Setting up a server

This tutorial takes you through the steps of **setting up your own server** using the default server software that Mojang distributes free of charge. The software may be installed on most operating systems, including Windows, macOS, GNU/Linux and BSD.

For more tutorials, see the bottom of this page or the Tutorials page. For more information on Minecraft servers, see the Server page.

Notes:

- Setting up a server takes some time, and some technical knowledge. Don't try to set up a server unless you have some basic computer and networking abilities. Probably, your best bet can be to look on the Internet for a guide on how to set up a server.
- A Minecraft server does not need to be a high-end machine, but netbooks and notebooks don't usually make for good server machines. They typically have lower-end hardware and bad I/O performance in comparison to desktop computers.
- Hosting and playing on the same machine is also possible, if your computer is powerful enough.
- Having many players in a wireless network (WLAN and especially WWAN) is not recommended. Use a wired network instead, such as Ethernet.
- If you decide you don't want to host, but still want to play online, check out the public server options on a Minecraft server listing website.
- If you still want to manage a server, but not from home, check out the Minecraft server hosting area of the Minecraft forum or other websites. Expect to pay monthly for this type of server since finding free hosting is a rarity, but you save the hassle of constantly maintaining a server and ensure it is always online for your players.

Note: There is also custom server software available, which most large servers use, but these applications are not supported by Mojang.

Warning

> **Note**
> Running server software on your computer without a clear understanding of what you are doing may make your system vulnerable to attacks from outside.

Since you're about to run your own server, you should be aware of the possible dangers. Running by the instructions below should not put you at any risk, but this is a wiki which everybody is allowed to edit, and we don't know about your system configuration, so we cannot guarantee you'll be out of danger.

In order to run your server and stay out of trouble, we strongly recommend you should at

least know about the following:

- Using the command-line and editing configuration files
- Networking in general (IP, DHCP, ports, etc.)
- Your system configuration
- Your network configuration
- Your router configuration (if you want other people to connect over the Internet)

Java

Java is a programming language designed to create programs for the Java Virtual Machine (JVM). The JVM supports many different platforms. By doing this, developers write code for the JVM and any platform supported by the JVM can run the program. Further reading.

This section is designed to answer some frequently asked questions about Java and guide you through some decisions regarding Java.

OpenJDK vs OracleJDK

OpenJDK and OracleJDK are very similar. OpenJDK is the official open source reference implementation of Java. OpenJDK is an open source codebase that almost all other JDKs are built on. Excluding packaging, cosmetic and license differences OpenJDK is the same as OracleJDK.

JRE vs JDK

JRE stand for **J**ava **R**untime **E**nvironment. JDK stands for **J**ava **D**evelopment **K**it. JRE is a package tool designed to *run* Java programs. JDK is a package of tools designed to *develop* Java programs. The JDK comes with the JRE which comes with the JVM. If you have JDK then you have JRE and JVM. Vanilla *Minecraft* does not need JDK, but plugins may require it.

Headless Java

A headless Java installation is a trimmed down version of Java. It does not have a GUI or mouse/keyboard support. Headless Java is frequently used in Servers or other environments where a GUI is not needed.

"*There are several virtual packages used in Debian for Java. These cover runtime compatibility and come in two flavors; headless (omits graphical interfaces) and normal.*"
— **Debian Wiki**

Windows instructions

Verify that the latest version of Java is installed

The Minecraft server requires the Java Runtime Environment (also called JRE or simply Java). For your security, you should only use the most recent version of Java. To verify that

you have the latest version, do *one* of the following:

- Open Windows Control Panel, find Java (it may be inside the Programs category), and click on Update Now.
- Visit http://java.com/en/download/installed.jsp. This will perform an automatic version check from your browser. However, the Google Chrome and Firefox browsers do not run Java content and therefore cannot check Java through the browser.
- Open a command window and enter the command java -version. If a version number is reported, then check the Java website to see what the most recent version number is.

If you don't have Java or your version is outdated, then download it at http://www.java.com/download/.

Starting the Minecraft server

Begin by downloading the server software from the Minecraft download page. If you want older versions, find their links at their respective pages. The server is available as a Java .jar file.

Before starting the server, be aware that wherever you run the server from (your desktop, a download folder, etc.), it will create several configuration files in that location. It's better to create a dedicated folder for your server and run it from inside that folder, as this will make it easier to locate/organize all the files.
Double click the file and the server should start. It will write configuration files in the folder, and quit immediately.

The first, and required, configuration you have to do is accepting the EULA. A text file call eula.txt is created in the application folder. Open this file in a text editor and change the line eula=false to eula=true. It signifies that you have read and understood the end user license agreement that you'll follow when using the software. If you don't do this, the server will shut down immediately when you try to start it.

If you get an error such as "Can't save server.properties" and your screen fills with useless, gibberish text, then run the Minecraft Server as administrator by right-mouse clicking on it and choosing 'Run as administrator'. (You may need the administrator password to do this.)

You might want to customize the server configuration, as is explained below.

Configuring from the command line

Both the Java and the executable version can be run from the Windows command prompt/line with extra parameters to configure, for example, memory usage. As we currently know there is no command prompt for Java on the Windows platform that will run these commands correctly. That, however, is subject to change.

To start the server, change to the Minecraft server folder (find the file path to which your

server's jar file is) and open the windows command prompt (in Start, just type cmd and it should have a file name of cmd.exe), then enter the following command:

```
java -jar <server-file>
```

Replace <server-file> with the server application file name, for example minecraft_server.1.9.4.jar.

If you prefer not to use the server's Graphical User Interface (GUI) to enter administration commands, simply add the option nogui to the end of the command:

```
java -jar minecraft_server.jar nogui
```

Some people have reported that this requires (significantly) less memory and CPU resources.

You can also replace the java command with javaw. Javaw.exe is identical to Java.exe, but there is no associated console window. This may be preferable when using a .bat file. (See the next section.) Note however that Javaw also doesn't show any error messages in the command window if anything is wrong.

Using the Xms and Xmx parameters, the initial and maximum memory size for Java can be specified. By default, your server runs with about 100 MB of RAM, which is very little. Most people will change their server to run with more, for example:

- java -Xms512M -Xmx1G ...
- java -Xms1024M -Xmx1024M ...
- java -Xms1G -Xmx2G ...

Set -d64 if your server is on a 64-bit [Solarissystem](#) using 64-bit Java:

- java -d64 ...

Commandline Options
Run with --help to see all available arguments that can be passed to the server, below is a list of available commandline options for the server. Note that these commandline options are for the *server*, not java. So place these arguments after the 'server.jar': java -Xms1024M -Xmx1024M -jar server.jar <ARGS HERE>

- --bonusChest
    - If a bonus chest should be generated, when the world is first generated.
- --demo
    - If the server is in demo mode. (Shows the players a demo pop-up, no further

implications?)
- --eraseCache
    - Erases the lighting caches, etc. Same option as when optimizing single player worlds.
- --forceUpgrade
    - Forces upgrade on all the chunks, such that the data version of all chunks matches the current server version (same as with sp worlds).
- --help
    - Shows this help.
- --initSettings
    - Initializes 'server.properties' and 'eula.txt', then quits.
- --nogui
    - Doesn't open the GUI when launching the server.
- --port <Integer>
    - Which port to listen on, overrides the server.properties value. (default: -1)
- --serverId <String>
    - Gives an ID to the server. (??)
- --singleplayer <String>
    - Runs the server in offline mode (unknown where <String> is used for, probably used internally by mojang?)
- --universe <String>
    - The folder in which to look for world folders. (default: .)
- --world <String>
    - The name of the world folder in which the level.dat resides.

Older Commandline Options
Some options worked in older versions but were removed or replaced by newer ones.

- -o true
    - to tell the server to run in online mode so only authenticated users can join. (This may no longer work in newer versions)

Creating a .bat file to store the commands

To start the configured Minecraft server, without having to enter all commands every time, you can create a .bat file in the server folder. You can include the pause command to tell the window to stay open after the /stop command is issued. Useful if you want to read what happened as it shut down.

Here is an example of a bat file:

```
@ECHO OFF
java -Xms1024M -Xmx2048M -jar minecraft_server.jar nogui
pause
```

Double click the file to start your server. You may get a "Class_Not_Found" and ServerGuiConcole error, just ignore these errors and you should see your "Server Thread/INFO" dialog start the server.

Further configuration

Read the sections [Port forwarding](#) and further for more information about configuring your server.

macOS instructions

Keep in mind that the server won't run correctly on macOS 10.4 and earlier and may crash your machine.

Downloading

Download the latest server application software from the [download](#) page.

Installing Java

macOS already has Java downloaded onto your machine. Java is updated through Java's website Mac OS X/macOS 10.5 and Above: [Java 6 Download](#)

(If you are on an older version of macOS, you may need to find an alternative method of download. PowerPC is no longer supported as of [1.6.1](#))

Setting up the Minecraft server

Ensure you have followed the download step before proceeding.

- Create a folder, if you haven't already, and put minecraft_server.jar into it. For example, create a folder on the Desktop named minecraft_server and drag the jar file into it.
- Open TextEdit, set the format to plain text (Format > Make Plain Text), copy and paste in the following:

```
#!/bin/bashcd "$(dirname "$0")"exec java -Xms1G -Xmx1G -jar server.jar nogui
```

- Save the file as "start.command" *in the same folder* as minecraft_server.jar.
  - This will give the server enough RAM to run. The amount of RAM can be changed by editing the 1G to something else, such as 2G for 2 GB.
- Open Terminal (in /Applications/Utilities/Terminal).
- Grant execute permissions on file start.command to Owner, Group. and Public. To do so, type in chmod a+x , with a space after it; drag and drop the start.command file into the terminal window; and then press enter. (This gives *run* permission to the start.command script.)
- Double-click the start.command file to start the server.
- A new Terminal window will open and, the first time you run the script, several error messages about missing files/directories will appear. This is normal. You're now ready to [configure your server](#).

Using Time Capsule

Some homes use AirPort Time Capsule as a wireless router instead of other brands. This section will teach you how to set one up without messing up your file server.

NOTE: Make sure you have your admin username and password.

- Open System Preferences > Network.
- Click the Advanced button and go under TCP/IP.
- Where it says Configure IPv4, change that option to Using DHCP with manual address.
- Change the IP address to 10.0.1.x, where x is a number between the last number of the two numbers under DHCP range (i.e. 10.0.1.2 to 10.0.1.254 would be anywhere between 2 and 254).
- Now go to the Sharing section and make sure that Internet Sharing is on.
- Now, open up AirPort Utility and edit your Time Capsule settings.
- Go under Network and make sure the option Router Mode is set to DHCP and NAT. Now, click the + button under the Port Settings.
- Type in the following:
  - Description: Minecraft Server (or whatever you want to call it)
  - Private IP Address: The address you chose for the 4th step.
- Change everything with the word port in it to 25565.
- Now, hit Save and update the Time Capsule.

That's it! You're now ready to configure your server.

Linux instructions

Linux comes in many different varieties called distributions (distros). Some of these distros are designed or better suited for running a server. If you are setting up a dedicated server it is recommended to use one of these distros.

Linux, in general, is more welcoming to open source programs. So where applicable it is recommended you use open source programs, such as OpenJDK.

Note: That a 64-bit version of Linux will probably perform better on a 64-bit CPU and that a 32-bit version will only use the first 4 GiB of RAM if more than that is installed.

Downloading

Download the latest server application software from the download page.

Installing Java

OpenJDK is in most distribution's repositories. You can install it there. For Oracle Java refer to Oracle's [Download Page](#).

Note: While not affecting servers JavaFX or other proprietary aspects of Java while need to be installed separately.

Debian and Ubuntu

Note: You might need to install the package "software-properties-common" by running sudo apt-get install software-properties-common and/or "python-software-properties" by running sudo apt-get install python-software-properties to use the apt-add-repository command.

Due to [licensing issues](#), the repository frequently used to install Oracle Java has been discontinued. It is now recommended that you install OpenJDK 8 or above.

OpenJDK can be installed with one command.

```
sudo apt-get install openjdk-8-jdk-headless
```

Removing the 'headless' part of the command will install all components of Java.
Note: Tested in Ubuntu 18.04.

Raspbian

Run
```
sudo apt update
sudo apt install openjdk-8-jdk
```

[eLinux Wiki](#) is a great resource.

Other distros

Check your distro's documentation. It should have information on how to install OpenJDK.

Alternatively, you can [visit Java's website directly](#) to download the Java package for Linux. Most distros work with this (either 32 or 64-bit). Instructions for the installation of those different packages are given on the site.
If during installation, it asks for a password, enter your password. If you get asked "Is this OK [Y/N]" Enter Y and press enter if required. Java should now be installed.

Starting the Server

Open the terminal.

Type mkdir(make directory)Minecraft_Server

Go to Minecraft.net and download the latest server version. Put *server.jar* in Minecraft_Server folder.

Type ls (list directory)

Type cd(change directory)Minecraft_Server

Type java -Xms1G (how much RAM the JVM starts with)-Xmx1G(the maximum amount of RAM)-jar server.jar

Note: At least one gigabyte of RAM recommending for running a server.

Note: When deciding how much RAM to allocate to your server (>1G) remember to account for you OS and other applications. You can check how much RAM you have using the free -g command (in gigabytes.)

The expected output:

```
[main/ERROR]:Failed to load properties from file: server.properties
[main/WARN]: Failed to load eula.txt
[main/INFO]: You need to agree to the EULA in order to run the server. Go to
eula.txt for more info.
```

If you did not get this output make sure you have entered the command correctly with no errors or typos. Also make sure *server.jar* and you are in the correct directory(Minecraft_Server)

Type nano(text editor)eula.txt (the file)

Change eula=false to eula=true to indicate you have read and agree to the EULA.

Ctrl+O to save; Ctrl+X to exit

Type java -Xms1G -Xmx1G -jar server.jar to start the server.

Note: Adding nogui after -jar server.jar will not launch the GUI.

Creating a (basic) startup script

Create a document named start.sh
Copy paste this inside.

```
#!/bin/sh
java -Xms1G -Xmx1G -jar server.jar
```

In the terminal type chmod +x start.sh

Type ./start.sh to start your server and stop to stop your server.

Startup and maintenance script

Alternatively, you can manage/automate the startup and shutdown of the Minecraft server using a script such as the ones listed below:

- Minecraft Server Control Script (MSCS) is a server-management script for UNIX and Linux powered Minecraft servers. Features include:
  - Run multiple Minecraft worlds.
  - Start, stop, and restart single or multiple worlds.
  - Create, delete, disable, and enable worlds.
  - Includes support for additional server types: Forge, BungeeCord, SpigotMC, etc.
  - Automatically backup worlds, remove backups older than X days, and restart worlds.
  - Visit the Minecraft Server Control Script Github page for more information.
- Minecraft Server Manager A comprehensive startup script for Minecraft and Bukkit servers (support Debian, such as Ubuntu).
  - MSM can also periodically create World Edit compatible backups.

- - Keeps players informed with configurable in-game messages, such as "Shutting down in 10 seconds!"
  - Expose in-game commands (such as "say", "op" and "whitelist") to the terminal.
  - Tab completion on all commands makes learning easy.
  - Visit Minecraft Server Manager's GitHub page for the full list of features.
- Server startup script
- FreeBSD startup script
- OpenBSD startup script
- Ubuntu startup script
- rfwadmin startup script with web interface (for Linux servers). Nice web interface for quickly saving and loading maps.
- Minecraft Systemd Service A fully systemd-integrated minecraft service:
  - Working on CentOS and Fedora
  - Protecting the server with various readonly and inaccessible jails
  - Safe restart and stop operations using rcon
  - Can be combined with a Minecraft Command Center Script for ease of administration
- Arch Linux systemd wrapper

A simple installer script (also installs Java)

https://github.com/silvertriclops/MCSLI

Note: this is a very early project, designed with offline installation in mind, and will be updated periodically to make it more user friendly.

Docker

Docker is a container based platform which ensures that you do not contaminate your host system.

Getting docker (for Linux, Mac & Windows)

Read https://docs.docker.com/install/

Docker image

Download latest minecraft-server-standalone

```
docker pull sirplexus/minecraft-server-standalone:latest
```

Setting up a container with port 25565 open, 1G ram assigned and named "Standalone-Minecraft-Server"

```
docker container create --publish 127.0.0.1:25565:25565/tcp --name
"Standalone-Minecraft-Server" --env RAM=1G sirplexus/minecraft-server-
```

```
standalone
```

Start the server
```
docker container start Standalone-Minecraft-Server
```

Port forwarding

> *See also: [Wikipedia:Port forwarding](#)*

Port forwarding is used when you have a router and you wish to let users connect to your server through it. If you wish to host your server for local reasons, it is not required that you do so. *Keep in mind that port forwarding might cause security risks*.

When port forwarding, it varies on how your router will ask you for the information. If you don't understand on how your router wants you to input the information, try visiting [PortForward.com](#) for a tutorial.

Once you have managed to locate your router's admin page, and find the Port Forwarding page; hit add new service *(may not work)* (if you use Belkin, this can be very difficult to perform) or custom service. When you get a page asking to setup the new rule, it should prompt you on what you want to call it. You may name it as you wish, but for simplicity, name it "*minecraft*". Then, you want to look for "type". If "TCP/UDP" or "Both" isn't an option you will have to create two rules for both protocols. For the ports (internal and external), enter 25565. If it asks for anything else other than output IP (or internal IP, server IP), leave it alone and continue.

To find your computer's IP address, use the following steps:

Windows

> Press ⊞ Win+R; this should be up to the "Run" dialog box. Type cmd and hit ↵ Enter. This should open a command window with a black background. From there, type ipconfig and press ↵ Enter. You should be given a list of text. Scroll up to "Wireless LAN" (if using wireless) or "Ethernet" (if using a wired connection), and look at "IPv4 address". To the right of this should be a string of numbers (of the form xxx.xxx.xxx.xxx). Copy this down by right-clicking the window and selecting "Mark", then highlight the area and hit Enter. *Don't copy any parenthesis or letters*.

Mac
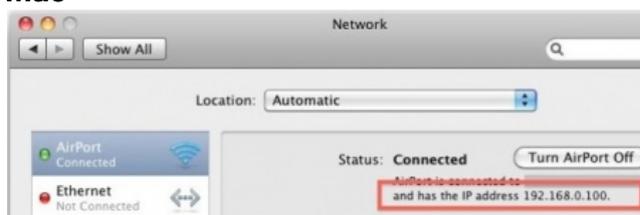
The IP location on OS X

Locate your way to your desktop. Pull up the apple menu under the logo and scroll down to *System Preferences*; then select "*Network*" your IP should be on the lower right as "IP address (xxx.xxx.xxx.xxx)". Once you have your IP, copy it down.

Linux

Either you use the network diagnose center (depending on distribution), or the terminal with ifconfig. The output should return all your interfaces. Search for inet addr:xxx.xxx.xxx.xxx, copy the xxx.xxx.xxx.xxx numbers down.

Once you have this IP, enter it in the "Output IP / Server IP" or whatever way it asks for where the service points to.

Once you have completed it, find where it says to save/continue/apply. And you have successfully port forwarded. When you run your Minecraft server, you have to leave the Server IP field empty in the server properties.

For people to connect to your server, they must use your external IP, which you can find at websites such as IP Chicken. If you don't want to use such IPs, use DynDNS services such as NoIP DynDNS

Configure and connect

Now it is time to configure and connect.

Setting up a VPN

> **Note**
> VPN's can cause issues connecting to Mojang's servers, Minecraft servers, or to the internet.

An alternate way to set up a server between you and your friends is to set up a VPN (virtual private network). This method may be deemed unrecommended, and an inconvenience for many users due to the fact that all users who wish to connect to the server must download external software in order to join or create server. An alternative to this method is to port forward. A free software utility that can be used to set up a VPN ais Hamachi by LogMeIn. OpenVPN is another (free, open source) alternative that supports most OSes, but is a bit more difficult to configure. Free Radmin VPN is another software with no need to register on the website and no limits per the number of users. The free version of Hamachi allows up to 5 connections (i.e. players).

Setting up Hamachi

1. Install Hamachi on each computer that wishes to participate in the server, including

the host.
[Windows / Mac](#)
[Linux](#) (32-bit and 64-bit .deb and .rpm packages are available, you can install it on Gentoo by emerging "net-misc/logmein-hamachi")

2. The host server signs up for admin via the [Logmein website](#).
3. On the host machine, a new Hamachi network is created.
4. The host installs and configures the Minecraft server software:

   The server IP field in server.properties is left blank (as default).
5. The host passes the newly created Hamachi network credentials to each of the players.
6. The players connect to the host's Hamachi network.
7. Now that all the machines are connected within the same Hamachi network, the host gives their machine's Hamachi IPv4 address to the players.
8. Each player connects using this IP as per the usual Minecraft multiplayer screen.
9. **Note that Hamachi has been squatting on an IANA-allocated IP block (25.0.0.0/8). As such, Hamachi fundamentally conflicts with the internet itself.**

Setting up Radmin VPN

It is very similar to Hamachi installation.

1. Download free and install [Radmin VPN](#)
2. Create a network: after Radmin VPN installation on the local computer press "Create network" button. Set a Network name and a Password —> Press "Create" button.
3. Now the new network will appear in the main window —> invite friends, send them the info to connect -> you are welcome to run Minecraft.
4. Connection: after program launch press "Join network" —> in the dialog box press enter Network name and Password received from the network administrator —> "Join" —> the new network and its nodes will be shown in the main window. —> Connect to the host in Minecraft.

- If the connection on Radmin VPN has been established, but you don`t see other players in the game, then it is required to adjust firewall for work of the game or just turn the firewall off.

Configuring the Minecraft server

1. First, open eula.txt, and change the line eula=falsetoeula=true.
2. Configure the server by editing the [server.properties](#) file, the format for which is [explained here](#). Be certain to edit the file with a text editor that does not add formatting (e.g., for italics), such as [Windows Notepad](#). Additional configuration may not be necessary as many servers run fine from the default values.
3. To become or add an operator ([op](#)), type /[op](#) <*player*> into the server console or gui. This adds the specified user's username and [UUID](#) to the ops.json file.

Operator status will not be changed if you change your username due to the use of UUID.
- Administrators and operators may execute [commands](#). In other words, operator ([op](#)) privileges allow you to control certain aspects of the game (e.g., teleporting players).
- ops.json contents:

[{"uuid": "user-UUID-value","name": "your-name","level": 4}, ...]

1. If your [server.properties](#) is configured to enable whitelist, you can add a user to the whitelist.json by typing /[whitelist](#) add *<player>* into the server console or gui. Due to the transition to the UUID system, it is not recommended to directly edit whitelist.json.

Connect to the Minecraft server

- If you are playing on the same machine on which the server is running, select the "Multiplayer" option in the game client, click direct connect, and then type in localhost instead of an IP address.
  - *Both hosting and playing on the same machine is not a recommended practice unless you have a powerful computer (e.g. more than 6 gigabytes of ram (4 for the server, 2 for the client, and some for the rest of the system).*
- Users within your local network (i.e., that are accessing the same router) can connect using your internal IP address; port forwarding is not required for such local connections. The internal IP address of a specific network adapter can be found by typing "ipconfig" into the command prompt and looking for the IPv4 address, or by using [this website](#). If the port is set to a number other than 25565 in [server.properties](#), that port must be included. This address (both IP and port) will look something like 192.168.0.168:25565.
- Users connecting from the Internet (i.e., outside of your local network) must connect using your external IP address. You must port forward for someone outside your network to connect to the server.

IP address notes

- Unless you set a static IP for the computer that is hosting the game, the internal IP address can change. This affects port forwarding rules, and can make them invalid. Each modem or router has a different way of setting a static IP address. You should refer to the manual for your device(s) or online documentation for further instruction.
- If you are having players connect to your external IP, your external IP can change if you do not have a static IP from your internet service provider. Use a tool such as [MyWANIP](#) to periodically check on the external IP address. You may also search "my ip address" on Google and it will show your IP address. Alternatively, you can look into a DNS service that will allow you to have a name, rather than an IP address, that will remain the same. The name will point to your external IP address, regardless of whether or not it changes (the DNS is updated when changes occur).

- For troubleshooting purposes you can try running Minecraft on the server machine and connect locally. You can connect through either localhost, your home network IP (192.168.x.x) or your public (Internet) IP.
- If for some reason you have trouble with connecting publicly over your IPv4, try connecting over IPv6. This should only be done for testing whether your server is online, external players should still use IPv4.

Firewalling, NATs and external IP addresses

- You must open a TCP/UDP port (default is 25565) on the firewall.
  - If the server in question is not reachable via a globally routable IP address, you will need to add appropriate address and/or port number translation rules to the gateway — usually your router has the global IP address.
- For help with address translation, opening the firewall and routing (these three make up what people call port mapping/forwarding), portforward.com is a good source. Select your router from that list, skip the ad that comes after selecting the device, and you will see instructions for setting up port forwarding. Alternatively, you can read the documentation supplied with your router, modem, or other ISP related hardware.
- Verify the port is open, and note your external IP by using a port checker tool, such as You Get Signal. The default port you should test is 25565, unless you specified something else. **Have the Minecraft server running when you test the port**.
- You can obtain your external IP address from YouGetSignal.

Local network dedicated servers

This only applies to Classic (v0.30) servers.

A common problem for server administrators is the inability to connect to your own server via another machine on your local network. A typical scenario for this is that you have a Classic server running on a dedicated machine, and you have your own machine which you play on. They're both connected to the same router/switch, and have internal IP's with the octets '192.168.x.x'. Normally, connecting via the URL generated for your server will result in an error message claiming that the server is offline.

To correct this, you must add a function to the end of your URL, bookmarks, or whatever else you connect by. The function is: **?override=true** Example:
http://www.minecraft.net/classic/play/4c3bebb1a01816acbe31c5ece1570da5?override=true

Previously, (before the 1.8 beta and website update) this was **&override=true**. This caused much confusion since the change was not announced by Mojang, and wasn't announced on the website applet pages either. Before the update, connecting to your own URL via the website resulted in red text under the applet window saying "If you can't connect, try *this link* instead." The link returned the same thing, with the &override=true affixed to the end.

Note: This situation does not effect Beta servers, and you should be able to connect via an internal or external IP.

FAQ (frequently asked questions)

Q: I have a problem which is not answered in here! What should I do to?

A: Go to the [Minecraft Forums](#) and post your problem there. To help you, they need the following information:

- Operating system
- Version of Java
- One machine or multiple computers
- Exact description of the problem
- Steps you have taken to solve the problem
- Any errors you encountered
- Screenshots of the problem (if possible)
- Anything else that might help us to solve your problem - there almost never is too much information (passwords would be too much information!)

And please, if we were able to help you, post where the problem was exactly and what the fix was for that. Other people will appreciate that (and we will be able to get a grip on the common problems)!

Q: On a Windows computer, when I double click the batch file it opens a command prompt window, but quickly disappears and the server does not start.

A: Right-click your .bat program and hit edit; add a new line and type pause save and run the file. If it says invalid path, it is probably due to an incorrect path to java.exe/javaw.exe or your Minecraft server jar file. You may just need to change /jre7/ to /jre6/ . Or search your system for java.exe/javaw.exe and adjust the path accordingly. (It's probably under c:\program files or c:\program files (x86).) Also, you must have the *offline* version of Java installed—not just the Java plug-in for your browser.

Q: Whenever I try to get the server up, it says "Failed to bind to port!".
A: The most common reason this happens is because you put an IP address in the server-ip field in your server.properties file. If the IP you specify isn't the same as any of your network interfaces, (your wireless or wired IPv4 from ipconfig/ifconfig/ip a) Minecraft will throw the port binding failure message. By leaving it blank, you let it bind to all interfaces. You will then be able to connect using localhost and people on your wired/wireless network (in the same subnet) can connect using the computers/server's (private) IP address.

Alternatively, the error can mean that you have tried to use a port that is already in use or

that you do not have permission to use (ports < 1024 are privileged and require root/Administrator access to bind to). You can try a different port by changing it in your server.properties file in this line: server-port=25565.

Note: You should avoid using the following ports for your server as some ISPs may block these ports for security reasons and you shouldn't be running the Minecraft server as root (in the case of a Linux type OS and ports < 1024):

- 21 (Used by most FTP Servers)
- 22 (Used by Secure Shell daemon)
- 25 (Used by Mail Servers for SMTP)
- 53 (Used by DNS Servers)
- 80 (Used by most Web Servers)
- 110 (Used by most Mail Servers for POP3)
- 115 (Used by Simple File Transfer Protocol)
- 143 (Used by Mail Servers for IMAP)
- 443 (SSL port for Web Servers)
- 3306 (Used by most MySQL Servers)

Generally avoid any port below number 1024, since those ports are generally referred as well-known ports and are registered with the IANA for important services.

Q: I tried to run the server with Solaris/OpenSolaris and got the following error:

> java.io.InterruptedIOException: Operation interrupted at java.net.SocketInputStream.socketRead0(Native Method) at java.net.SocketInputStream.read(SocketInputStream.java:129) at java.net.SocketInputStream.read(SocketInputStream.java:182) at java.io.FilterInputStream.read(FilterInputStream.java:66) at gq.a(SourceFile:131) at ji.g(SourceFile:197) at ji.c(SourceFile:17) at oq.run(SourceFile:84) 2011-05-31 16:57:26 [INFO] /:44673 lost connection

A: For whatever reason, out of all of the operating systems, only Solaris throws that exception when a thread interrupts a connection. A workaround is to change the default behavior on the command line:

> java -Xmx1G -Xms32M -XX:-UseVMInterruptibleIO -XX:+UseConcMarkSweepGC \ -XX:+CMSIncrementalPacing -XX:ParallelGCThreads=$CPU_COUNT -XX:+AggressiveOpts\ -jar minecraft.jar nogui

This instructs Java to use an interruptible IO stack instead of the default IO that is sensitive to interrupted threads.

Q: When I try to connect to my server this is what it says:

Connection lost The server responded with an invalid server key

A: This error is usually caused when the server sends an unrecognized function to the client, which may be caused by using unrecognized server software, unbalanced client / server versions or modifications to the client.

Q: I cannot break/place any blocks!?
A: This is most usually caused by interacting with blocks in a protected area. If you are trying to interact near spawn, most likely it has been protected, by the minecraft server software; either build away from it or get [operator status](#).

Q: My server runs fine, but I cannot connect to it!
A: This could be caused by a series of issues. Please post a thread using the template provided above.

Q: How do you give a .jar server more ram?
A: Change the numbers in the server launch command "-Xmx1G -Xms1G". The -Xms part specifies how much memory the server starts with, and the -Xmx part is the maximum amount of memory the server can use. -Xmx1G -Xms2G = 1GB -Xmx2G -Xms1G = 2GB And so on.

Q: Why is the server CPU constantly at full load?
A: Some users are experiences full CPU load on the server. This may be caused by the GUI (graphic user interface) window. Run the server with the nogui option to disable this window.

Q: Help! How do you find out your server's IP address?
A: Read [#Connect to the Minecraft server](#)

Q: I port forwarded and allowed java.exe in my firewall and it's still not working!
A: Your modem might be acting as a router as well. If you switch ISP's or upgrade your connection to the Internet, you may get issued a modem/router combination (which might explain why it worked in the past). You can verify this by looking for the WAN IP of your router. If it's a private IP, you'll need to log into the modem/router your ISP issued to you, and configure port forwarding to the WAN IP of your router.

Q: What is connection timed out and connection refused?
A: Simply put, connection timed out is when a firewall ignores a connection attempt (ignores the packet with a SYN flag in the 3-way handshake). Connection refused is when there's no process listening on the port; therefore, the operating system lets the client (in the standard client-server model) know their connection attempt did not work.

The default configuration on all Windows computers (the home version) and (just about) all (SOHO) routers is to drop or time out the connections. [This is called "stealth mode" and you can read more about it on superuser.](#) Here's a brief summary: "The idea is that refusing a connection instead of timing it out will tell an attacker that there actually is a computer on that IP-Address. With the connection attempt timing out, the hope is that the

attacker will ignore the computer."

[You can read more about connection refused on serverfault.](#)

So if your error message is a connection timed out, it's usually a firewall problem - you either need to allow Java in the Windows firewall or port forward. If the error message is a connection refused, perhaps your Minecraft server has not started properly or you turned off the firewall on your router instead of port forwarding.

As always, you can always ask the Minecraft forums if you are uneasy or unsure about something, particularly if opening the command prompt/terminal and running commands makes you nervous.

Connection filtered and connection closed is another way of saying timed out and refused, respectively.