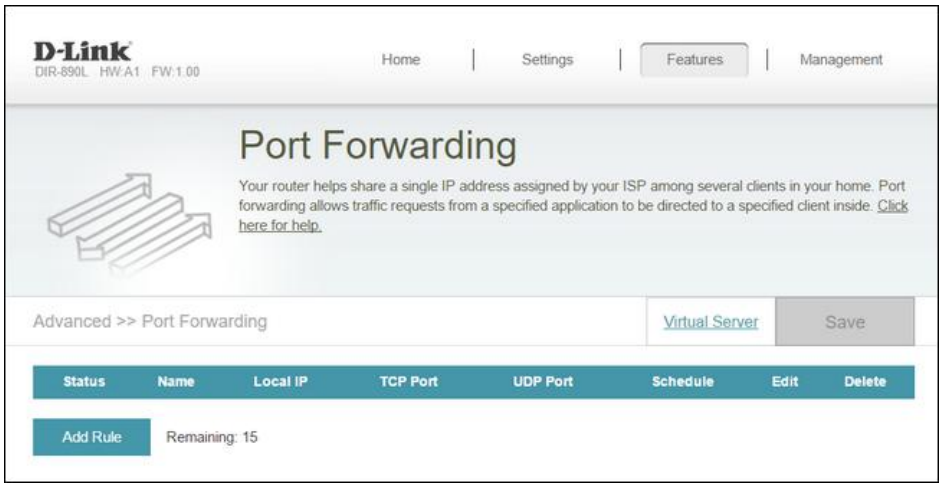
Step One: Locate the Port Forwarding Rules on Your Router

Exhausted by all the networking lessons? Don't worry, it's finally time to set it up–and now that you know the basics, it's pretty simple.

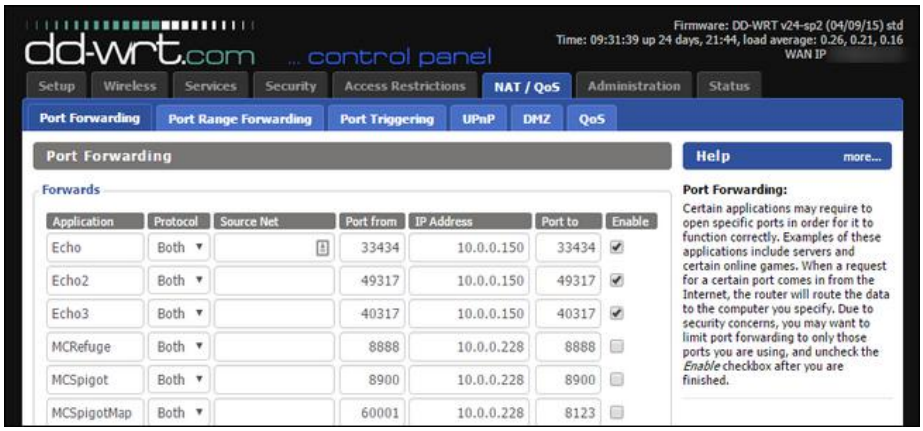
As much as we'd love to provide exact instructions for your exact router, the reality is that every router manufacturer has their own software, and how that software looks can even vary between router models. Rather than attempt to capture every variation, we'll highlight a few to give you an idea what the menu looks like and encourage you to look up the manual or online help files for your particular router to find the specifics.

In general, you're going to be looking for something called—you guessed it—"Port Forwarding". You may have to look through the different categories to find it, but if your router is any good, it should be there.

For comparison, here's what the port forwarding menu looks like on D-Link DIR-890L router:



And here's what the port forwarding menu looks like on the same router running the popular third-party DD-WRT firmware:

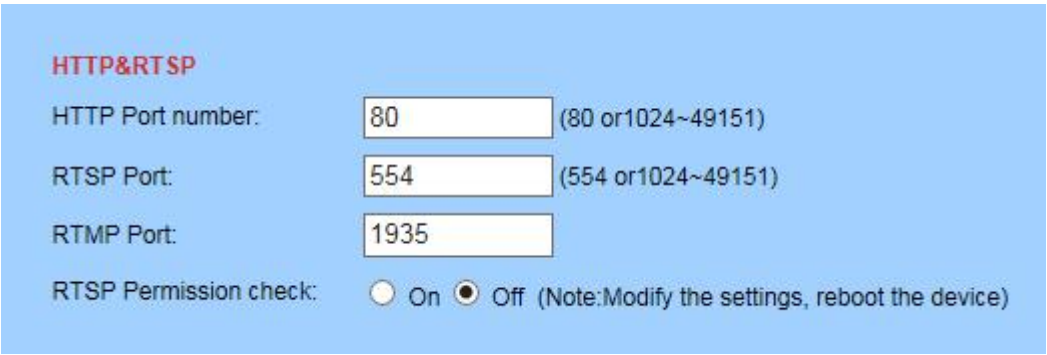


As you can see, the complexity between the two views varies greatly, even on the same hardware. In addition, the location is completely different within the menus. As such it's most useful if you look up the exact instructions for your device using the manual or a search query.

Once you've located the menu it's time to set up the actual rule.

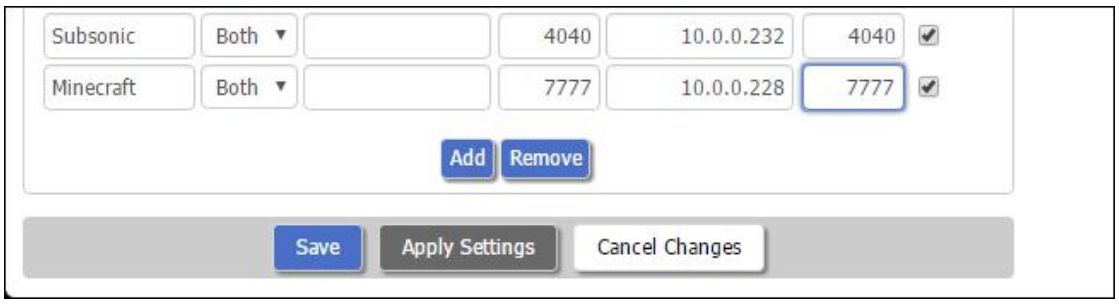
Step Two: Create a Port Forwarding Rule

OUR CAMERA PORT IS



Pls open 80,554 and 1935 for ip address(Your ip camera)

After learning all about port forwarding, setting up a dynamic DNS for your home IP address, and all the other work that went into this, the important step—creating the actual rule–is pretty much a walk in the park. In the port forwarding menu on our router, we're going to create two new port forwarding rules: one for the Subsonic music server and one for a new Minecraft server we just set up.



Despite the differences in location on different router software, the general input is the same. Almost universally, you'll name the port forwarding rule. It's best to simply name it what the server or service is and then append it if need be for clarity (e.g. "Webserver" or "Webserver-Weather" if there is more than one). Remember the TCP/UDP protocol we talked about at the beginning? You'll also need to specify TCP, UDP, or Both. Some people are very militant about finding out exactly what protocol every application and service uses and matching things up perfectly for security purposes. We'll be the first to admit that we're lazy in this regard and we almost always just pick "Both" to save time.

Some router firmware, including the more advanced DD-WRT we're using in the screenshot above, will allow you to specify a "Source" value which is list of IP addresses you're restricting the port forward to for security purposes. You can use this feature if you wish, but be forewarned it introduces a whole new host of headaches as it presumes that remote users (including you when you're away from home and friends who are connecting in) have static IP addresses.

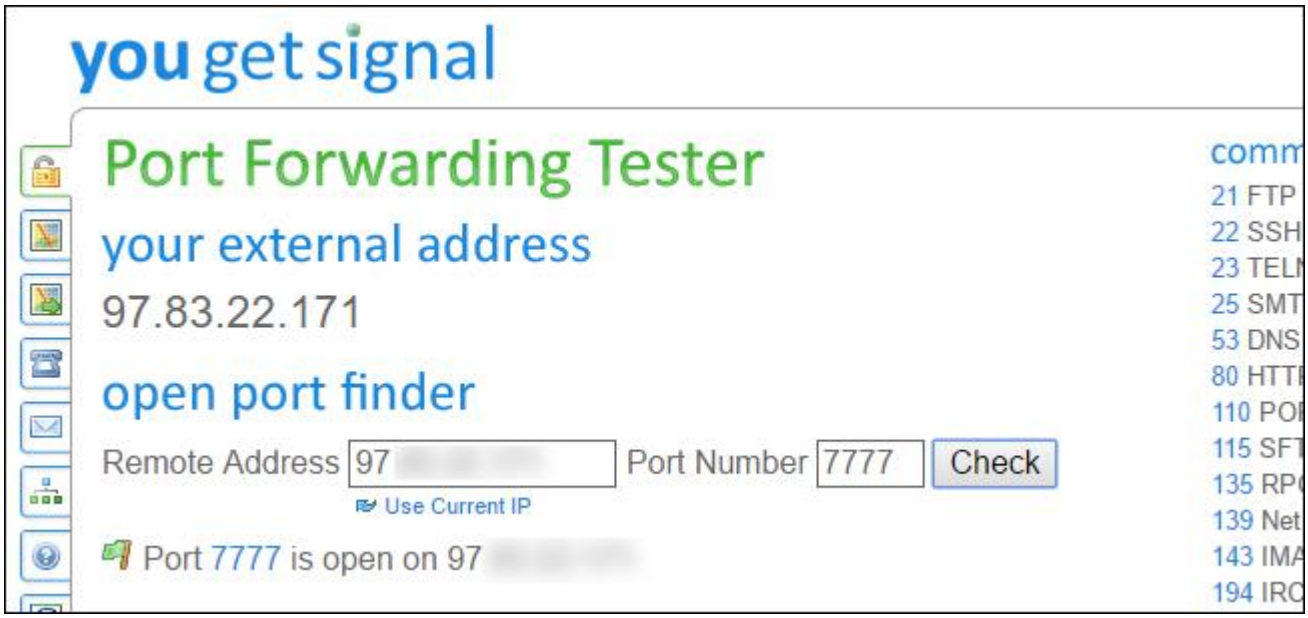
Next you'll need to put in the external port. This is the port that will be open on the router and facing the internet. You can use any number you want here between 1 and 65353, but practically most of the lower numbers are taken up by standard services (like email and web servers) and many of the higher numbers are assigned to fairly common applications. With that in mind, we'd recommend picking a number above 5,000 and, to be extra safe, using Ctrl+F to search this long list of TCP/UDP port numbers to make sure you're not selecting a port that conflicts with an existing service you're already using.

Finally, put in the internal IP address of the device, the port you on that device, and (if applicable) toggle the rule on. Don't forget to save the settings.

Step Three: Test Your Port Forwarding Rule

The most obvious way to test if your port forward worked is to connect using the routine intended for the port (e.g. have your friend connect their Minecraft client to your home server), but that's not always an immediately available solution if you're not away from home.

Thankfully, there's a handy little port checker available online at YouGetSignal.com. We can test to see if our Minecraft server port forward took simply by having the port tester try to connect to it. Plug in your IP address and the port number and click "Check".



You should receive a message, as seen above, like “Port X is open on [Your IP]”. If the port is reported as closed, double check both the settings in the port forwarding menu on your router and your IP and port data in the tester.

It’s a wee bit of a hassle to set up port forwarding, but as long as you assign a static IP address to the target device and set up a dynamic DNS server for your home IP address, it’s a task you only need to visit once to enjoy hassle free access to your network in the future.