

*Mikro***Tik** is simple!

Workshop plan

Quickset

Several new features

RouterOS default configuration

Webfig

Workshop Equipment



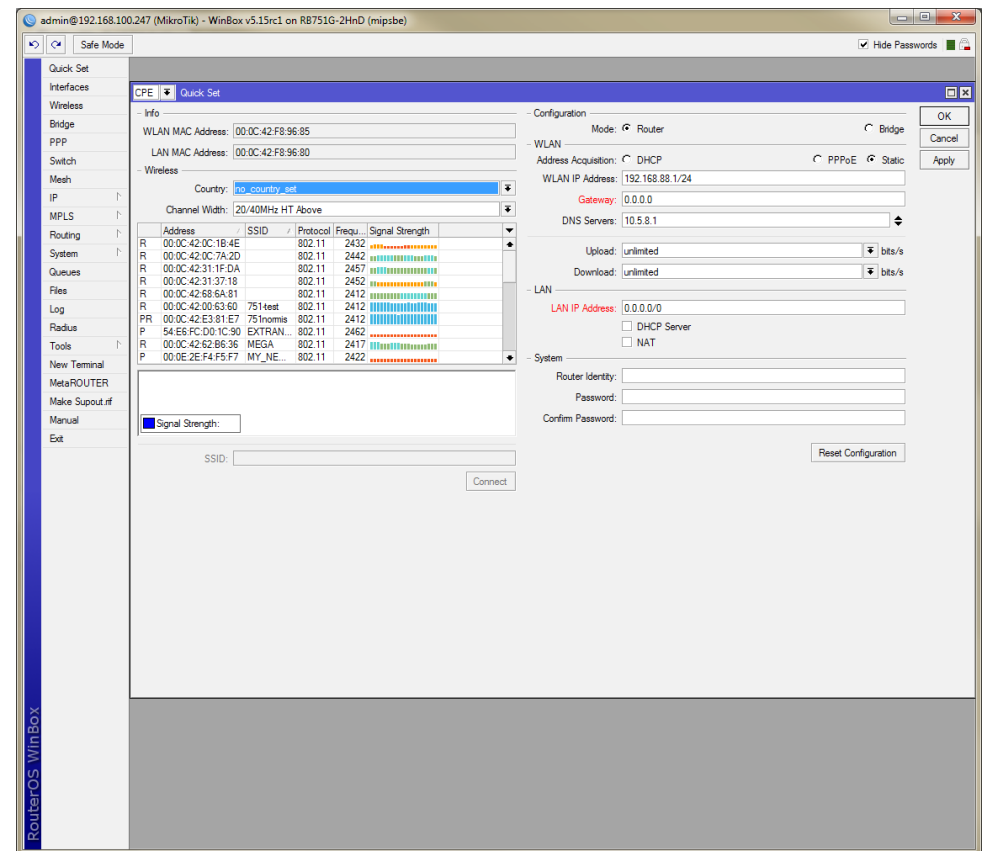
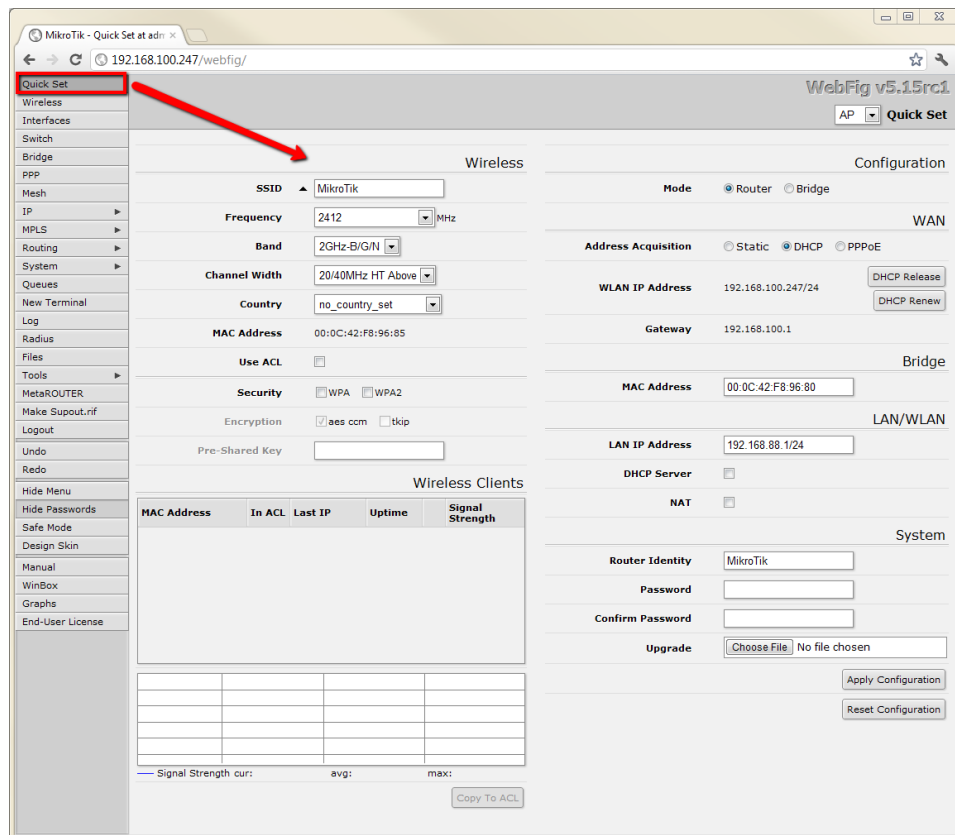
Quickset

Few clicks to set MikroTik router

AP and CPE modes available

How to get Quickset

Web-interface and Winbox



CPE Quicket

Available

SXT, Groove

RB711, RB411

other CPE (l3) RouterBOARDS

Setup Network by Quickset



AP Quickset

Access router by browser or Winbox

Configure necessary settings

AP Check-List

ip addresses, default gateway

wireless (SSID, frequency, band, etc.)

NAT

Additional configuration

AP Quickset Demo

MikroTik - Quick Set at admin

192.168.100.247/webfig/

WebFig v5.15rc1

AP Quick Set

Quick Set

Wireless

Interfaces

Switch

Bridge

PPP

Mesh

IP

MPLS

Routing

System

Queues

New Terminal

Log

Radius

Files

Tools

MetaROUTER

Make Supout.nif

Logout

Undo

Redo

Hide Menu

Hide Passwords

Safe Mode

Design Skin

Manual

WinBox

Graphs

End-User License

Wireless

Configuration

WAN

Bridge

LAN/WLAN

System

SSID

MikroTik

Frequency

2412

MHz

Band

2GHz-B/G/N

Channel Width

20/40MHz HT Above

Country

no_country_set

MAC Address

00:0C:42:F8:96:85

Use ACL

Security

WPA

WPA2

Encryption

aes ccm

tkip

Pre-Shared Key

Wireless Clients

MAC Address	In ACL	Last IP	Uptime	Signal Strength

Signal Strength cur: avg: max:

Copy To ACL

Mode

Router

Bridge

Address Acquisition

Static

DHCP

PPPoE

WLAN IP Address

192.168.100.247/24

DHCP Release

DHCP Renew

Gateway

192.168.100.1

MAC Address

00:0C:42:F8:96:80

LAN IP Address

192.168.88.1/24

DHCP Server

NAT

Router Identity

MikroTik

Password

Confirm Password

Upgrade

Choose File

No file chosen

Apply Configuration

Reset Configuration

AP Quickset Demo

SSID “MikroTikisSimple”

192.168.88.100

login demo and no password

CPE Quickset

Connect antenna!!!

Access by Winbox/Webfig



CPE Checklist

Router or Bridge

ip address, gateway

Wireless (SSID, band)

CPE Quickset Demo

admin@192.168.100.247 (MikroTik) - WinBox v5.15rc1 on RB751G-2HnD (mipsbe)

Safe Mode

Quick Set

Interfaces

Wireless

Bridge

PPP

Switch

Mesh

IP

MPLS

Routing

System

Queues

Files

Log

Radius

Tools

New Terminal

MetaROUTER

Make Supout.tif

Manual

Exit

CPE Quick Set

Info

WLAN MAC Address: 00:0C:42:F8:96:85

LAN MAC Address: 00:0C:42:F8:96:80

Wireless

Country: no_country_set

Channel Width: 20/40MHz HT Above

	SSID	Band	Protocol	Frequ...	Signal Strength
R	Metal	2GHz-B/G/N 2...	nv2	2462	-85
R	Metal_nnn	2GHz-B/G/N 2...	802.11	2437	-88
PR	t8lv	2GHz-B/G/N 2...	802.11	2432	-77
R	751-test	2GHz-B/G/N 2...	802.11	2412	-53
R	ap_lapto...	2GHz-B/G/N 2...	802.11	2462	-84
R	raivis	2GHz-B/G/N 2...	802.11	2457	-57
R	den	2GHz-B/G/N 2...	802.11	2412	-82
PR	hs1	2GHz-B/G/N 2...	802.11	2412	-46
R		2GHz-B/G/N 2...	802.11	2432	-77
R		2GHz-B/G/N 2...	802.11	2442	-70

Signal Strength:

SSID:

Connect

Configuration

Mode: Router

WLAN

Address Acquisition: DHCP

WLAN IP Address: 192.168.88.1/24

Gateway: 0.0.0.0

DNS Servers: 10.5.8.1

Upload: unlimited bits/s

Download: unlimited bits/s

LAN

LAN IP Address: 0.0.0.0/0

DHCP Server

NAT

System

Router Identity:

Password:

Confirm Password:

Reset Configuration

OK

Cancel

Apply

Suggestions?
support@mikrotik.com

Several new v5.x features

Export only applied configuration

Simple SMB server

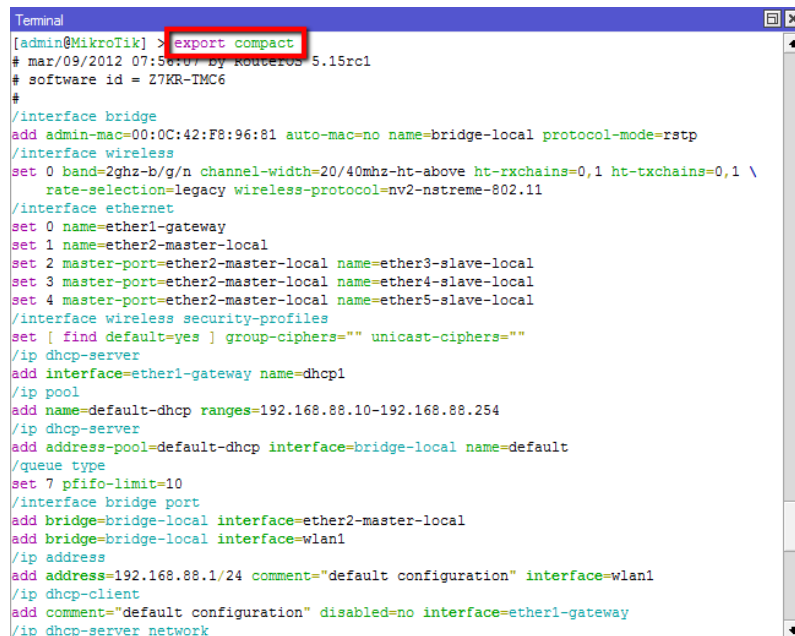
Hardware queues

LTE modems support

Export compact

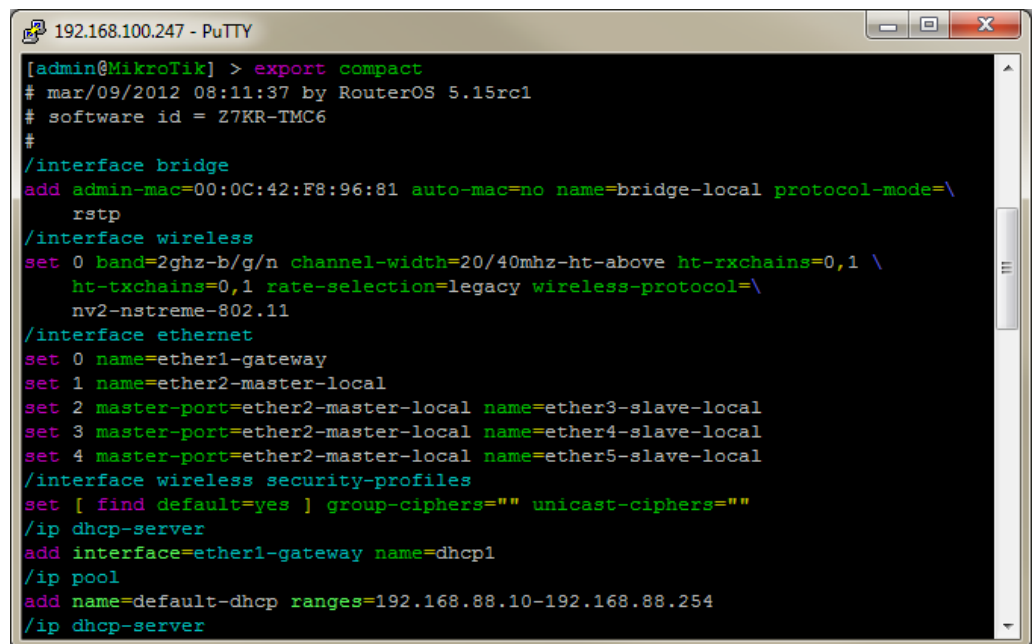
Exports only applied settings

Crucial for automated backups



A terminal window titled 'Terminal' with a blue header bar. The prompt is '[admin@MikroTik] >'. The command 'export compact' is entered and highlighted with a red rectangle. The output shows the configuration of a Mikrotik router, including system information, interface settings for bridge, wireless, and ethernet, and DHCP server configurations. The text is color-coded: green for comments, blue for interface names, and red for configuration commands.

```
[admin@MikroTik] > export compact
# mar/09/2012 07:56:09 by RouterOS 5.15rc1
# software id = 27KR-TMC6
#
/interface bridge
add admin-mac=00:0C:42:F8:96:81 auto-mac=no name=bridge-local protocol-mode=rstp
/interface wireless
set 0 band=2ghz-b/g/n channel-width=20/40mhz-ht-above ht-rxchains=0,1 \
rate-selection=legacy wireless-protocol=nv2-nstreme-802.11
/interface ethernet
set 0 name=ether1-gateway
set 1 name=ether2-master-local
set 2 master-port=ether2-master-local name=ether3-slave-local
set 3 master-port=ether2-master-local name=ether4-slave-local
set 4 master-port=ether2-master-local name=ether5-slave-local
/interface wireless security-profiles
set [ find default=yes ] group-ciphers="" unicast-ciphers=""
/ip dhcp-server
add interface=ether1-gateway name=dhcp1
/ip pool
add name=default-dhcp ranges=192.168.88.10-192.168.88.254
/ip dhcp-server
add address-pool=default-dhcp interface=bridge-local name=default
/queue type
set 7 pfifo-limit=10
/interface bridge port
add bridge=bridge-local interface=ether2-master-local
add bridge=bridge-local interface=wlan1
/ip address
add address=192.168.88.1/24 comment="default configuration" interface=wlan1
/ip dhcp-client
add comment="default configuration" disabled=no interface=ether1-gateway
/ip dhcp-server network
```



A PuTTY window titled '192.168.100.247 - PuTTY' with a standard title bar. The prompt is '[admin@MikroTik] >'. The command 'export compact' is entered. The output shows the configuration of a Mikrotik router, including system information, interface settings for bridge, wireless, and ethernet, and DHCP server configurations. The text is color-coded: green for comments, blue for interface names, and red for configuration commands.

```
[admin@MikroTik] > export compact
# mar/09/2012 08:11:37 by RouterOS 5.15rc1
# software id = 27KR-TMC6
#
/interface bridge
add admin-mac=00:0C:42:F8:96:81 auto-mac=no name=bridge-local protocol-mode=\
rstp
/interface wireless
set 0 band=2ghz-b/g/n channel-width=20/40mhz-ht-above ht-rxchains=0,1 \
ht-txchains=0,1 rate-selection=legacy wireless-protocol=\
nv2-nstreme-802.11
/interface ethernet
set 0 name=ether1-gateway
set 1 name=ether2-master-local
set 2 master-port=ether2-master-local name=ether3-slave-local
set 3 master-port=ether2-master-local name=ether4-slave-local
set 4 master-port=ether2-master-local name=ether5-slave-local
/interface wireless security-profiles
set [ find default=yes ] group-ciphers="" unicast-ciphers=""
/ip dhcp-server
add interface=ether1-gateway name=dhcp1
/ip pool
add name=default-dhcp ranges=192.168.88.10-192.168.88.254
/ip dhcp-server
```

Export and Quickset

The screenshot shows the MikroTik WebFig Quick Set interface. The 'Info' tab is selected, displaying the following information:

- WLAN MAC Address:** 00:0C:42:F8:96:85
- LAN MAC Address:** 00:0C:42:F8:96:80
- Country:** no_country_set
- Channel Width:** 20/40MHz HT Above

A table of detected wireless networks is shown:

Address	SSID	Band	Pro...	Fr...	Signal Strength
PR 00:0C:42:E4:82:F7	gwifi	2GHz-B/G/N 2C	802.11	2412	-78
PR 00:0C:42:05:27:21	hs1	2GHz-B/G/N 2C	802.11	2412	-49
R 00:0C:42:00:63:61	751-test	2GHz-B/G/N 2C	802.11	2412	-50
R 00:0C:42:3A:98:C	evgen	2GHz-B/G/N 2C	802.11	2412	-64
PR 00:0C:42:E3:81:E7	751normi	2GHz-B/G/N 2C	802.11	2412	-52
R 00:0C:42:18:41:F4	bbb	2GHz-B/G/N 2C	802.11	2412	-81
R 00:0C:42:05:05:ED	den	2GHz-B/G/N 2C	802.11	2412	-86

The 'Configuration' tab is also visible, showing settings for Mode (Router), Address Acquisition (Static), WLAN IP Address (192.168.88.1/24), Gateway (0.0.0.0), DNS Servers (10.5.8.1), Upload (unlimited), Download (unlimited), LAN IP Address (0.0.0.0/0), DHCP Server, NAT, Router Identity (MikroTik), Password, Confirm Password, and Upgrade (Choose File).

The screenshot shows the MikroTik WebFig Quick Set interface with the 'Configuration' tab selected. A terminal window is open, displaying the following commands and output:

```
[admin@MikroTik] > export compact
# mar/09/2012 08:55:29 by RouterOS 5.15rc1
# software id = 27KR-TMC6

/interface bridge
add admin-mac=00:0C:42:F8:96:81 auto-mac=no name=bridge-local \
protocol-mode=stp
/interface wireless
set 0 band=2ghz-b/g/n channel-width=20/40mhz-ht-above ht-rxchains=0,1 \
ht-txchains=0,1 rate-selection=legacy wireless-protocol=\
nv2-hstream=802.11
/interface ethernet
set 1 name=ether2-master-local
set 2 name=ether1-gateway
set 3 master-port=ether2-master-local name=ether3-slave-local
set 4 master-port=ether2-master-local name=ether4-slave-local
set 5 master-port=ether2-master-local name=ether5-slave-local
/interface wireless security-profiles
set { find default=yes } group-ciphers="" unicast-ciphers=""
/ip dhcp-server
add interface=ether1-gateway name=dhcp1
/ip pool
add name=default-dhcp ranges=192.168.88.10-192.168.88.254
/ip dhcp-server
add address-pool=default-dhcp interface=bridge-local name=default
/queue type
```

Export Compact Use

Backup

Netinstall and Flashfig

SMB server

Windows sharing access to folders

Different directories supports

Configurable User Access Level

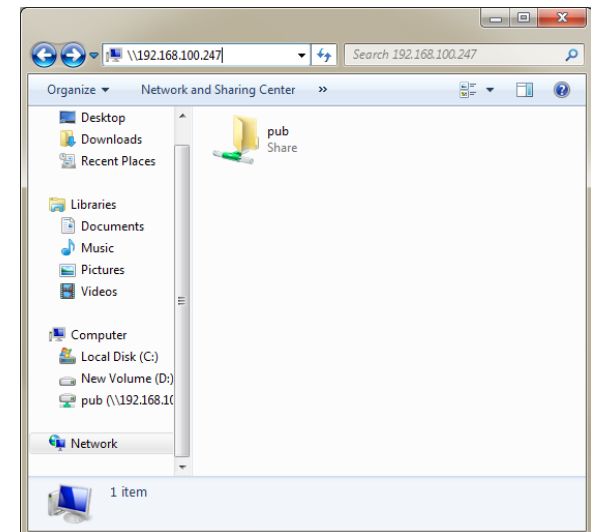
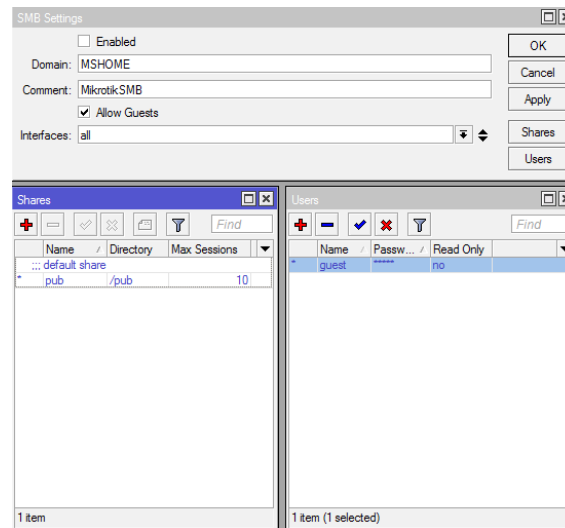
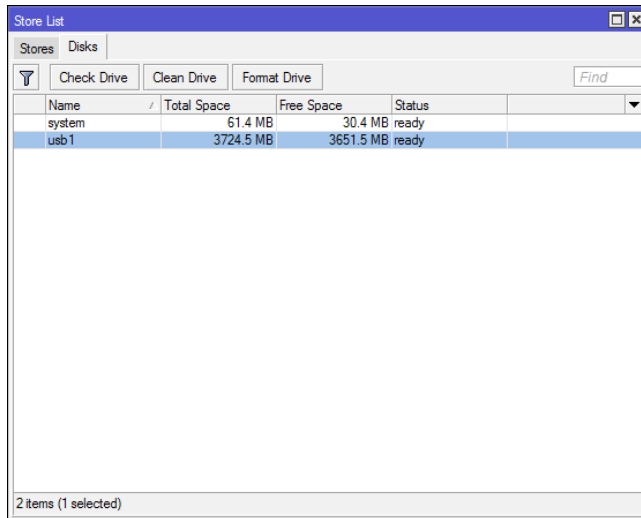
SMB share on USB

Format USB by store

Configure SMB server

Access shared folders by Windows

SMB share on USB Demo

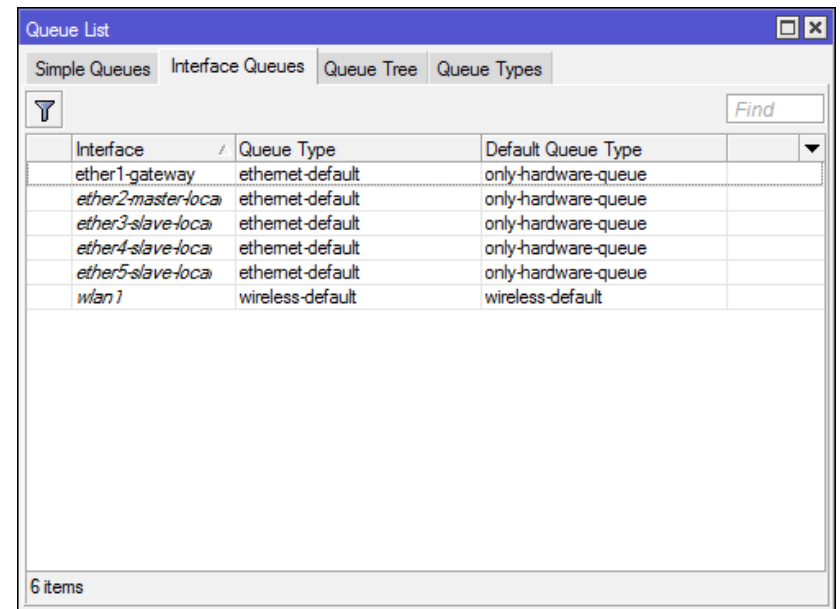


Hardware Queues

>10% throughput increase

Bypass software QoS (!)

Ethernet by default,
available for Wireless



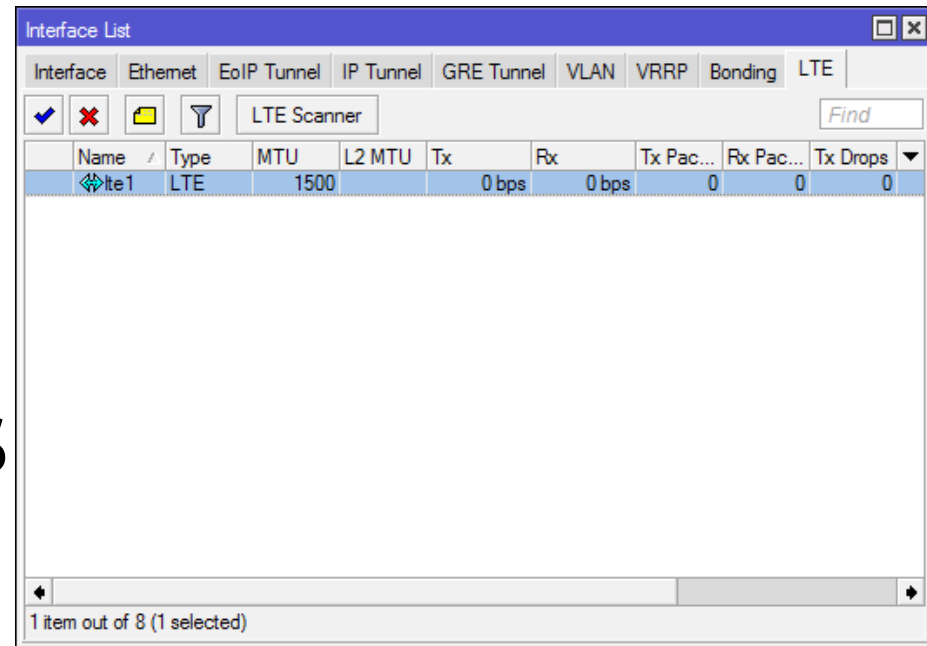
The screenshot shows a window titled 'Queue List' with four tabs: 'Simple Queues', 'Interface Queues', 'Queue Tree', and 'Queue Types'. The 'Interface Queues' tab is selected. Below the tabs is a search bar with a magnifying glass icon and the text 'Find'. Below the search bar is a table with three columns: 'Interface', 'Queue Type', and 'Default Queue Type'. The table contains six rows of data. At the bottom of the window, it says '6 items'.

Interface	Queue Type	Default Queue Type
ether1-gateway	ethernet-default	only-hardware-queue
ether2-master-loc	ethernet-default	only-hardware-queue
ether3-slave-loc	ethernet-default	only-hardware-queue
ether4-slave-loc	ethernet-default	only-hardware-queue
ether5-slave-loc	ethernet-default	only-hardware-queue
wlan1	wireless-default	wireless-default

LTE Interfaces

4G LTE Bandrich C501

Up to 100Mbps/50 Mbps



Interface	Ethernet	EoIP Tunnel	IP Tunnel	GRE Tunnel	VLAN	VRRP	Bonding	LTE
LTE Scanner Find								
Name /	Type	MTU	L2 MTU	Tx	Rx	Tx Pac...	Rx Pac...	Tx Drops
lte1	LTE	1500		0 bps	0 bps	0	0	0

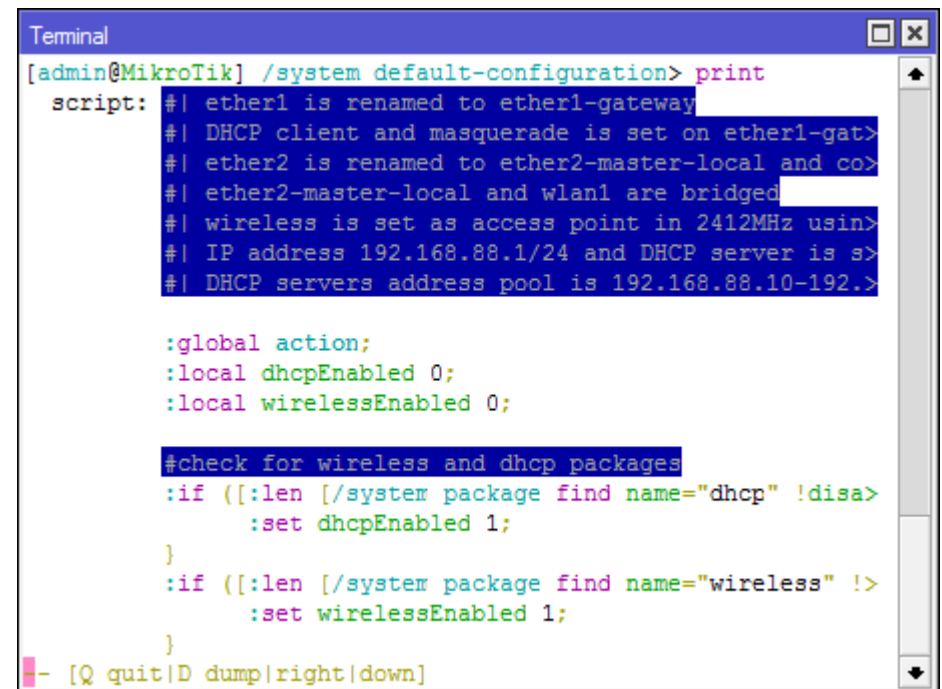
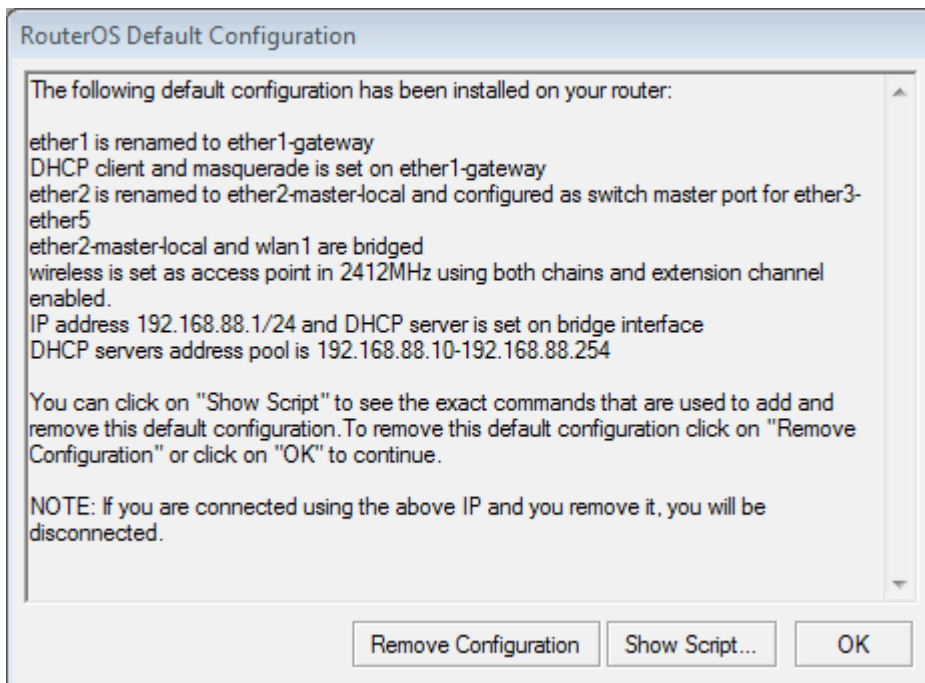
1 item out of 8 (1 selected)

RouterOS default configuration

/system default-configuration

Preconfigured on every RouterBOARD

Export Compact to see short view



Default Configuration

WAN [POE] port - DHCP client

LAN port - DHCP/switch

WIRELESS - AP or Station

IP - 192.168.88.1

Auto Default configuration

Applied on factory

Flashfig enabled for the first boot

Flashfig

Apply any RouterOS config in 3s

Does not rewrite default-configuration

Careful with interfaces configuration

Flashfig

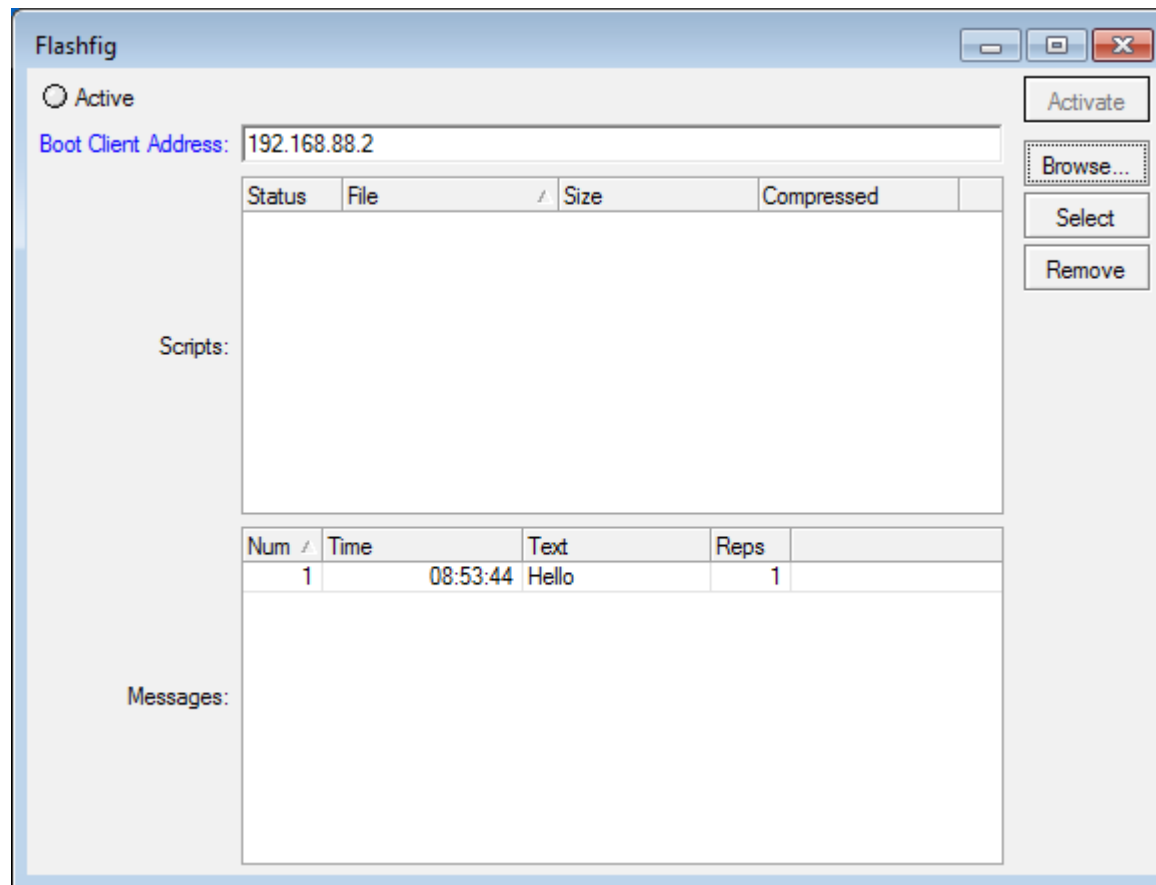
Available at MikroTik download

Part of the Netinstall

Configuration is any *.rsc file

Flashfig demo

Let's change some settings



The image shows a window titled "Flashfig" with standard Windows window controls (minimize, maximize, close). The window is divided into several sections:

- Active:** A radio button labeled "Active" is selected.
- Boot Client Address:** A text field containing the IP address "192.168.88.2".
- Scripts:** A table with columns: Status, File, Size, Compressed.
- Messages:** A table with columns: Num, Time, Text, Reps.

On the right side of the window, there are four buttons: "Activate", "Browse...", "Select", and "Remove".

Status	File	Size	Compressed
--------	------	------	------------

Num	Time	Text	Reps
1	08:53:44	Hello	1

Flashfig check

Configuration is applied

It is not at system-default configuration

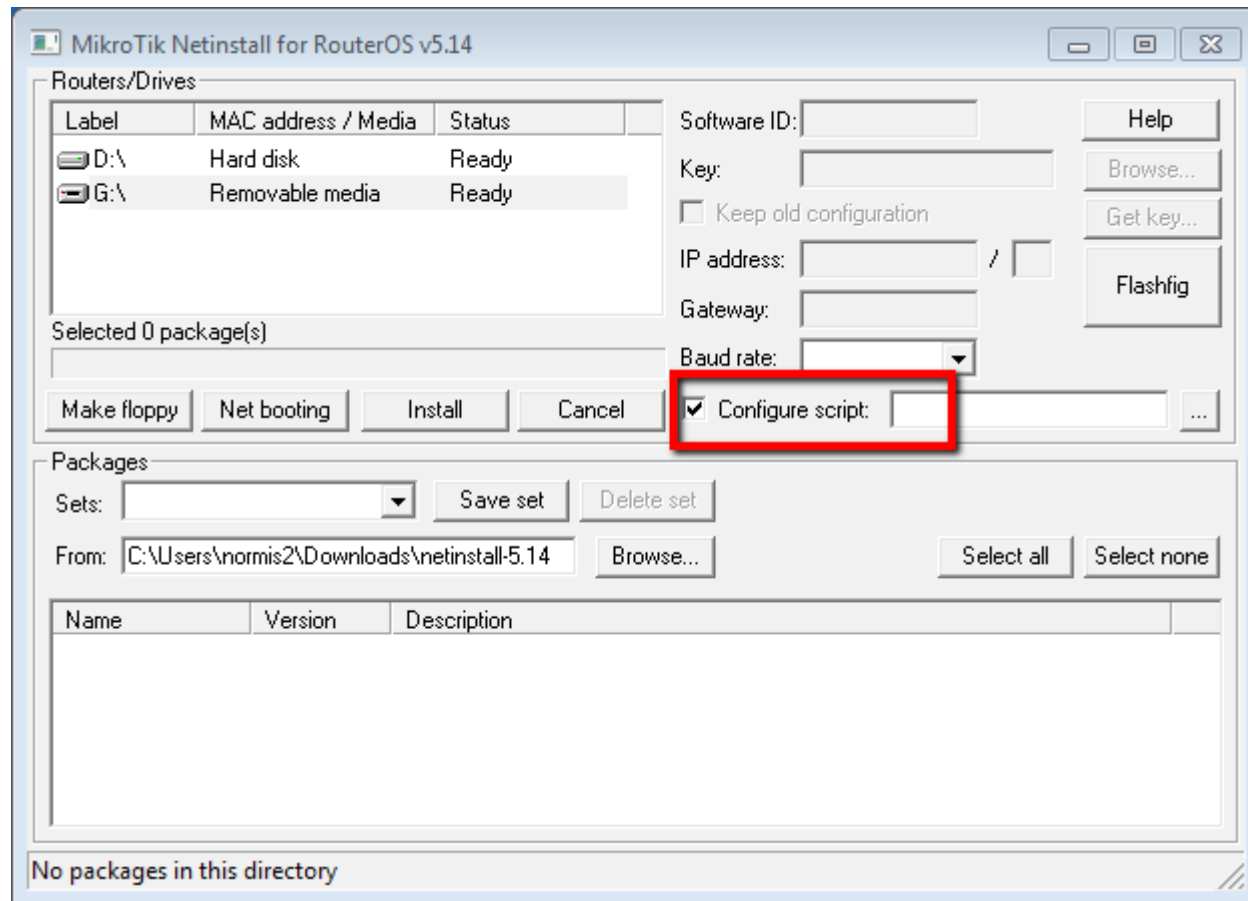
Reset will clear the config

How to change default configuration

Netinstall + Configuration file

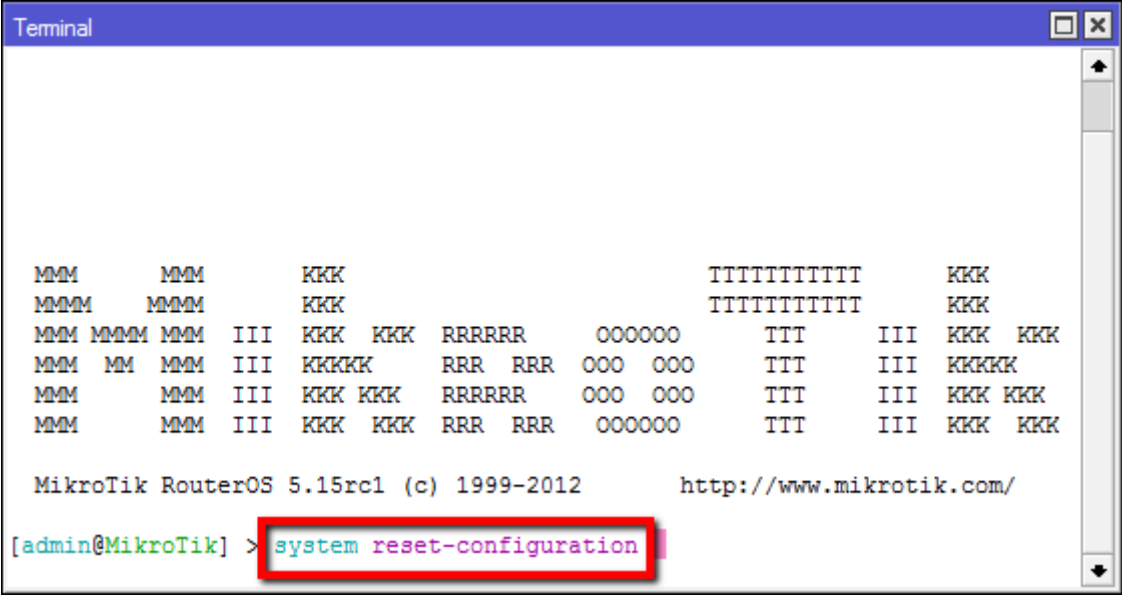
Configuration file = *.rsc file

Change default configuration



Default configuration Use

Configuration is loaded after reset
/system reset-configuration



```
Terminal

MMM      MMM      KKK      TTTTTTTTTT      KKK
MMMM     MMMM     KKK      TTTTTTTTTT      KKK
MMM MMMM MMM III KKK KKK RRRRRR 000000 TTT III KKK KKK
MMM MM  MMM III KKKKK RRR RRR 000 000 TTT III KKKKK
MMM      MMM III KKK KKK RRRRRR 000 000 TTT III KKK KKK
MMM      MMM III KKK KKK RRR RRR 000000 TTT III KKK KKK

MikroTik RouterOS 5.15rc1 (c) 1999-2012      http://www.mikrotik.com/
[admin@MikroTik] > system reset-configuration
```

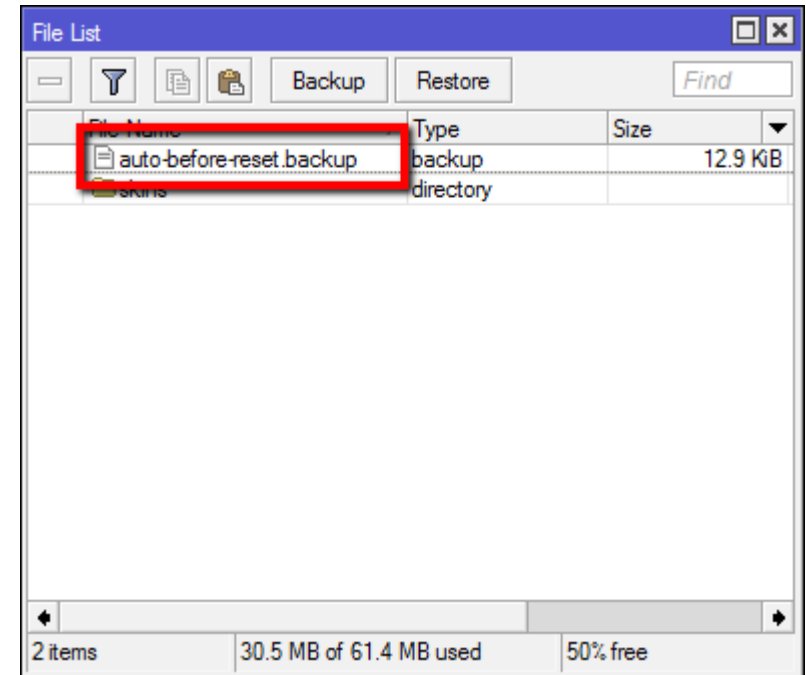
System reset-configuration

system reset-configuration

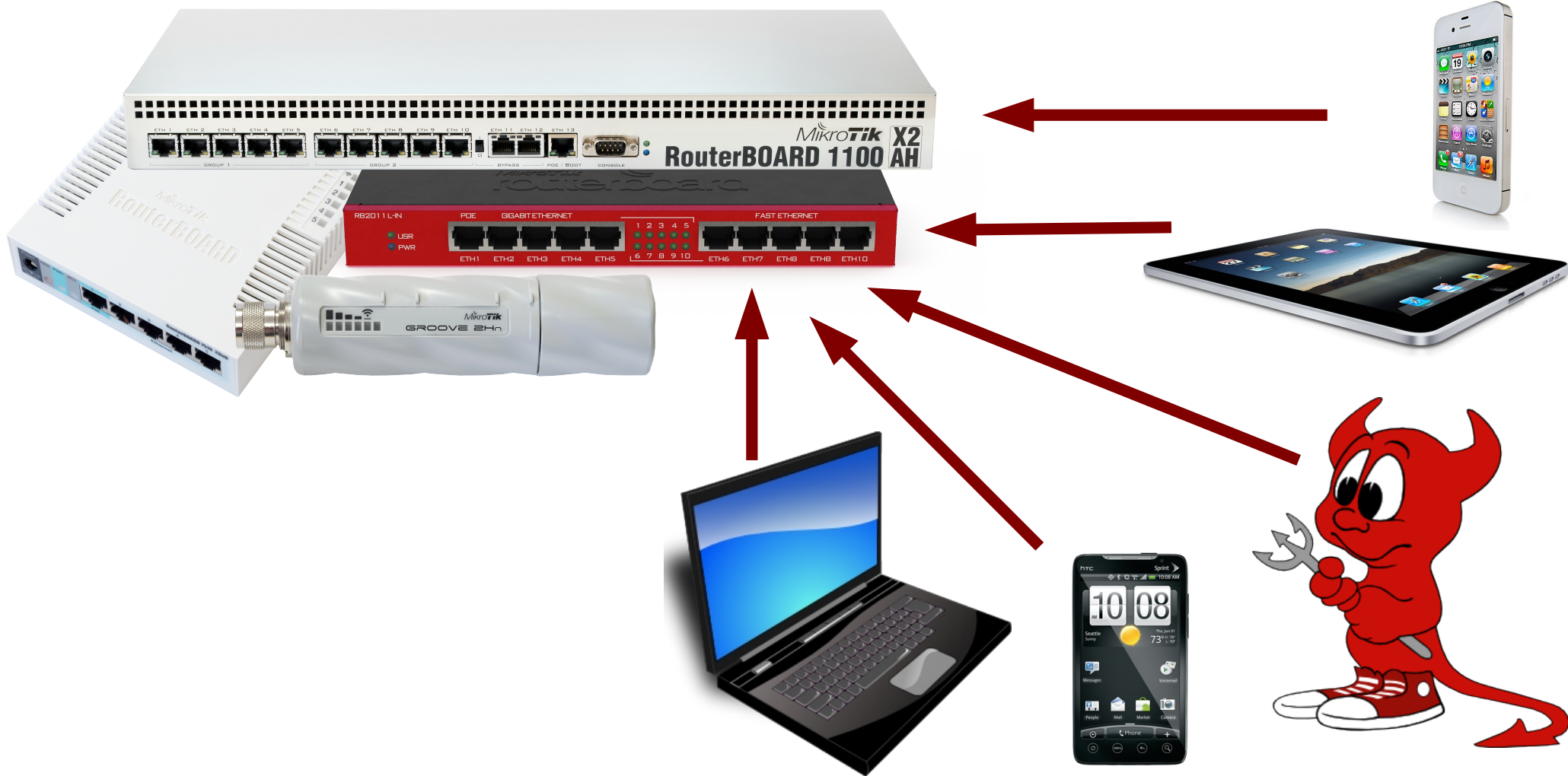
system reset-configuration no-defaults=yes

system reset-configuration keep-users

Reset-configuration emergency



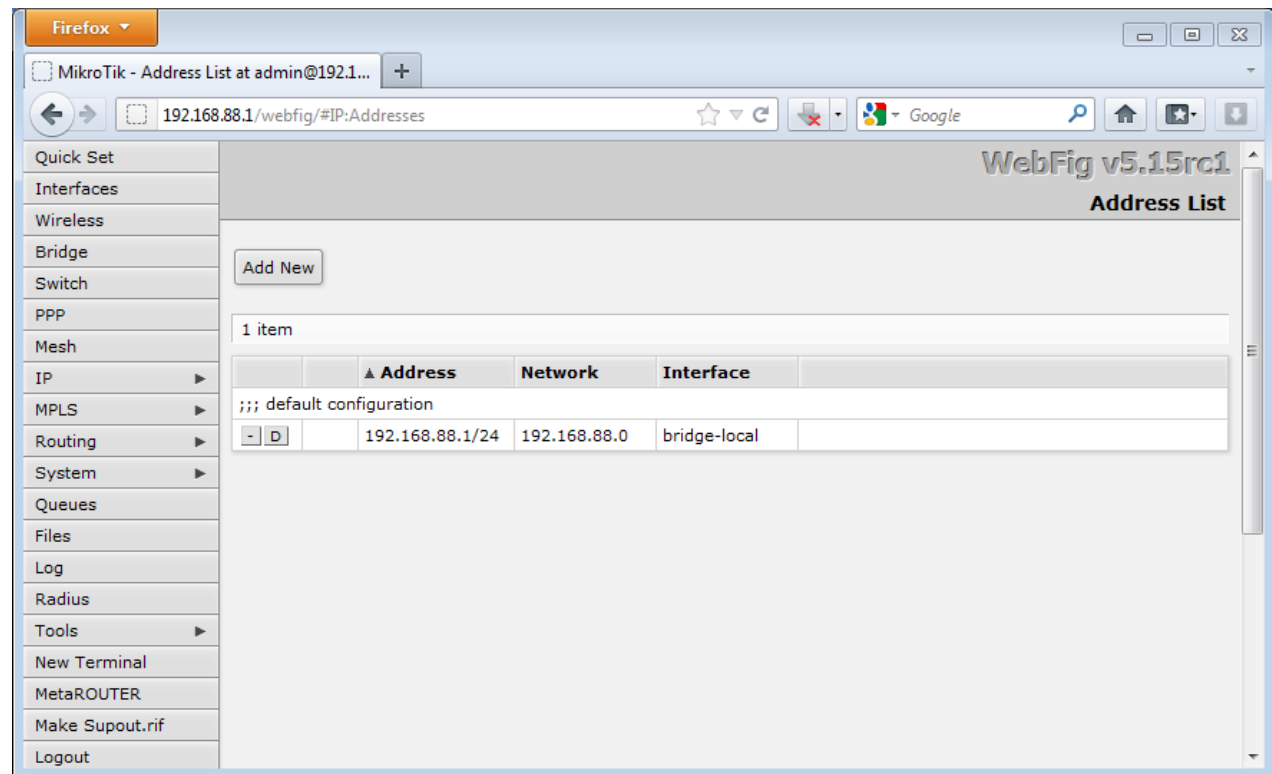
Webfig



Webfig

Winbox in Browser

RouterOS config by any OS



Webfig Skins

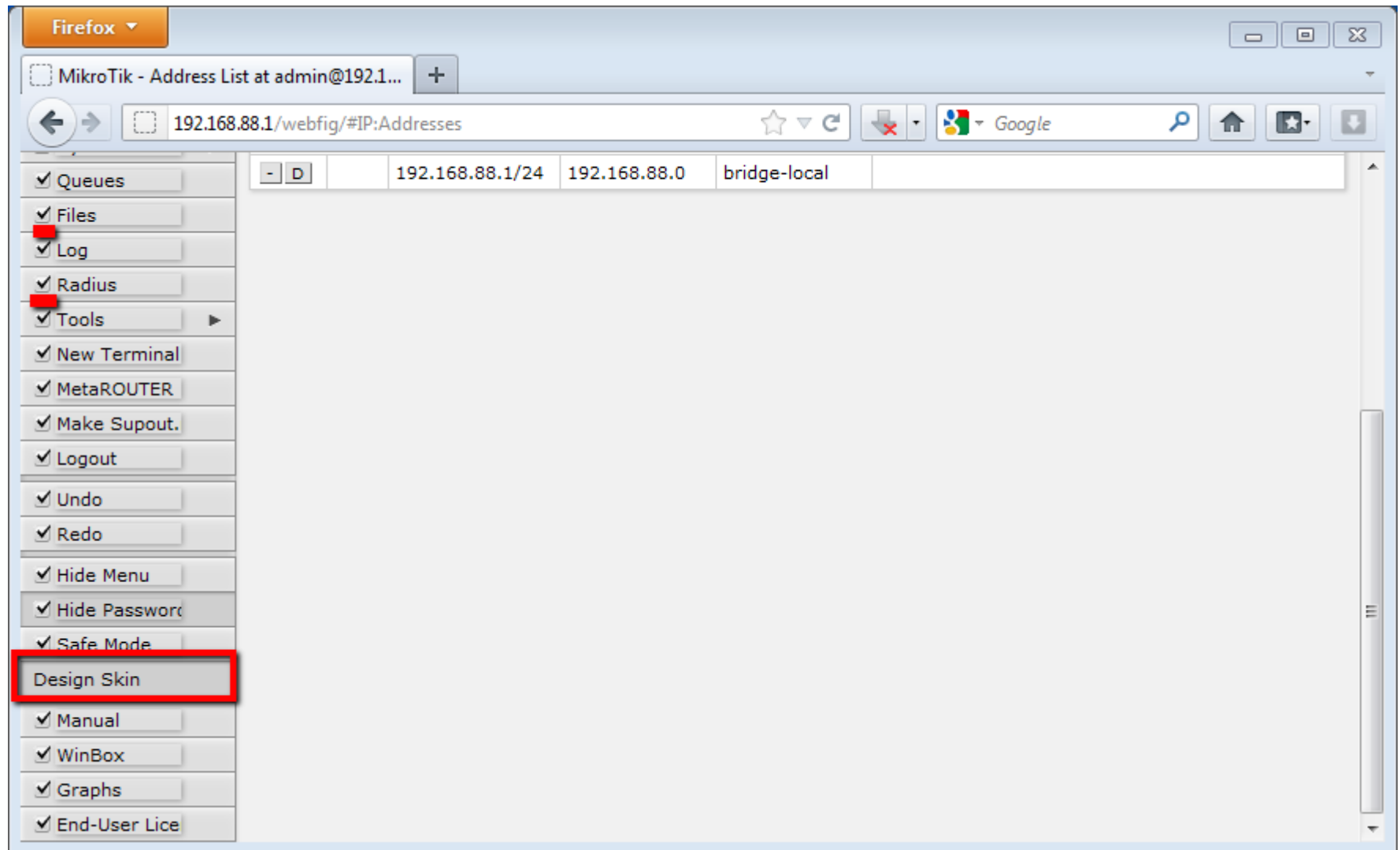
Show/Hide RouterOS menu

Change/translate of menu names

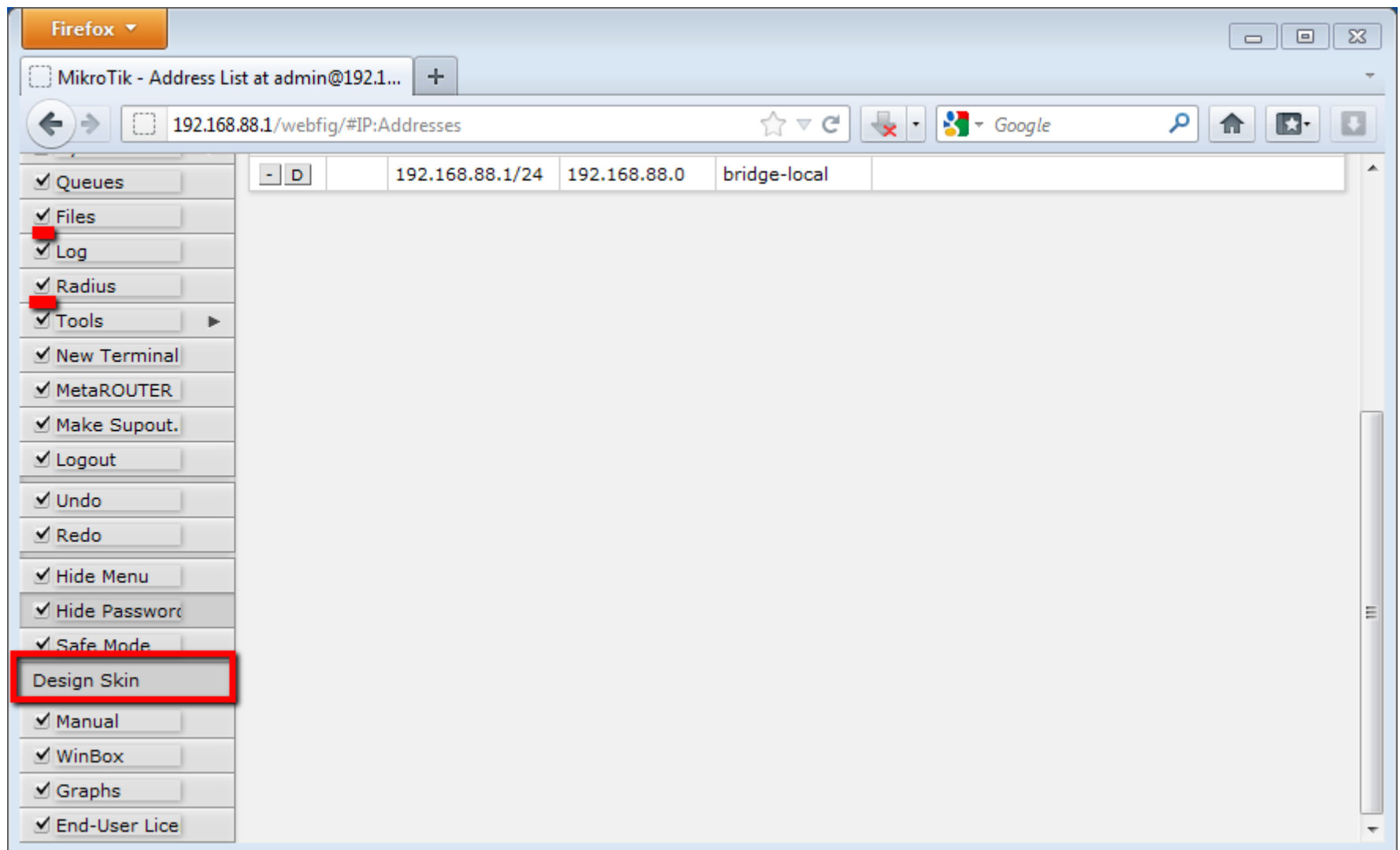
Set limits for configuration menus

Distribute between different routers

Webfig Skins



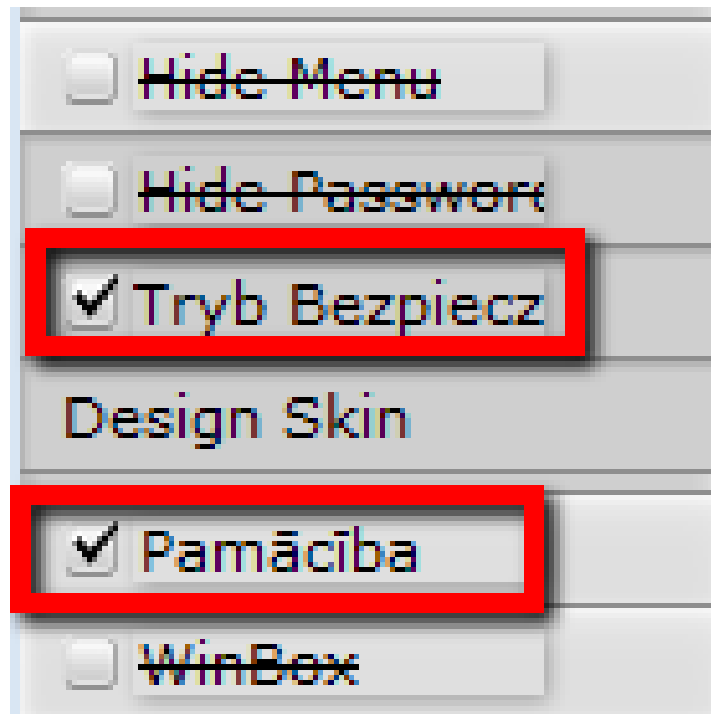
Design Skin



Design Skin

Show/Hide RouterOS menu

Change/translate of menu names



Design Skin Limits


<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mode	station
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Limit</i>	station
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Band	2GHz-B/G/N

Make Read Only

Add Note

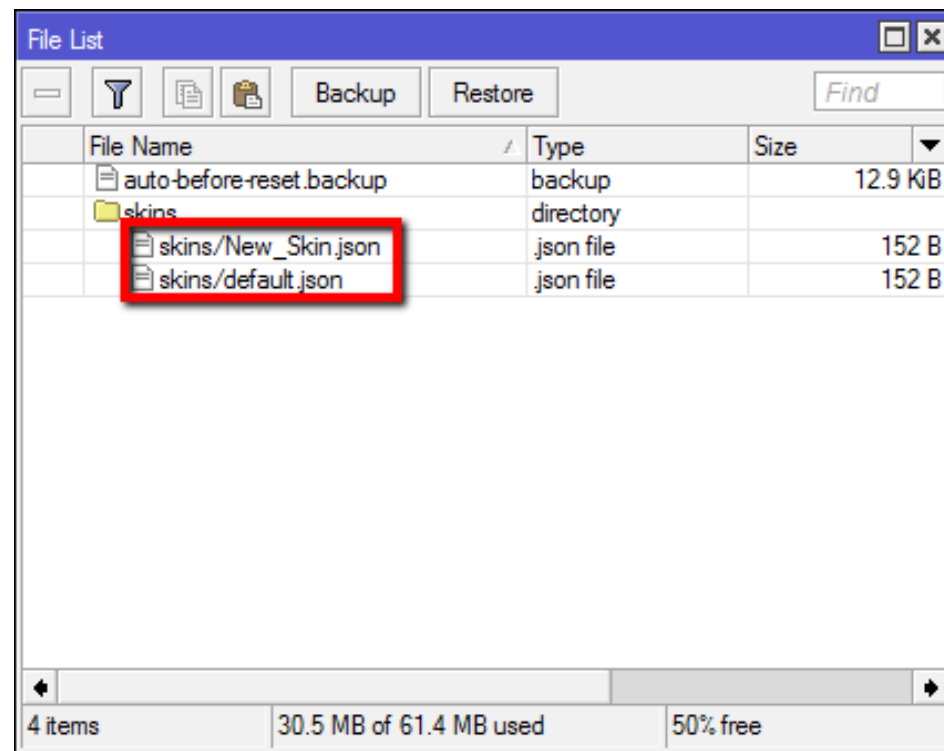
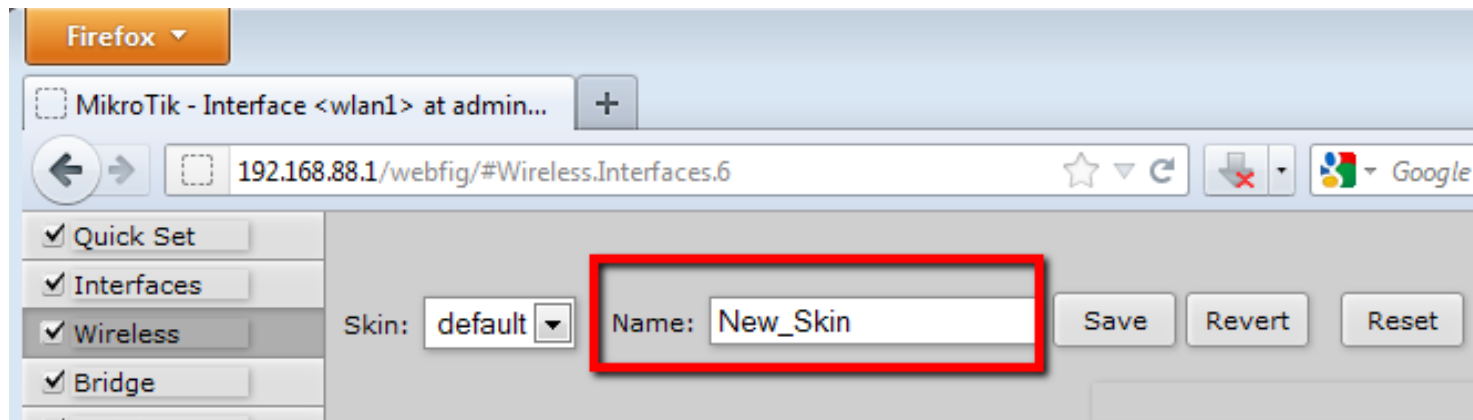
Remove Limit

Add To Status Page

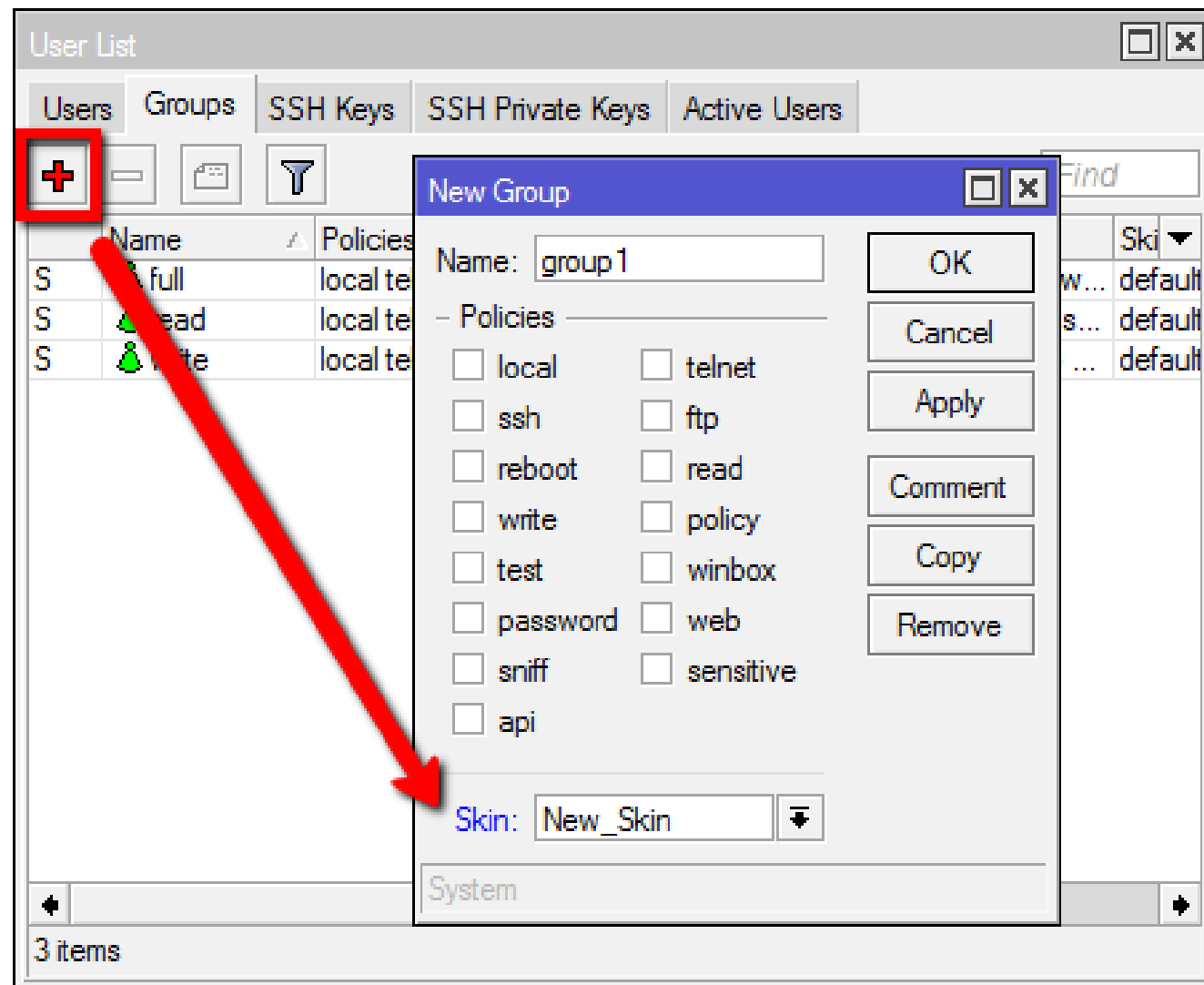


Mode	station
Band	station
Channel Width	station bridge
	station pseudobridge
	station pseudobridge clone
	station wds

Distribute Skin



Assign Skin User



Webfig Demo





Q&A

Suggestions - support@mikrotik.com