

Title:	How to Open Ports in Router	Version:	V2.0	Date:	08/23/2019
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Preparation

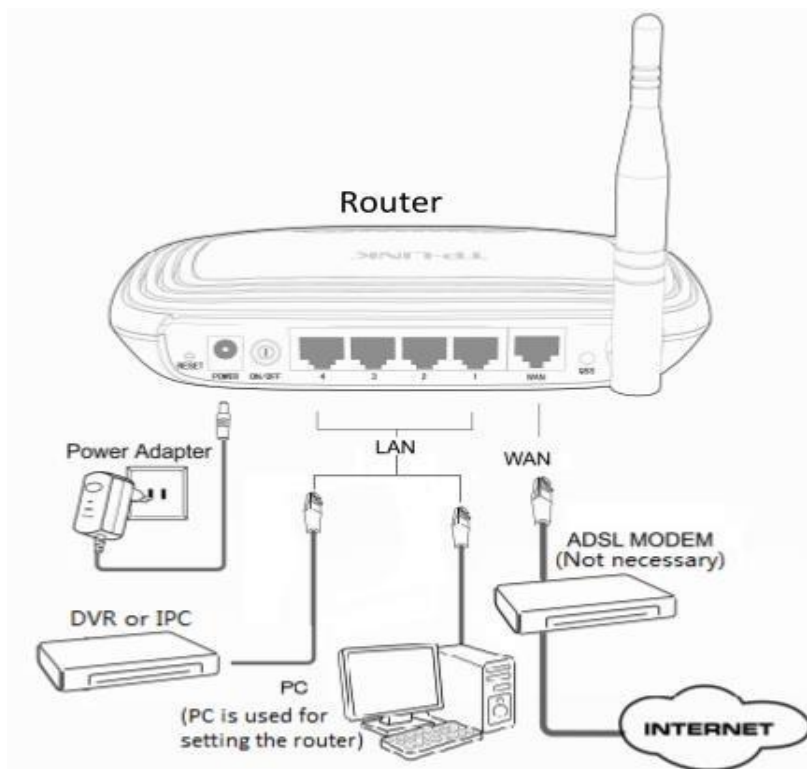
Port forwarding should only be used when the devices need to be accessed via the internet. To ensure proper security configuration, please follow below points:

1. Minimize the port numbers exposed to the internet. Port forwarding should only be configured when absolutely necessary. For example, to use web service, only port 443 should be forwarded.
2. Avoid common ports and reconfigure them to customized ports. For example, port 80 is commonly used for HTTP. User is recommended to change to a customized port on the device other than port 80 for the designated service, following TCP/IP port rule (1 – 65535).

Instructions

1. Network Topology

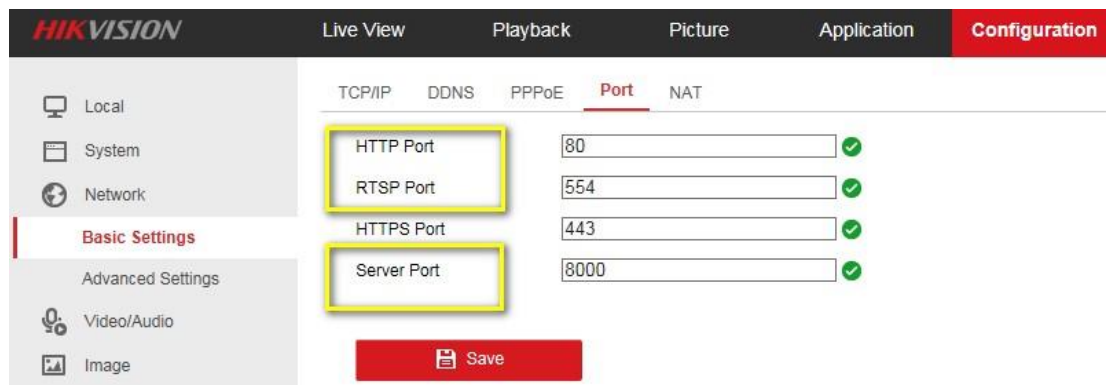
At first, you should connect your device in accordance with the followed image:



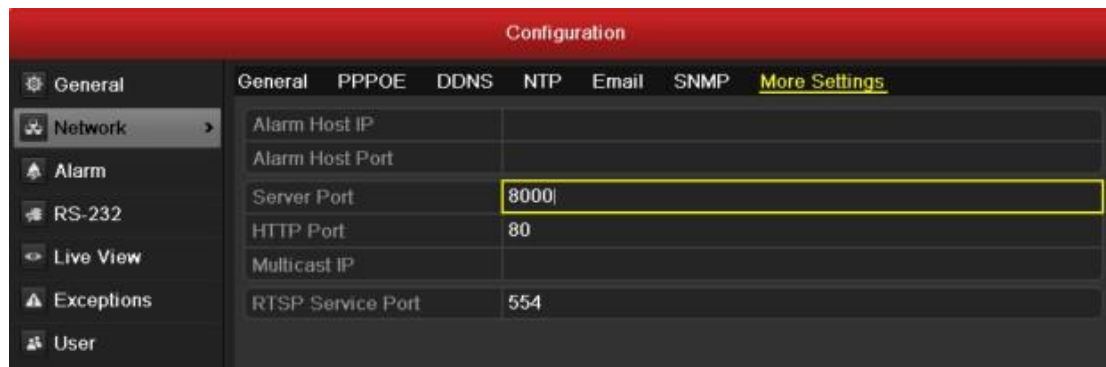
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2. Ports to be forwarded

Generally speaking, you need to open all the three http, rtsp, server ports, 80, 800, 554 are as default. You can find the port number via web:



For back-end device, you can also find the port number in “More Settings” locally.



3. Open ports in router

You can select to open ports manually, or use the UPnP to open ports automatically. Open ports manually is more reliable. It's because in the UPnP mode, external ports are assigned by the router automatically, there might be ports conflicts if there are many devices in your network.

Open ports manually:

Steps:

- 1) Login your router, go to **Forwarding->Virtual Servers**;
- 2) Click **Add New** to add ports;
- 3) Input the port number, IP address(which is the same with your IPC/NVR), select **Protocol** as **ALL**;

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Add or Modify a Virtual Server Entry

Service Port: (XX-XX or XX)
IP Address:
Protocol: ▼
Status: ▼
Common Service Port: ▼

4) Repeat the step to open all the three ports.

Status	<div style="background-color: #4CAF50; color: white; padding: 2px; font-weight: bold;">Virtual Servers</div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ID</th> <th>Service Port</th> <th>IP Address</th> <th>Protocol</th> <th>Status</th> <th>Modify</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>80</td> <td>192.168.1.100</td> <td>TCP</td> <td>Enabled</td> <td>Modify Delete</td> </tr> <tr> <td>2</td> <td>8000</td> <td>192.168.1.100</td> <td>TCP</td> <td>Enabled</td> <td>Modify Delete</td> </tr> <tr> <td>2</td> <td>554</td> <td>192.168.1.100</td> <td>TCP</td> <td>Enabled</td> <td>Modify Delete</td> </tr> </tbody> </table> <p style="text-align: center;"> <input type="button" value="Add New..."/> <input type="button" value="Enable All"/> <input type="button" value="Disable All"/> <input type="button" value="Delete All"/> </p> <p style="text-align: center;"> <input type="button" value="Previous"/> <input type="button" value="Next"/> </p>	ID	Service Port	IP Address	Protocol	Status	Modify	1	80	192.168.1.100	TCP	Enabled	Modify Delete	2	8000	192.168.1.100	TCP	Enabled	Modify Delete	2	554	192.168.1.100	TCP	Enabled	Modify Delete
ID		Service Port	IP Address	Protocol	Status	Modify																			
1		80	192.168.1.100	TCP	Enabled	Modify Delete																			
2		8000	192.168.1.100	TCP	Enabled	Modify Delete																			
2		554	192.168.1.100	TCP	Enabled	Modify Delete																			
Quick Setup																									
QSS																									
Network																									
Wireless																									
DHCP																									
Forwarding																									
- Virtual Servers																									
- Port Triggering																									
- DMZ																									
- UPnP																									
Security																									

Open ports automatically:

Steps:

- 1) Login your router, go to **Forwarding->UPnP**, enable it; (this function is enabled as default for many routers)
- 2) Login your IPC/NVR via web, go to **Configuration->Network->Basic Settings->NAT**, enable **UPnP**, and select the **Port Mapping Mode** as **Auto**.
- 3) Refresh the page, all the parameters like **External Port**, **External IP address** will be filled automatically. If the **Status** turns to **Valid**, it means the configuration is done.

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The screenshot shows the Hikvision web interface with the 'Configuration' menu selected. The 'NAT' tab is active, and the 'Enable UPnP™' checkbox is checked. The 'Port Mapping Mode' is set to 'Auto'. The following table shows the port mappings:

Port Type	External Port	External IP Address	Internal Port	Status
HTTP	84	125.118.	80	Valid
RTSP	558	125.118.	554	Valid
Server Port	8004	125.118.	8000	Valid

Note:

- 1) DMZ function is suggested to be Disabled;
- 2) Different routers may have different interfaces; but the procedures are the same.
- 3) The default No. of Server Port (for client software viewing) is 8000, which can be effective from 2000 to 65535;
- 4) The default No. of HTTP Port (for PC web viewing) is 80, which can be effective from 1 to 65535;
- 5) The default No. of RTSP Port is 554 (for data transmission), which can be effective from 1024 to 65535.
- 6) Sometimes 80 or 8000 may be occupied by some other applications, so you may change them respectively to 81/82 or 8001/8002.
- 7) If you modify 80 to any other No., you need to input "Colon + Port No." after the public IP or address in the web browser when you try to access your device via web, such as `http://57.63.91.xx:81`.



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