L2TPv2 Tunnel Configuration and Monitoring on cnPilot E Series Access Points

Revision History

Date	Version #	Author(s)	Comments

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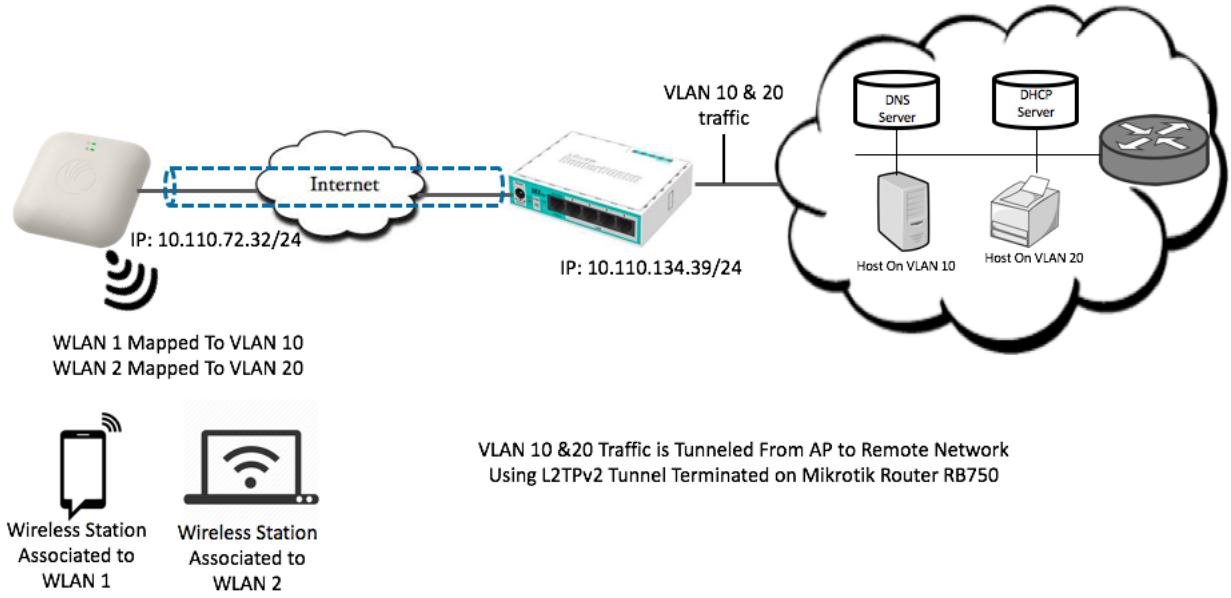
1. Overview of the document

The document will show how to configure and establish L2TPv2 tunnel between AP and Mikrotik router RB750r2 / RB3011UiAS-RM. L2TPv2 tunnel can be used to tunnel the WLAN traffic from AP to remote location. BCP protocol is used to carry WLAN user traffic using PPP session which is established over L2TPv2 tunnel.

The general deployment will look like this



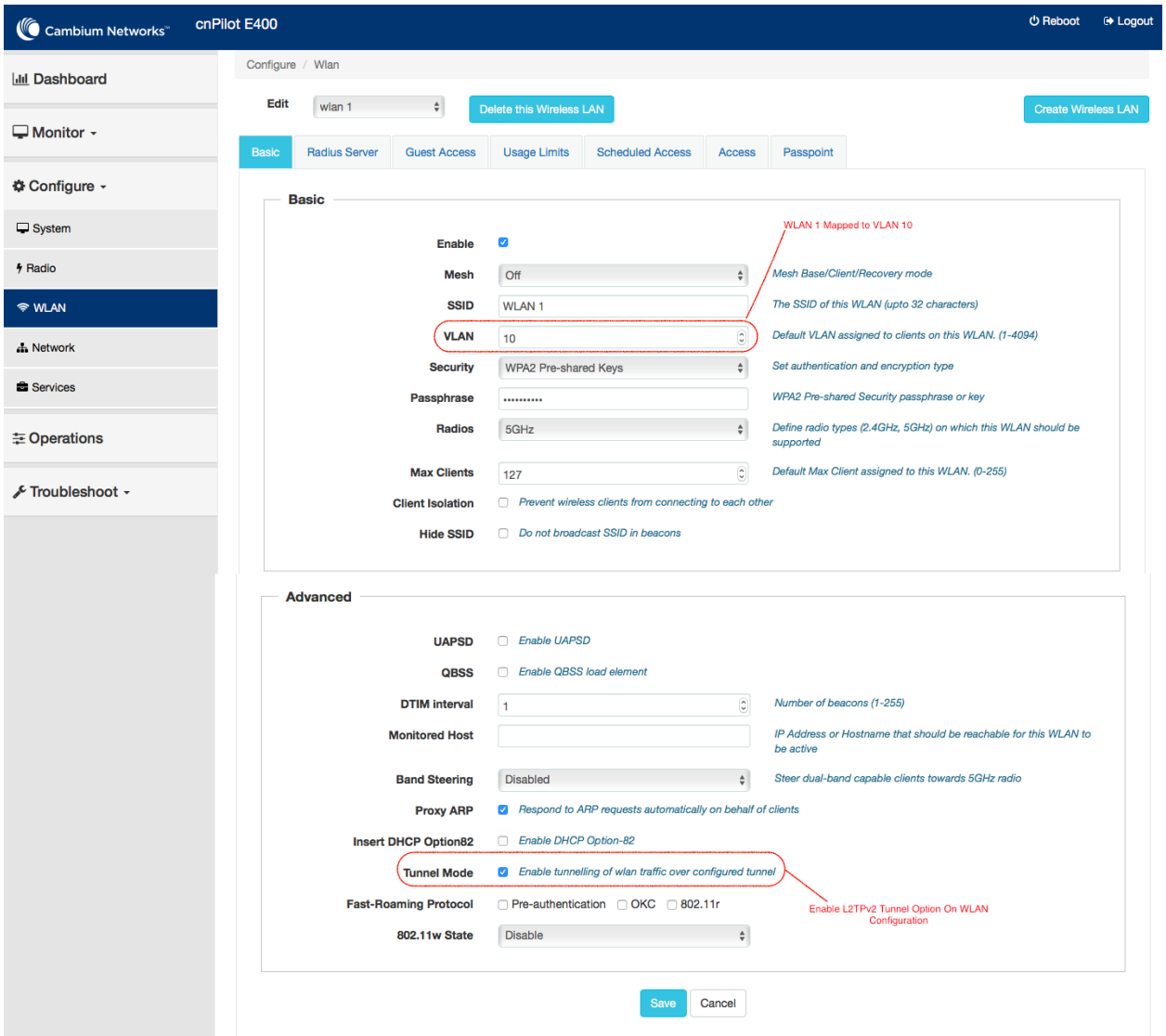
2. L2TPv2 tunnel configuration between AP and Mikrotik Router

It is assumed that AP and Mikrotik router have been configured with the IP addresses, default gateway and reachable over the internet or intranet network.

AP will tag WLAN traffic with the assigned VLAN and will put the traffic on the tunnel interface. Mikrotik router will put the VLAN tagged packet on LAN ports

2.1 L2TPv2 Tunnel and WLAN profile configuration on AP

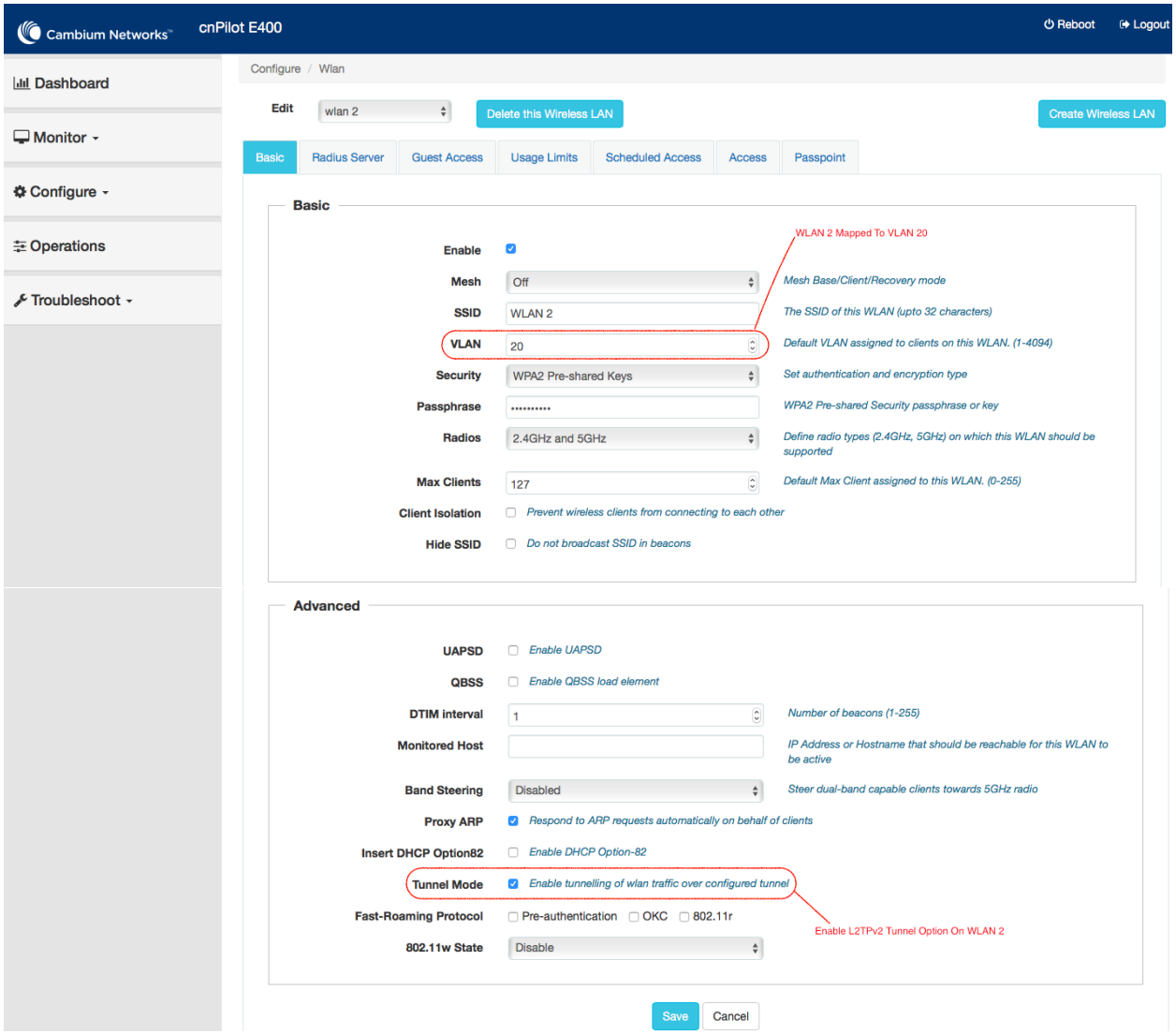
WLAN 1 profile is configured with VLAN 10 and L2TPv2 tunnel option



WLAN 1 profile CLI configuration

```
wireless wlan 1
 ssid "WLAN 1"
 no shutdown
 vlan 10
 security wpa2-psk
 passphrase $crypt$1$AS6/o+ejaVVEuHJtqGrtm4gtcidqRXC7
 band 5GHz
 dtim-interval 1
 max-associated-client 127
 tunnel-mode
 mac-authentication policy deny
 no guest-access
!
```

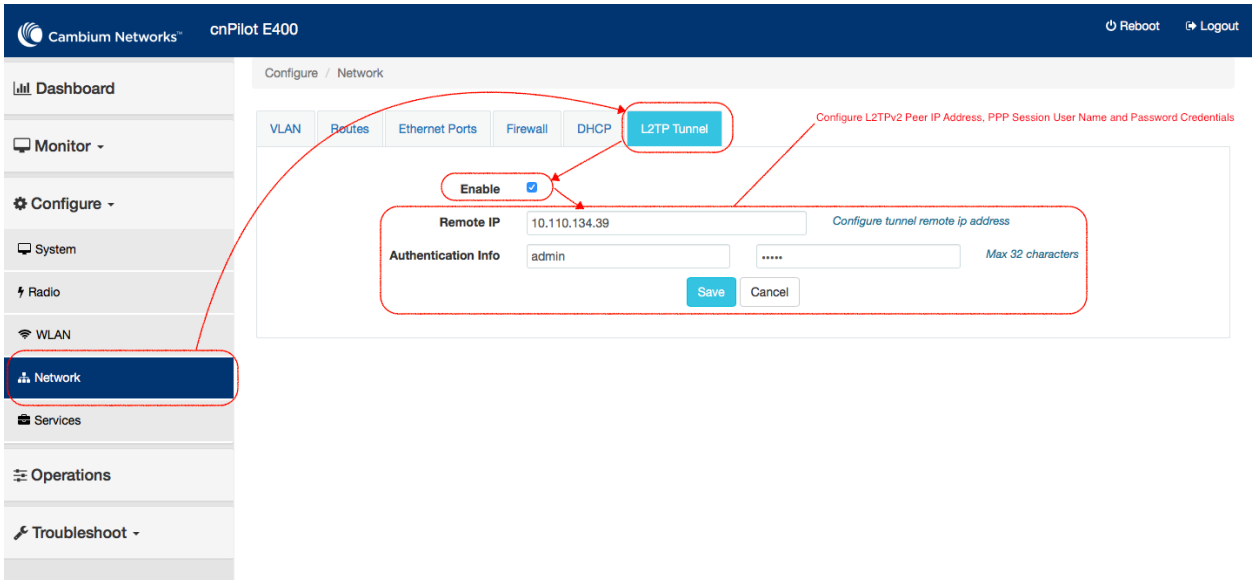
WLAN 2 profile is configured with VLAN 20 and L2TPv2 tunnel option



WLAN 2 profile CLI configuration

```
!
wireless wlan 2
 ssid "WLAN 2"
 no shutdown
 vlan 20
 security wpa2-psk
 passphrase $crypt$1$VReLF3zP0jiGUuepVIxS9I7oi/FYrVEB
 band both
 dtim-interval 1
 max-associated-client 127
 tunnel-mode
 mac-authentication policy deny
 no guest-access
!
```

L2TPv2 tunnel configuration on AP



L2TPv2 Tunnel CLI configuration

```
!
tunnel l2tp
 no shutdown
 remote-ip 10.110.134.39
 auth admin $crypt$1$IT3as4npmJQo1ffYC0+x35Rzd1pae4fz
```

One AP once can see the status of tunnel with command “show tunnel status”

```
MB-E500(config)# show tunnel-status

 TYPE     REMOTE-IP          STATUS
 l2tp     10.110.134.39      Up

MB-E500(config)#
```

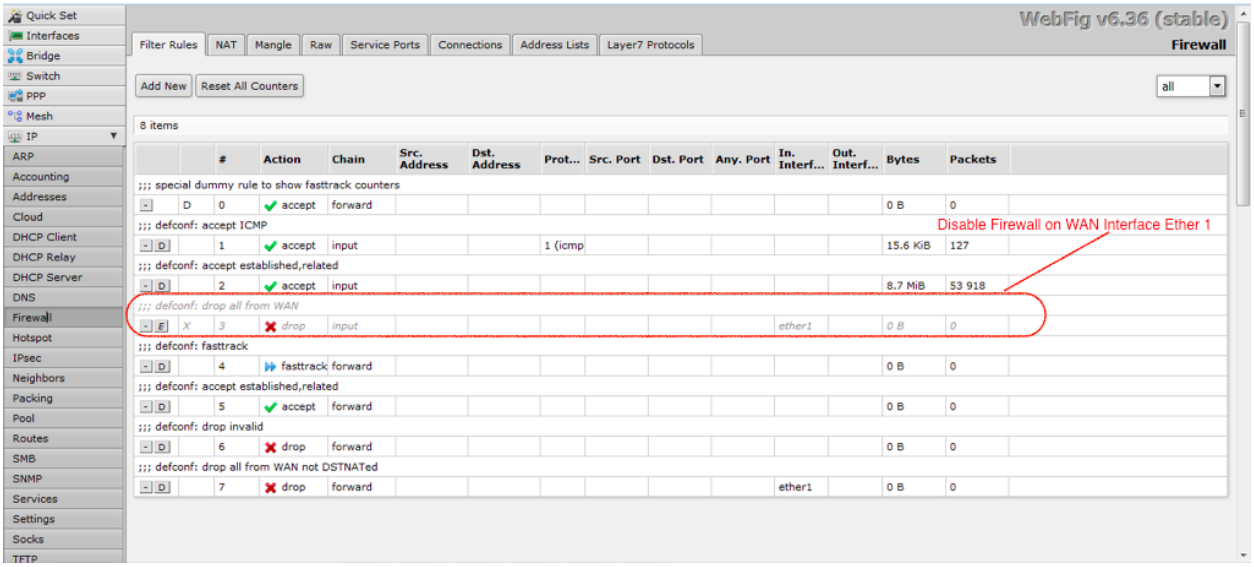
2.2 L2TPv2 Tunnel configuration on Mikrotik router

Configuration on Mikrotik router (750 RB750r2 hEX lite 5 ports router) involves below 5 steps

- Disable Firewall on WAN interface

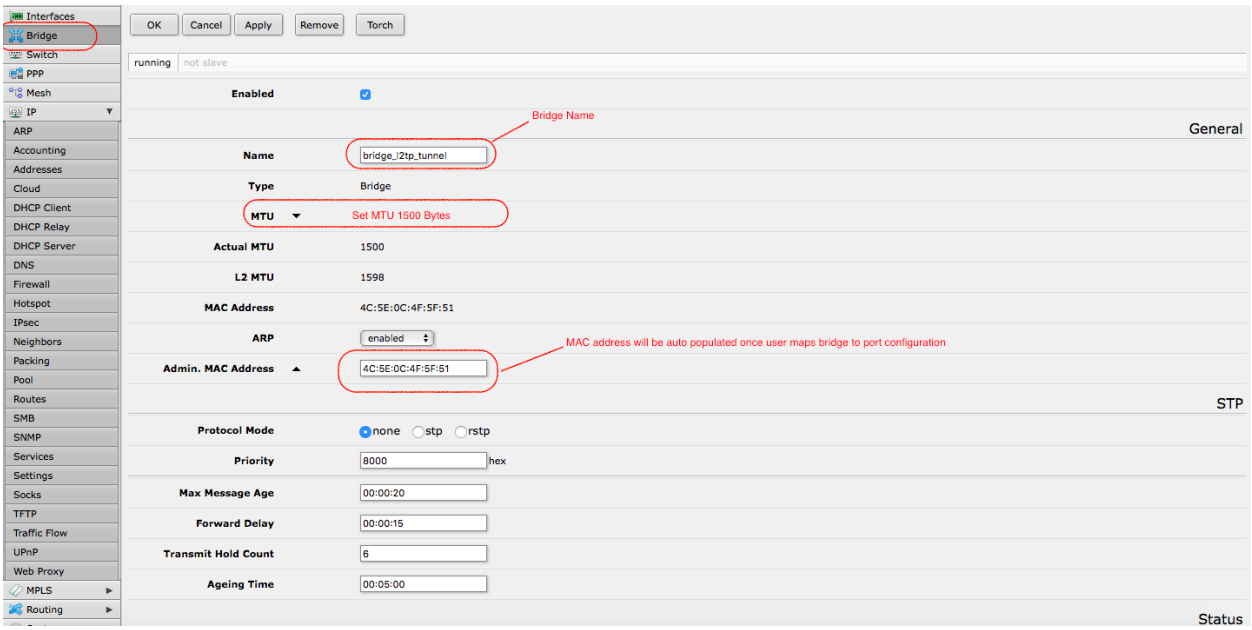
- Bridge configuration
- Assigning port to bridge
- Assigning IP address to bridge
- Create PPP profile for bridging
- Add PPP secrets
- Configuring L2TPv2 Server

Disable Firewall configuration on WAN interface:



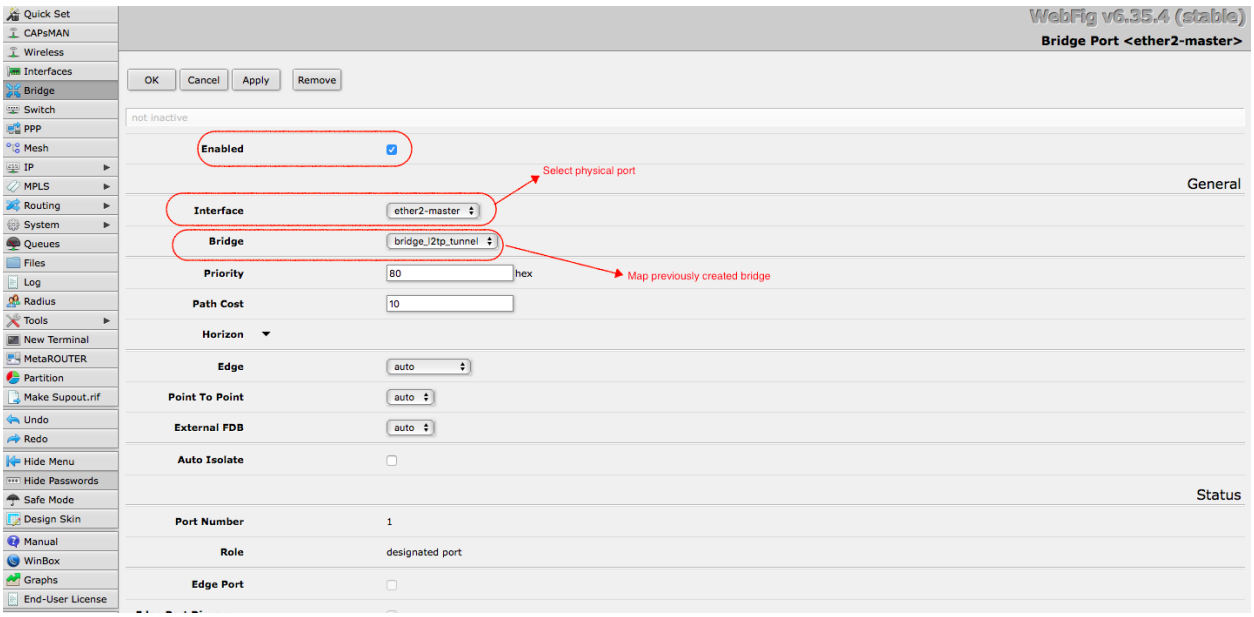
Bridge configuration:

Go to bridge configuration section and add new bridge with below configuration



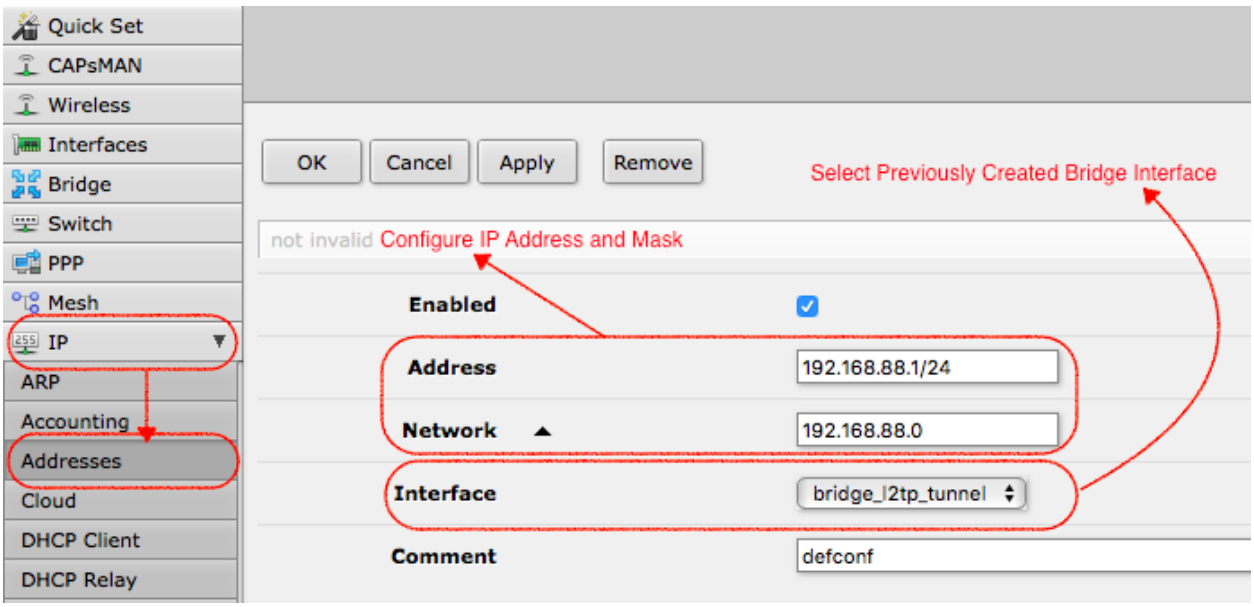
Assigning port to bridge:

Go to bridge configuration section and add new port with below configuration



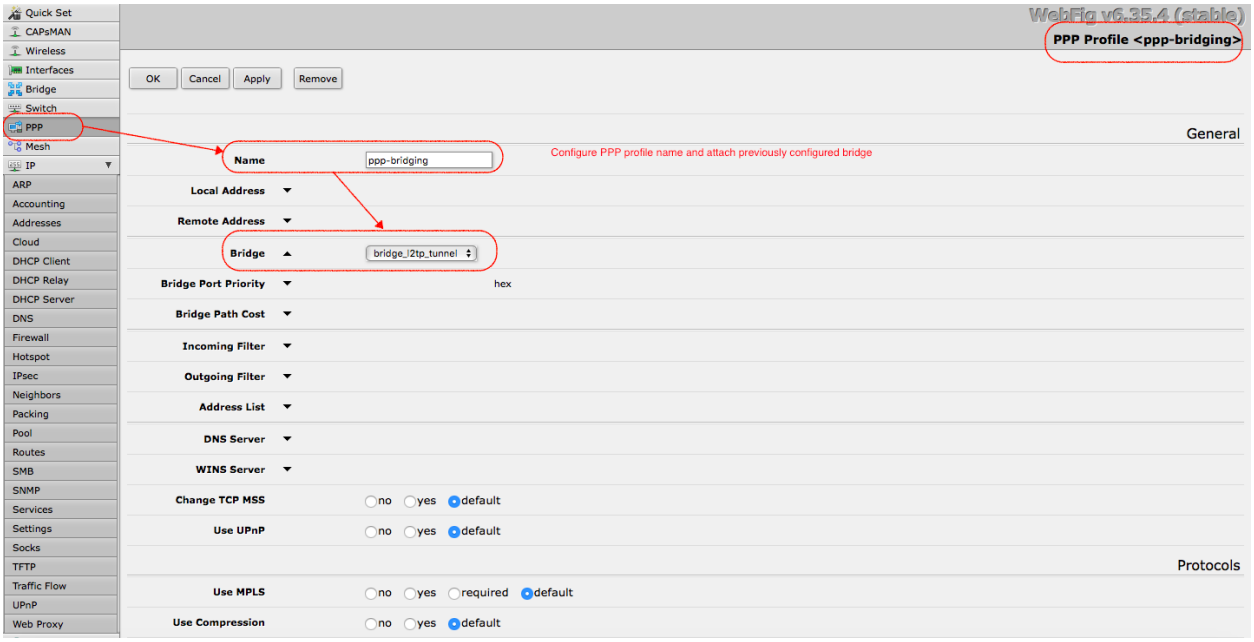
Assigning IP address to bridge interface:

Go to IP configuration - > Addresses -> Add new



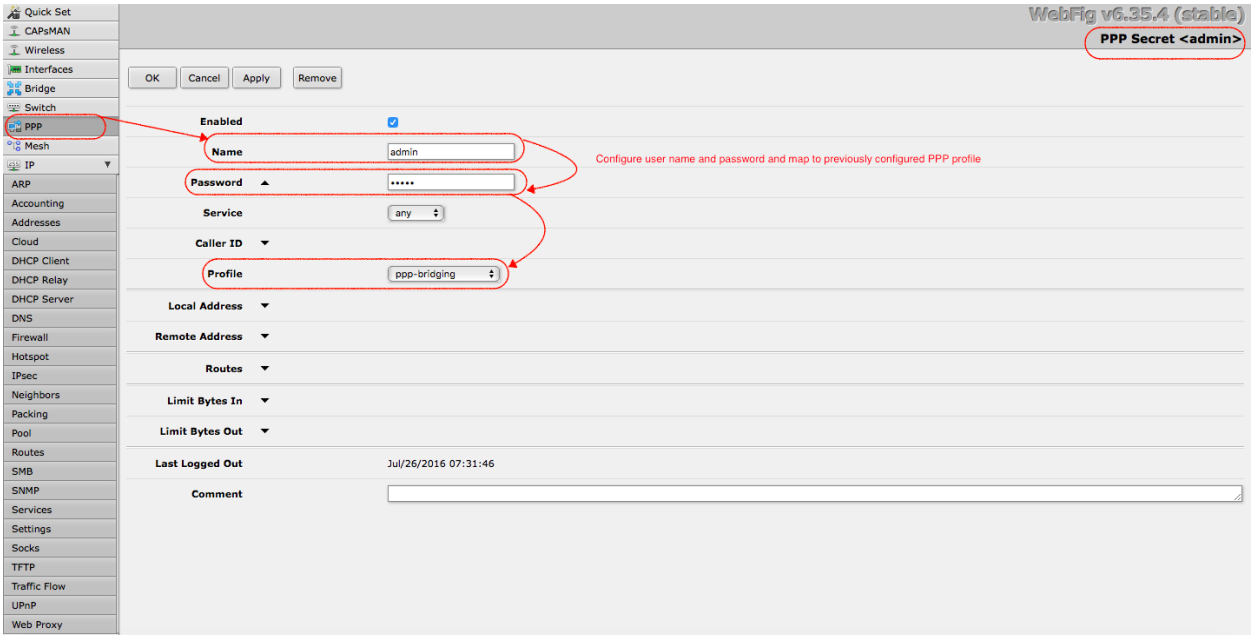
Create PPP profile for bridging:

Go to PPP Configuration -> Profiles -> Add New settings, please do below configurations



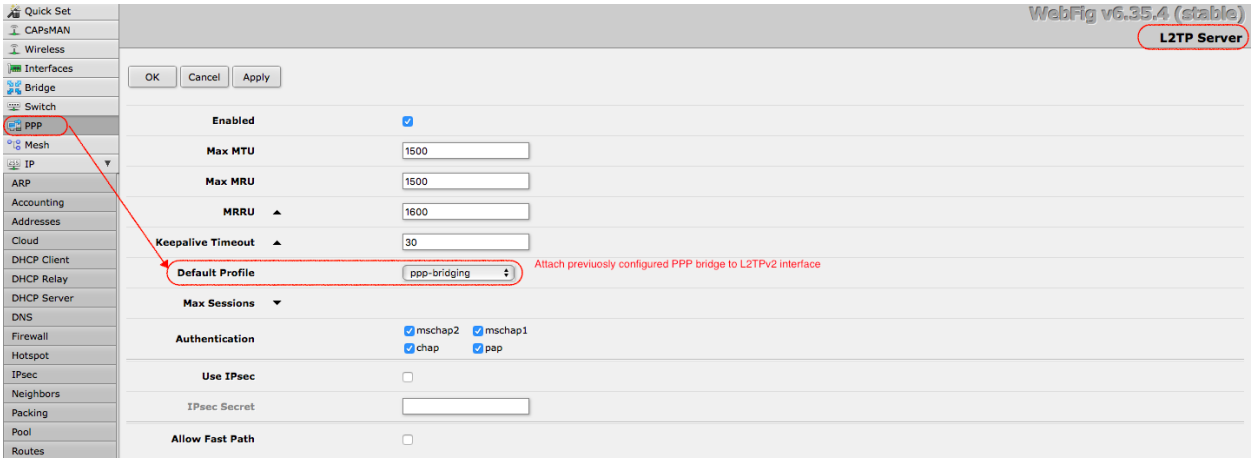
PPP Secret settings:

Go to PPP Configuration -> Secrets -> Add new settings and do below configuration



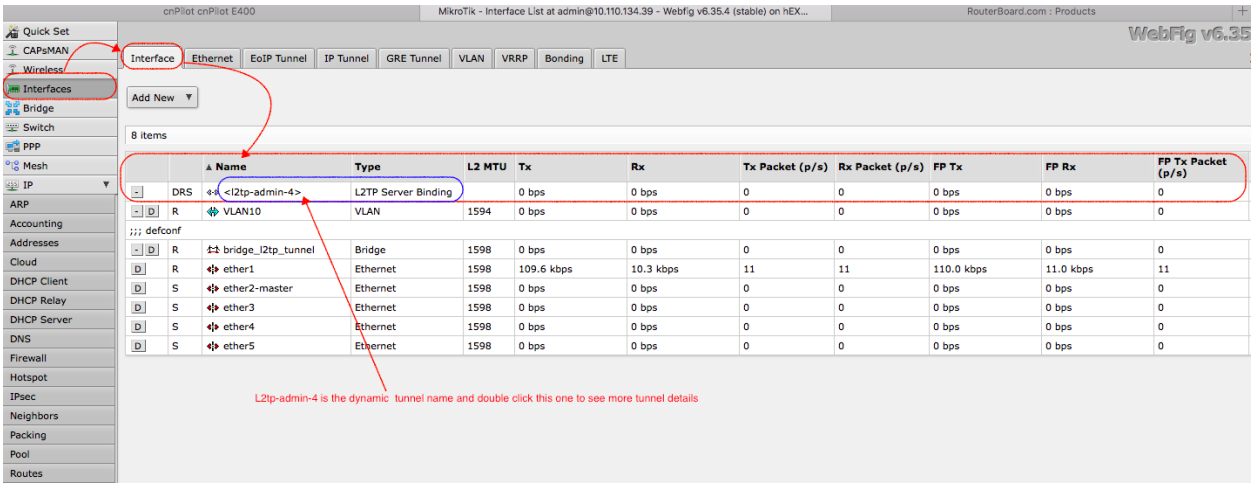
Configuring L2TPv2 Server:

Go to PPP Configuration -> Interface -> L2TP Server with the below configuration options

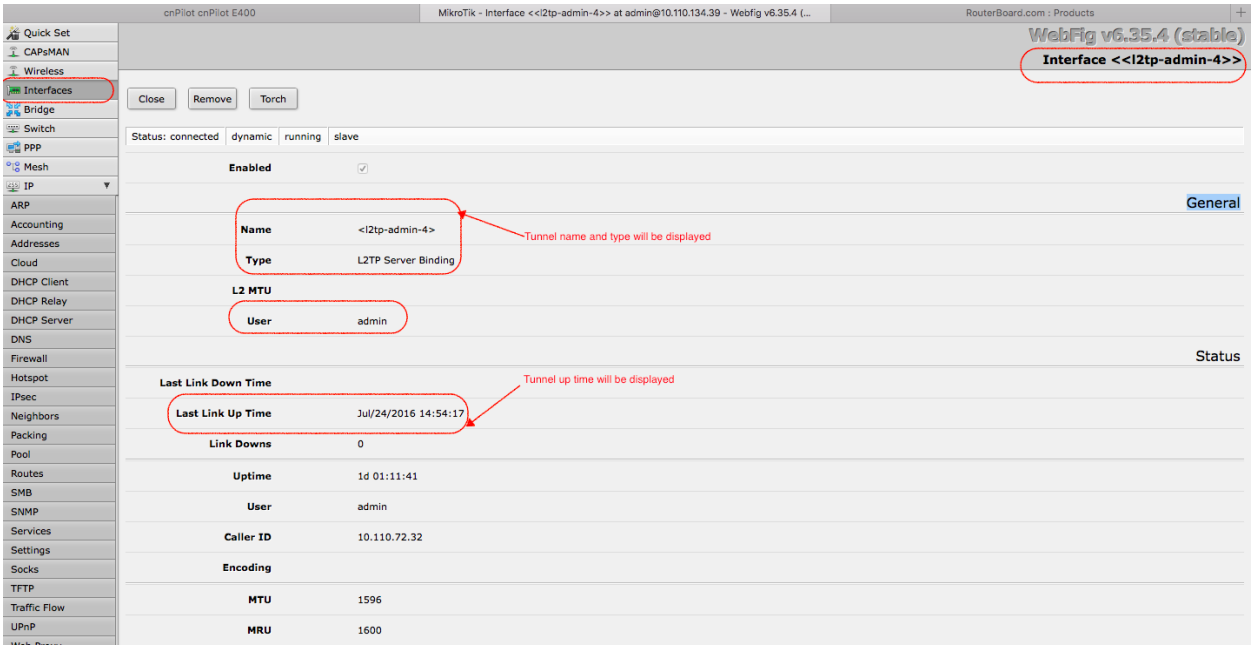


This completes Mikrotik router UI configuration for L2TPv2 bridging

One can see the status of L2TPv2 tunnel under Interfaces section



More status and statistics information of the above created tunnel



3. **Deployment guidelines**

- When WLAN profile is configured with L2TPv2 tunnel option, DHCP server, Default gateway and DNS server shall be reachable over the tunnel
- User traffic will not be bridged to local VLAN interface i.e. all the user traffic on that WLAN will be put on to the tunnel only

- On board Captive Portal feature will not work on the tunneled WLAN