Mikrotik RouterBoard

Modified on: Mon, 1 Jun, 2015 at 1:31 PM

There guides are provided using the Mikrotik Winbox program as an interface with the RouterOS.

The Winbox program can be obtained from the MikroTik website

- http://www.mikrotik.com/download)

S Mikro	ik WinBox Loader v	/2.2.18	- 🗆 🗙
Connect To:	D4:CA:6D:34:E0:05		Connect
	admin		
Password:			Save
	Keep Password		Jave
	Secure Mode		Remove
	Load Previous Session	i i	Tools
Note:			
Address 🛆	User No	te	

Start by logging into your Mikrotik device.

Basic Router Setup

Before you follow the instructions in this guide it's important that you decide which port you will assign the role of WAN, and whether you plan to use the inbuilt WiFi for the hotspot or one of the LAN ports in conjunction with additional APs

WAN

The WAN port is where you connect the MikroTik to your existing router, for our guide we use Ethernet port 1 on the router -

Click on **IP > DHCP Client**

Click on the "+" and enter the below settings:

DHCP Client				
DHCP Client	DHCP Client Options			
+ - «	/ 🛛 🖻 🍸 [Release Rene	W	Find
Interface	∆ Use P Add	D IP Address	Expires After	Status 🔻
0 items				

Select the interface you want to be the WAN port.

New DHCP Client		
DHCP Status		ОК
Interface	e: ether1 =	Cancel
	Use Peer DNS	Apply
	Use Peer NTP	
DUCD Online		Disable
DHCP Option:	3: ▼	Comment
Add Default Route	e: yes ∓	Сору
Default Route Distance	e: 0	Remove
		Release
		Renew
enabled	itatus: stopped	

Click "OK"

DHCP Client				
DHCP Client [OHCP Client Options			
+ - 🖉	🛛 🖾 🍸 🖪	Release Renew	v	Find
Interface	∠ Use P Add D.	IP Address	Expires After	Status 🔻
ether1	yes yes	10.0.0.106/8	00:59:40	bound
1 item				

Hotspot Setup



Click on **Radius** on the left menu



then in the Radius dialoge box, click on the "+" enter the below settings:

- Service: Hotspot
- Address: *insert radius_server_ip here*
 Secret: *insert radius_secret here*
- Authentication Port: 1812
- Accounting Port: 1813

Radius Server		
General Status		OK
- Service		Cancel
■ ppp ■ botspot		Apply
dhcp		Disable
Called ID:	▼	Comment
Domain:		Сору
Address:	9421731232	Remove
Secret:	88311282	Reset Status
Authentication Port:	1812	
Accounting Port:	1010	
Timeout:	300 ms	
	Accounting Backup	
Realm:	▼	
Src. Address:	0.0.0.	
enabled		

Press OK to Save

On **Radius** window, click on the "+" again, and enter the following settings:

- Service: Hotspot
 Address: *insert radius_server2_ip here*
 Secret: *insert radius_secret here*
- Authentication Port: 1812
- Accounting Port: 1813

Press **OK** to Save

Co Mesh		
255 IP	Þ	Firewall
		Hotspot
MPLS	P	10

Click on **IP** > **Hotspot** on the left menu and then **Hotspot Setup** to start the Hotspot set up 'wizard' and configure with the below settings:

Hotspot Setup Image: Select interface to run HotSpot on HotSpot Interface: ethers Back Next	Hotspot Setup Image: Constraint of the set	Hotspot Setup Set pool for HotSpot a Address Pool of Netw Bac
Hotspot Setup X Select hotspot SSL certificate Select Certificate: Select Certificate: none Back Next Cancel	Hotspot Setup X Select SMTP server IP Address of SMTP Server: IP Address of SMTP Server: 0.0.0.0 Back Next Cancel	Hotspot Setup Setup DNS configura DNS Servers: 208.6 208.6
Hotspot Setup DNS name of local hotspot server DNS Name: Back Next Cancel	Hotspot Setup Image: Create local HotSpot user Name of Local HotSpot User: admin Password for the User: Image: Create local HotSpot User: Back Next Cancel Image: Create local HotSpot User:	Hotspot Set

• Hotspot Interface: This should be the interface your guest users connect through, such as the Wireless/WLAN interface, or an Ethernet port that is connected to an access point or switch. For the remainder of this guide we user Ethernet port 5 as the hotspot interface, please use WLAN interface if you plan to apply this to the Wi-Fi of

the router. Click "**Next**"

- Local Address of Network: 10.1.0.1/24 Click "Next"
- Masquerade Network: Ticked Click "Next"
- Address Pool of Network: 10.1.0.2-10.1.0.254 Click "Next"
- Select Certificate: None Click "Next"
- IP Address of SMTP Server: *leave at default* Click "Next"
- DNS Servers: 208.67.222.222 and 208.67.220.220 Click "Next"
- DNS Name: Leave blank Click "Next"

Click "OK" to Complete

In the **Hotspot Window**, on the **Server** tab, double-click the hotspot you've just created to load the **Hotspot Server Window**

Name	A
🗑 hotspot 1	

Change the **Name** to the MAC address of your Mikrotik as printed on the bottom of the device.

This is the first MAC address on the label. If you cannot find it, go to "Interfaces" on the left menu and then click on "ether1-gateway" and use the MAC listed there.

Note the format of the MAC should be as shown, i.e.: AA-BB-CC-DD-EE-FF (all capitals with hyphens between each two digits)

Hotspot Server <d4-c< th=""><th>A-6D-34-E0-03></th><th></th></d4-c<>	A-6D-34-E0-03>	
Name:	D4-CA-6D-34-E0-03	OK
Interface:	ether5-slave-local Ŧ	Cancel
Address Pool:	hs-pool-1 Ŧ	Apply
Profile:	hsprof 1	Disable
Idle Timeout:	00:05:00	Сору
Keepalive Timeout:	▼	Remove
Addresses Per MAC:	2	Reset HTML
IP of DNS Name:	0.0.0.0	
Proxy Status:	running	
enabled	HTTPS	

Supplemental WLAN Set up details:

If you chose WLAN for your hotspot during your setup the **Interface** on **Hotspot Server** above will say **WLAN** for your **Interface**. You will now need to enable the SSID you intend to use:

On the left hand menu, click on "**Wireless**" and on the **Wireless Tables** window press the Tick icon to enable the WiFi.

Γ.													
<u>\</u>	Wireless Tat	oles											
	Interfaces	Nstreme Du	al Access	List Registra	tion Conr	nect List	Security I	Profiles	Channels				
	+ •	* X		Scanner	Freq. Us	sage	Alignment	Wire	eless Sniffer	Wireles	s Snooper]	
IF	Name	1	Туре		L2 MTU	Tx		R	bx .		Tx Packet	(p/s)	Rx Packet
	R 🚸wla	an1	Wireless (/	Atheros AR9	2290)	10.9	kbps		18.5 kbps		2	0
	•												
1	1 item out of	6 (1 selected	d)										

To define the SSID double-click on the **wlan1** entry in this view and click on the **Wireless** tab

Interface <wlan1></wlan1>		
General Wireless	T HT MCS WDS Nstreme	ОК
Mode	ap bridge 🗧	Cancel
Band	ZGHz-B/G/N ∓	Apply
Channel Width	₹ 20MHz	Disable
Frequency	₹ 2412 ▼ MHz	Comment
SSID	MikroTik	Torch
Scan List	e default	Scan
Wireless Protocol	any Ŧ	Freq. Usage
Security Profile	efault	Align
Bridge Mode		Sniff
Default AP Tx Rate	▼ bps	Snooper
Default Client Tx Rate	▼ bps	Reset Configuration
	 Default Authenticate 	
	Default Forward Hide SSID	Advanced Mode

Change the SSID field to one of your choosing.

Hotspot Server Profile Settings:

Returning to setting up the **Hotspot** service setup: on the **Hotspot Window**, (IP > Hotspot) click on the **Server Profiles** Tab.and double-click on the newly created Profile



On the Hotspot Server Profile dialogue window; set the following:

On the **General** tab:

• **Hotspot Address**: 10.1.0.1

Hotspot Server Profile <hsprof1></hsprof1>	
General Login RADIUS	ОК
Name: hsprof1	Cancel
Hotspot Address: 10.1.0.1	Apply
DNS Name:	Сору
HTML Directory: hotspot	Remove
Rate Limit (rx/bx):	
HTTP Proxy:	
HTTP Proxy Port: 0	
SMTP Server:	
default	

On the **Login** tab:

- HTTP PAP: Ticked
- All others: Unticked

Hotspot Server Profile <hsprof1></hsprof1>	
General Login RADIUS	ОК
- Login By	Cancel
	Apply
HTTP PAP Trial	Сору
	Remove
MAC Auth. Password:	
HTTP Cookie Lifetime: 3d 00:00:00	
SSL Certificate: none 🗧	
Split User Domain	
Trial Uptime Limit: 00:30:00	
Trial Uptime Reset: 1d 00:00:00	
Trial User Profile: default 🐺	
default	

On the **RADIUS** tab:

- Use RADIUS: Ticked
- MAC Format: XX-XX-XX-XX-XX-XX
- Accounting: Ticked
 Interim Update: 00:15:00

Hotspot Server Pr	ofile <hsprof1></hsprof1>	
General Login	RADIUS	ОК
	Use RADIUS	Cancel
Default Domain:	▼	Apply
Location ID:	✓	Сору
Location Name:	▼	Remove
MAC Format:	XX-XX-XX-XX-XX Ŧ	
	 Accounting 	
Interim Update:	00:15:00	
NAS Port Type:	19 (wireless-802.11) ∓	
default		

Click "OK" to Save

On the **Hotspot Window** click on **User Profiles** and double click on the default entry. Set the following:

- Session Timeout: 24:00:00
- Idle Timeout: 00:30:00
- **Keepalive Timeout:** blank (click the up arrow to wipe the value)

Hotspot User Profile <default></default>	
General Advertise Scripts	ОК
Name: default	Cancel
Address Pool: none	Apply
Session Timeout: 1d 00:00:00	Сору
Idle Timeout: 00:30:00 ∓ 🔺	Remove
Keepalive Timeout:	
Status Autorefresh: 00:01:00	

Click "OK" to Save

Setting Up the Wall Garden:

On the main Winbox interface, click New Terminal to open the Terminal Window

📄 📄 Fi	iles	Territori										
E Lo	og	Terminal										
<u></u> 🕵 R	adius											
🔀 Т	ools 🗈 🗈											
🔤 N	ew Terminal											
📃 🔜 M	letaROUTER	MMM	MMM	KKK					TTTTTTTTTT		KKK	
🖉 🤚 P	artition	MMMM MMMM	IMMM MMM III	KKK KK	K RRRRI	RR	000	000	TTTTTTTTTTTTT	III	KKK	KKK
📑 M	lake Supout.rif	MMM MM	MMM III	KKKKK	RRR	RRR	000	000	TTT	III	KKKK	к
💽 M	lanual	MMM	MMM III	KKK KKK	RRRRI	RR	000	000	TTT TTT	III TTT	KKK	KKK
E E	xit				n nun	iuux	0000				hun	mm
		MikroTik	Router03	6.2 (c)	1999-20:	13	h	ttp:/	//www.mikrot	ik.co	m/	
×		[?]	Giv	ves the li	st of a	vaila	ble c	ommar	nds			
Bo		command [?]	Giv	ves help o	n the co	omman	d and	list	; of argumen	ts		
/in		[Tab]	Cor	pletes th	e comman	nd/wo:	rd. I:	f the	e input is a	nbigo	us,	
\$			a s	second [Ta	b] give:	s pos	sible	opti	lons			
OS		/	Moy	ve up to b	ase leve	=1						
e -		••	Mov	ve up one	level							
np		/command	Use	command	at the 1	oase :	level					
2		[admin@Mikr	COTIK] >					_				

• **Copy** the following text:

```
/ip hotspot walled-garden
add dst-host=*insert access_domain here*
add dst-host=*cloudfront*
add dst-host=*google-analytics*
add dst-host=*www.google*
add dst-host=*venuewifi*
add dst-host=*openweathermap*
```

- and **Paste** this into the **Terminal** Window (press **Control+Shift+Insert** on your keyboard)
- Press **Enter** to run the command.

If you wish to support social network logins, you also need to copy and paste the blocks below for each network you plan to support, in to the terminal window

Facebook	Twitter	LinkedIn	Google	Instagram
Facebook /ip hotspot walled- garden add dst- host=*face book* add dst- host=*fbcd	Twitter /ip hotspot walled- garden add dst- host=*twit ter* add dst-	/ip hotspot walled-garden add dst- host=*link edin* add dst-	Google /ip hotspot walled- garden add dst- host=*googleuserc ontent* add dst- host=*googleapis* add dst- host=*gstatic*	/ip hotspot walled-garden add dst- host=*insta gram*
add dst- host=*akam ai*	host=*twimg*	host=*licdn*	add dst- host=*accounts.google *	

This will create the Walled Garden settings; this can be reviewed from the main Winbox interface, click **IP**, then **Hotspot** and selecting the **Walled Garden** tab:

Hotspot										
Hosts IP E	Bindings	Service	e Ports	Wa	alled Garden	W	alled Garden	IP List	Cookies	
+ - «	2 🐹 🖻	· 7							Fino	í
Action 4	Server		Metho	d	Dst. Host		Dst. Port			-
allow?					*facebook*					+
allow?					*linkedin*					
🕄 allow					*twitter*					
allow					*fbcdn*					
allow					*akamai*					
allow					*licdn*					
allow					*twimg*					
allow 🖸					*cloudfront*					
allow 🖸					*google-anal	٧				
allow 🖸					*www.google	*				
allow 🕄					*googleuserc					
allow 🕄					*qooqleapis*					
allow 🕄					*qstatic*					
allow 🖸					*instagram*					
allow 🖸					*venuewifi*					
allow 🕄					*openweathe	r				
18 items										•

Creating the Login Journey Parameters:

The final step is to upload two files to the router which handle the redirection to your customised splash page.

• Click on "Files" on the left menu.

File List					×
🗕 🍸 🗈 🖹 Backup 🖡	Restore			Find	
File Name /	Туре	Size	Creation Time		-
🖹 alogin.html	.html file	212 B	Jan/02/1970 01:52:12		+
auto-before-reset.backup	backup	25.3 KiB	Jan/02/1970 00:01:32		
autosupout.old.rif	.rif file	338.4 KiB	Jul/12/2012 10:06:05		
🖹 autosupout.rif	.rif file	341.0 KiB	Jul/18/2012 14:52:06		
🖹 console-dump txt	.txt file	756 B	Jan/03/1970 03:44:14		
E fw.rsc	script	1662 B	Jul/12/2012 09:58:41		
hotspot	directory		Jan/02/1970 00:19:33		
hotspot/alogin_btml	.html file	212 B	Jan/02/1970 00:16:12		
hotspot/end Copy in him	.html file	898 B	Jan/02/1970 00:19:33		
hotspot/errors.txt	.txt file	3615 B	Jan/02/1970 00:19:33		
hotspot/img	directory		Jan/02/1970 00:19:33		



- Save the two HTML files below
- Drag and drop the two .html files you downloaded in to the "hotspot" folder in the File List window.

insert mikrotik_files here