

# How to Enable Multi-WAN on OpenWRT

## What is Multi-WAN?

Your network can be connected to more than one Internet Providers simultaneously through a Multi-WAN device. The Multi-WAN feature on OpenWRT enables network traffic balancing between the two or more networks and fail-over support if one of the connections goes down. In this guide, we will provide the necessary steps in setting up an additional WAN.

## Accessing Web Interface

Adding a new WAN can be done through the LuCI interface that came with OpenWRT. The LuCI interface can be accessed by typing in the router's LAN address in your Internet browser.

### Authorization Required

Please enter your username and password.

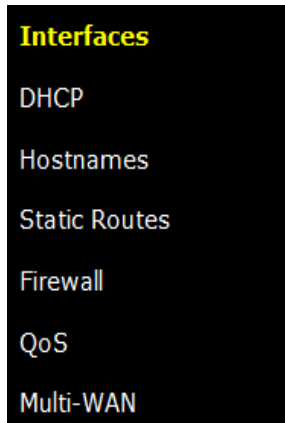
Username	<input type="text" value="root"/>
Password	<input type="password"/>

default address: 192.168.1.1  
default username: root  
default password: blank

# 1 - Creating New Interface

Once logged in, the first step is to create and define an interface that is going to be used for the additional WAN.

1. In the dropdown menu of Network, select Interfaces.



2. Type in the name of the interface you wish to add (wan2 in our example), then click on the Add button. Doing so will direct you to the configuration screen of the newly added interface.

### Interfaces

Device	Zone	MAC-Address Hardware Address	IPv4-Address	Traffic transmitted / received	Errors TX / RX	
wan <input checked="" type="checkbox"/>	eth0.101	wan	00:50:43:01:CC:70	192.168.101.164/24	39.07 KB / 44.85 KB	0 / 0
lan <input checked="" type="checkbox"/>	eth0.103	lan	00:50:43:01:CC:70	192.168.1.1/24	273.96 KB / 49.51 KB	0 / 0


wan2

3. Select the protocol type to be used for the new WAN (we will use DHCP in our example), assign VLAN number (in the format of eth0.vlan\_number) and firewall zone to the new interface then click Save & Apply.

## Interfaces


On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by spaces. You can also use VLAN notation `INTERFACE.VLANNR` (e.g.: `eth0.1`).

### WAN2


Overview 

Protocol

DHCP


 You need to install "comgt" for UMTS/GPRS, "ppp-mod-pppoe" for PPPoE, "ppp-mod-pppoa" for PPPoA or "pptp" for PPTP support

Bridge interfaces


 creates a bridge over specified interface(s)

Interface

eth0.102

Create / Assign firewall-zone 

wan2

 This interface does not belong to any firewall zone yet.




-- Additional Field --

 Add

### Aliases

*This section contains no values yet*

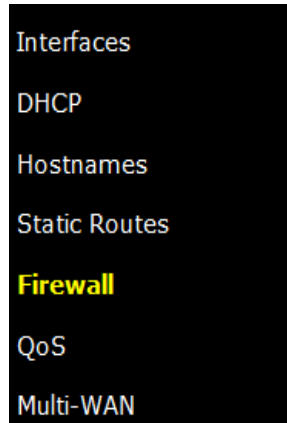
 Add entry

 Reset  Save  Save & Apply

## 2 - Setup Firewall and NATing

Now that the WAN interface has been added, we want to apply firewall and traffic routing rules to it so that it can communicate with our LAN ports.

1. In the dropdown menu of Network, select Firewall.



2. In the Zones section, set Incoming Traffic, Outgoing Traffic, Forwarded Traffic to accept, then click Save & Apply.

### Firewall

The firewall creates zones over your network interfaces to control network traffic flow.


#### Defaults


These are the default settings that are used if no other rules match.




SYN-flood protection	<input checked="" type="checkbox"/>
Drop invalid packets	<input checked="" type="checkbox"/>
Incoming Traffic	accept
Outgoing Traffic	accept
Forwarded Traffic	accept

#### Zones

Zones part the network interfaces into certain isolated areas to separate network traffic. One or more networks can belong to a zone. The MASQ-flag enables NAT masquerading for all outgoing traffic on this zone.

Name	Incoming Traffic Default Policy	Outgoing Traffic Default Policy	Forwarded Traffic Default Policy	MASQ	MSS Clamping	Networks 
lan	accept	accept	accept	<input type="checkbox"/>	<input type="checkbox"/>	contained networks wan lan wan2
wan	accept	accept	accept	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	wan lan wan2
wan2	accept	accept	accept	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	wan lan wan2

 Add entry

 Reset  Save  Save & Apply





3. Select Traffic Control in the submenu of Firewall.




4. In the Zone-to-Zone section, click on Add entry and you will see a new set to traffic rules, select LAN as Source and the new WAN as Destination, then click Save & Apply.





### Traffic Control


**Zone-to-Zone traffic**  
Here you can specify which network traffic is allowed to flow between network zones. Only new connections will be matched. Packets belonging to already open connections are automatically allowed to pass the firewall. If you experience occasional connection problems try enabling MSS Clamping otherwise disable it for performance reasons.



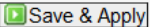
Source	Destination	
lan	wan	 
lan	wan2	 

 Add entry

**Advanced Rules**  
Advanced rules let you customize the firewall to your needs. Only new connections will be matched. Packets belonging to already open connections are automatically allowed to pass the firewall.

Name	Protocol	Source	Destination	Action	
	udp	wan:0.0.0.0/0:*	Device:0.0.0.0/0:68	ACCEPT	 
	icmp	wan:0.0.0.0/0:*	Device:0.0.0.0/0:*	ACCEPT	 

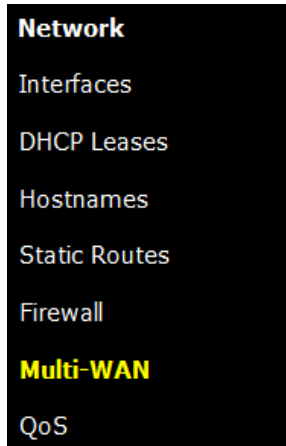
 Add entry

 Reset  Save  Save & Apply

### 3 – Enable Multi-WAN

Now we want the Multi-WAN script to pickup the newly added WAN interface and enable its fail-over feature.

1. In the dropdown menu of Network, select Multi-WAN.



- Click on Enable and type in the name of the new WAN in the WAN Interfaces section, then click on Add.

## Multi-WAN

Multi-WAN allows for the use of multiple uplinks for load balancing and failover.

Enable

### WAN Interfaces

Health Monitor detects and corrects network changes and failed connections.

WAN

 Delete

Load Balancer Distribution

Health Monitor Interval

Health Monitor ICMP Host(s)

Health Monitor ICMP Timeout

Attempts Before WAN Failover

Attempts Before WAN Recovery

Failover Traffic Destination 

DNS Server(s)

 Add




### Multi-WAN Traffic Rules

Configure rules for directing outbound traffic through specified WAN Uplinks.

Source Address	Destination Address	Protocol	Ports	WAN Uplink 
<input type="text" value="all"/>	<input type="text" value="all"/>	<input type="text" value="all"/>	<input type="text" value="80"/>	<input type="text" value="wan"/> 

 Add

Default Route 

 Reset  Save  Save & Apply

3. Customize your new WAN's fail-over options than click on Save & Apply.

## Multi-WAN

Multi-WAN allows for the use of multiple uplinks for load balancing and failover.


Enable

### WAN Interfaces

Health Monitor detects and corrects network changes and failed connections.


WAN

 Delete

Load Balancer Distribution	10
Health Monitor Interval	10 sec.
Health Monitor ICMP Host(s)	DNS Server(s)
Health Monitor ICMP Timeout	3 sec.
Attempts Before WAN Failover	3
Attempts Before WAN Recovery	5
Failover Traffic Destination 	Load Balancer(Compatibility)
DNS Server(s)	Auto

WAN2

 Delete

Load Balancer Distribution	10
Health Monitor Interval	10 sec.
Health Monitor ICMP Host(s)	DNS Server(s)
Health Monitor ICMP Timeout	3 sec.
Attempts Before WAN Failover	3
Attempts Before WAN Recovery	5
Failover Traffic Destination 	Load Balancer(Compatibility)
DNS Server(s)	Auto

 Add



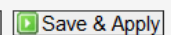
### Multi-WAN Traffic Rules

Configure rules for directing outbound traffic through specified WAN Uplinks.

Source Address	Destination Address	Protocol	Ports	WAN Uplink 
all	all	all	80	wan 

 Add

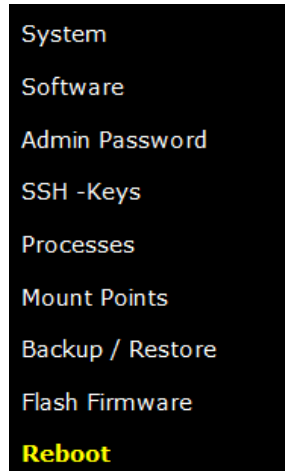
Default Route  wan

 Reset  Save  Save & Apply

## 4 – Restart the network

With the new WAN interface configured, it is a good idea to restart the network.

1. In the dropdown menu of System, select Reboot.



2. Click on Perform reboot to restart the device. The reboot process might take several minutes, once it is done, you will be automatically directed back to the log in page.

### System

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#### *Reboot*

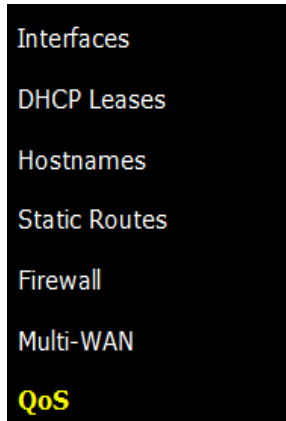
Reboots the operating system of your device

[Perform reboot](#)

## 5 – Apply QoS for New Interface

The new WAN should be up and running now, we can now customize its QoS feature for better traffic control of the Multi-WAN device. (This section is optional as the multi-WAN network is already functional at this point without any QoS features)

1. In the dropdown menu of Network, select QoS.



2. In the Interfaces section, type in the name of the new WAN, then click on Add.

### Quality of Service

With QoS you can prioritize network traffic selected by addresses, ports or services.






#### Interfaces


WAN  Delete




Enable	<input checked="" type="checkbox"/>
Classification group	default
Calculate overhead	<input checked="" type="checkbox"/>
Half-duplex	<input type="checkbox"/>
Download speed (kb/s)	1024
Upload speed (kb/s)	128

wan2  Add

#### Classification Rules

Target	Source host	Destination host	Service	Protocol	Ports	Number of bytes
low	all	all	edonkey	all	all	
low	all	all	bittorrent	all	all	
priority	all	all	all	all	22,53	
normal	all	all	all	TCP	20,21,25,80,110,443,993,4	
express	all	all	all	all	5190	

 Add

 Reset  Save  Save & Apply

- In the Interfaces section, click on Add entry, check enable and Calculate Overhead, specify Downlink and Uplink for the newly added interface. Click Save & Apply when finished.

## Quality of Service

With QoS you can prioritize network traffic selected by addresses, ports or services.

### Interfaces

WAN 





Enable	<input checked="" type="checkbox"/>
Classification group	default
Calculate overhead	<input checked="" type="checkbox"/>
Half-duplex	<input type="checkbox"/>
Download speed (kb/s)	1024
Upload speed (kb/s)	128

WAN2 

Enable	<input checked="" type="checkbox"/>
Classification group	default
Calculate overhead	<input checked="" type="checkbox"/>
Half-duplex	<input type="checkbox"/>
Download speed (kb/s)	1024
Upload speed (kb/s)	128



### Classification Rules

Priority	Source address	Destination address	Service	Protocol	Ports	Number of bytes
low	all	all	edonkey	all	all	
low	all	all	bittorrent	all	all	
priority	all	all	all	all	22,53	
normal	all	all	all	TCP	20,21,25,80,110,443,99	
express	all	all	all	express	5190	