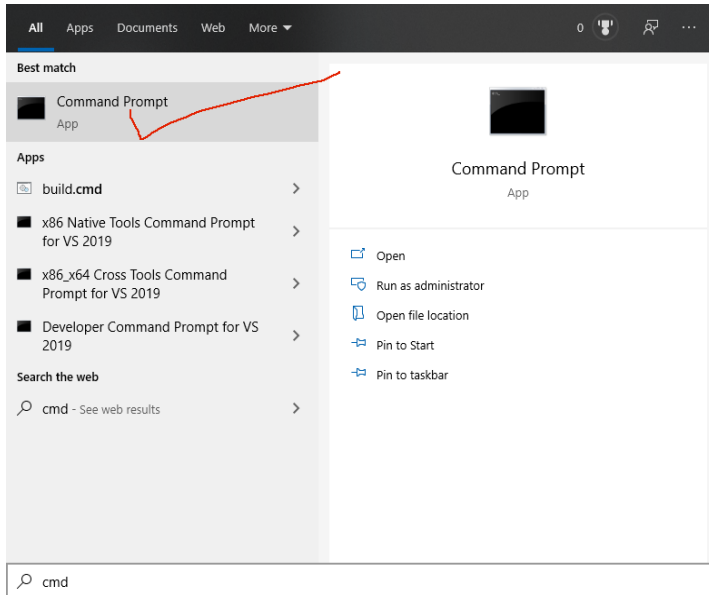# How to setup a Minecraft server

You need two pieces of information to run your server:

1.   The local IP address of the computer you are using

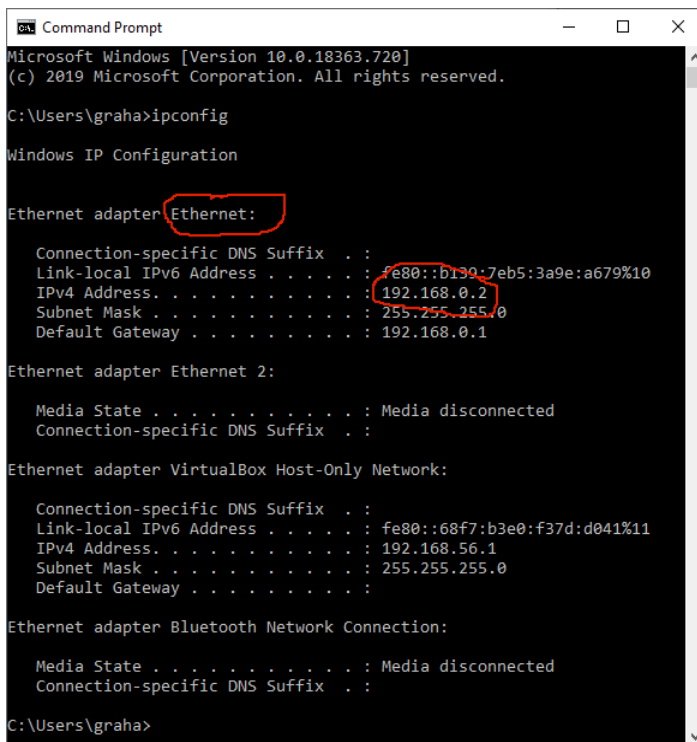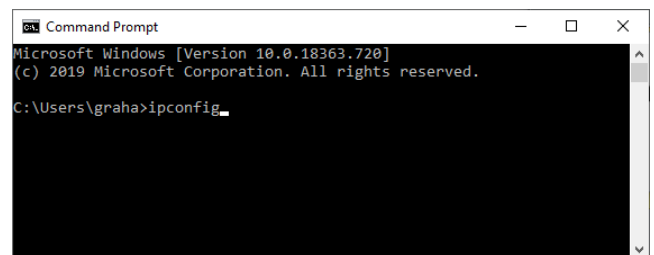2.   Your Public IP address

To find your local IP start a Command Prompt. Probably the easiest way is to type cmd into the search box:

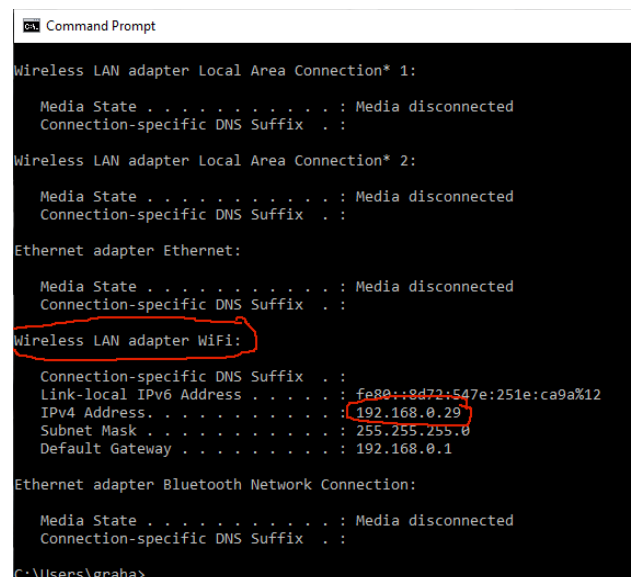Click on Command Prompt :

Type ipconfig

Press Enter

These two screenshots are from a desktop with Ethernet cable connection and a laptop with wireless connection.
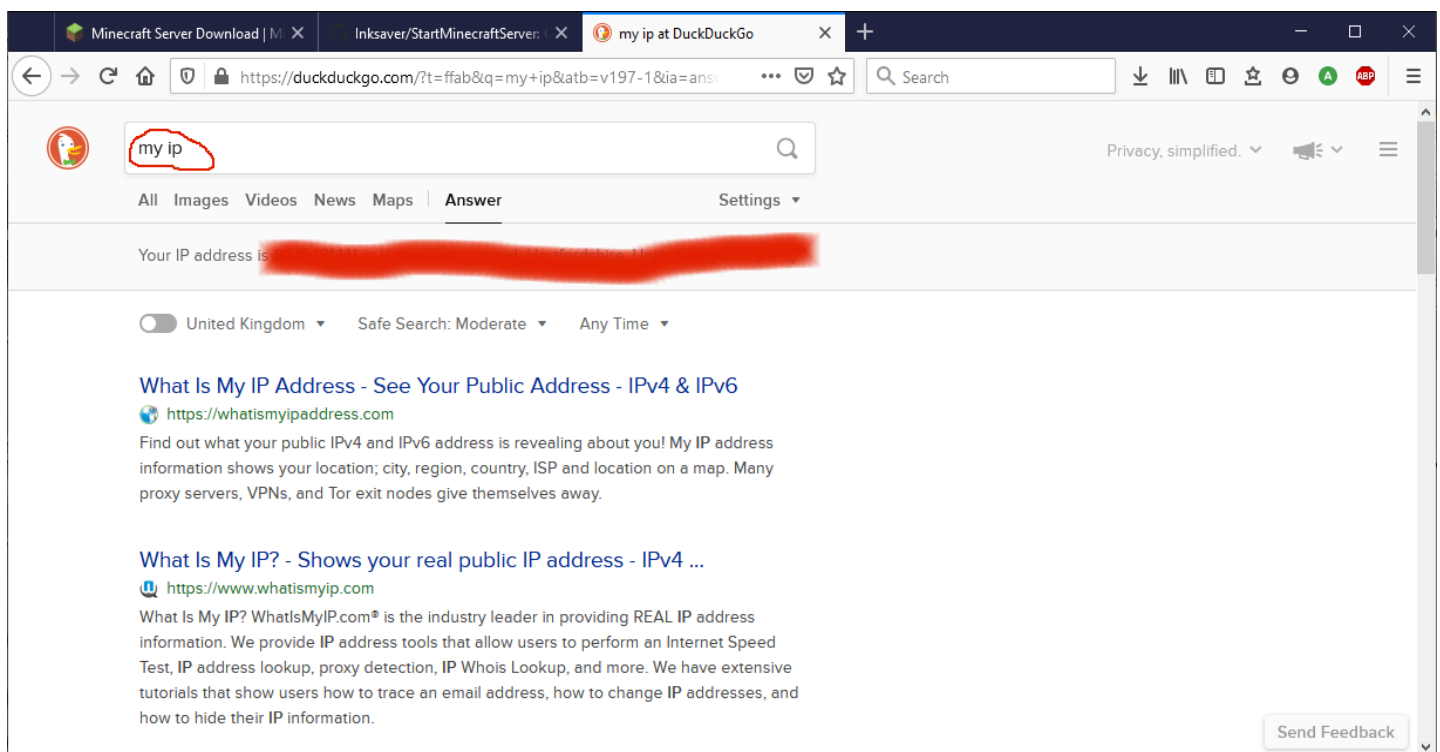
The local IP addresses are 192.168.02 and 192.168.0.29 respectively

For best results running a server use an Ethernet connection, otherwise move your laptop as close to the Wi-Fi access point as possible.

To get your public IP address type my ip into your browser:

If it is not displayed immediately, use one of the other links shown

Before showing you how to run a server, you can give it a trial run using the Minecraft client you use all the time. This will only work in the building that shares your LAN (Local Area Network). Home, for most people

1.   Start Minecraft and log-in

2.   Load the world you want to share

3.   Press the Esc key

4.   Click Open To LAN
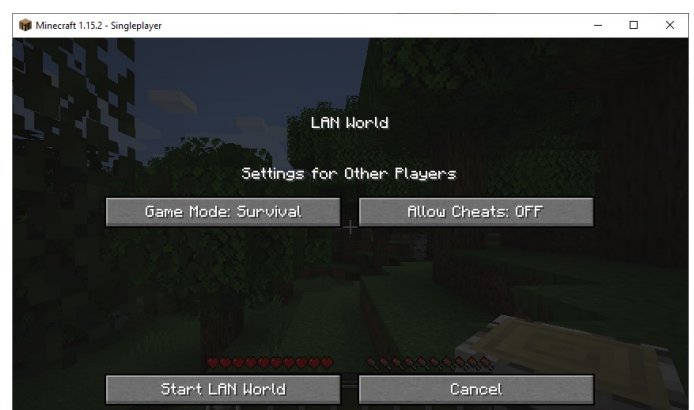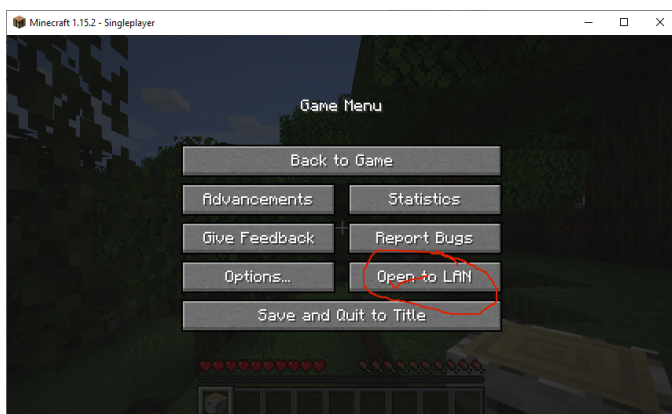
Adjust "Settings for other Players" to suit the environment you want to share.

Click "Start LAN World"

Make a note of the Port Number. If you miss it press the / key and it will show again
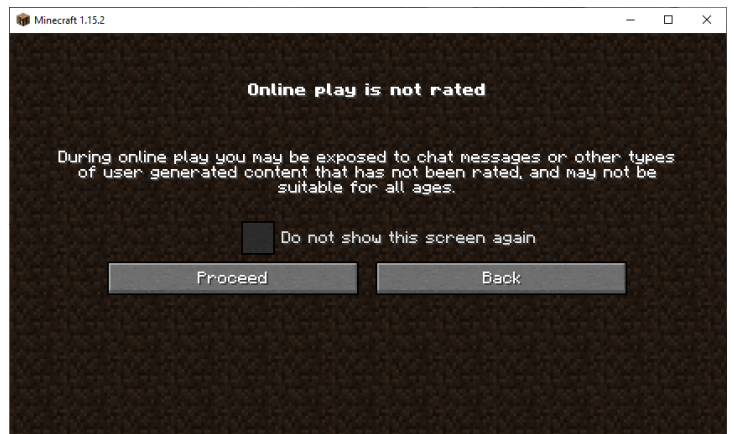
Start the Minecraft client on another computer that shares your LAN

You will need another account logged in

When loaded click the "Multiplayer" button.

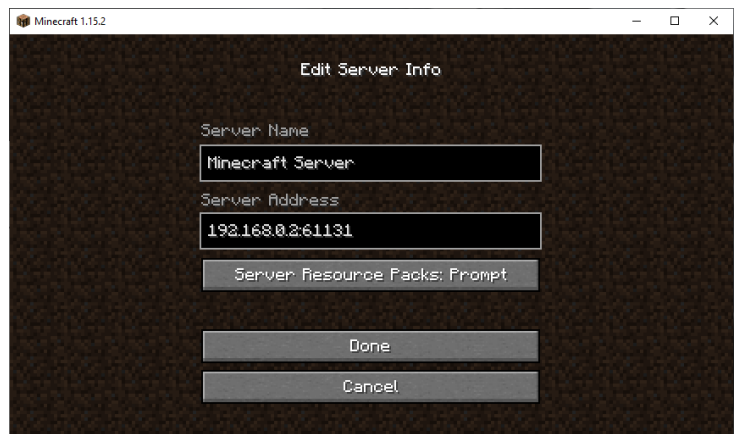The Safeguarding message appears:

Click Proceed

If you do not see your world appear automatically click "Add Server"

Type the IP address of the computer that is sharing its world, followed by a colon, and the port number you noted earlier.

In this setup it is
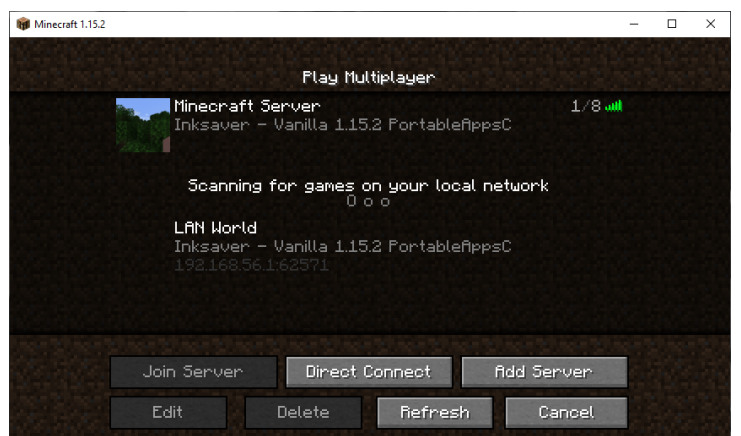
`192.168.0.2:61131`

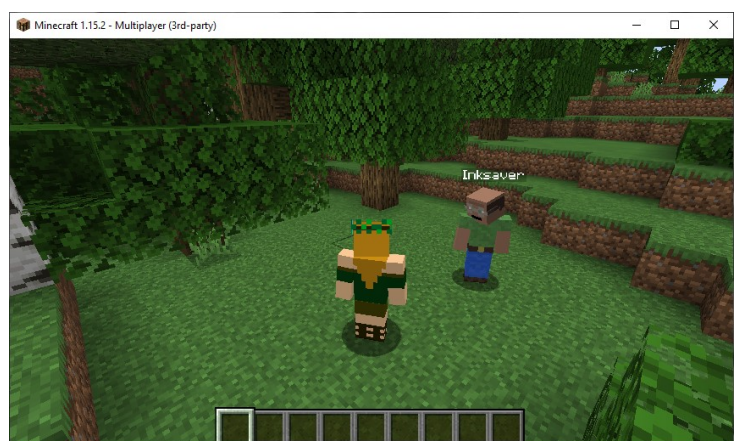The LAN World now shows up.

Click on it

Click Join Server

The greyed-out LAN world shown here is from a previous LAN share, with a different port number, so it is not reachable.

Success! You are multiplayer.

Time to move on to the full internet-connected

Minecraft server...

Now you have experienced multiplayer, it is time to setup a proper Minecraft Server

You should already have:

1. Your local IP address

2. Your public IP address

Create a folder in your C: drive: (example)

C:\Minecraft Server 1.15.2

Double-Click to open the folder

Copy the runtime folder from

C:\Program Files(x86)\Minecraft
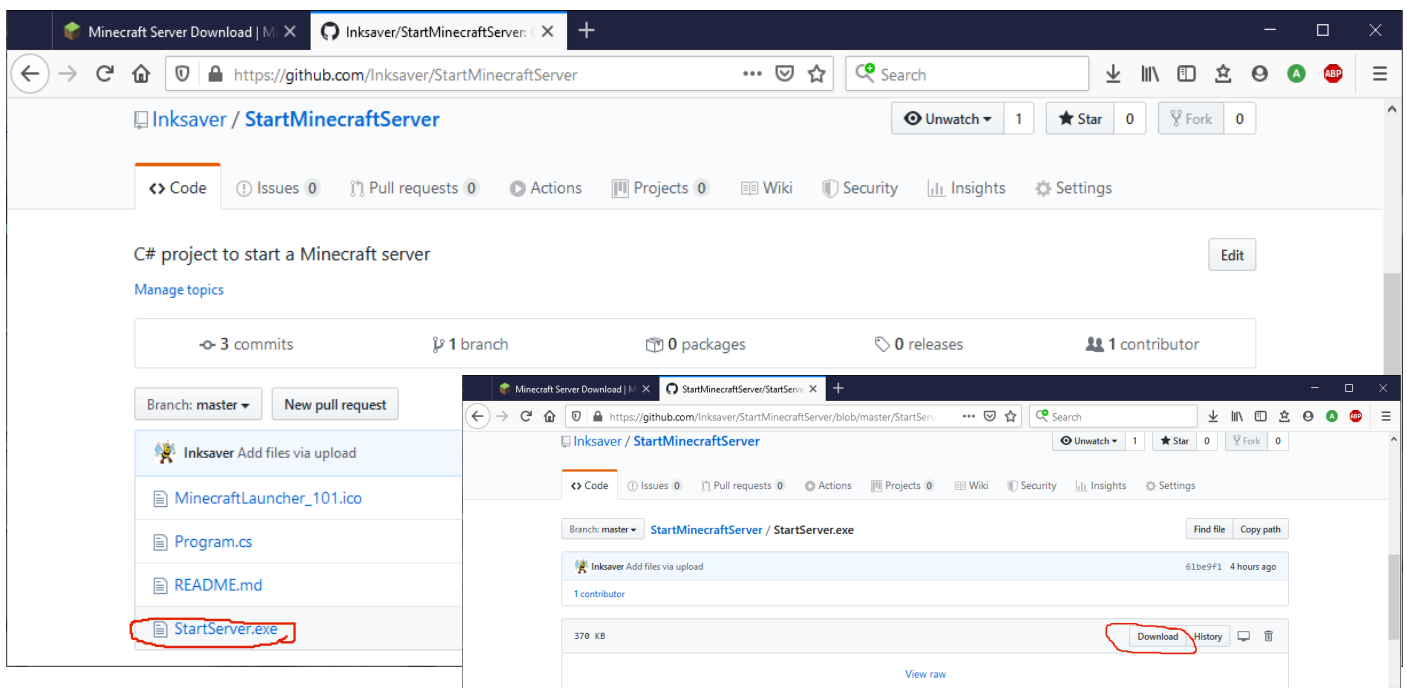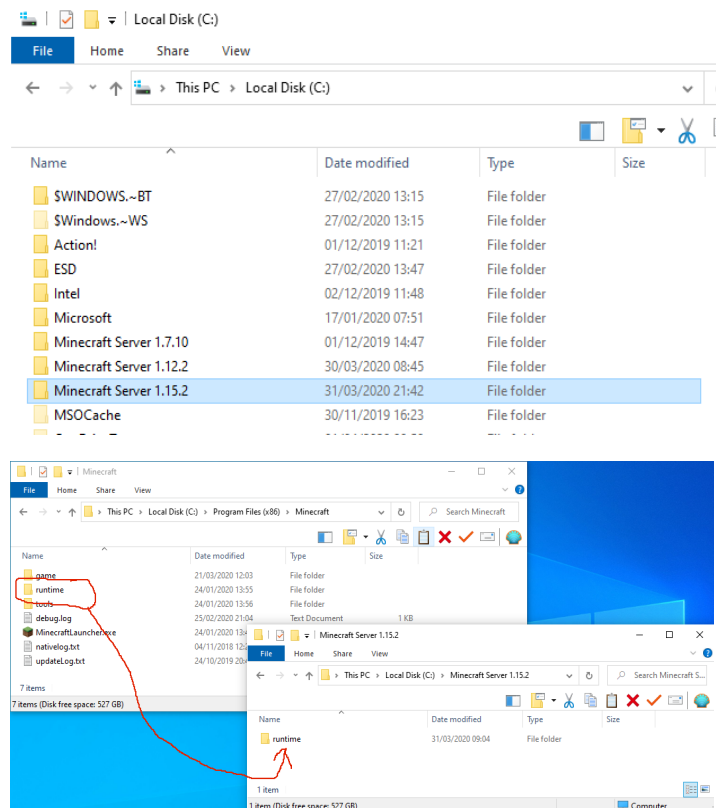
To

C:\Minecraft Server 1.15.2

This will make use of the Java.exe runtime in this folder to run your server, so you do not need to install Java to your computer.

Download StartServer.exe from my Github account:

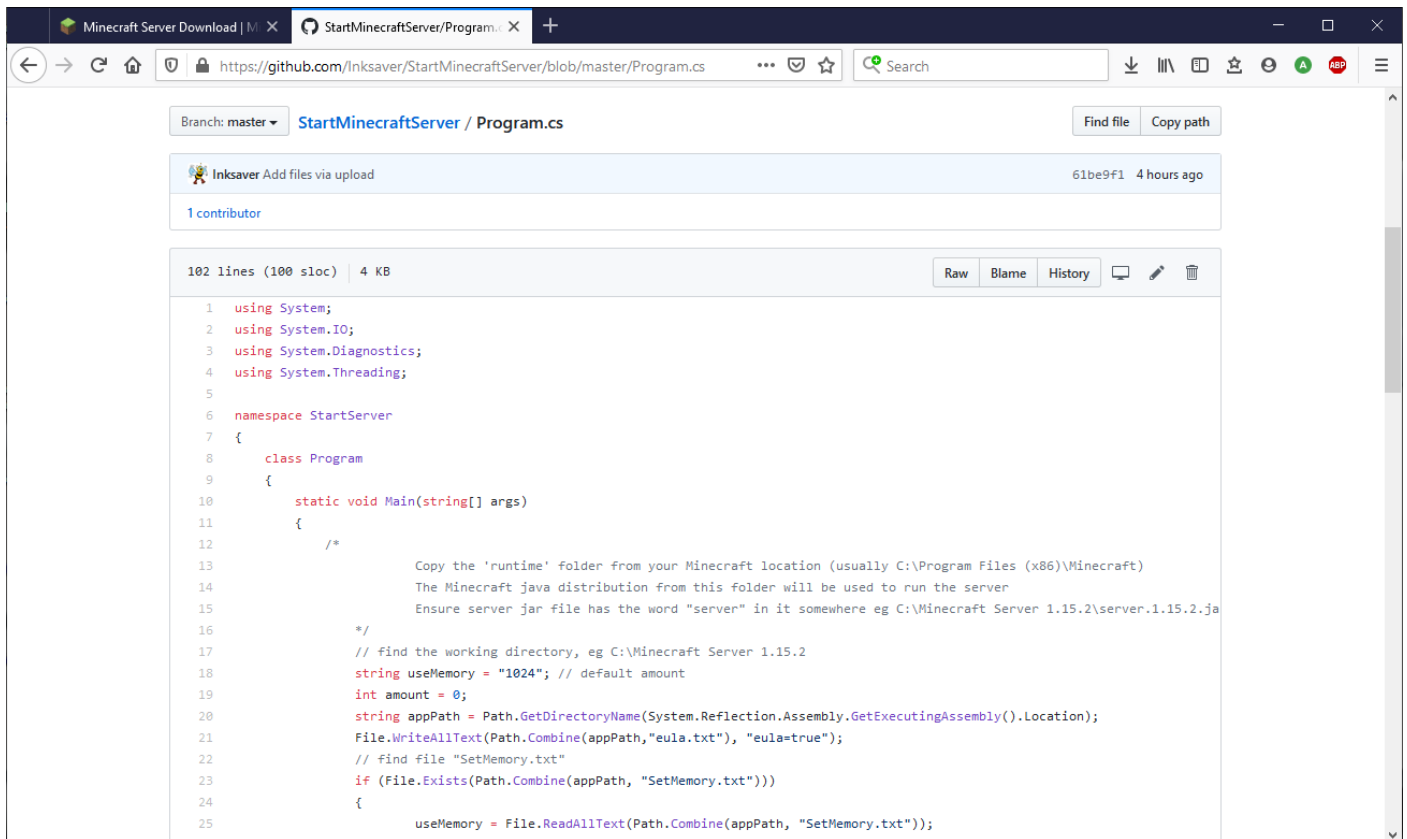https://github.com/Inksaver/StartMinecraftServer

Click on it then Click Download on the next page.

Add it to your server folder.

If you are concerned about running random .exe files from the internet then use the Program.cs file, and compile it with SharpDevelop or Visual Studio. For a brief introduction to C# see my video at:

https://www.youtube.com/watch?v=V71tPmmqF28&t=5s

Finally download the official Minecraft server from https://www.minecraft.net/en-us/download/server/

The text on this web page warns the use of command line, Environment Variables and all kinds of possible grief.

If you follow the instructions on the web page, you will have to change a line of text in eula.txt as well before you can start...

which is why the StartServer.exe file was written for you.

Click the link. It will save as 'server.jar' instead of the implied 'minecraft_server.1.15.2.jar'

Copy it to your Server folder, which should then look like this:
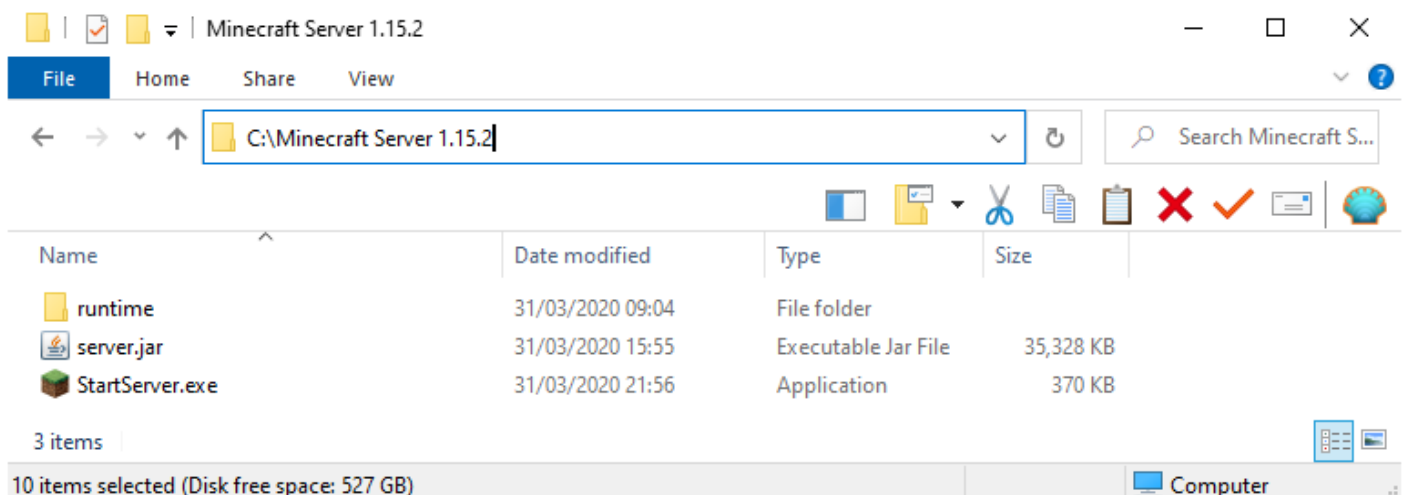
Double-Click StartServer.exe

The first time this file is run, you are asked how much memory you want to allocate.
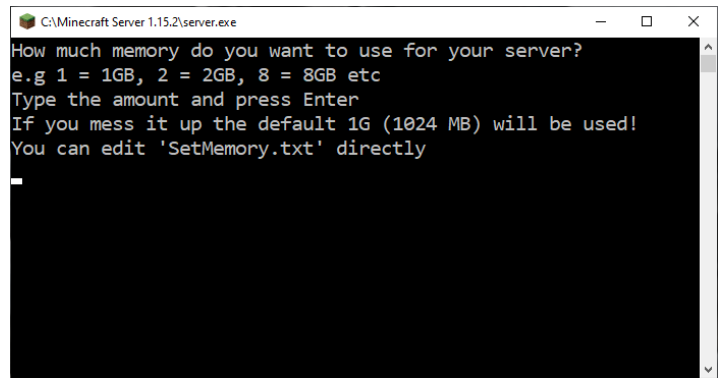
At this stage eula.txt has been created for you.

Type the amount you want to use. I have 16GB so am happy to use 12GB. 2GB is probably enough for most.

Type 2 and Enter

The following screenshot stays around for 5 seconds.
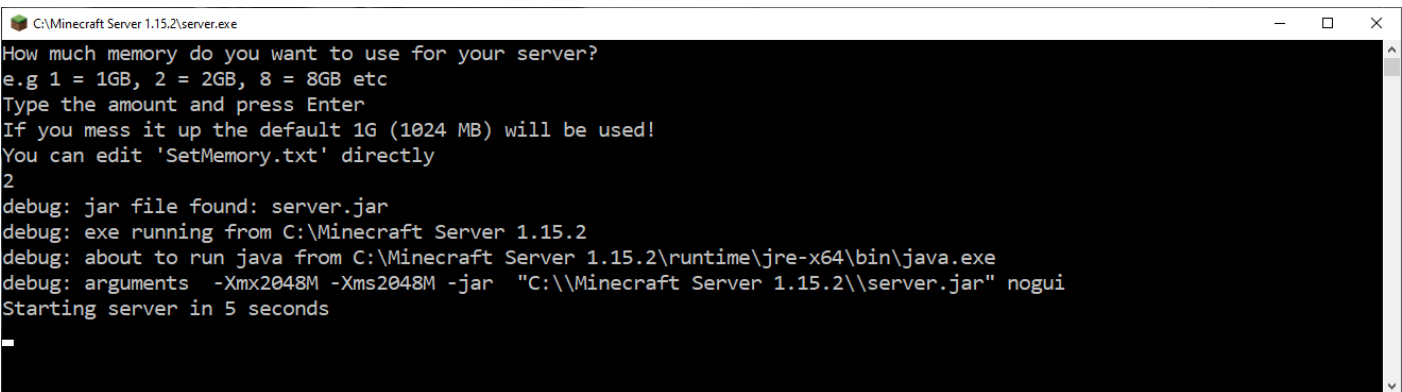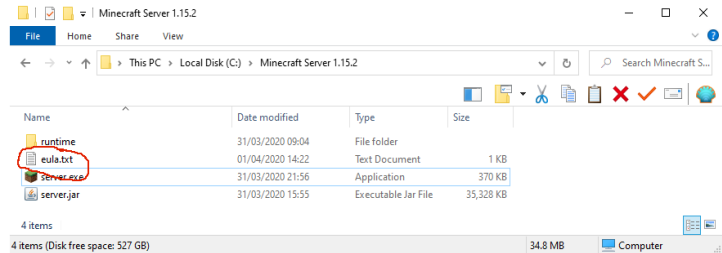
That's it. Your server is running!
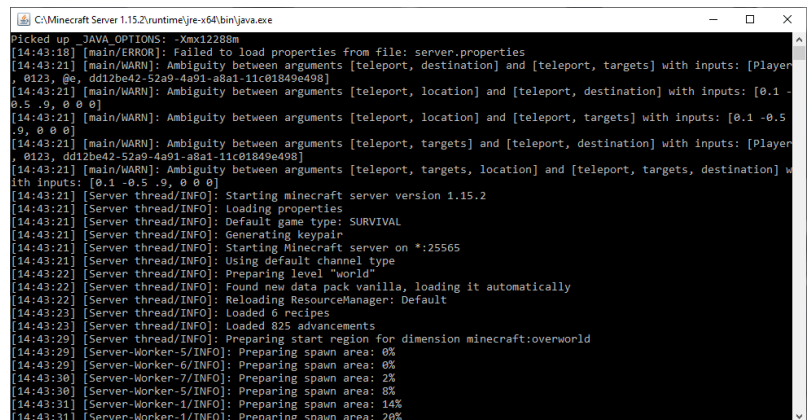
If you change your mind about the amount of memory used, open the 'SetMemory.txt" file in Notepad and change the number inside it
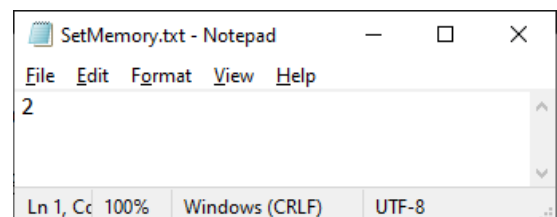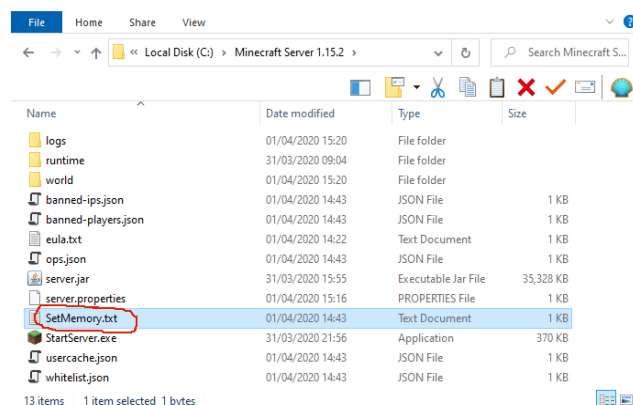
You might want to change some of the server settings.

Type stop in the server output window, press Enter and it will shut down gracefully.

Open Notepad and drag/drop server.properties onto Notepad

```
server.properties - Notepad                —   □   ✕

File  Edit  Format  View  Help
#Minecraft server properties
#Wed Apr 01 14:43:18 BST 2020
spawn-protection=16
max-tick-time=60000
query.port=25565
generator-settings=
force-gamemode=false
allow-nether=true
enforce-whitelist=false
gamemode=survival
broadcast-console-to-ops=true
enable-query=false
player-idle-timeout=0
difficulty=easy
broadcast-rcon-to-ops=true
spawn-monsters=true
op-permission-level=4
pvp=true
snooper-enabled=true
level-type=default
hardcore=false
enable-command-block=false
network-compression-threshold=256
max-players=20
max-world-size=29999984
resource-pack-sha1=
function-permission-level=2
rcon.port=25575
server-port=25565
server-ip=
spawn-npcs=true
allow-flight=false
level-name=world
view-distance=10
resource-pack=
spawn-animals=true
white-list=false
rcon.password=
generate-structures=true
online-mode=true
max-build-height=256
level-seed=
prevent-proxy-connections=false
use-native-transport=true
motd=A Minecraft Server
enable-rcon=false

Ln 1, Col 1        100%   Windows (CRLF)   UTF-8
```
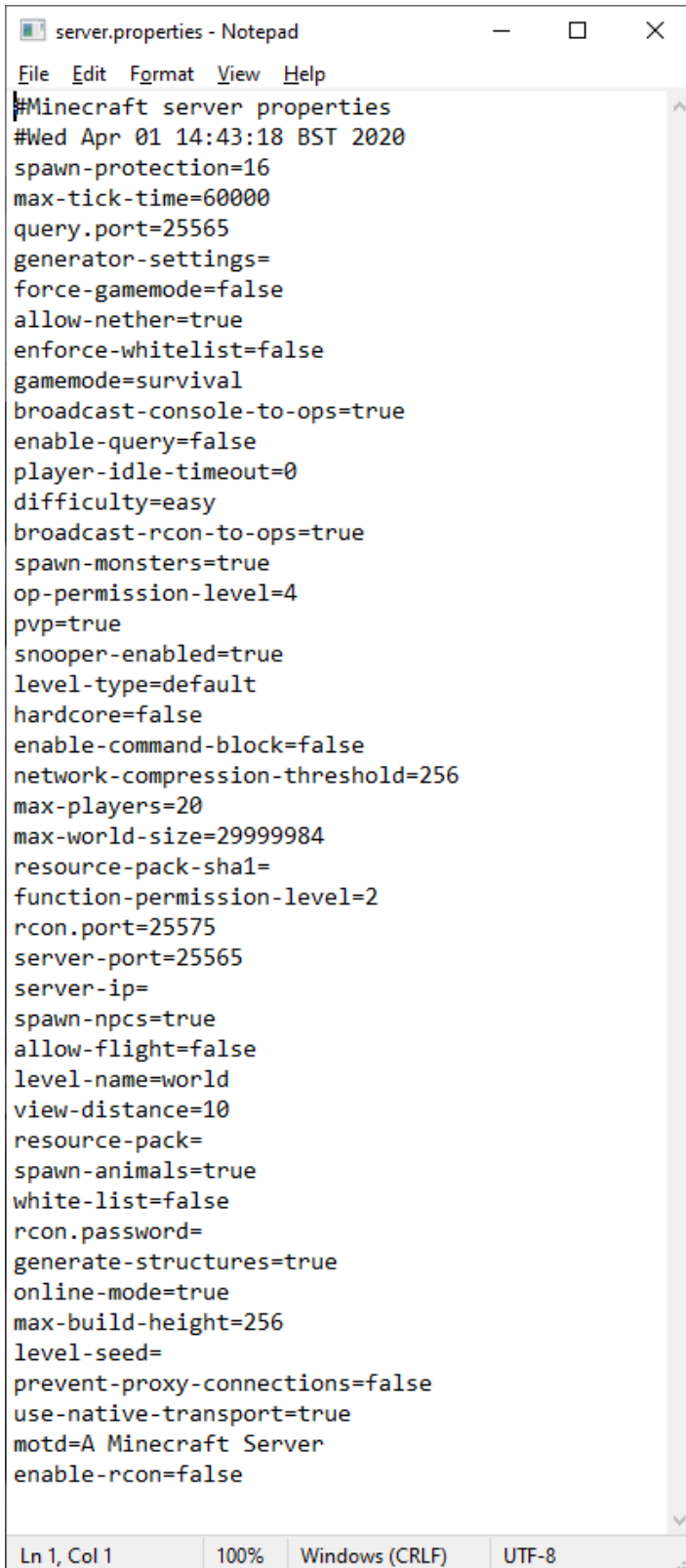
The only things you might want to change at this stage are:

`gamemode=survival –> gamemode=creative`

Choices are survival, creative, adventure, spectator

`difficuly=easy –> difficulty=normal`

Choices are peaceful, easy, normal, hard

`serverport=25565 –> serverport= <number>`

Choices anything above 20000, maybe something easy to remember. Leave at default for most people.

`allow-flight=false –> allow-flight=true`

`motd=A Minecraft Server –> Inksaver's epic server`

Put your own 'Message of the Day' here

Other properties can be changed for a specific purpose

Just remember the serverport for the next stage

Save the file and close Notepad

Re-start the server with StartServer.exe

Start Minecraft in the usual way on the same computer as the server.

Click the 'Multiplayer' button

Click the 'Add Server' button

Type a Server Name (any will do)

As it is on the 'host' computer with the default 25565 port you can use any of the following:
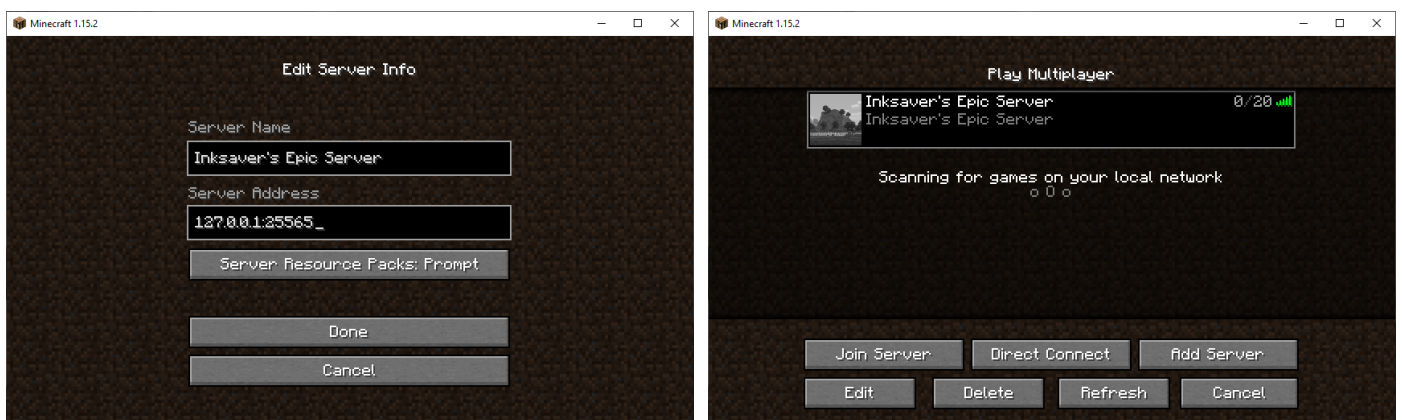
127.0.0.1:25565

localhost:25565

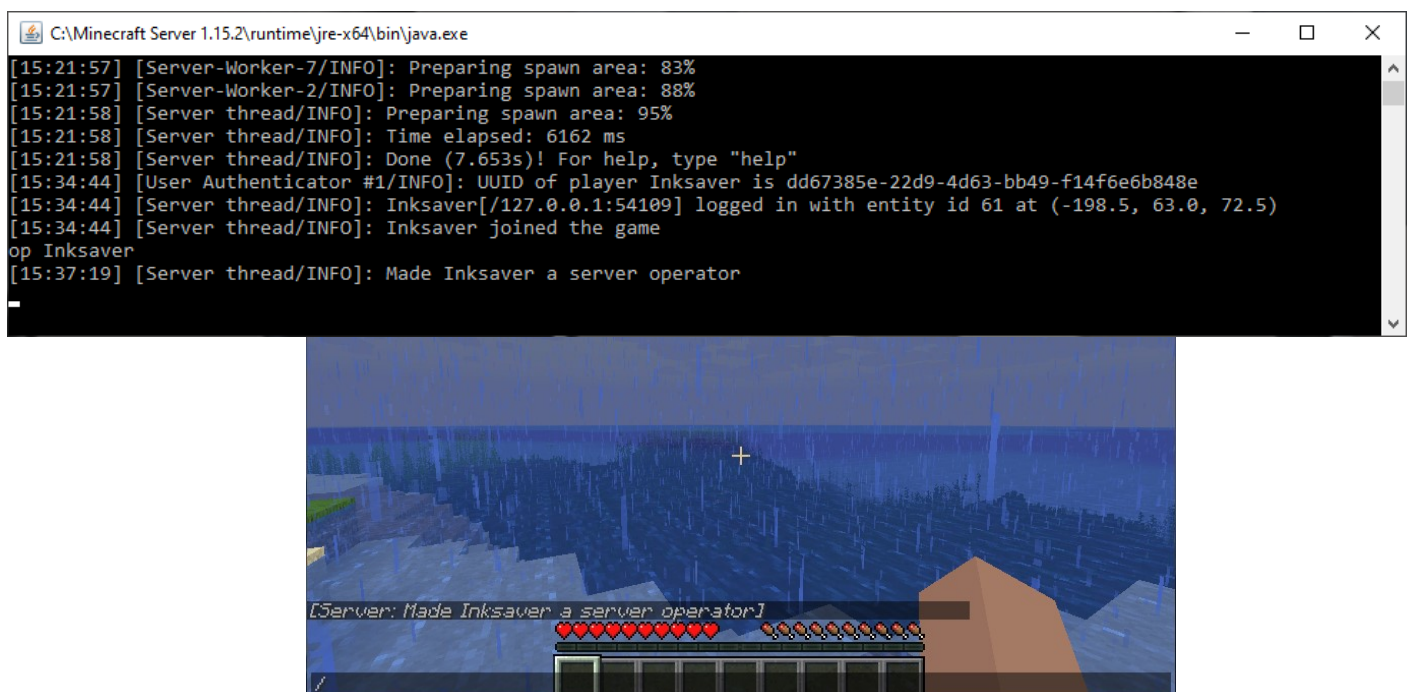192.168.0.2:25565 (the local IP discovered earlier)

Click 'Done'

Click on the newly discovered server, followed by 'Join Server'

The server output window shows me joining the game.

I have to make myself an admin operator (op)

Type op <name> into the server window where <name> represents your username. (see screenshot)

You are now ready to go public.

Port forwarding is different on every router.

Search for yours by name eg 'minecraft port forwarding Asus RT-N66U' gives multiple results

This is a screenshot of mine:

The GUI for Port forwarding is in the WAN menu on the Virtual Server/Port Forwarding tab

For the purposes of this tutorial I have set Minecraft port to 33333 forwarded to 192.168.0.2

Once this has been applied / saved you can give your public IP address along with the port number you have opened to those people you want to play online with.

They start their client and follow the same method shown above to connect to your server, using the same format.

If your public ip was 12.34.56.78 and using the default port they would need to enter:

12.34.56.78:25565 in the Minecraft 'Add Server' settings.

Enjoy Multiplayer Minecraft