## Creating a MikroTik Hotspot

A Hotspot is way to provide wireless internet access to subscribers by means of an easy to use login interface. This gives the owner of the hotspot full control over download limitations, speed/bandwidth management, and billing. A hotel, coffee shop, or conference center is a perfect example where a Hotspot would be implemented.

Start off by logging into your MikroTik router. Please ensure that there are no previous configurations on your router before you begin, as these configurations may conflict with the hotspot setup.

The first configuration that needs to happen is to give the MikroTik router internet connectivity. You should already have internet installed by means of an ADSL modem or something similar, which should have a DHCP server enabled. In order to get internet from this modem/router we will tun on the DHCP client option on our MikroTik routers.

🕓 admin@192.168.88.	102 (MikroTik) - WinBox v5.0 on RB600 (powerpc)	
ら 🖓 Safe Mode		✓ Hide Passwords 📕 🛅
Interfaces		
Wireless		DHCP Client
Bridge		Find
PPP		Interface / Use P., Add D., IP Address Expires After Status
Mesh		Lether1 yes yes 192.168.88.1 13d 23:55:45 bound
IP D	ARP	
MPLS 🗅	Accounting	
Routing D	Addresses	New DHCP Client
System 🗅	DHCP Client	DHCP Status OK
Queues	DHCP Relay	Interface: ether1 ∓ Cancel
Files	DHCP Server	Hostinger
Log	DNS	
Radius	Firewall	
Tools D	Hotspot	✓ Use Peer NTP Copy
New Terminal	IPsec	Remove
Make Supout.rif	Neighbors	Pafarak Barta Distance
Manual	Packing	
Exit	Pool	Renew
nB	Routes	
Mi	SNMP	
S	Services	enabled stopped
0	Socks	
ute	TFTP	
20	Traffic Flow	
	UPnP	
	Web Proxy	

The next step is to ensure that your MikroTik can hand out DNS requests to clients based on the information obtained from the DHCP server.

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	Wireless		DNS	
	Bridge		Static Carles	
	PPP			
	Mesh			Find
	IP D	ARP	# Name 744 TTL (s)	<b></b>
	MPLS D	Accounting		
	Routing D	Addresses	DNS Settings	
	System 🗅	DHCP Client		
	Queues	DHCP Relay	Servers: 152.168.88.1	
	Files	DHCP Server	Allow Remote Requests	
	Log 🤇	DNS	Max UDP Packet Size: 012 Apply	
	Radius	Firewall	Cache Size: 2048 KiB	
	Tools 🗅	Hotspot	Cache Used: 8	
	New Terminal	IPsec		
	Make Supout.rif	Neighbors		
	Manual	Packing	0 iteme	
Ň	Exit	Pool		
nB		Routes		
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<sup>So</sup>		Traffic Flow		
ш.		UPnP		
		Web Proxy		

Next we will check and make sure that the MikroTik has internet connectivity by sending a ping to 8.8.8.8 (Google's online DNS server)

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Ю	04	Safe Mode										<ul> <li>Hide Passw</li> </ul>	ords
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-	blidge				Ping To:	0000					_		-1
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	Mesh				Interface:						•	Close	
	IP	Þ				🗌 ARP F	Ping						51
	MPLS	Þ			Packet Count:						-	New Window	×
	Routing	3 P			Timonuti	1000					-		- 11
-	System	<u> </u>			Timeout.	1000					ms		- 1
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	Log			-	18	8.8.8		455ms	50	48			
	Radius		Bandwidth Test	-	28	8.8.8		611ms	50	48			
	Tools	Þ	Email		38	8.8.8		264ms	50	48			
ľ	New Te	eminal	Flood Ping		58	888		563ms	50	40			
			Graphing		6 8	.8.8.8		549ms	50	48			
	маке з	supout.nf	IP Scan	-	78	8.8.8		470ms	50	48			
	Manual		II Scan	-	88	8.8.8		458ms	50	48			
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ă			Netwatch		11 8	.8.8.8		400ms	50	40			
Ξ			Packet Sniffer		12 8	8.8.8.8		510ms	50	48			
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<u>n</u>			Ping Speed		14 8	8.8.8		562ms	50	48			
2			Bactla	-									-1
9			Profile	-	15 of 15 packets	receiv	0% packet loss	Min:	264 ms A	vg: 479	ms	Max: 611 ms	
5			Telnet										
ř			Torch										
			Traceroute							_	_		_
			Traffic Monitor					_					

Being a Wireless Hotspot, we now need to start configuring the wireless interface for client connections. The first step in this procedure is to assign a new IP address to the interface. The IP address can be anything of your choice but should be in a different IP range to that of the internet DHCP server. Remember to add a /24 after the IP address, this is the Subnet range that the interface will operate on.



Once the interface has an IP address we can configure it to accept wireless connections. Click on the 'Interfaces' button at the top right and then proceed to Double Click on your wireless interface. This will open up the settings window for that particular interface.



Once in the Settings window, click on the 'Wireless' tab at the top and set the Mode to 'AP\_Bridge', this will configure the wireless card as an Access Point for clients to connect to. Set the Band to 2GHz-B/G as this is the most common band that client devices such as laptops will use. The SSID is the name for your wireless network and can be set to whatever your preference. Lastly, click the Apply button and then proceed to click the 'Enable' button to turn the interface on.

Sadmin@192.168.88.	102 (MikroTik) - WinBox v5.0 on RB600 (powe	rpc)	
い CM Safe Mode			✓ Hide Passwords 📕 🗎
Image: Safe Mode       Interfaces       Wireless       Bridge       PPP       Mesh       IP       MPLS       Routing	Interface List Interface Ethemet EoIP Tunnel IP Tunnel IP Tunnel IP Tunnel IName ( Type	Interface    General Wireless   Wode: Iap bridge   Band: 2GHz-B/G   Channel Width: 20Mhz   Frequency: 5180   SID: Hotspot	Hide Passwords
System N Queues Files Log Radius Tools N New Terminal Make Supout.nf Manual Exit	R 4\$ether1 Ethemet 4\$ether2 Ethemet 4\$ether3 Ethemet X 4\$ether3 Wireless (Atheros AR3	Scan List: default  Wireless Protocol: unspecified  Security Profile: default  Antenna Mode: antenna a  Bridge Mode: enabled  Default AP Tx Rate:  Default Client Tx Rate:  Default Client Tx Rate:  Default Forward	I orch     X Ellois     V       Scan     0     0       Freq. Usage     0     0       Align     0     0       Sniff     0     0       Reset Configuration     Advanced Mode     0
RouterOS WinBox	4 items (1 selected)	Hide SSID Compression disabled running slave	disabled

We can now proceed to the Hotspot Setup wizard and begin the configuration of our hotspot.

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Ю	Cafe Mode										🗹 Hide Passwords 📗 🛅
	Interfaces	[	Hotspot								
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	PPP					nesermin	Address Real	Profile	Addresses		
	Mesh		INd	me		nitenace	Address Foor	FIOIlle	Addresses		<b>_</b>
	IP 🗅	ARP									
	MPLS 🗅	Accounting									
	Routing 1	Addresses									
	System N	DHCP Client									
	Queues	DHCP Relay									
	Files	DHCP Server									
	Log	DNS									
	Radius	Firewall									
	Tools	Hotspot									
	New Terminal	IFsec									
	Make Supout.rif	Neighbors									
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The first option that the Hotspot Setup wizard provides is to choose which interface the Hotspot will run on. As this is a wireless hotspot, choose your wireless interface and click next.

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	Inte	faces				Hotsp	ot											
	Wire	eless				Serv	ers	Server	r Profiles	Use	ers User Profi	es Active	Hosts	IP Bindings	Service Ports	Walled Garden	Walled Garden IP Li	ist
	Brid	ge				-	_		[x] [•	7	Reset HTML	Hotspo	t Setup	1				Find
	PPF	)					Nam	P			Interface	Addre	es Pool	Profile	Addresses			<b></b>
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The next window allows you to choose the local address range of your hotspot. This will be filled in for you based on the IP address that you assigned to your wireless card earlier in this tutorial. Make sure the 'Masquerade Network' option is ticked and then click next.

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Ю	Ca Safe Mode	✓ Hide Passwords
	Interfaces	Hotsodt
	Wireless	Servers Server Profiles Users User Profiles Active Hosts IP Bindings Service Ports Walled Garden Walled Garden IP List
	Bridge	
	PPP	
	Mesh	
	IP D	
	MPLS 🗅	
	Routing 1	
	System 🗅	
	Queues	Hotspot Setup
	Files	Set HotSpot address for interface
	Log	Local Address of Network: 10.1.1.254/24
	Radius	Masquerade Network
	Tools D	Parts Next Court
	New Terminal	
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The next window allows you to choose the IP address Pool for your hotspot network. This will also be filled in for you based on the wireless interface IP address assigned earlier.

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	Interfaces	Hotspot	
	Wireless	Servers Server Profiles Users User Profiles Active Hosts UP Bindings Service Ports Walled Garden Walled Garden IP List	
	Bridge		
	PPP		_1
	Mesh	Name 7 Interface Address Pool Protile Addresses	
	IP D		
	MPLS D		
	Routing D		
	System 🗅		
	Queues	Hotspot Setup	
	Files	Set pool for HotSpot addresses	
	Log	Address Pool of Network: 10.1.1.1-10.1.1.253	
	Radius		
	Tools D		
	New Terminal	Back Next Cancel	
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If you are going to be using SSL/HTTPS certificates for your hotspot, you can upload them here. If not, leave the option set to 'none' and continue.

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Ю	C# Safe Mode		✓ Hide Passwords 📕 🗎
	Interfaces	Hotspot	
	Wireless	Servers Server Profiles Users User Profiles Active Hosts IP Bindings Service Ports Walled Garden	Walled Garden IP List
	Bridge	🐥 🖃 🖉 🕅 Reset HTML Hotspot Setup	Find
	PPP	Name ( Interface Address Pool Profile Addresses	
	Mesh		
	IP D		
	MPLS D		
	Routing D		
	System D		
	Queues	Hotspot Setup	
	Files	Select hotspot SSL certificate	
	Log	Select Certificate: none	
	Radius		
	Tools 🗅		
	New Terminal	Back Next Cancel	
	Make Supout.rif	0 items	
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For a guesthouse/hotel, it is sometimes necessary for overseas travelers to change their SMTP settings in order to send emails correctly. This option allows the MikroTik to catch all SMTP traffic from the Hotspot clients and force them to use an SMTP server of your choice. If you do not need this feature you may leave the address as 0.0.0.0

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	Interfaces	Hotspot	
	Wireless	Servers Server Profiles Users User Profiles Active Hosts IP Bindings Service Ports Walled Garden	Walled Garden IP List
	Bridge		Find
	PPP		
	Mesh		¥
	IP D		
	MPLS D		
	Routing D		
	System 🗈		
	Queues	Hotspot Setup	
	Files	Select SMTP server	
	Log	IP Address of SMTP Server: 0.0.0.0	
	Radius		
	Tools D		
	New Terminal	Back Next Cancel	
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The next window will allow you to specify DNS servers that will be given to the hotspot clients. This will also be filled in for you automatically based on the information received from the internet DHCP server.

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Safe Mode	✓ Hide P	asswords 📕 🛅
Interfaces	Hotspot	
Wireless	Servers Server Profiles Users User Profiles Active Hosts IP Bindings Service Ports Walled Garden Walled Garden	IP List
Bridge	🖡 🖃 🛷 🛞 🕎 Reset HTML Hotspot Setup	Find
PPP	Name / Interface Address Pool Profile Addresses	
Mesh		
IP N		
MPLS N		
Routing		
System P		
Queues	Hotspot Setup	
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	DNS Servers: 192.168.88.1	
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The DNS name is quite important for the Hotspot functionality. This is the 'website' that the hotspot clients will be re-directed to when they want to login. The DNS name should not be the same as a website already available on the internet (eg. do not make your DNS name <u>www.google.com</u> - rather choose a new, un-used DNS). The DNS name must also have a DOT somewhere in the name, such as 'hotspot.hot'



The last window will allow you to create your first Hotspot username and password for client use.

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6	Ca Safe Mode	V Hide Passwords 📕 🛅
	Interfaces	Hotspot
	Wireless	Servers Server Profiles Users User Profiles Active Hosts IP Bindings Service Ports Walled Garden Walled Garden IP List
	Bridge	
	PPP	
	Mesh	Name / Interface Address Fooi Fronie Addresses
	IP D	
	MPLS D	
	Routing 1	
	System D	
	Queues	Hotspot Setup
	Files	Create In-11110put com
	Log	Name of Local HotSpot User: admin
	Radius	Password for the User:
	Tools 🗅	Bark Net Court
	New Terminal	Back Next Cancel
	Make Supout.rif	0 items
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	Interfac	ces	Hotspot	
	Wireles	ss	Servers Server Profiles Users User Profiles Active Hosts IP Bindings Service Ports Walled Garden Walled Garden IP List	
	Bridge			
	PPP			
	Mesh		Name         Interrace         Address Fool         Profile         Addresses	
	IP	1		
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	Log		Hotspot Setup	
100	Radius	;	Setup has completed successfully	
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Congratulations, the setup is now complete. You may now connect to the Hotspot wirelessly. The wireless client should have their laptop set to 'Obtain IP Address Automatically'.

As soon as this wireless client/laptop tries to browse a webpage, they will be redirected to a login screen and will have to specify a username and password in order to browse the internet.

Tutorial by Christopher Sutherland Miro Distribution www.miro.co.za