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# 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 Forwardin	g Rules Table								
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable			
HTTP	80	80	TCP 👻	Both (Ethernet & 3G) 🔻					
FTP	21	21	TCP 👻	Both (Ethernet & 3G) 🔻					
Telnet	23	23	TCP 👻	Both (Ethernet & 3G) 🔻					
SMTP	25	25	TCP 👻	Both (Ethernet & 3G) 🔻					
TFTP	69	69	UDP 👻	Both (Ethernet & 3G) 🔻					
finger	79	79	TCP 👻	Both (Ethernet & 3G) 🔻					
NTP	123	123	UDP 👻	Both (Ethernet & 3G) 🔻					
POP3	110	110	TCP 👻	Both (Ethernet & 3G) 🔻					
NNTP	119	119	TCP 👻	Both (Ethernet & 3G) 🔻					
SNMP	161	161	UDP 👻	Both (Ethernet & 3G) 🔻					
CVS	2401	2401	TCP 👻	Both (Ethernet & 3G) 🔻					
SMS	2701	2701	TCP 👻	Both (Ethernet & 3G) 🔻					
SMS-rmctl	2702	2702	TCP 👻	Both (Ethernet & 3G) 🔻					
			TCP -	Both (Ethernet & 3G) 👻					
			TCP -	Both (Ethernet & 3G) 👻					

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

Single Port Forwar	rding					
Port Range Forwarding F	Rules Table					
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP -	Both (Ethernet & 3G) 🔻		
FTP	21	21	TCP -	Both (Ethernet & 3G) 🔻		
Telnet	23	23	TCP -	Both (Ethernet & 3G) 👻		
SMTP	25	25	TCP 💌	Both (Ethernet & 3G) 👻		
TFTP	69	69	UDP 🔻	Both (Ethernet & 3G) 👻		
finger	79	79	TCP -	Both (Ethernet & 3G) 🔻		
NTP	123	123	UDP 🔻	Both (Ethernet & 3G) 👻		
POP3	110	110	TCP -	Both (Ethernet & 3G) 🔻		
NNTP	119	119	TCP -	Both (Ethernet & 3G) 👻		
SNMP	161	161	UDP 🔻	Both (Ethernet & 3G) 🔻		
CVS	2401	2401	TCP -	Both (Ethernet & 3G) 👻		
SMS	2701	2701	TCP 🔻	Both (Ethernet & 3G) 👻		
SMS-rmctl	2702	2702	TCP 👻	Both (Ethernet & 3G) 👻		
application_1			TCP 🔻	Both (Ethernet & 3G) 👻		
			TCP -	Both (Ethernet & 3G) 👻		

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) 🔻							
FTP	21	21	TCP 💌	Both (Ethernet & 3G) 🔻							
Telnet	23	23	TCP 👻	Both (Ethernet & 3G) 🔻							
SMTP	25	25	TCP 👻	Both (Ethernet & 3G) 👻							
TFTP	69	69	UDP 👻	Both (Ethernet & 3G) 👻							
finger	79	79	TCP 👻	Both (Ethernet & 3G) 🔻							
NTP	123	123	UDP 💌	Both (Ethernet & 3G) 🔻							
POP3	110	110	TCP 💌	Both (Ethernet & 3G) 🔻							
NNTP	119	119	TCP 💌	Both (Ethernet & 3G) 🔻							
SNMP	161	161	UDP 🔻	Both (Ethernet & 3G) 🔻							
CVS	2401	2401	TCP 👻	Both (Ethernet & 3G) 👻							
SMS	2701	2701	TCP 💌	Both (Ethernet & 3G) 👻							
SMS-rmctl	2702	2702	TCP 🔹	Both (Ethernet & 3G) 🔻							
application_1	443		TCP 🔹	Both (Ethernet & 3G) 🔻							
			TCP 👻	Both (Ethernet & 3G) 🔻							

**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 Forwa	arding					
Port Range Forwarding	g Rules Table					
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP -	Both (Ethernet & 3G) 👻		
FTP	21	21	TCP 👻	Both (Ethernet & 3G) 🔻		
Telnet	23	23	TCP 👻	Both (Ethernet & 3G) 👻		
SMTP	25	25	TCP 👻	Both (Ethernet & 3G) 👻		
TFTP	69	69	UDP 👻	Both (Ethernet & 3G) 👻		
finger	79	79	TCP 👻	Both (Ethernet & 3G) 👻		
NTP	123	123	UDP 👻	Both (Ethernet & 3G) 👻		
POP3	110	110	TCP 👻	Both (Ethernet & 3G) 👻		
NNTP	119	119	TCP 👻	Both (Ethernet & 3G) 👻		
SNMP	161	161	UDP -	Both (Ethernet & 3G) 👻		
CVS	2401	2401	TCP -	Both (Ethernet & 3G) 👻		
SMS	2701	2701	TCP 👻	Both (Ethernet & 3G) 👻		
SMS-rmctl	2702	2702	TCP -	Both (Ethernet & 3G) 👻		
application_1	443	449	тср 🗸	Both (Ethernet & 3G) 👻		
			TCP -	Both (Ethernet & 3G) 👻		

**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 Forwa	arding					
Single Fort Forwa	aronig					
Port Range Forwarding	Rules Table					
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP 👻	Both (Ethernet & 3G) 🔻		
FTP	21	21	TCP 👻	Both (Ethernet & 3G) 🔻		
Telnet	23	23	TCP 👻	Both (Ethernet & 3G) 🔻		
SMTP	25	25	TCP -	Both (Ethernet & 3G) 🔻		
TFTP	69	69	UDP 👻	Both (Ethernet & 3G) 🔻		
finger	79	79	TCP -	Both (Ethernet & 3G) 🔻		
NTP	123	123	UDP 👻	Both (Ethernet & 3G) 🔻		
POP3	110	110	TCP -	Both (Ethernet & 3G) 🔻		
NNTP	119	119	TCP -	Both (Ethernet & 3G) 🔻		
SNMP	161	161	UDP -	Both (Ethernet & 3G) 🔻		
CVS	2401	2401	TCP -	Both (Ethernet & 3G) 🔻		
SMS	2701	2701	TCP -	Both (Ethernet & 3G) 🔻		
SMS-rmctl	2702	2702	TCP 👻	Both (Ethernet & 3G) 👻		
application_1	443	449	TCP 💌	Both (Ethernet & 3G) 🔻		
			UDP	Both (Ethernet & 3G) 🔻		
			TCP & UDP	Both (Ethernet & 3G) 👻		

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 Forwar	Single Port Forwarding										
Port Range Forwarding R	ules Table										
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable					
HTTP	80	80	TCP 🔹	Both (Ethernet & 3G) 👻							
FTP	21	21	TCP 👻	Both (Ethernet & 3G) 🔻							
Telnet	23	23	TCP 🔹	Both (Ethernet & 3G) 👻							
SMTP	25	25	TCP 👻	Both (Ethernet & 3G) 👻							
TFTP	69	69	UDP 👻	Both (Ethernet & 3G) 👻							
finger	79	79	TCP 👻	Both (Ethernet & 3G) 👻							
NTP	123	123	UDP 👻	Both (Ethernet & 3G) 👻							
POP3	110	110	TCP 👻	Both (Ethernet & 3G) 👻							
NNTP	119	119	TCP 👻	Both (Ethernet & 3G) 👻							
SNMP	161	161	UDP 👻	Both (Ethernet & 3G) 👻							
CVS	2401	2401	TCP 👻	Both (Ethernet & 3G) 👻							
SMS	2701	2701	TCP 👻	Both (Ethernet & 3G) 👻							
SMS-rmctl	2702	2702	TCP 👻	Both (Ethernet & 3G) 👻							
application_1	443	449	TCP 👻	Both (Ethernet & 3G) 👻							
			TCP -	Both (Ethernet & 3G) Ethernet							
			TCP -	3G	J and the second s						

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.

Single Port Forwa	arding					
Port Range Forwarding	g Rules Table					
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable
HTTP	80	80	TCP -	Both (Ethernet & 3G) 🔻		
FTP	21	21	TCP 👻	Both (Ethernet & 3G) 🔻		
Telnet	23	23	TCP 👻	Both (Ethernet & 3G) 🔻		
SMTP	25	25	TCP 👻	Both (Ethernet & 3G) 🔻		
TFTP	69	69	UDP 👻	Both (Ethernet & 3G) 🔻		
finger	79	79	TCP 👻	Both (Ethernet & 3G) 🔻		
NTP	123	123	UDP 👻	Both (Ethernet & 3G) 🔻		
POP3	110	110	TCP 👻	Both (Ethernet & 3G) 🔻		
NNTP	119	119	TCP 👻	Both (Ethernet & 3G) 🔻		
SNMP	161	161	UDP 👻	Both (Ethernet & 3G) 🔻		
CVS	2401	2401	TCP 👻	Both (Ethernet & 3G) 🔻		
SMS	2701	2701	TCP 👻	Both (Ethernet & 3G) 🔻		
SMS-rmctl	2702	2702	TCP 👻	Both (Ethernet & 3G) 🔻		
application_1	443	449	TCP 👻	Both (Ethernet & 3G) 🔻	[192.168.1.1]	
			TCP -	Both (Ethernet & 3G) 👻		

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.

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

Single Port Forwa	arding									
Port Range Forwarding Rules Table										
Application	External Port	Internal Port	Protocol	Interface	IP Address	Enable				
HTTP	80	80	TCP 💌	Both (Ethernet & 3G) 🔻						
FTP	21	21	TCP 💌	Both (Ethernet & 3G) 🔻						
Telnet	23	23	TCP 🔹	Both (Ethernet & 3G) 👻						
SMTP	25	25	TCP 🔻	Both (Ethernet & 3G) 👻						
TFTP	69	69	UDP 👻	Both (Ethernet & 3G) 👻						
finger	79	79	TCP 🔹	Both (Ethernet & 3G) 👻						
NTP	123	123	UDP 👻	Both (Ethernet & 3G) 👻						
POP3	110	110	TCP 🔹	Both (Ethernet & 3G) 👻						
NNTP	119	119	TCP 🔹	Both (Ethernet & 3G) 👻						
SNMP	161	161	UDP 👻	Both (Ethernet & 3G) 🔻						
CVS	2401	2401	TCP 👻	Both (Ethernet & 3G) 👻						
SMS	2701	2701	TCP 👻	Both (Ethernet & 3G) 🔻						
SMS-rmctl	2702	2702	TCP -	Both (Ethernet & 3G) 👻						
application_1	443	449	TCP -	Both (Ethernet & 3G) 🔻	192.168.1.1					

SMS-rmctl	2702	2702	TCP	•	Both (Ethernet & 3G) 👻	
application_1	443	449	TCP	•	Both (Ethernet & 3G) 👻 192.168.1.1	V
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 👻	
			TCP	•	Both (Ethernet & 3G) 💌	

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

#### **Port Range Forwarding**

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

Port Range Forwarding									
Port Range Forwarding Rules Table									
Application	Start	End	Protocol	Interface	IP Address	Enable			
			TCP 👻	Both (Ethernet & 3G) 👻					
			TCP 👻	Both (Ethernet & 3G) 👻					
			TCP -	Both (Ethernet & 3G) 👻					
			TCP 👻	Both (Ethernet & 3G) 👻					
			TCP 👻	Both (Ethernet & 3G) 👻					

Step 2. Enter a name for the application that you want to configure ports for in the *Application* 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) 🔻				
			TCP	•	Both (Ethernet & 3G) 🔻				
			TCP	•	Both (Ethernet & 3G) 👻				

Step 3. Enter the port that begins the range of ports used by the application in the *Start* field.

Port Range Forwarding									
Port Range Forwarding R	Rules Table								
Application	Start	End	Protocol	Interface	IP Address	Enable			
application_1	6005	6020	TCP 💌	Both (Ethernet & 3G) 🔻					
			TCP 🔹	Both (Ethernet & 3G) 👻					
			TCP -	Both (Ethernet & 3G) 👻					

**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 Ru	ules Table						
Application	Start	End	Protocol	Interface	IP Address	Enable	
application_1	6005	6020	TCP 🔹	Both (Ethernet & 3G) 🔻			
			TCP 🔹	Both (Ethernet & 3G) 👻			
			TCP -	Both (Ethernet & 3G) 👻			

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

Port Range Forwarding						
Port Range Forwarding R	ules Table					
Application	Start	End	Protocol	Interface	IP Address	Enable
application_1	6005	6020	TCP 🔻	Both (Ethernet & 3G) 🔻		
				Both (Ethernet & 3G) 🔻		
			TCP	Both (Ethernet & 3G) 🔻		

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 Forward	ing Rules Table						
Application	Start	End	Protocol	Interface	IP Address	Enable	
application_1	6005	6020	TCP & UDP 🔻	Both (Ethernet & 3G) 🔻			
			TCP T	Both (Ethernet & 3G) Ethernet 3G			
			TCP •	Both (Ethernet & 3G)			

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 R	ules Table						
Application	Start	End	Protocol	Interface	IP Address	Enable	
application_1	6005	6020	TCP & UDP 🔻	Both (Ethernet & 3G) ▼	192.168.10.1		
			TCP T	Both (Ethernet & 3G) 🔻			
			TCP T	Both (Ethernet & 3G) 🔻			

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

Port Range Forwarding							
Port Range Forwarding R	ules Table						
Application	Start	End	Protocol	Interface	IP Address	Enable	
application_1	6005	6020	TCP & UDP 🔻	Both (Ethernet & 3G) ▼	192.168.10.1		
			TCP T	Both (Ethernet & 3G) 🔻			
			TCP <b>T</b>	Both (Ethernet & 3G) 🔻			

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 R	ules Table						
Application	Triggered Range	Forwarded Range	Interface	Enable			
	~	~	Both (Ethernet & 3G) ▼				
	~	~	Both (Ethernet & 3G) ▼				
	~	~	Both (Ethernet & 3G) 🔻				

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 R	ules Table						
Application	Triggered Range	Forwarded Range	Interface	Enable			
application_1	~	~	Both (Ethernet & 3G) 🔻				
	~	~	Both (Ethernet & 3G) 🔻				

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 R	ules Table							
Application	Triggered Range	Forwarded Range	Interface	Enable				
application_1	6000 ~ 6000	~	Both (Ethernet & 3G) ▼					
	~	~	Both (Ethernet & 3G) ▼					

**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 Ru	les Table						
Application	Triggered Range	Forwarded Range	Interface	Enable			
application_1	6000 ~ 6000	6005 ~ 6020	Both (Ethernet & 3G) 🔻				
	~	~	Both (Ethernet & 3G) 🔻				

**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 Ru	iles Table						
Application	Triggered Range	Forwarded Range	Interface	Enable			
application_1	6000 ~ 6000	6005 ~ 6020	Both (Ethernet & 3G) 🔻				
	~	~	Ethernet & 3G)				
	~	~	Both (Ethernet & 3G) V				

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 R	ules Table						
	Application	Triggered Range	Forwarded Range	Interface	Enable			
	application_1	6000 ~ 6000	6005 ~ 6020	Both (Ethernet & 3G) 🔻				
		~	~	Both (Ethernet & 3G) 🔻				

**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.