

Port Forwarding on the RV130 and RV130W

Objective

Ports identify individual programs on your computer and allow communication with other computers sharing the same connection. Port Forwarding is a feature that is used to pass data to a specific device within a private LAN. It does so by mapping traffic from chosen ports on your device to corresponding ports on the network. Port forwarding allows your computer to efficiently direct traffic where it is needed in order to improve performance and network load balancing characteristics. The RV130 and RV130W supports single port forwarding, port range forwarding, and port range triggering.

Single port forwarding is a feature that is used to open only one port. Single port forwarding is considered to be a static method of port forwarding. Static port forwarding poses a security risk due to a configured port always being open.

Port range forwarding is a feature that is used to open a range of ports. Port range forwarding is also considered to be a static method of port forwarding.

Port range triggering is a method of dynamic port forwarding. When a host that is connected to the router opens a trigger port that is configured in a port range triggering rule, the router forwards the configured ports to the host. Once the host closes the triggered port, the router closes the forwarded ports. Port triggering is more secure than single port forwarding and port range forwarding. This is because with port triggering, the ports remain closed until they are triggered thereby limiting the possibility of unwanted port access.

The objective of this document is to show you how to configure port forwarding on the RV130 and RV130W through the use of single port forwarding, port range forwarding, and trigger port forwarding.

Applicable Devices

- RV130
- RV130W

Software Version

- 1.0.1.3

Port Forwarding Configuration

Single Port Forwarding

Step 1. Log in to the web configuration utility and choose **Firewall > Single Port Forwarding**. The *Single Port Forwarding* page opens:

Single Port Forwarding

Port Range Forwarding Rules Table						
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
FTP	21	21	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
Telnet	23	23	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMTP	25	25	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
TFTP	69	69	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
finger	79	79	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NTP	123	123	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
POP3	110	110	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NNTP	119	119	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SNMP	161	161	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
CVS	2401	2401	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS	2701	2701	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS-rmctl	2702	2702	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

Step 2. Enter a name for the application that you want to configure ports for in the *Application* field.

Single Port Forwarding

Port Range Forwarding Rules Table						
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
FTP	21	21	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
Telnet	23	23	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMTP	25	25	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
TFTP	69	69	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
finger	79	79	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NTP	123	123	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
POP3	110	110	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NNTP	119	119	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SNMP	161	161	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
CVS	2401	2401	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS	2701	2701	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS-rmctl	2702	2702	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
application_1			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

Step 3. Enter a port number in the *External Port* field. An external port is the outside port that handles requests from the internet. Internet users will connect to the application or server using this port number.

Single Port Forwarding

Port Range Forwarding Rules Table						
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
FTP	21	21	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
Telnet	23	23	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMTP	25	25	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
TFTP	69	69	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
finger	79	79	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NTP	123	123	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
POP3	110	110	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NNTP	119	119	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SNMP	161	161	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
CVS	2401	2401	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS	2701	2701	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS-rmctl	2702	2702	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
application_1	443		TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

Note: A port number can range between 1 and 65535.

Step 4. Enter a port number in the *Internal Port* field. An internal port is the inside port that forwards incoming internet traffic to your local network. This is the destination port to which traffic will be forwarded.

Single Port Forwarding

Port Range Forwarding Rules Table						
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
FTP	21	21	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
Telnet	23	23	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMTP	25	25	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
TFTP	69	69	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
finger	79	79	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NTP	123	123	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
POP3	110	110	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NNTP	119	119	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SNMP	161	161	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
CVS	2401	2401	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS	2701	2701	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS-rmctl	2702	2702	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
application_1	443	449	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

Note: Generally the internal and external port numbers are the same when single port forwarding. However, if they are different, the router will perform a port address translation in order to forward the traffic appropriately.

Step 5. From the *Protocol* drop-down list, choose the transport protocol that is used by the application.

Single Port Forwarding

Port Range Forwarding Rules Table						
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
FTP	21	21	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
Telnet	23	23	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMTP	25	25	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
TFTP	69	69	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
finger	79	79	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NTP	123	123	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
POP3	110	110	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NNTP	119	119	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SNMP	161	161	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
CVS	2401	2401	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS	2701	2701	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS-rmctl	2702	2702	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
application_1	443	449	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP & UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

The available options are defined as follows:

- TCP — Application will use Transmission Control Protocol (TCP). TCP is a transport protocol that offers reliability and accuracy over speed. Applications that transport sensitive data, such as E-mail, are generally transmitted using TCP since the delivery of data is guaranteed.
- UDP — Application will use User Datagram Protocol (UDP). UDP is a transport protocol that offers speed over reliability and accuracy. Applications that transport voice and video traffic are generally transmitted using UDP since the timely delivery of data is a priority.
- TCP & UDP — Application will use both TCP and UDP. If you are unsure what protocol the application uses, choose this option.

Step 6. From the *Interface* drop-down list, choose the interface to which the rule applies to.

Single Port Forwarding

Port Range Forwarding Rules Table						
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
FTP	21	21	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
Telnet	23	23	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMTP	25	25	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
TFTP	69	69	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
finger	79	79	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NTP	123	123	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
POP3	110	110	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NNTP	119	119	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SNMP	161	161	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
CVS	2401	2401	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS	2701	2701	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS-rmdl	2702	2702	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
application_1	443	449	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

The available options are defined as follows:

- Both (Ethernet & 3G) — Rule applies when the router is supplied internet through an Ethernet connection in the WAN port, or through a 3G modem in the USB port.
- Ethernet — Rule applies only when the router is supplied internet through an Ethernet connection in the WAN port.
- 3G — Rule applies only when the router is supplied internet through a 3G modem in the USB port.

Step 7. In the *IP Address* field, enter the IP address of the host on the LAN to which the IP traffic will be forwarded to.

Single Port Forwarding

Port Range Forwarding Rules Table						
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
FTP	21	21	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
Telnet	23	23	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMTP	25	25	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
TFTP	69	69	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
finger	79	79	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NTP	123	123	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
POP3	110	110	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NNTP	119	119	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SNMP	161	161	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
CVS	2401	2401	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS	2701	2701	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS-rmctl	2702	2702	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
application_1	443	449	TCP	Both (Ethernet & 3G)	192.168.1.1	<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

Step 8. Check the **Enable** check box to enable the configured rule.

Single Port Forwarding

Port Range Forwarding Rules Table						
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
FTP	21	21	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
Telnet	23	23	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMTP	25	25	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
TFTP	69	69	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
finger	79	79	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NTP	123	123	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
POP3	110	110	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
NNTP	119	119	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SNMP	161	161	UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
CVS	2401	2401	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS	2701	2701	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
SMS-rmctl	2702	2702	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
application_1	443	449	TCP	Both (Ethernet & 3G)	192.168.1.1	<input checked="" type="checkbox"/>

Step 9. Click **Save** at the bottom of the page.

Port Range Forwarding

Port Range Forwarding Rules Table						
Application	Start	End	Protocol	Interface	IP Address	Enable
application_1	6005	6020	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

Note: A port number can range between 1 and 65535.

Step 4. Enter the port that ends the range of ports used by the application in the *End* field.

Port Range Forwarding

Port Range Forwarding Rules Table						
Application	Start	End	Protocol	Interface	IP Address	Enable
application_1	6005	6020	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

Step 5. From the *Protocol* drop-down list, choose the transport protocol that is used by the application.

Port Range Forwarding

Port Range Forwarding Rules Table						
Application	Start	End	Protocol	Interface	IP Address	Enable
application_1	6005	6020	TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP & UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

The available options are defined as follows:

- **TCP** — Application will use Transmission Control Protocol (TCP). TCP is a transport protocol that offers reliability and accuracy over speed. Applications that transport sensitive data, such as E-mail, are generally transmitted using TCP since the delivery of data is guaranteed.
- **UDP** — Application will use User Datagram Protocol (UDP). UDP is a transport protocol that offers speed over reliability and accuracy. Applications that transport voice and video traffic are generally transmitted using UDP since the timely delivery of data is a priority.
- **TCP & UDP** — Application will use both TCP and UDP. If you are unsure what protocol the application uses, choose this option.

Step 6. From the *Interface* drop-down list, choose the interface to which the rule applies to.

Port Range Forwarding

Port Range Forwarding Rules Table						
Application	Start	End	Protocol	Interface	IP Address	Enable
application_1	6005	6020	TCP & UDP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

The available options are defined as follows:

- Both (Ethernet & 3G) — Rule applies when the router is supplied internet through an Ethernet connection in the WAN port, or through a 3G modem in the USB port.
- Ethernet — Rule applies only when the router is supplied internet through an Ethernet connection in the WAN port.
- 3G — Rule applies only when the router is supplied internet through a 3G modem in the USB port.

Step 7. In the *IP Address* field, enter the IP address of the host on the LAN to which the IP traffic will be forwarded to.

Port Range Forwarding

Port Range Forwarding Rules Table						
Application	Start	End	Protocol	Interface	IP Address	Enable
application_1	6005	6020	TCP & UDP	Both (Ethernet & 3G)	192.168.10.1	<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

Step 8. Check the **Enable** check box to enable the configured rule.

Port Range Forwarding

Port Range Forwarding Rules Table						
Application	Start	End	Protocol	Interface	IP Address	Enable
application_1	6005	6020	TCP & UDP	Both (Ethernet & 3G)	192.168.10.1	<input checked="" type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>
			TCP	Both (Ethernet & 3G)		<input type="checkbox"/>

Step 9. Click **Save** at the bottom of the page.

Port Range Triggering

Step 1. Log in to the web configuration utility and choose **Firewall > Port Range Triggering**. The *Port Range Triggering* page opens:

Port Range Triggering

Port Range Forwarding Rules Table				
Application	Triggered Range	Forwarded Range	Interface	Enable
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	Both (Ethernet & 3G)	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	Both (Ethernet & 3G)	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	Both (Ethernet & 3G)	<input type="checkbox"/>

Step 2. Enter a name for the application that you want to configure ports for in the *Application* field.

Port Range Triggering

Port Range Forwarding Rules Table				
Application	Triggered Range	Forwarded Range	Interface	Enable
application_1			Both (Ethernet & 3G) ▼	<input type="checkbox"/>
			Both (Ethernet & 3G) ▼	<input type="checkbox"/>

Step 3. Enter the range of ports used by the application that will trigger the rule in the *Triggered Range* fields.

Port Range Triggering

Port Range Forwarding Rules Table				
Application	Triggered Range	Forwarded Range	Interface	Enable
application_1	6000 ~ 6000		Both (Ethernet & 3G) ▼	<input type="checkbox"/>
			Both (Ethernet & 3G) ▼	<input type="checkbox"/>

Note: You can trigger the rule with a single port if you use the same port number for a given range (e.g. 6000 – 6000).

Step 4. Enter the range of ports that will be forwarded when the rule is triggered in the *Forwarded Range* fields.

Port Range Triggering

Port Range Forwarding Rules Table				
Application	Triggered Range	Forwarded Range	Interface	Enable
application_1	6000 ~ 6000	6005 ~ 6020	Both (Ethernet & 3G) ▼	<input type="checkbox"/>
			Both (Ethernet & 3G) ▼	<input type="checkbox"/>

Note: A port number can range from 1 to 65535. As previously mentioned, you can forward the traffic to a single port if you use the same port number for a given range.

Step 5. From the *Interface* drop-down list, choose the interface to which the rule applies to.

Port Range Triggering

Port Range Forwarding Rules Table				
Application	Triggered Range	Forwarded Range	Interface	Enable
application_1	6000 ~ 6000	6005 ~ 6020	Both (Ethernet & 3G) ▼	<input type="checkbox"/>
			Both (Ethernet & 3G)	<input type="checkbox"/>
			Ethernet	<input type="checkbox"/>
			3G	<input type="checkbox"/>
			Both (Ethernet & 3G) ▼	<input type="checkbox"/>

The available options are defined as follows:

- Both (Ethernet & 3G) — Rule applies when the router is supplied internet through an Ethernet connection in the WAN port, or through a 3G modem in the USB port.
- Ethernet — Rule applies only when the router is supplied internet through an Ethernet connection in the WAN port.
- 3G — Rule applies only when the router is supplied internet through a 3G modem in the

USB port.

Step 6. Check the **Enable** check box to enable the configured rule.

Port Range Triggering

Port Range Forwarding Rules Table				
Application	Triggered Range	Forwarded Range	Interface	Enable
application_1	6000 ~ 6000	6005 ~ 6020	Both (Ethernet & 3G) ▼	<input checked="" type="checkbox"/>
			Both (Ethernet & 3G) ▼	<input type="checkbox"/>

Note: A triggering rule does not require an IP address because any computer connected to the router can utilize the rule, however only one computer can use the rule at a time.

Step 7. Click **Save** at the bottom of the page.