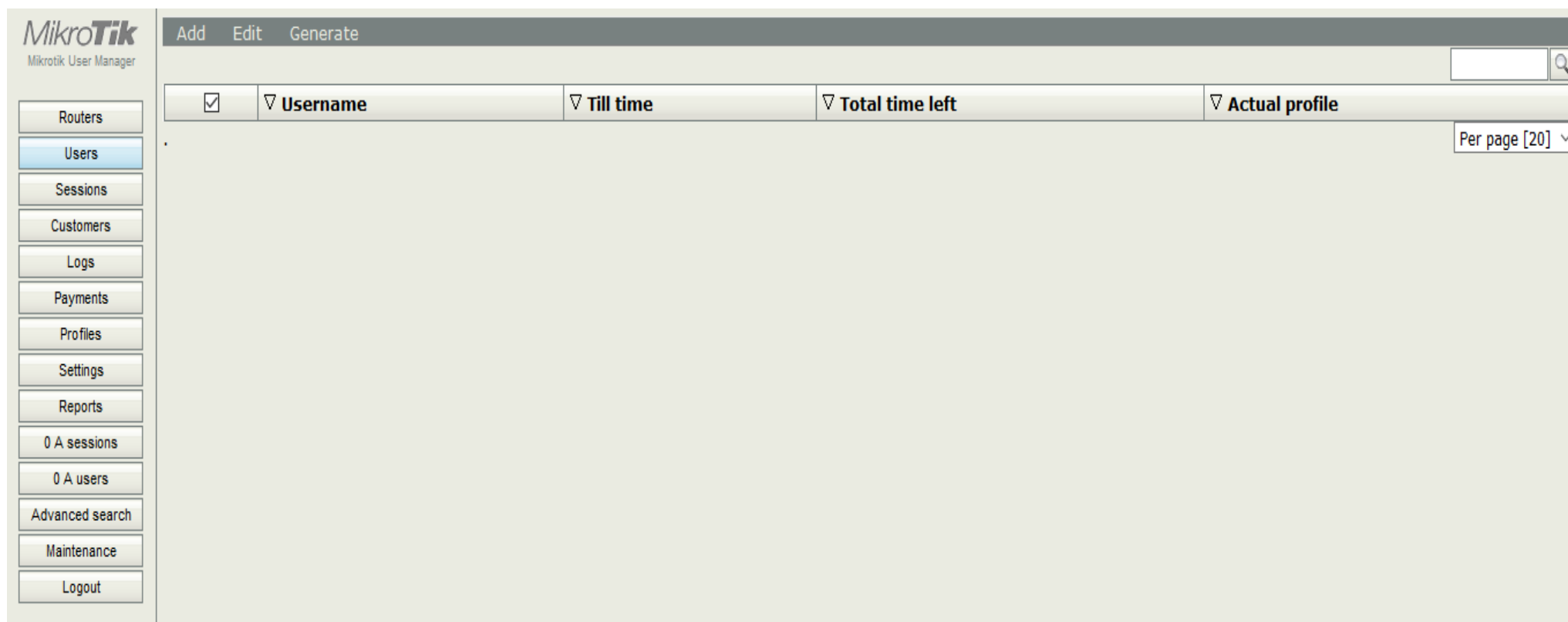
# Customize page



# Accounting

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

# Accounting



The screenshot displays the MikroTik User Manager web 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, followed by a search input field. Below this is a table with the following headers: a checkbox, Username, Till time, Total time left, and Actual profile. The table body is currently empty. In the top right corner of the main area, there is a 'Per page [20]' dropdown menu.

[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