

Port Forwarding Help

What are ports?

Computers have lots of ports for different services that are accessible via the Internet. For example, port 80 on most computers and servers handles http or web traffic. Port 22 on most computers and servers handles FTP connections. There are lots of ports. 65535 in total.

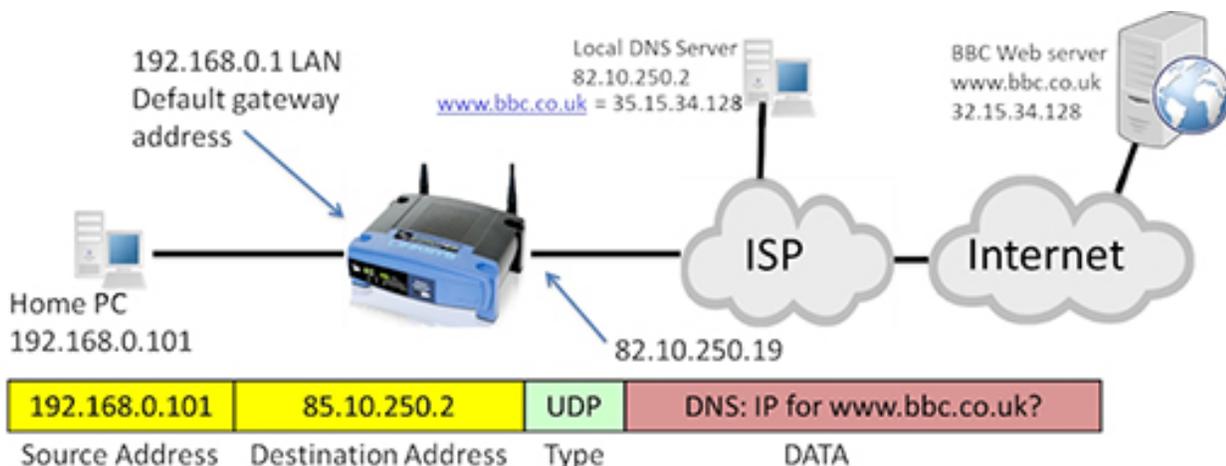
Common port numbers

Number	Assignment
20	File Transfer Protocol (FTP) Data Transfer
21	File Transfer Protocol (FTP) Command Control
22	Secure Shell (SSH) Secure Login
23	Telnet remote login service, unencrypted text messages
25	Simple Mail Transfer Protocol (SMTP) E-mail routing
53	Domain Name System (DNS) service
67, 68	Dynamic Host Configuration Protocol (DHCP)
80	Hypertext Transfer Protocol (HTTP) used in the World Wide Web
110	Post Office Protocol (POP3)
119	Network News Transfer Protocol (NNTP)
123	Network Time Protocol (NTP)
143	Internet Message Access Protocol (IMAP) Management of digital mail
161	Simple Network Management Protocol (SNMP)
194	Internet Relay Chat (IRC)
443	HTTP Secure (HTTPS) HTTP over TLS/SSL

What is port forwarding ?

Your WIFI router closes or “firewalls” most ports by default. Common ports are accessible by default since most home users don’t need access to geekier services like we might need for JamTech. So in order for us to use different ports we need to allow data coming in on a certain port to be passed through by the router. That is what port-forwarding is. We are just defining a port or a range of ports that we want our router to pass data through to our computer. We are defining pathways for data to and from the internet to pass through the router.

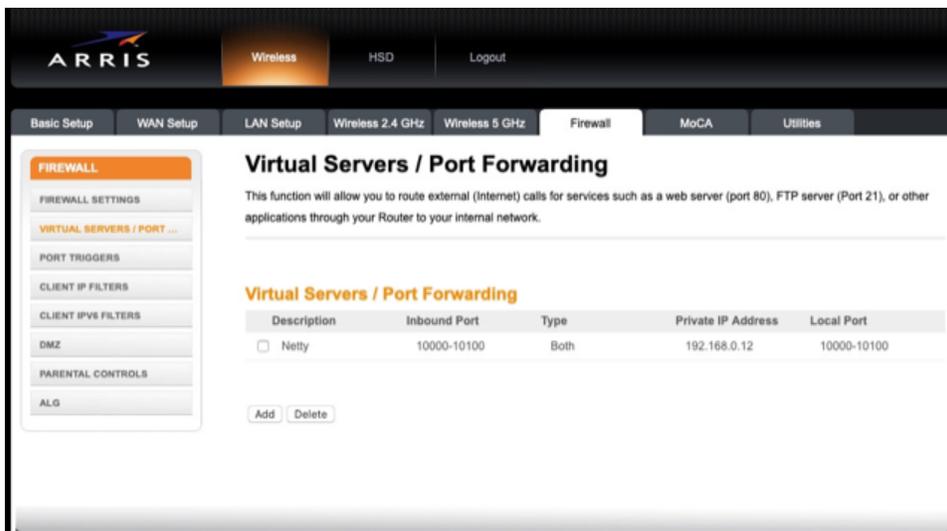
This graphic might help explain it. Your router is the gatekeeper to all data coming from inside and outside of your network.



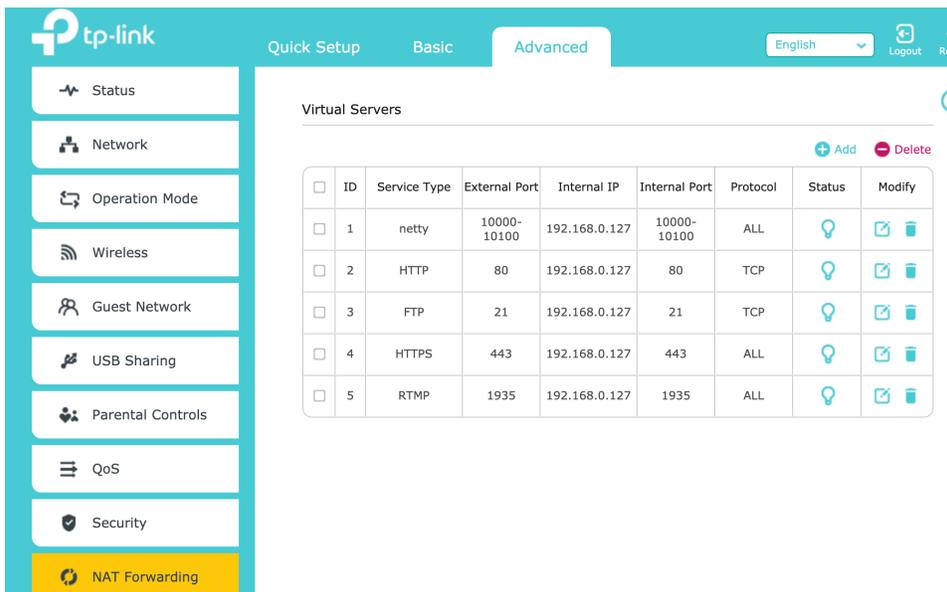
How to setup port forwarding

Every router is different so these instructions may not work for everyone! Before you get started you will need the IP Address of the computer you will be running your software. On a Mac you can find this by going to System Preferences - Network and look for the IP Address which will be something like: 192.168.0.103. Make note of that address.

1. Login to your router by opening any web browser and connecting to your router with the address: 192.168.0.1 (That is the default address for most router admin programs)
2. The default login and password combo is “admin” and “password” for most routers. Some require you to just leave the info blank until you set your own user name and password. If you can't login check the bottom of the router, the instruction manual, or google the model.
3. Once logged in, look for a tab called “NAT forwarding”, “Virtual Servers”, “Firewall” or something similar. Click on the tab to setup a range of ports to forward.



Arris router



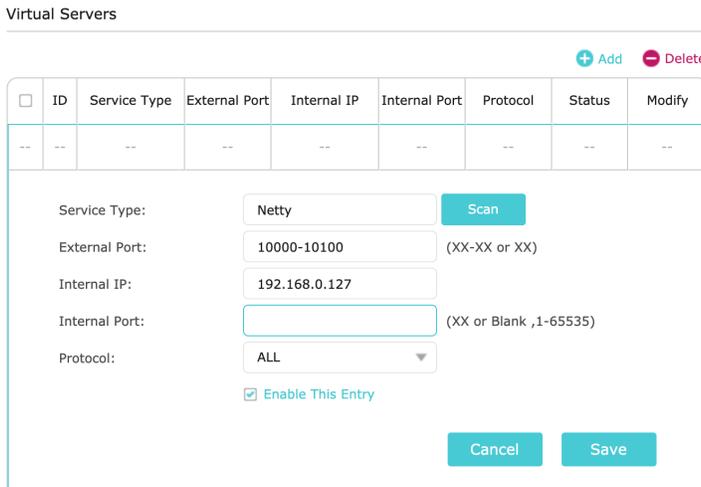
TP-Link Router

4. Click on the Add button, fill out the information, and click Save or Add.

- Name or Description-** Name it whatever you'd like.
- Inbound port** - enter the range of ports you need to forward for your software. (10000-10100 for a Netty McNetface server) (22120 - 22129 for Jamulus)
- Format** - select "both" or "All", if that isn't an option try UDP
- Private IP Address** - Enter the IP Address of your computer that you noted above
- Local Port** - Enter the same numbers for the local or internal port or leave it blank.



Arris Router



TP-Link Router

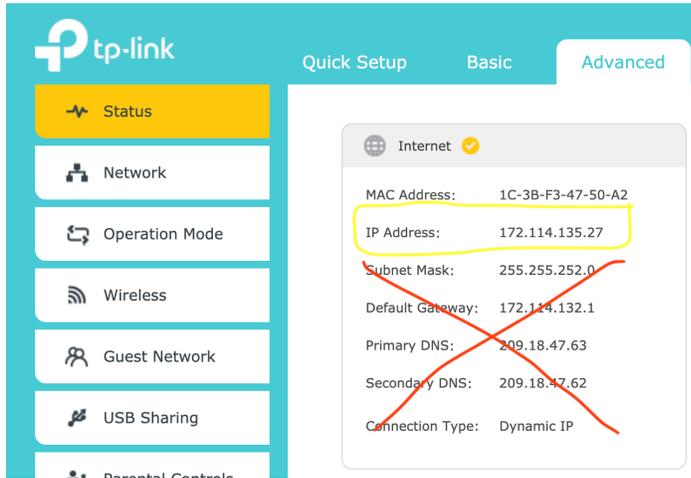
5. That is it. Your router should pass information to and from your computer on those ports.

Setting up and Hosting a Netty Server - Advanced

If you would like to be able to host your own NettyMcNetface Server for a group jam, you'll need to get the IP Address that your ISP has assigned your home network. Known as the Destination address in the port forwarding graphic back on page one.

Since you are logged into your router, now is the time to get that! You can usually find it on the default screen or the overview page of your router's admin page. Or it could be labeled WAN or something similar. It will be something like: 172.114.135.27 . . It will NOT start with 192.168.0.x - those are the local IP Addresses that your router automatically assigns when you

connect your computer to your router via ethernet or WIFI. Make note of the IP Address so you can give it to other players in your NettyMcNetface group.



Once you have the IP Address you will need to install Pure Data. Available here on the Jam Tech Google drive

https://drive.google.com/drive/folders/1ZnVzKVo4Fq39am5vBCy_aFqgTttvRk35?usp=sharing

You will also need to download the Pure Data patches which are also on the drive:

<https://drive.google.com/drive/folders/1PLF6iAJ6SctPT8RiaRyJ6QUWs0527s00?usp=sharing>

Starting the Netty Server

Goto the folder you downloaded called “quack-and-netty-v0.7” and then go into the “Lib” folder. Double click on the patch called “netty-mcserver.pd” and pure data will launch and run the Netty server. (It also seems to open Quacktrip which you can close). nothing happens and the server is running as long as that patch is open.

Each player in your group can run the application called “Netty-mcnetface-0.7test1” which is the 8 player version of Quacktrip. They will enter your IP address to connect to each other.

For more details and information about Netty-McNetface check out the instructions here:

https://drive.google.com/file/d/10eLL0l-nGLtWmM3fielzWHCg7Ht_-Bp2/view?usp=sharing

Jamulus Server

I have yet to try Jamulus but here is the guide for setting up your own private Jamulus Server:

<https://github.com/corrados/jamulus/wiki/Running-a-Private-Server>