KB – IP Port Forwarding

There are two ways connection allow you to watch your device remotely.

This KB Shows

IP/Domain

Port forwarding Only

1. IP/Domain Connection – aka IP Port forwarding
2. P2P Connection – aka PTCloud connection

Here is the comparison table, but personally I prefer to use the IP/Domain access:

	IP/Domain Access	PTCloud connection	Comment
Connection Speed	Faster	Fair	
Port Forwarding?	Yes, Need	No need	But PTCloud do require connect DVR/NVR to 1st level router only
Live View Channel	Up to 16	Up to 16	
Playback Channel	4	1	
Browser Support	Internet Explorer only (IE Only)	NA	
Download Video	Support	NA	
Two Ways Audio	Yes, NVR / IPC	Yes, LTS Connect Only	
Push Notification	X	Yes	NVMS7000 support IP/Domain with Push Notification.
Fisheye Support	Yes	X	
Alarm Support	Yes	X	
PTZ Support	More, Call Preset	Basic	
Share Settings	X	Cloud Access Only	

IP/Domain Port forwarding (UPnP Simple / Manual Port Forward)

Try UPNP first

There are two ways to program your router port forwarding.

1. UPnP Port forwarding – using router UPnP function.
2. Manually Program Port forwarding from the Router.
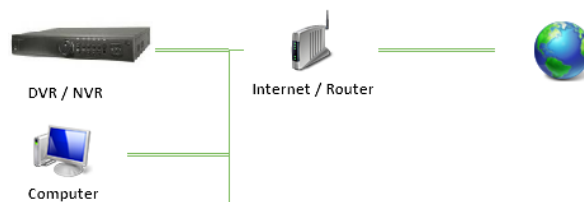
UPnP is the easiest way to do the port forwarding, I prefer you can try this first. Universal Plug and Play (UPnP) is a set of networking protocols that permits networked devices, such as personal computers, printers, Internet gateways, Wi-Fi access points and mobile devices to seamlessly discover each other's presence on the network and establish functional network services for data sharing, ...

This method does require two things:
1. Connect DVR/NVR to the 1st Level Router.
2. The router must support UPnP port forwarding. (ie. NETGEAR router)

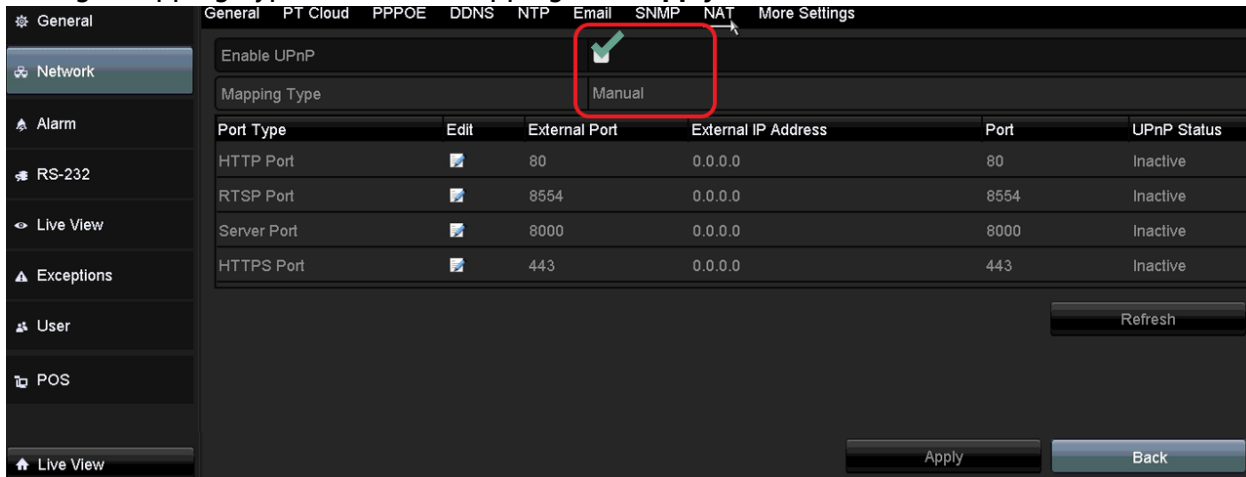**Simple way Port Forwarding**   # UPnP Port Forwarding

UPnP is the easiest way to do the port forwarding, but you must support these requirements first.

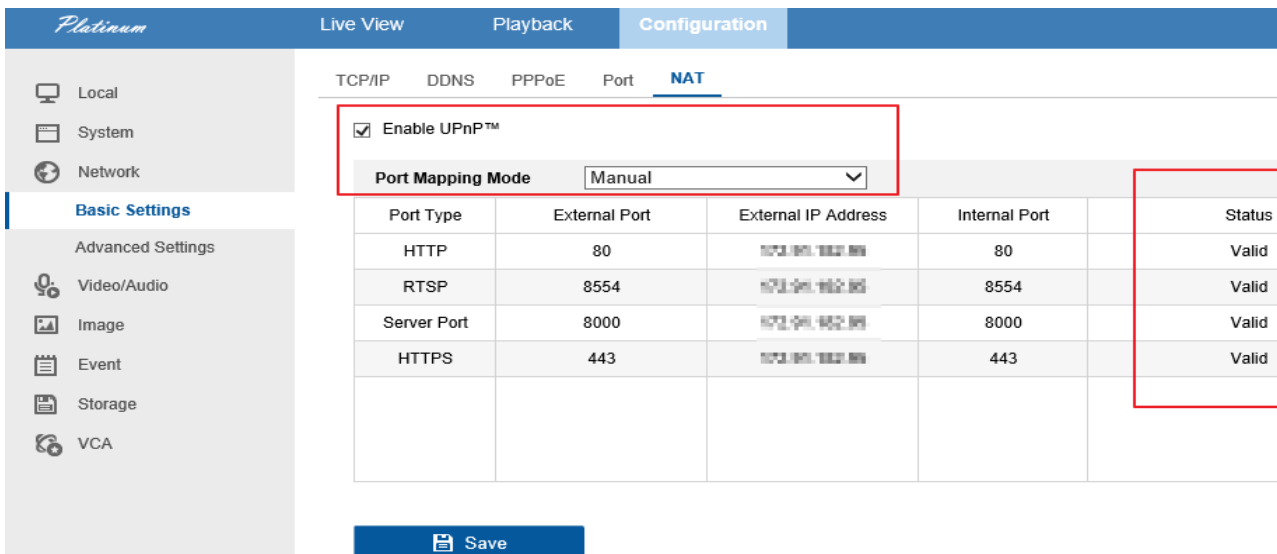## Configure from the Local DVR Console☞

1. First, set DVR IP to DHCP. Go to **MENU** > **Configuration** > **Network**   **Enable DHCP**, and **Apply**

2. Go to **NAT** section. Enable **UPnP**
   Change Mapping Type to **Manual** Mapping, then **Apply** at the bottom.

⚙ General	General PT Cloud PPPOE DDNS NTP Email SNMP NAT More Settings				
🖧 Network	Enable UPnP	✔			
🔔 Alarm	Mapping Type	Manual			
📶 RS-232	**Port Type**	**Edit**	**External Port**	**External IP Address**	**Port**	**UPnP Status**
👁 Live View	HTTP Port	📝	80	0.0.0.0	80	Inactive
⚠ Exceptions	RTSP Port	📝	8554	0.0.0.0	8554	Inactive
👥 User	Server Port	📝	8000	0.0.0.0	8000	Inactive
🗔 POS	HTTPS Port	📝	443	0.0.0.0	443	Inactive
🏠 Live View					Refresh
				Apply	Back

3. Go to General tab, and wait for 10sec. Then, Go back to **NAT** section again.
4. If the UPnP Status section shows all Active, and the External IP address is not 0.0.0.0.
   Then, the port forward is completed.

5. Go back to **Network** > **General** tab.   **Disable DHCP** and **Apply**.   Then, you are ready to go!
6. If all UPnP status still shows inactive, then you need manual doing the port forwarding from your PC.

☞Configure from PC (IE Browser) ☞

1. Go to **Configuration** > **Network > Basic Settings**
2. Go to **NAT**, Enable **UPNP,** Change Port Mapping Mode to **Manual.**   Click **Save**

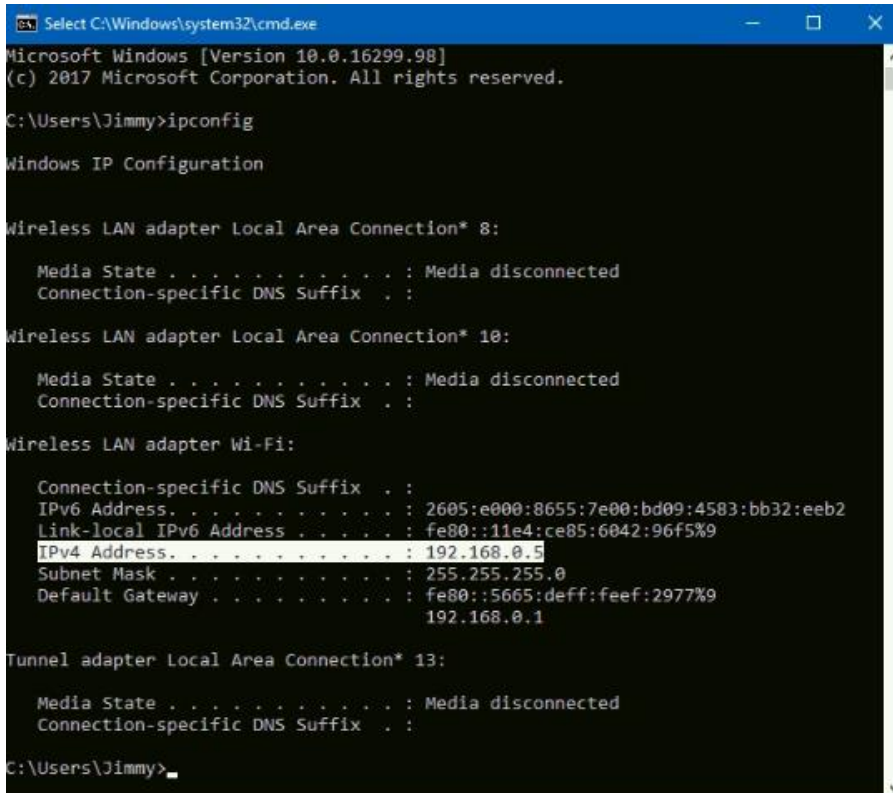| Platinum	Live View	Playback	Configuration			
🖥 Local	TCP/IP DDNS PPPoE Port **NAT**					
🗔 System	☑ Enable UPnP™					
🌐 Network	Port Mapping Mode	Manual ⌄				
Basic Settings	Port Type	External Port	External IP Address	Internal Port		Status
Advanced Settings	HTTP	80	▒▒▒▒	80		Valid
🎚 Video/Audio	RTSP	8554	▒▒▒▒	8554		Valid
🖼 Image	Server Port	8000	▒▒▒▒	8000		Valid
📅 Event	HTTPS	443	▒▒▒▒	443		Valid
📄 Storage						
📷 VCA						
	💾 Save					

Manual Port Forwarding   Traditional Port Forwarding / Trouble Shooting

There are many kinds of router. I only list one example in there. You can do the same way for all others.

**Remember always write down the info what you find into the Notepad.

Windows PC version:

1. Using ⊞ **+ R.** Type **CMD** <Enter>, **IPCONFIG** <Enter>


```
Select C:\Windows\system32\cmd.exe                          —    □    ✕
Microsoft Windows [Version 10.0.16299.98]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\Jimmy>ipconfig

Windows IP Configuration

Wireless LAN adapter Local Area Connection* 8:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 10:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   IPv6 Address. . . . . . . . . . . : 2605:e000:8655:7e00:bd09:4583:bb32:eeb2
   Link-local IPv6 Address . . . . . : fe80::11e4:ce85:6042:96f5%9
   IPv4 Address. . . . . . . . . . . : 192.168.0.5
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : fe80::5665:deff:feef:2977%9
                                       192.168.0.1

Tunnel adapter Local Area Connection* 13:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

C:\Users\Jimmy>_
```
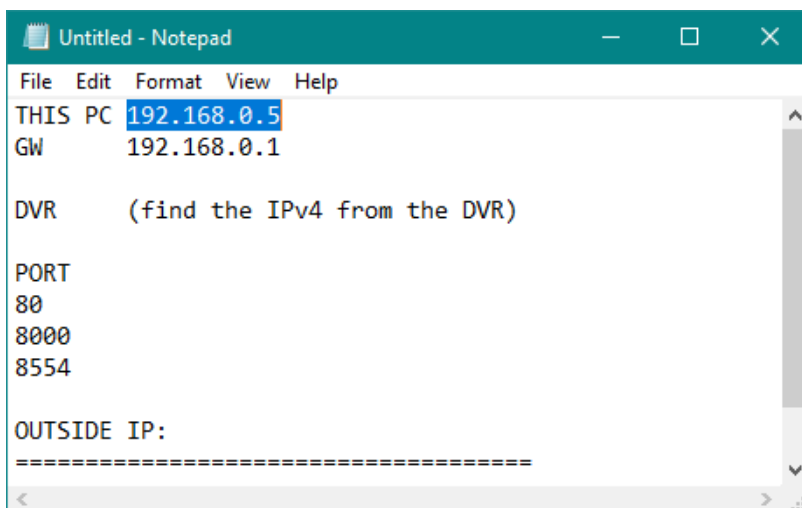
IPv4 is your current PC address. For example, 192.168.0.5
GW (Gateway) is 192.168.0.1

2. Now, type **Notepad** <Enter> to open the notepad program.
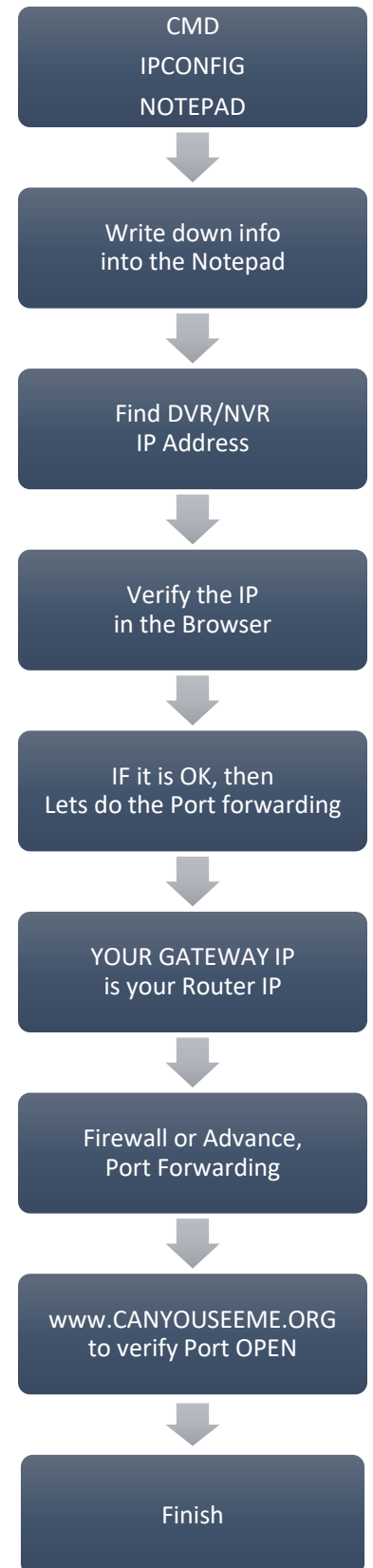   Write down all the information you need to know.


```
Untitled - Notepad                              —    □    ✕
File  Edit  Format  View  Help
THIS PC 192.168.0.5
GW      192.168.0.1

DVR     (find the IPv4 from the DVR)

PORT
80
8000
8554

OUTSIDE IP:
========================================
```

Flowchart (right column):

- CMD / IPCONFIG / NOTEPAD
- ↓
- Write down info into the Notepad
- ↓
- Find DVR/NVR IP Address
- ↓
- Verify the IP in the Browser
- ↓
- IF it is OK, then Lets do the Port forwarding
- ↓
- YOUR GATEWAY IP is your Router IP
- ↓
- Firewall or Advance, Port Forwarding
- ↓
- www.CANYOUSEEME.ORG to verify Port OPEN
- ↓
- Finish

3. Now, find out and write down the DVR/NVR IP address into the notepad.
   For example, my DVR IP is 192.168.0.200
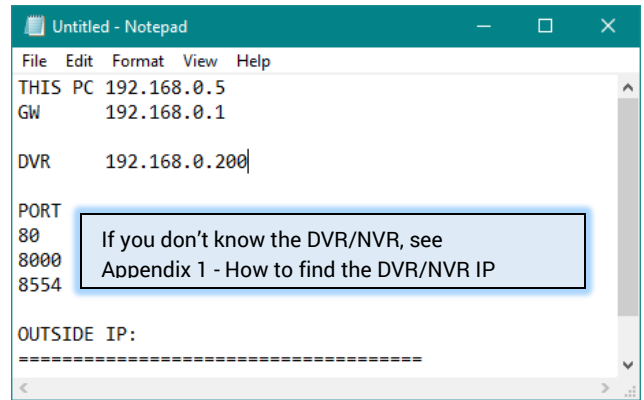
4. Please watch out the DVR IP address!
   <u>192</u> . <u>168</u> . <u>0</u> . xxx
   First 3 group of ip# **must be same** as your PC address.   If it is not the same, troubleshoot first.
   see Appendix 2 – How to set up DVR/NVR IP address

THIS PC 192.168.0.5
GW   192.168.0.1

DVR   192.168.0.200

PORT
80
8000   If you don't know the DVR/NVR, see
8554   Appendix 1 - How to find the DVR/NVR IP

OUTSIDE IP:
=====================================

5. Open Browser and type DVR IP (for example, 192.168.0.200) address to verify it first.
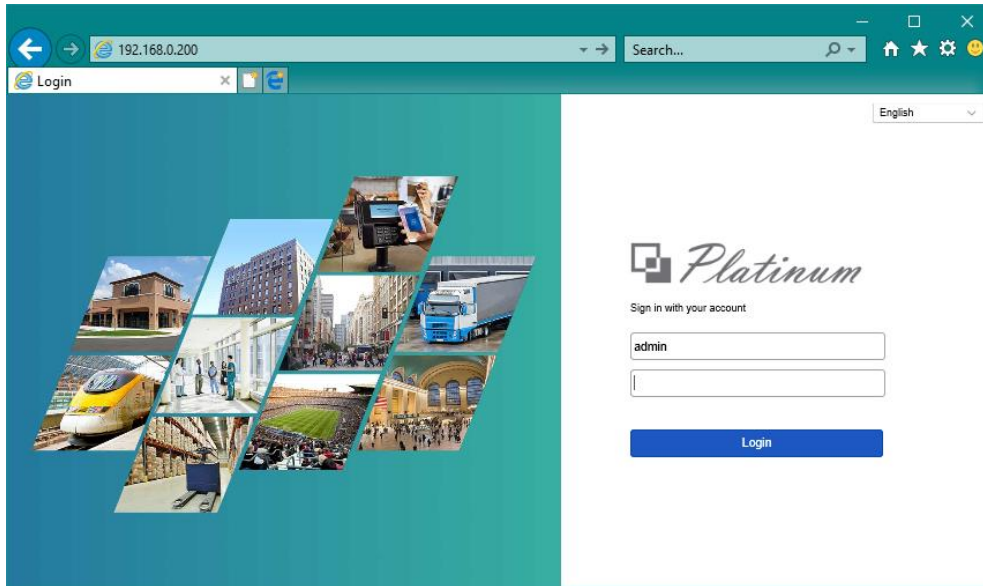
   Make sure you can see this login page first.

6. Open another browser tab. Now, we need to program the Port forwarding in your Router.
   Usually, your GW (Gateway) IP is your router IP. For example, 192.168.0.1   (ARRIS Router)
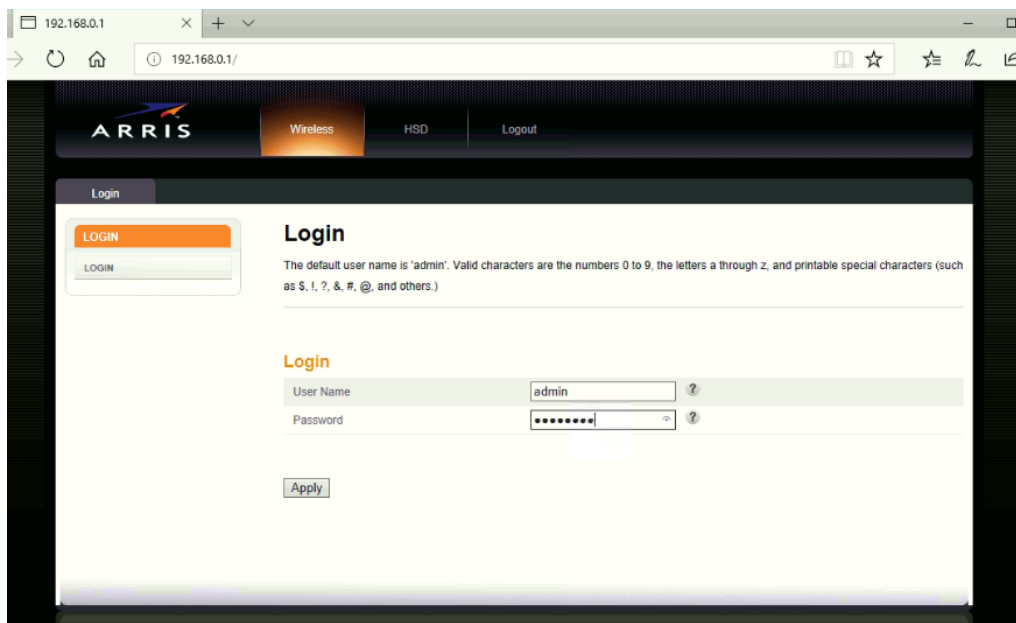
   Default router username & password: admin   password

7. After Login to the router. Go to **Firewall** > **VIRTUAL SERVERS / PORT FORWARDING**
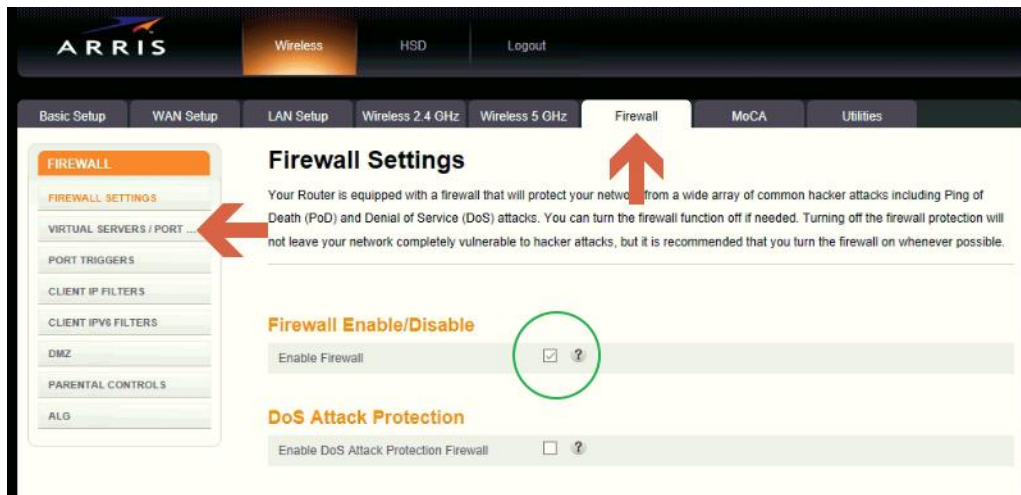
(Note: ARRIS router must enable the Firewall. If you disable the firewall, it also disabled the port forwarding)

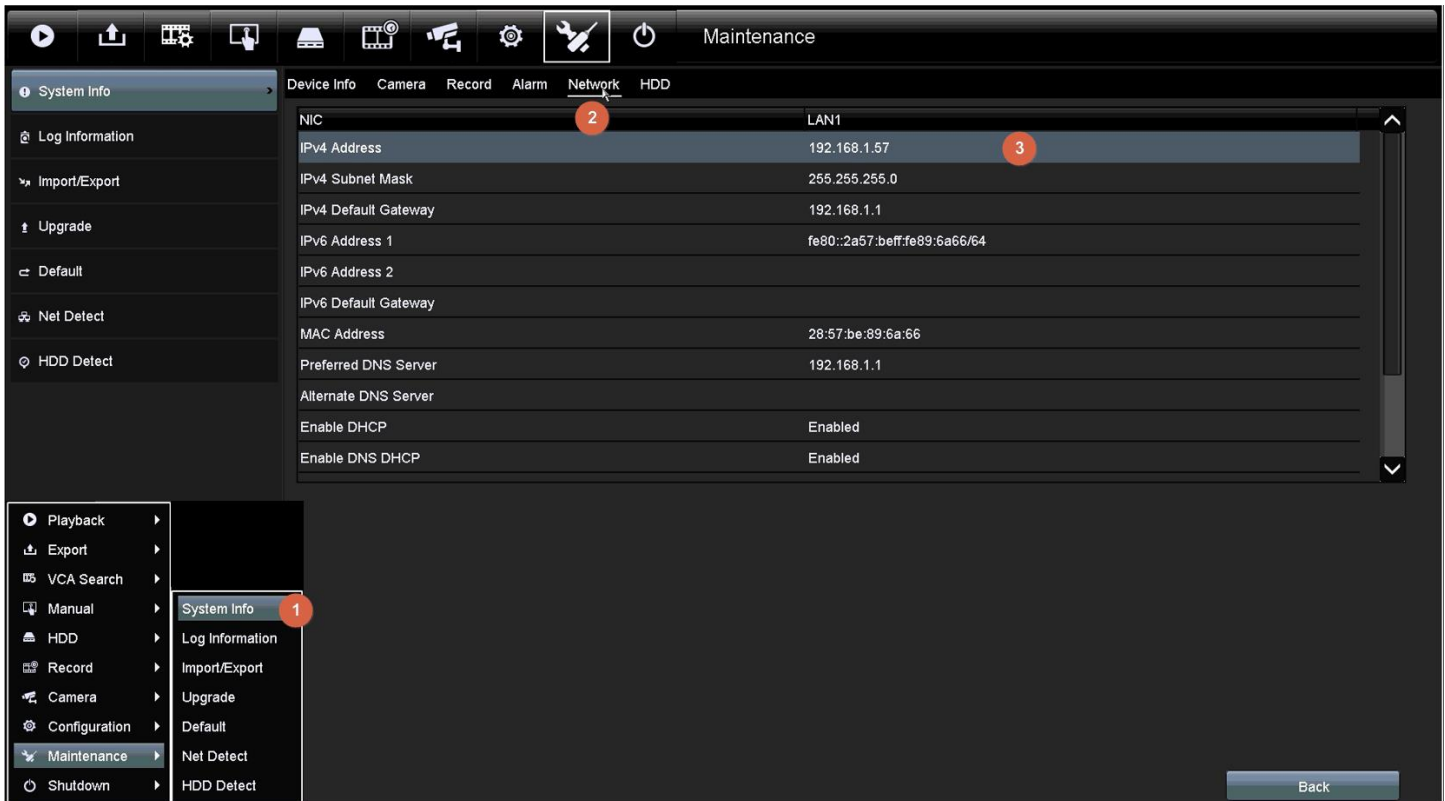8. Then, adding the Port Forward rule. Common Ports: 8000, 8554 and 80

9. After finish adding. Go to www.CanYouSeeMe.org to check the Port# (for example, 8000) forward is a success or fail. If it is **success**, then you just finish the port forwarding.   Use your smartphone to view.
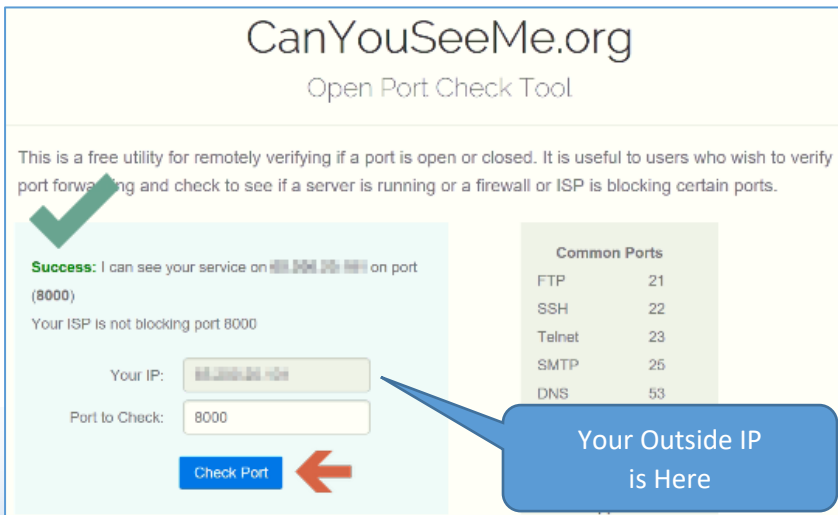
Appendix 1 – How to find DVR/NVR IP Address

Go to DVR/NVR,   **MENU > MAINTENANCE > SYSTEM > NETWORK**

IPv4 is your current DVR/NVR IP address

Trouble Shooting: If your network IP address is 192.0.0.64, then you need to check your network signal first. Either it is not connected to the router, or the cable is broken.

Appendix 2 – How to Setup DVR/NVR IP Address

Go to DVR/NVR,   **MENU > Configuration > Network**

Reference:

Linksys