Building Minecraft Worlds for Education

Requirements 4
Installation 4
Java SE Runtime Environment 4
Minecraft Java Edition 5
Minecraft Education Edition 5
Minecraft Amulet Editor 6
World Edit & Fabric 6
Running Minecraft With Mods 11
World Edit 11
Wand 11
History Control 11
Undo 11
Redo 11
Clear History 11
Region Selection 12
Select Region 12
Deselect Region 12
Region Operation 13
Set 13
Replace 13
Walls 14
Outline 14
Overlay 15
Center 15
Move 16
Stack 16
Line 17
Forest 18
Flora 18
Clipboards 19
Clear Clipboard 19
Cut 19
Copy 19
Paste 20

Rotate 21
Flip 23
Schematics 24
Save 24
Delete 24
Load 24
List 24
Downloading Schematics 24
Generation 27
Toggleplace 27
Cylinder 27
Sphere 28
Pyramid 29
Utilities 30
Fill 30
Drain 30
Butcher 30
General Tools 31
Tree 31
Brushes 32
Brush Sphere 32
Brush Cylinder 32
Brush Clipboard 33
Brush Gravity 33
Changing Size 34
Changing Material 34
Changing Range 34
Create Mask 35
Backing Up Worlds 36
Converting Java to Bedrock 37
Converting Bedrock to Java 41
Command Blocks 41
Command Block 42
Chain Command Block 42
Repeating Command Block 43
Commands 43

Selecting Player 43
Always Day 43
Clear 43
Difficulty 43
Effects 44
Game Mode 44
Play Sound 44
Say 44
Set Block 44
Set World Spawn 44
Summon 44
Tell 44
Tellraw 44
Testfor 44
Testfor Block 45
Time 45
Toggledownfall 45
Tp 45

Requirements

Java SE Runtime Environment 8 or Higher – Will need an oracle account to download.

Minecraft Java Edition – Latest

Minecraft Education Edition – Latest

Minecraft Amulet Editor – Release 0.7.2.8 or Higher – Converts Java to Bedrock.

Fabric Installer

Fabric API

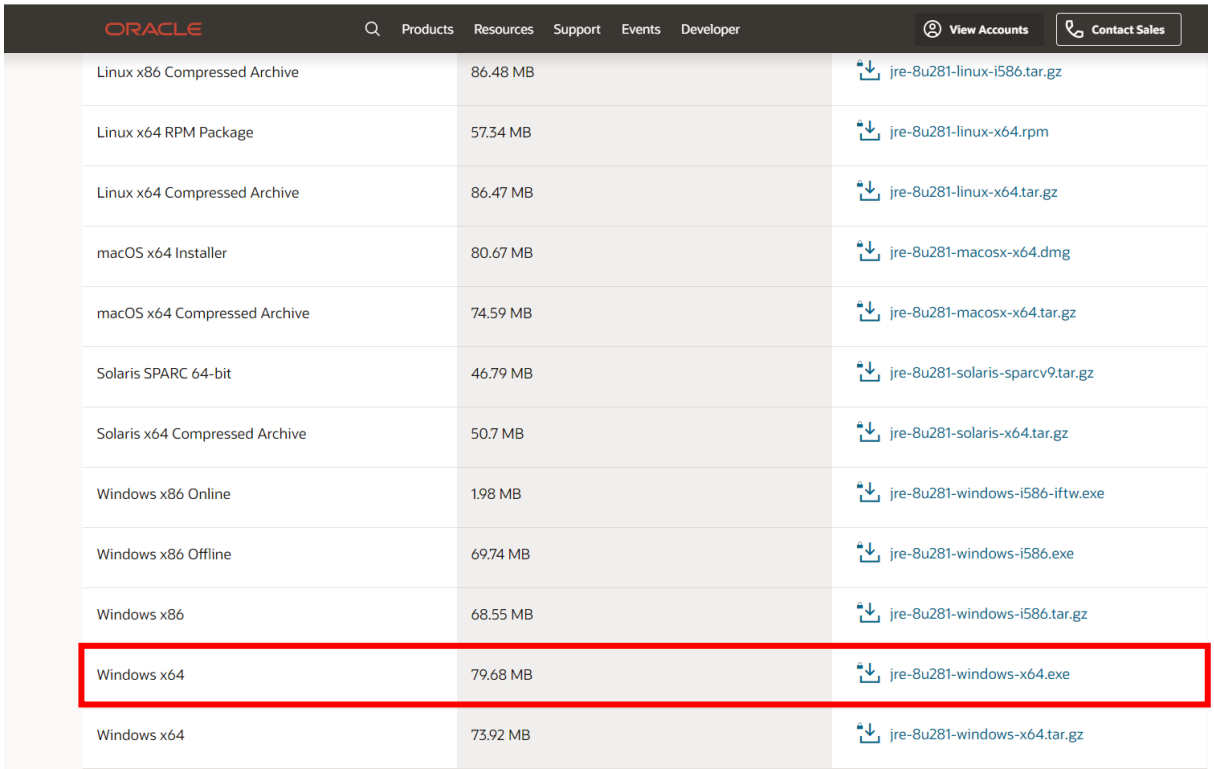
World Edit

Installation

Java SE Runtime Environment

Follow the link in the requirements.

Select your operating system. Windows users download highlighted.



Linux x86 Compressed Archive	86.48 MB	jre-8u281-linux-i586.tar.gz
Linux x64 RPM Package	57.34 MB	jre-8u281-linux-x64.rpm
Linux x64 Compressed Archive	86.47 MB	jre-8u281-linux-x64.tar.gz
macOS x64 Installer	80.67 MB	jre-8u281-macosx-x64.dmg
macOS x64 Compressed Archive	74.59 MB	jre-8u281-macosx-x64.tar.gz
Solaris SPARC 64-bit	46.79 MB	jre-8u281-solaris-sparcv9.tar.gz
Solaris x64 Compressed Archive	50.7 MB	jre-8u281-solaris-x64.tar.gz
Windows x86 Online	1.98 MB	jre-8u281-windows-i586-iftw.exe
Windows x86 Offline	69.74 MB	jre-8u281-windows-i586.exe
Windows x86	68.55 MB	jre-8u281-windows-i586.tar.gz
Windows x64	79.68 MB	jre-8u281-windows-x64.exe
Windows x64	73.92 MB	jre-8u281-windows-x64.tar.gz

You will need an oracle account to download, this process does not take long.

Once installed run the file.

You should leave everything as default and select next until finished.

Minecraft Java Edition

Follow the link in the requirements and select download for Windows.

Other OS versions are available here.

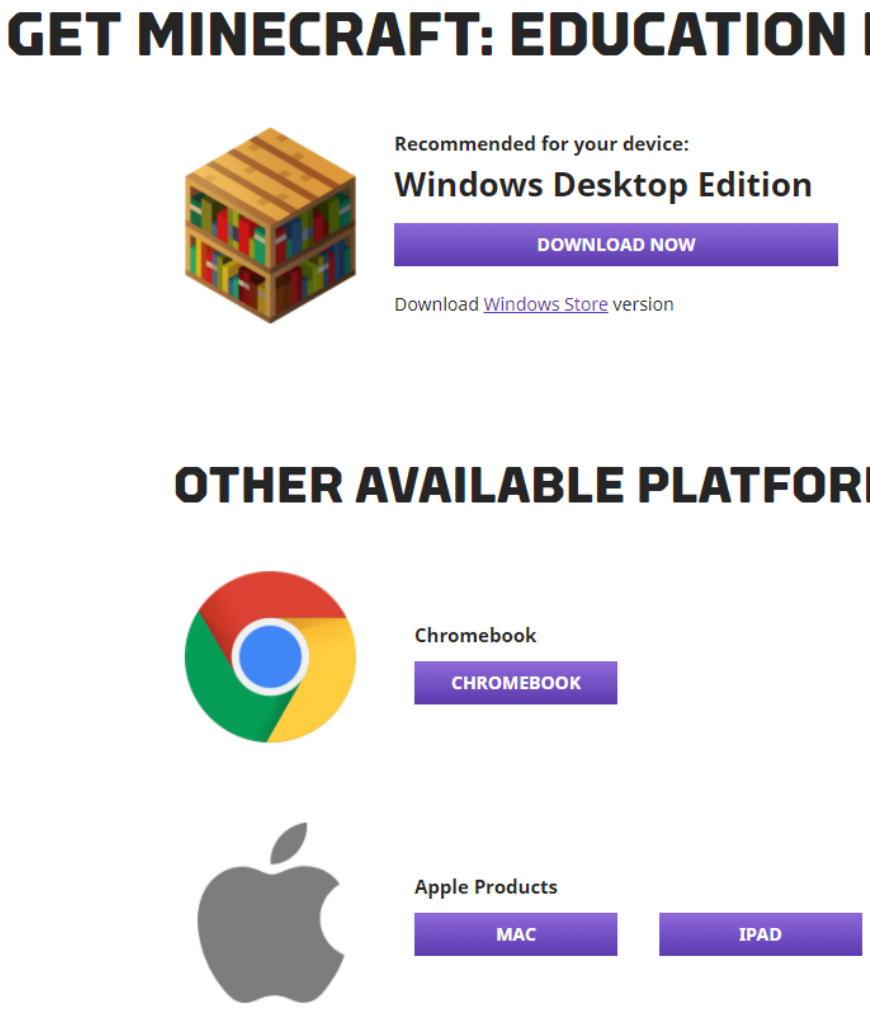
Once Minecraft.msi is downloaded run it and select next until complete.

You can now open the game and log in with the Mojang account that owns the game.

Minecraft Education Edition

Follow the link in the requirements and select download now.

This should take you the following page where you can choose what version.



Once downloaded run the file and follow the installation wizard.

You should now be able to open your game and log in with your school account.

Minecraft Amulet Editor

Follow the link in the requirements for the Minecraft Amulet Editor.

Download the Release version, a zip file should be downloaded.

Create a folder in a place you want the Amulet Editor to be located.

Drag the zip file into the file you created.

Right click the zip and select extract here.

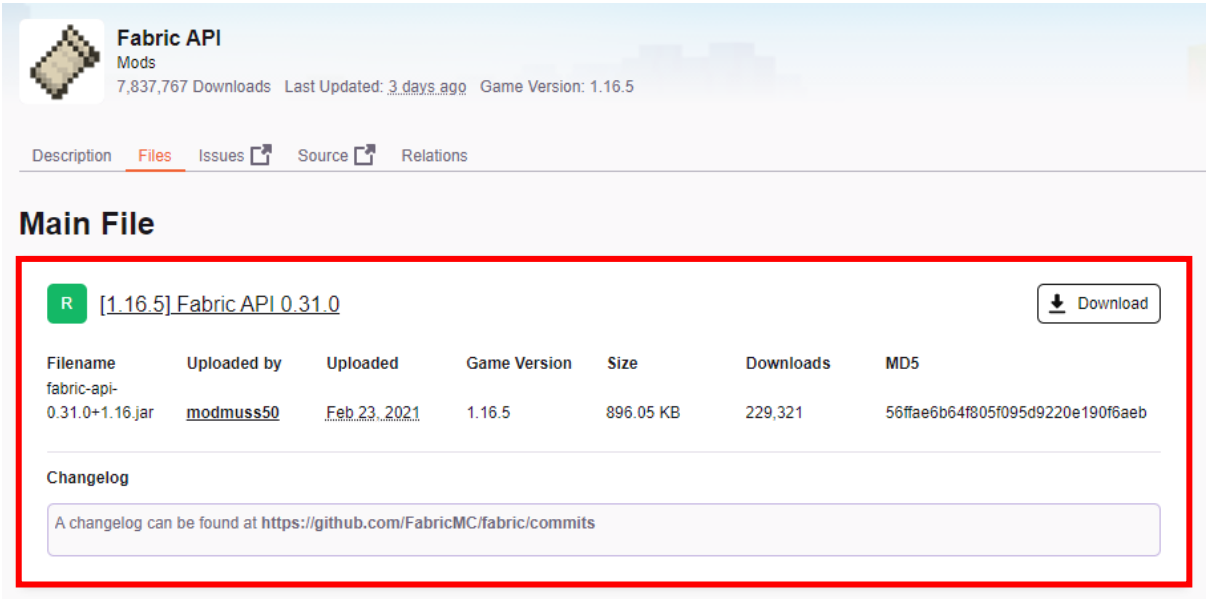
That is all you need to do with the Amulet Editor for now.

World Edit & Fabric

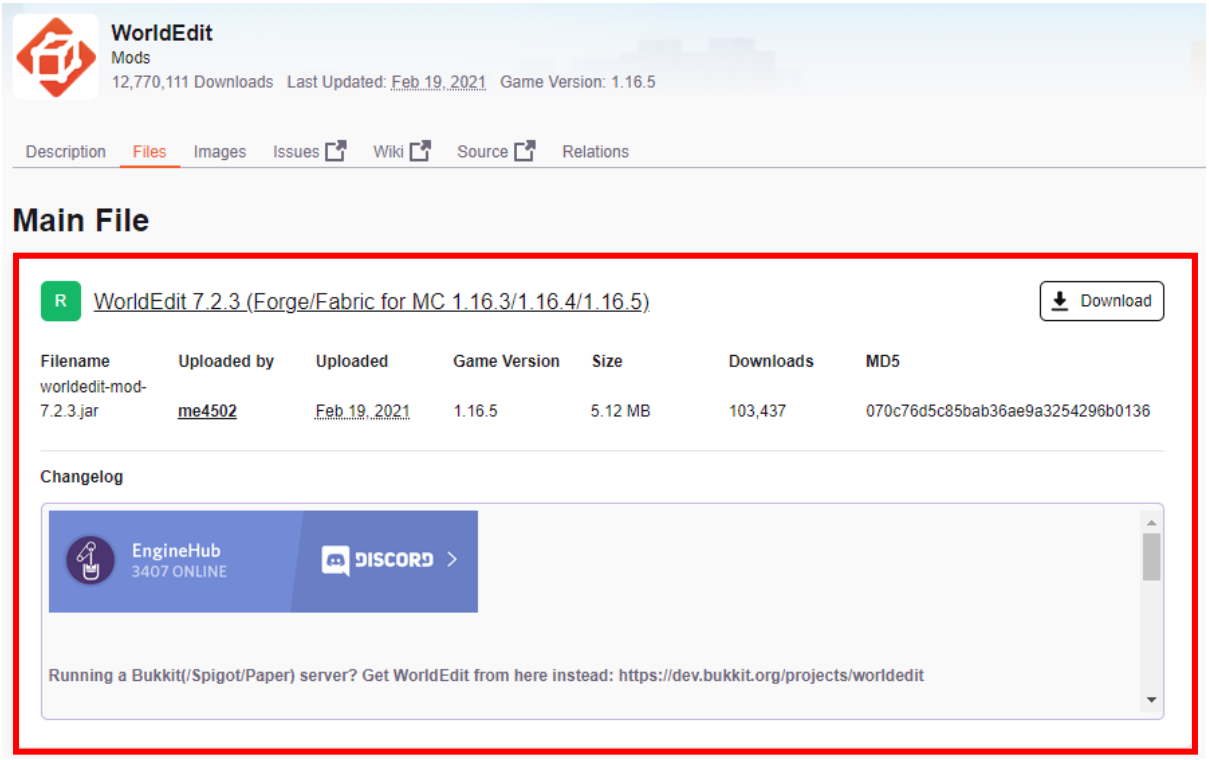
You will need to download Fabric Installer, Fabric API and World Edit. The links are in the requirements.

To download Fabric Installer, select the Universal/JAR file.

Download the main Fabric API file.



Download the main World Edit file.

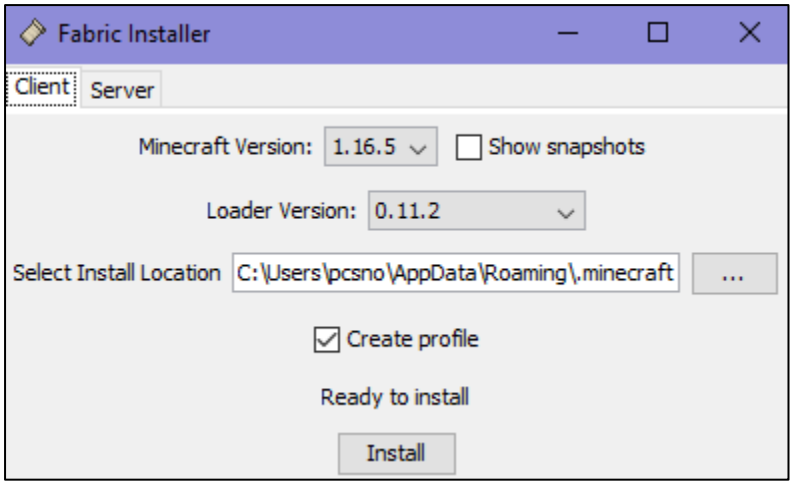


You should now have 3 JAR files downloaded.

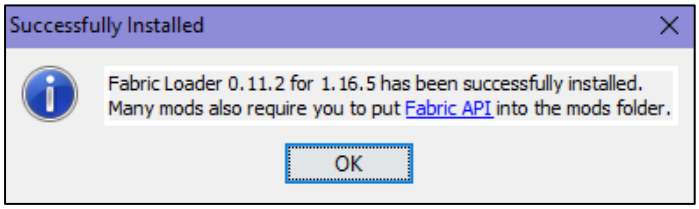
Run the Fabric Installer JAR.

Make sure you have the following settings the same.

If you are using a different Minecraft version, make sure the settings match with your version.



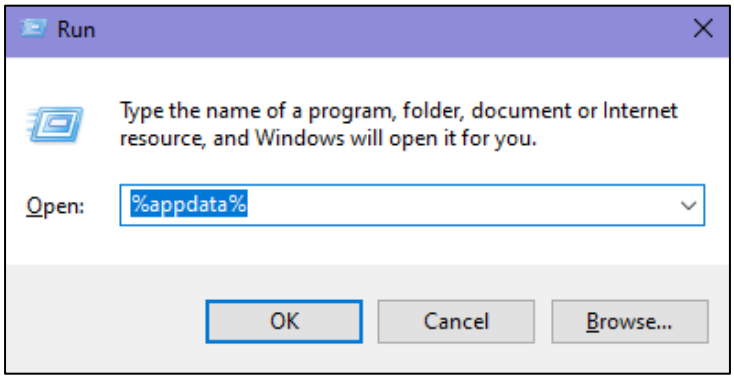
Now install, you should get the following message if done correctly.



Once installed we need to find our Minecraft file location.

To do this press **Win + R**.

When the prompt appears enter **%appdata%** into it and select ok.

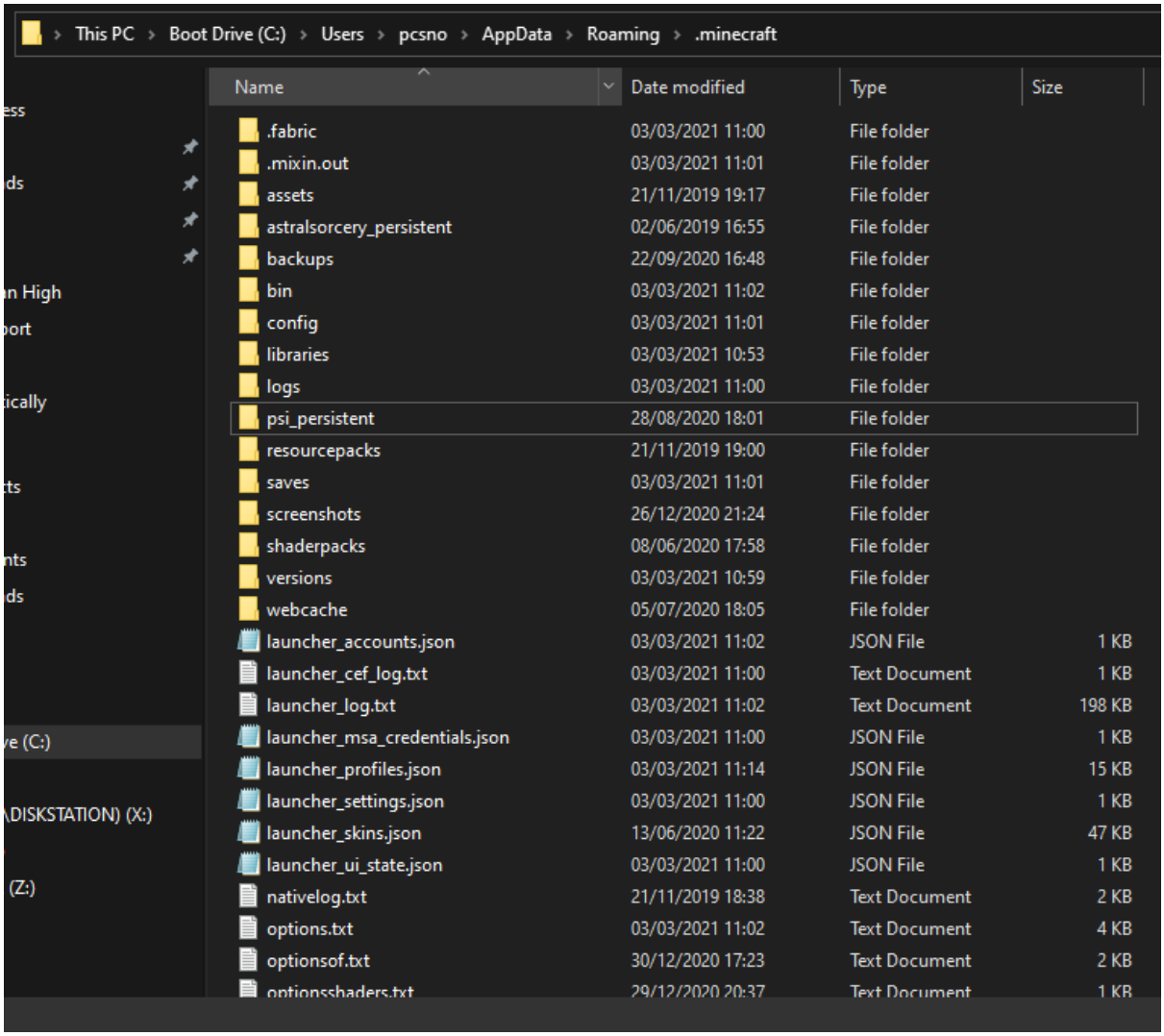


Now follow the path:

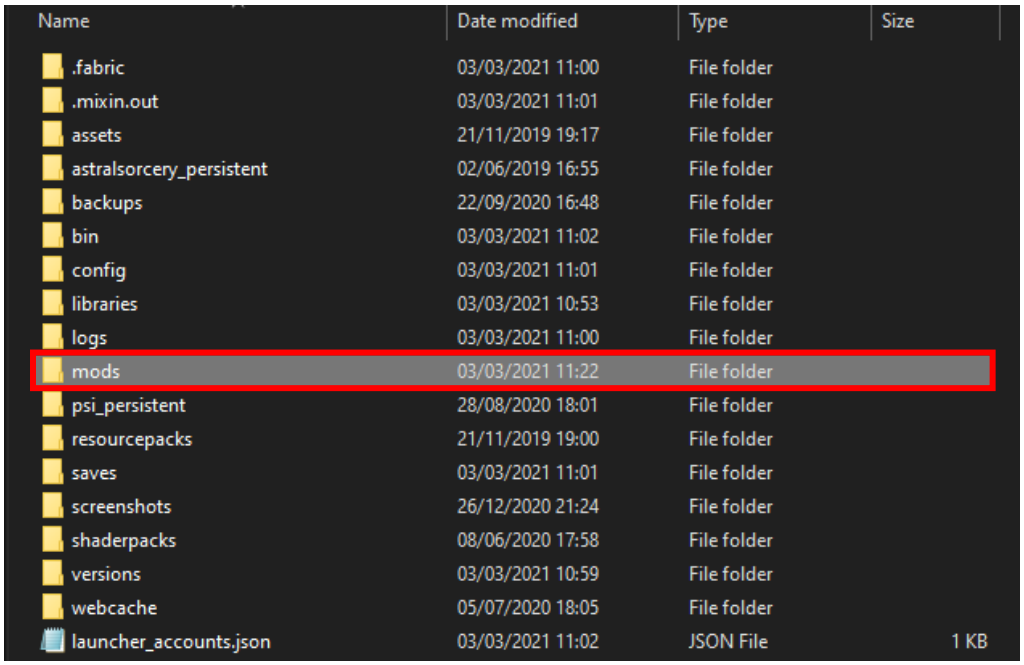
Roaming > .minecraft

You should now be in this location.

Yours files may look slightly different.

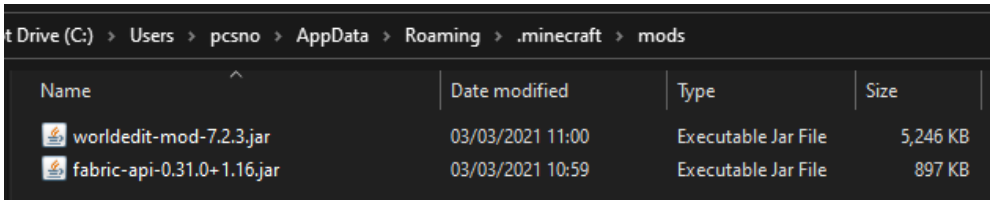


Now create a folder called mods unless there is already one.



Name	Date modified	Type	Size
.fabric	03/03/2021 11:00	File folder	
.mixin.out	03/03/2021 11:01	File folder	
assets	21/11/2019 19:17	File folder	
astralsorcery_persistent	02/06/2019 16:55	File folder	
backups	22/09/2020 16:48	File folder	
bin	03/03/2021 11:02	File folder	
config	03/03/2021 11:01	File folder	
libraries	03/03/2021 10:53	File folder	
logs	03/03/2021 11:00	File folder	
mods	03/03/2021 11:22	File folder	
psi_persistent	28/08/2020 18:01	File folder	
resourcepacks	21/11/2019 19:00	File folder	
saves	03/03/2021 11:01	File folder	
screenshots	26/12/2020 21:24	File folder	
shaderpacks	08/06/2020 17:58	File folder	
versions	03/03/2021 10:59	File folder	
webcache	05/07/2020 18:05	File folder	
launcher_accounts.json	03/03/2021 11:02	JSON File	1 KB

Place the Fabric API and World Edit JAR files in here.



t Drive (C:) › Users › pcsno › AppData › Roaming › .minecraft › mods

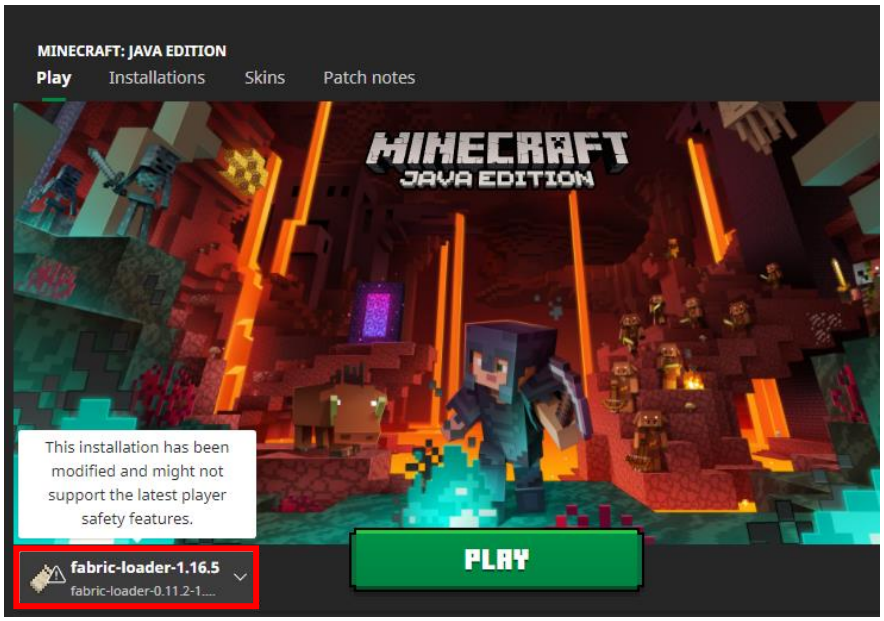
Name	Date modified	Type	Size
worldedit-mod-7.2.3.jar	03/03/2021 11:00	Executable Jar File	5,246 KB
fabric-api-0.31.0+1.16.jar	03/03/2021 10:59	Executable Jar File	897 KB

You have now successfully installed the World Edit mod.

Running Minecraft With Mods

Run your Minecraft launcher.

You should now be able to select Fabric Loader.



Once selected, run the game.

We can now create a world.

When playing around with new mods I recommend you start with setting the game mode to **creative**, difficulty to **peaceful** and the world type **superflat.**

World Edit

We can now start building with World Edit.

World Edit has many useful commands, if you want to view all of them follow this link.

I will only be covering the basic commands.

Wand

Type **//wand**

If you are given a wooden axe, everything is working as intended.

//wand will give us a wooden axe that we can use for selecting positions.

History Control

Undo

//undo will undo the last command.

Redo

//redo will redo the last **//undo.**

Clear History

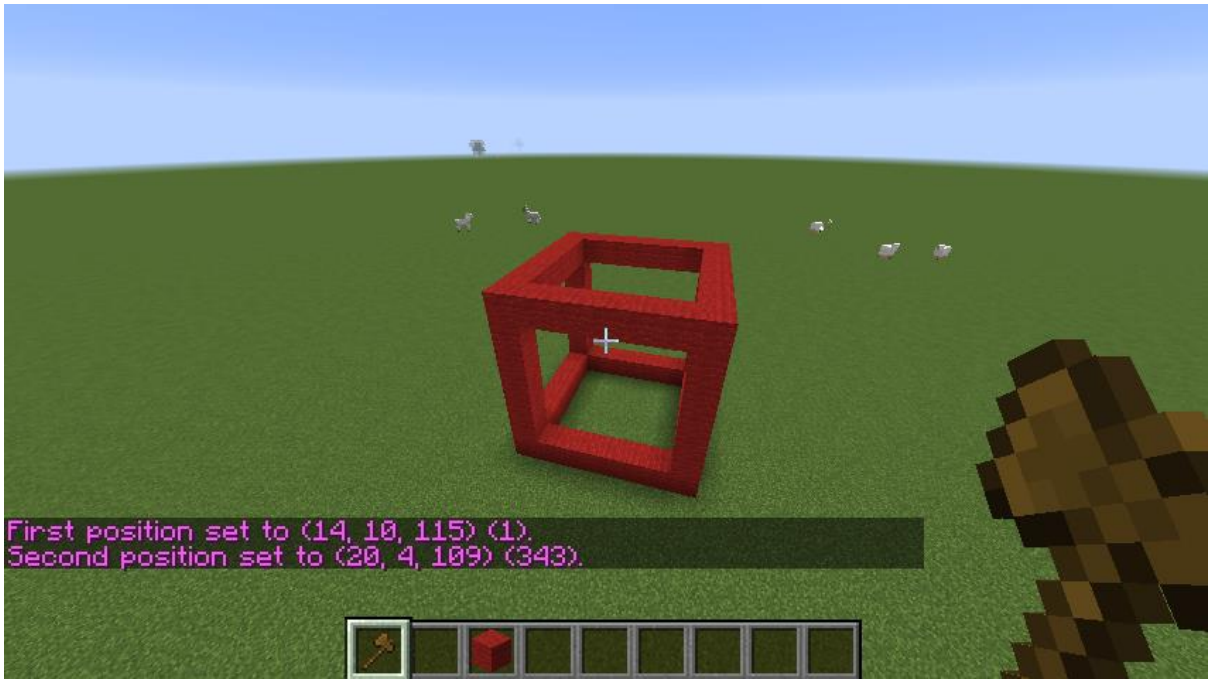
/clearhistory will clear all available **//redo** and **//undo.**

Region Selection

Select Region

With the wand we can select an area we want to work with.

With the wand in our hand, left click to select position 1 and right click to select position 2.



By selecting 2 positions we have created a cube we can work with.

I will refer to the selected area as a region.

The red cube will not appear, it is for visual aid.

For each command I show, I will provide an example command.

Deselect Region

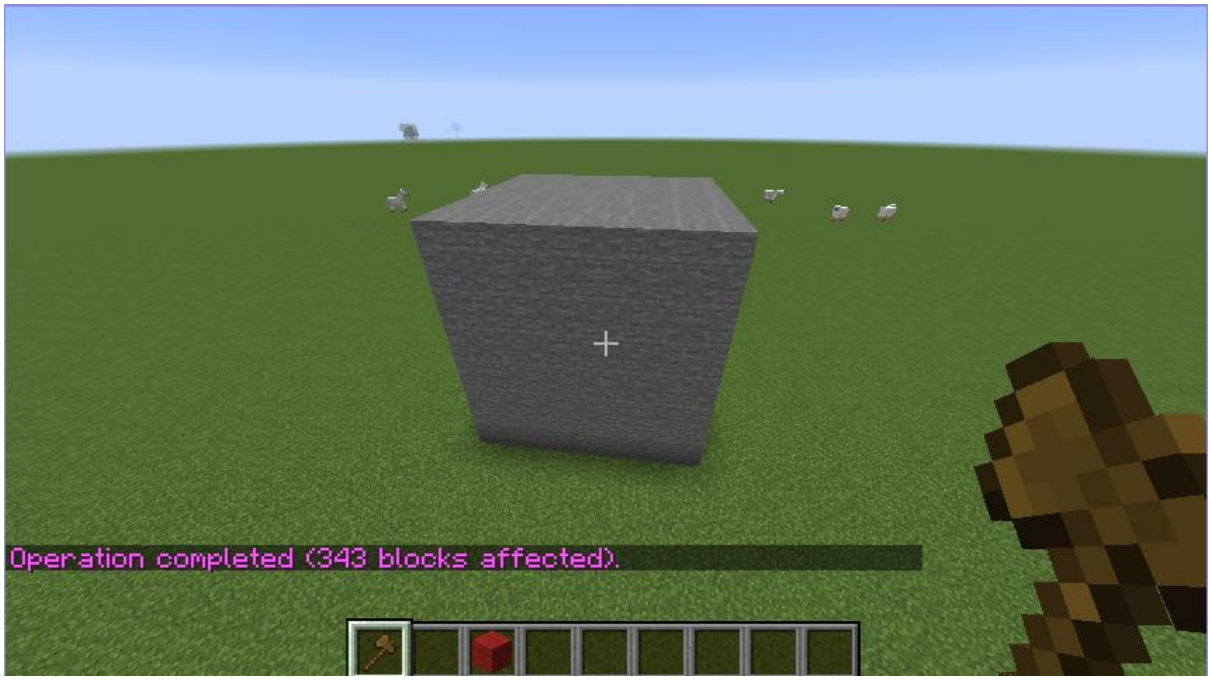
Type **//desel** to deselect the region.

Region Operation

Set

//set will replace all blocks in the region with another.

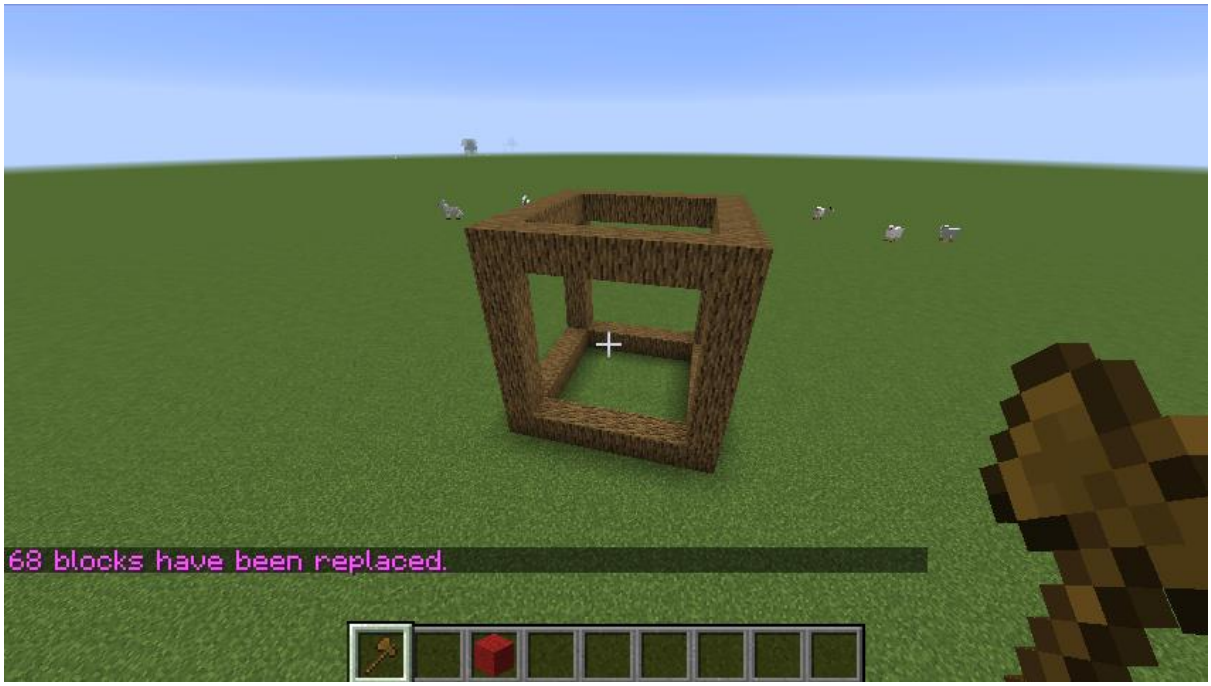
//set stone sets all the blocks to stone **includes air.**



Replace

//replace will replace a block type with another block type.

//replace red_wool oak_wood replaces all red wool with oak wood.



Walls

//walls will create a solid wall around the selected area.

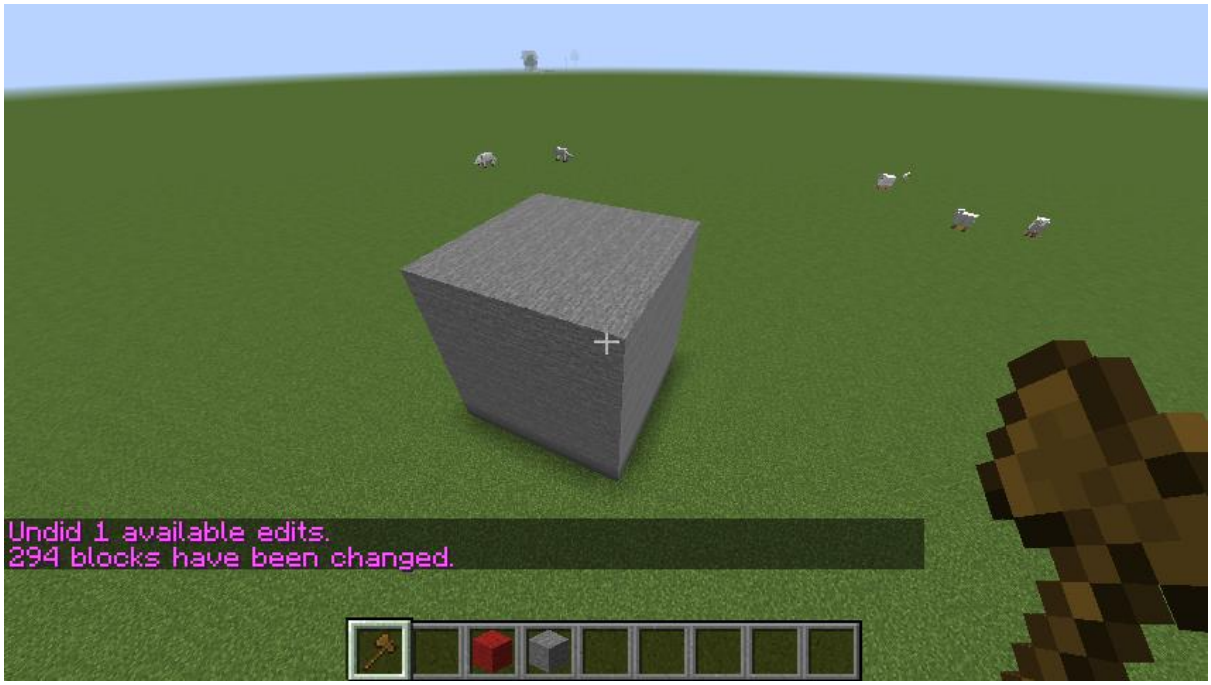
//walls stone creates a wall of stone around the region.

Outline

//outline will cover the outer area with the selected block.

//outline stone will create a hollow cube with an outer area of stone.

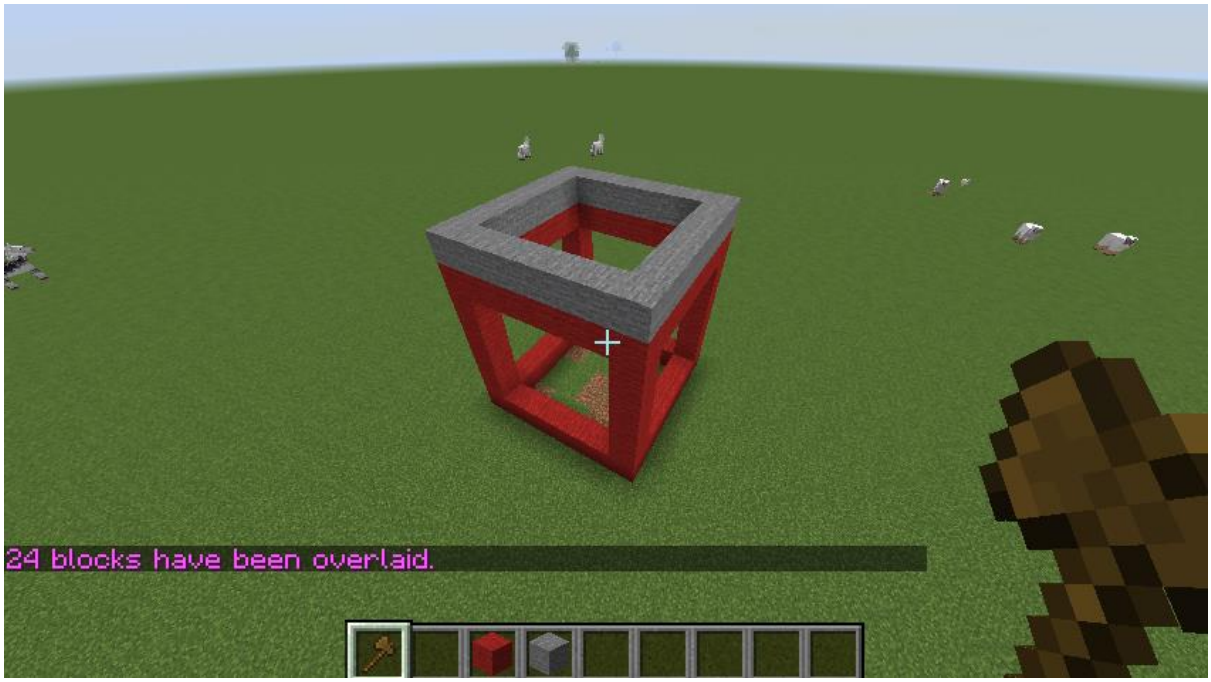
The inside is hollow here.



Overlay

//overlay will place the block selected on the highest vertical point of the region.

//overlay stone placed stone on the highest vertical points of the region.



Center

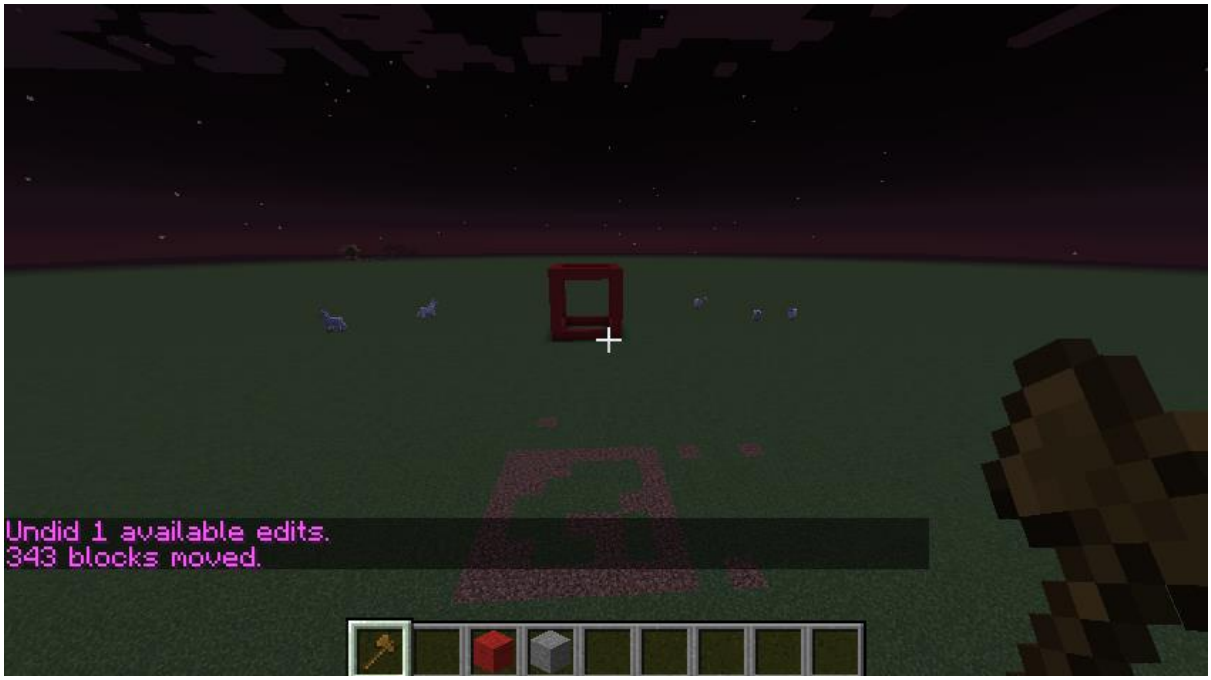
//center will place blocks at the center of the region, this can be a 1x1, 2x1, 2x2.

//center stone placed a 1x1 stone block in the center of the region.

Move

//move will move the region in the direction you are facing.

//move 25 has moved the region 25 blocks in the direction I am facing.



Stack

//stack will duplicate the region in the direction you are facing.

//stack 3 has duplicated the region 3 more times in the direction im facing.

Line

//line will draw a line from position 1 to position 2.

//line stone 1 has drawn a line from postion 1 to position 2 made of stone and with a size of 1.

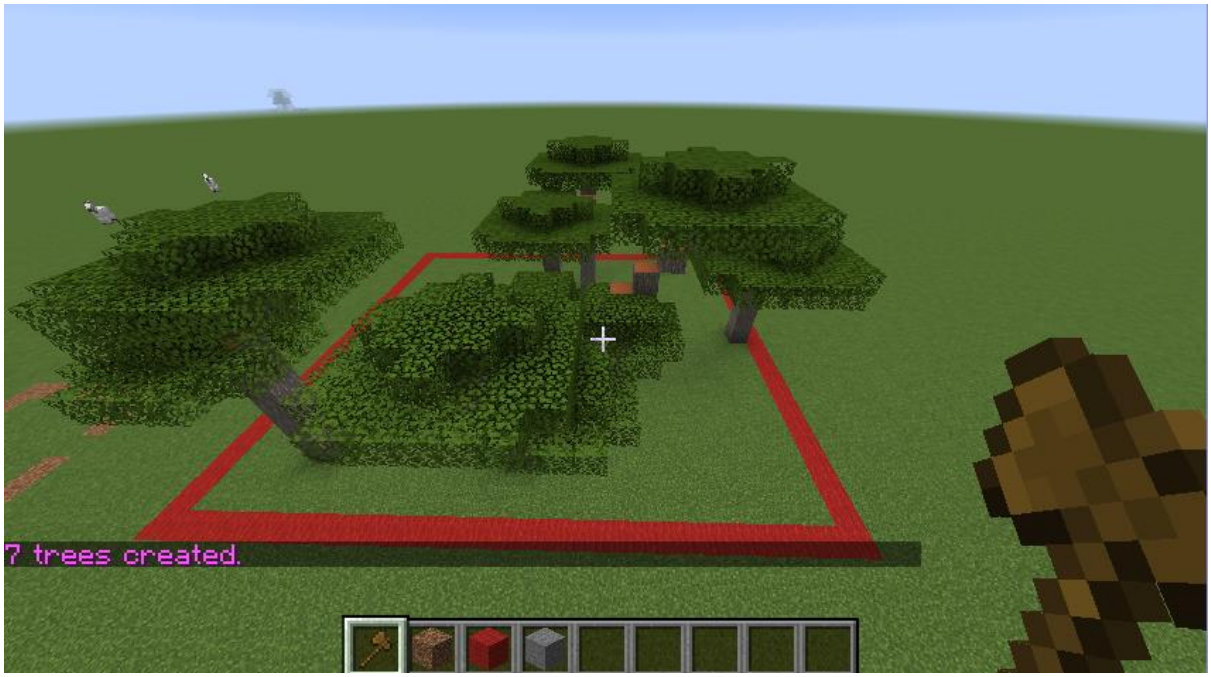
For the next 2 commands I will be using the following as the selected region.

Forest

//forest will create a forest type with a density.

//forest acacia 2 will create an acacia forest with a density of 2.

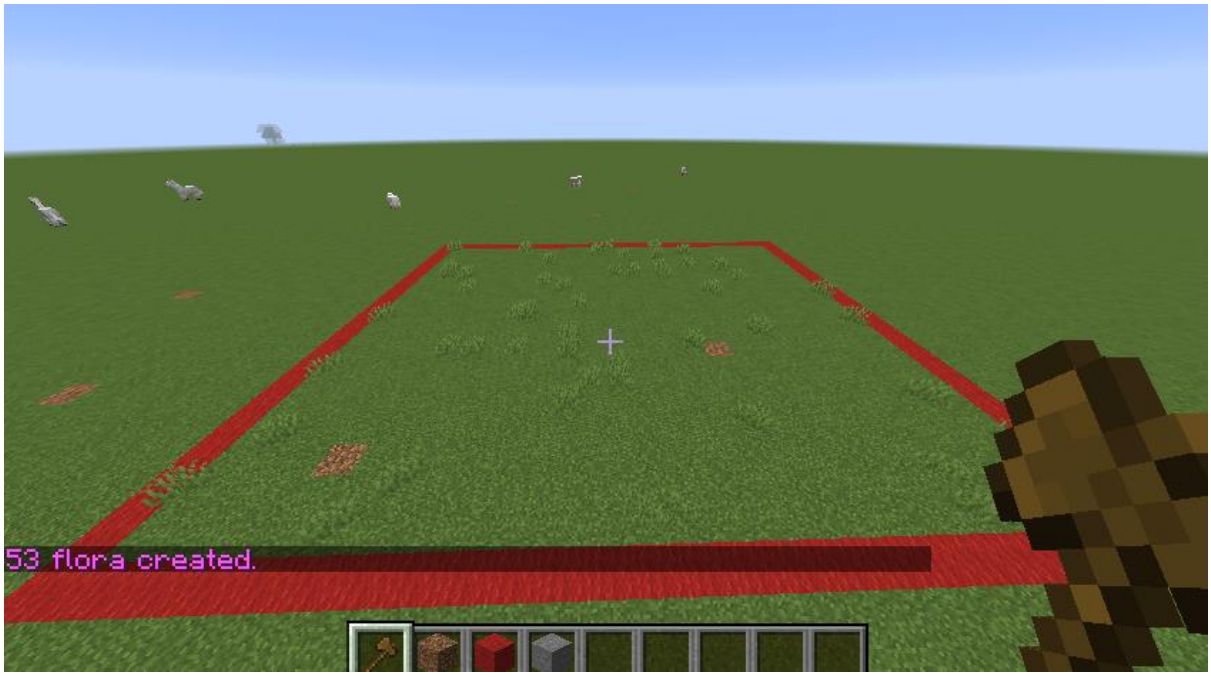
Be careful with this as you cannot undo it.



Flora

//flora will create flora with a specified density.

//flora 10 I have create flora in the region with a density of 10.



Clipboards

//copy and //cut will also store the players position to it when it is copied or cut.

Clear Clipboard

//clearclipboard will clear the current clipboard.

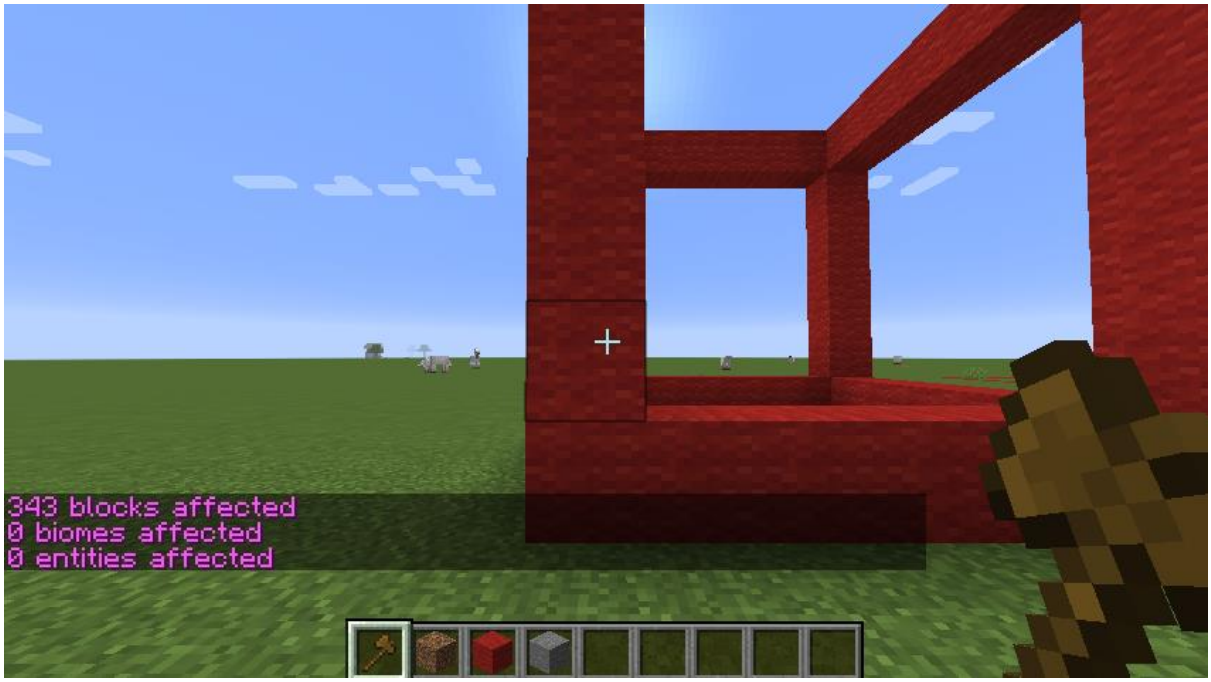
Cut

//cut will copy the selected region. It will also delete the current region.

Copy

//copy will copy the selected region.

Here I have stood 3 blocks out from the bottom left corner of the cube when I copy.

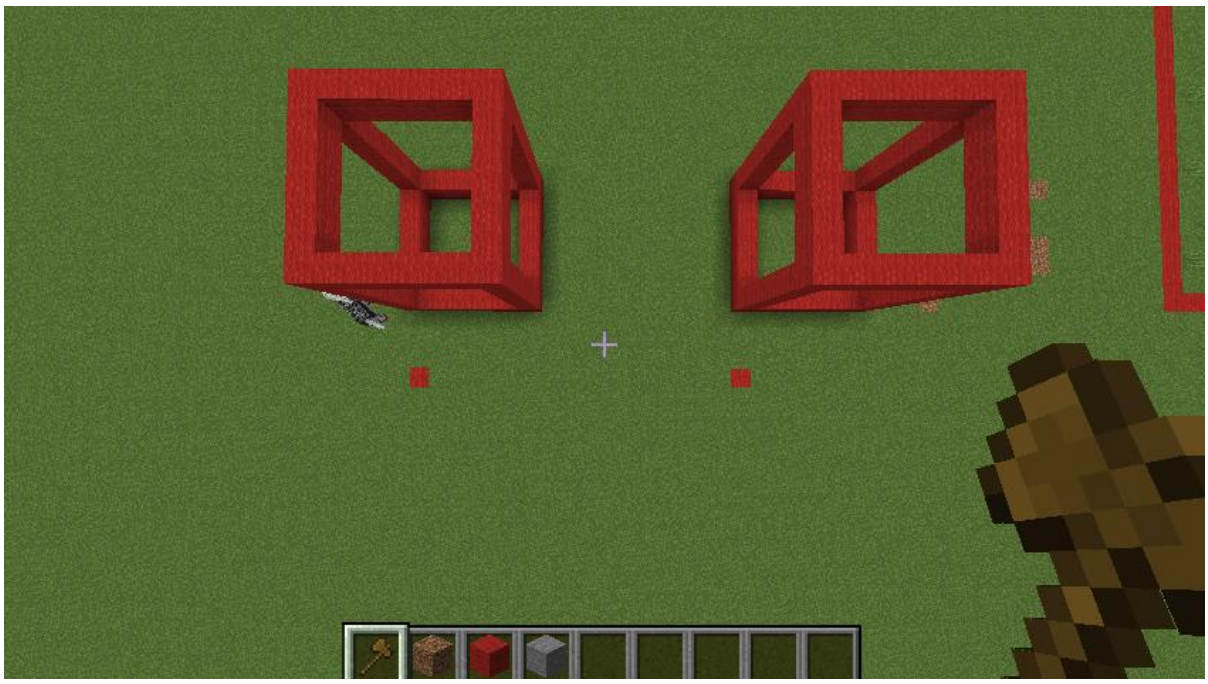


Paste

//paste will paste the selected region.

It has pasted the region the same way I copied it.

The single red block is where the player stood when coping and pasting. I was also facing the same direction.



Rotate

//rotate will rotate the region that has been copied. You will need to copy, rotate then paste.

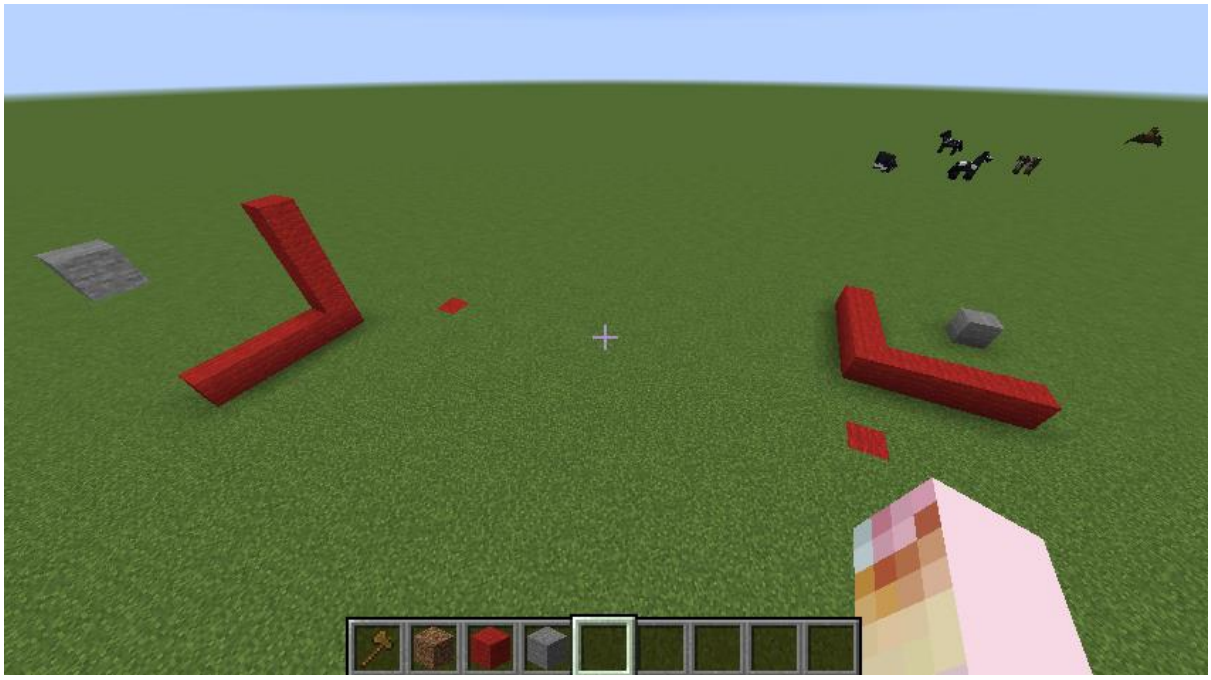
//rotate y x z y, x and z are the axis that the region can be rotated around.

//rotate 0 90 180 will rotate the copied region 0 degrees in y axis, 90 degrees in x axis and 180 degrees in z axis.

//copy I have copied this region to the clipboard.

//rotate 0 90 180 has been executed.

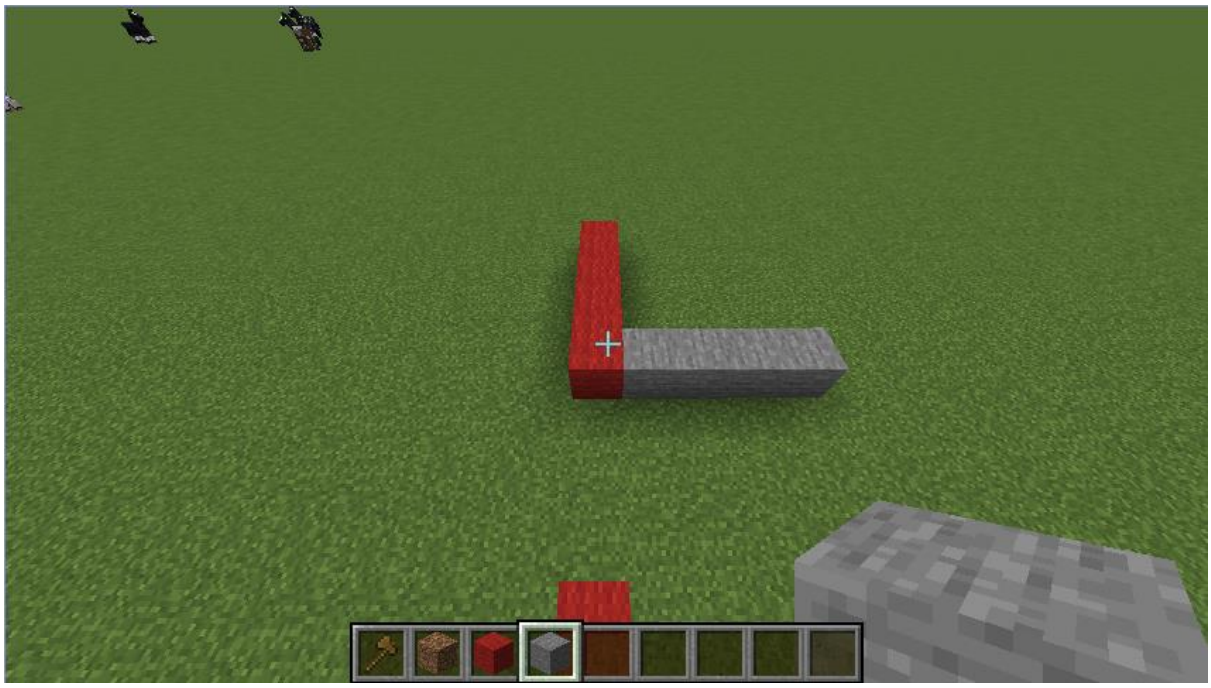
//paste the new rotated region has been pasted.



Rotating can be confusing at first, practice will help.

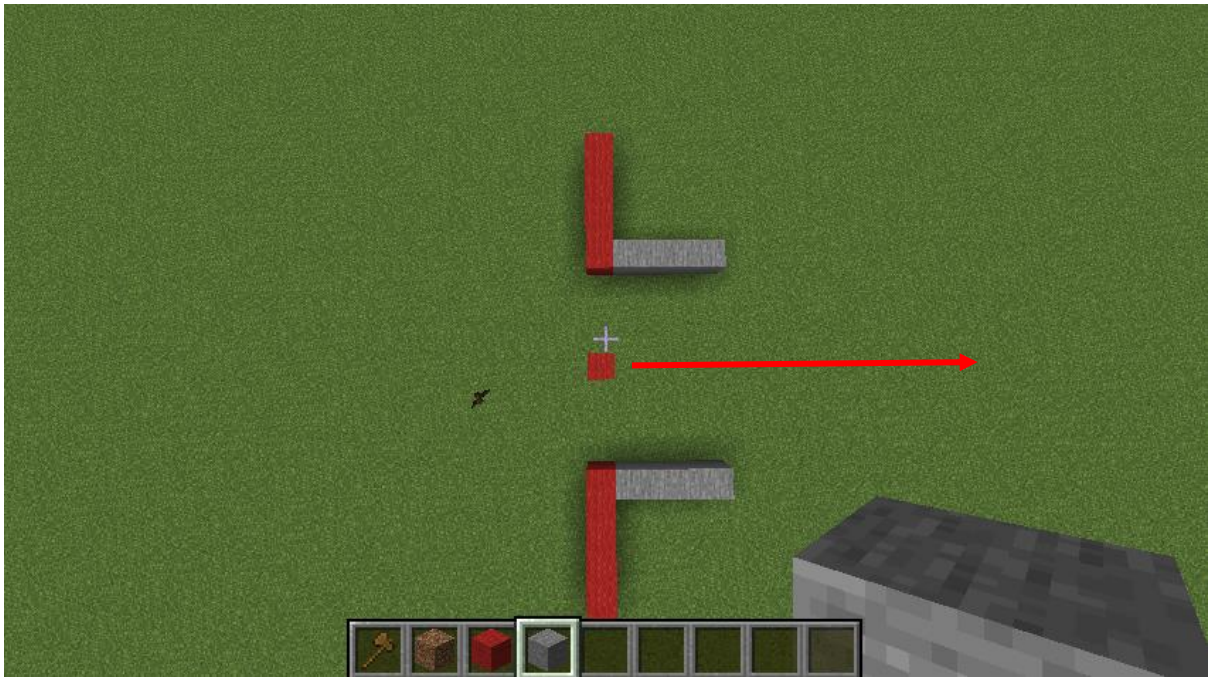
Flip

//flip will flip the region based on where the player is facing.



Original is above, flipped version is below.

I was facing the arrows direction when executing the command.



Schematics

We can use the schematics to save, delete, load and list schematic files.

//schematic or **//schem** are the same command.

Save

//schematic save cube will save the selected region to a file named cube.

Delete

//schematic delete cube will delete the schematic file with the name cube.

Load

//schematic load house will load the file named house.

List

//schematic list will display all saved schematics.

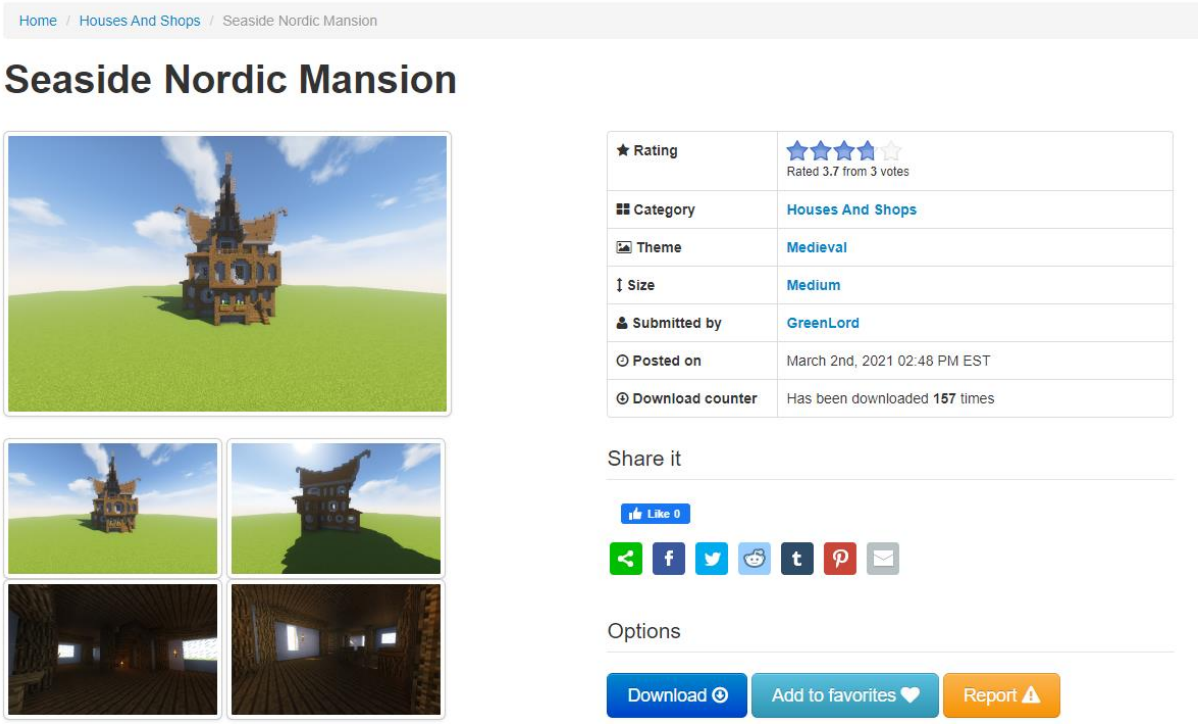
Once you have loaded a schematic you can paste it.

Downloading Schematics

We can also import creations from others, this site has many schematics you can download.

You will need to create an account to download schematics from the site.

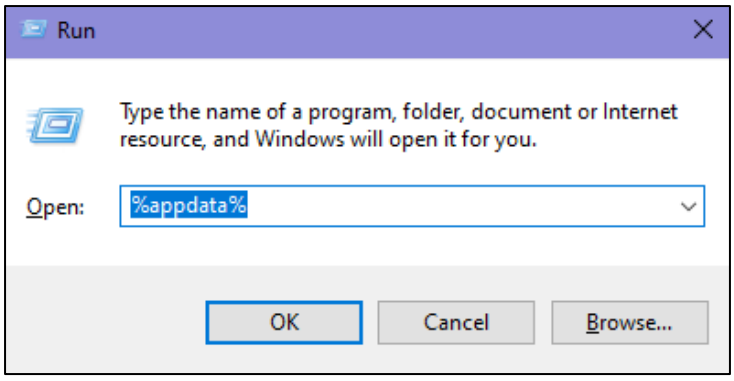
Once you have found a schematic you like, select download.



We now need to place this file in the correct location.

To do this press **Win + R**.

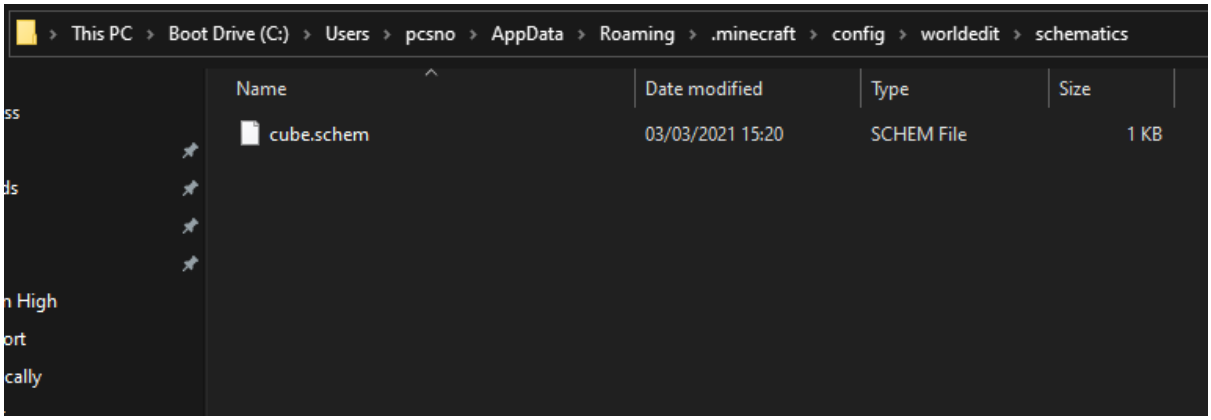
When the prompt appears enter **%appdata%** into it and select ok.



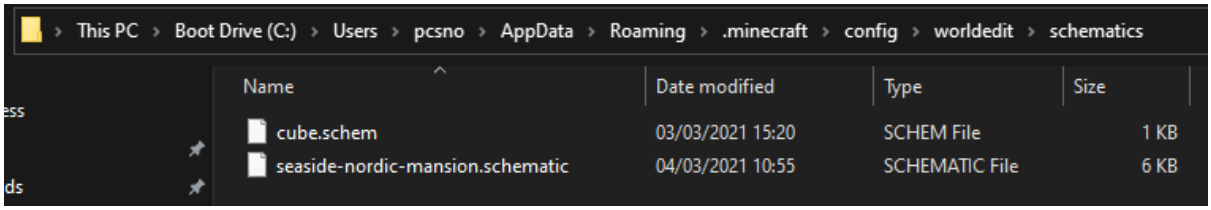
Now follow the path:

Roaming >> .minecraft >> config >> worldedit >> schematics

You should now be in this location.



Put the schematic file you downloaded in here.



I can now import this into my world.

//schematic list shows the file is in the right place.

//schematic load seaside-nordic-mansion has loaded the schematic and it can now be pasted.

//paste I now have the building.

Generation

Toggleplace

//toggleplace will change whether actions will affect the surrounding player, or the region selected.

Cylinder

//hcyl will create a hollow cylinder around the players feet.

//cyl will create a full cylinder around the players feet.

//hcyl stone 5 10 will create a hollow stone cylinder with a radius of 5 and height of 10.

//cyl stone 5 10 will create a full cylinder of stone with a radius of 5 and height of 10.

You may have to dig your way out of it if you don't use toggleplace.

Sphere

//sphere will create a sphere around the player's position.

//hsphere will create a hollow sphere around the player's position.

//hsphere stone 5 will create a hollow sphere of stone with a radius of 5.

//sphere stone 5 will create a sphere of stone with a radius of 5.

Pyramid

//pyramid will create a pyramid around the player's location.

//hpyramid will create a hollow pyramid around the player's location.

//pyramid sand_stone 5 will create a pyramid 5 high made of sandstone.

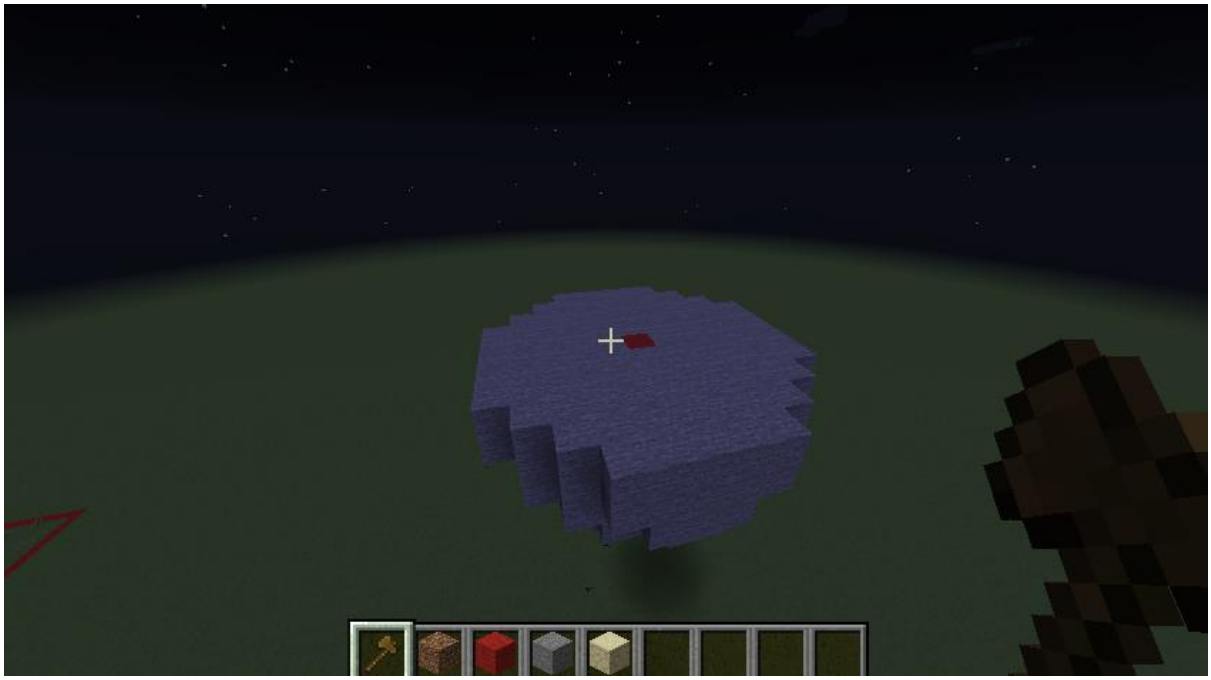
//hpyramid sand_stone 5 will create a hollow pyramid 5 high made of sandstone.

Utilities

Fill

//fill will create a semi-sphere bellow the players feet.

//fill stone 5 3 will create a semi-sphere of stone with a radius of 5 and depth of 3.



Drain

//drain will remove water and lava that touches the player based on radius.

//drain 5 will remove water and lava around the player in a radius of 5.

Butcher

//butcher removes mob in a nearby radius.

//butcher 100 will remove all mobs with a 100-block radius of the player.

General Tools

If we put any tool into our hands, we can bind special actions to it.

Tree

/tree will bind the tree tool to the tool that is currently in your hand.

/tree will allow us to right click blocks with the diamond hoe, and trees should be created.

There are a few other general tools, but I will not be covering all of them. Check the link at the start of the World Edit section to view them.

Brushes

Brushes are used to paint in 3d.

To get a brush we need to bind it to a tool, as shown in the general tools section.

Brush Sphere

/brush sphere stone 5 this will create a spherical brush with the material stone and a radius of 5.

I can right click to place as many as I want.

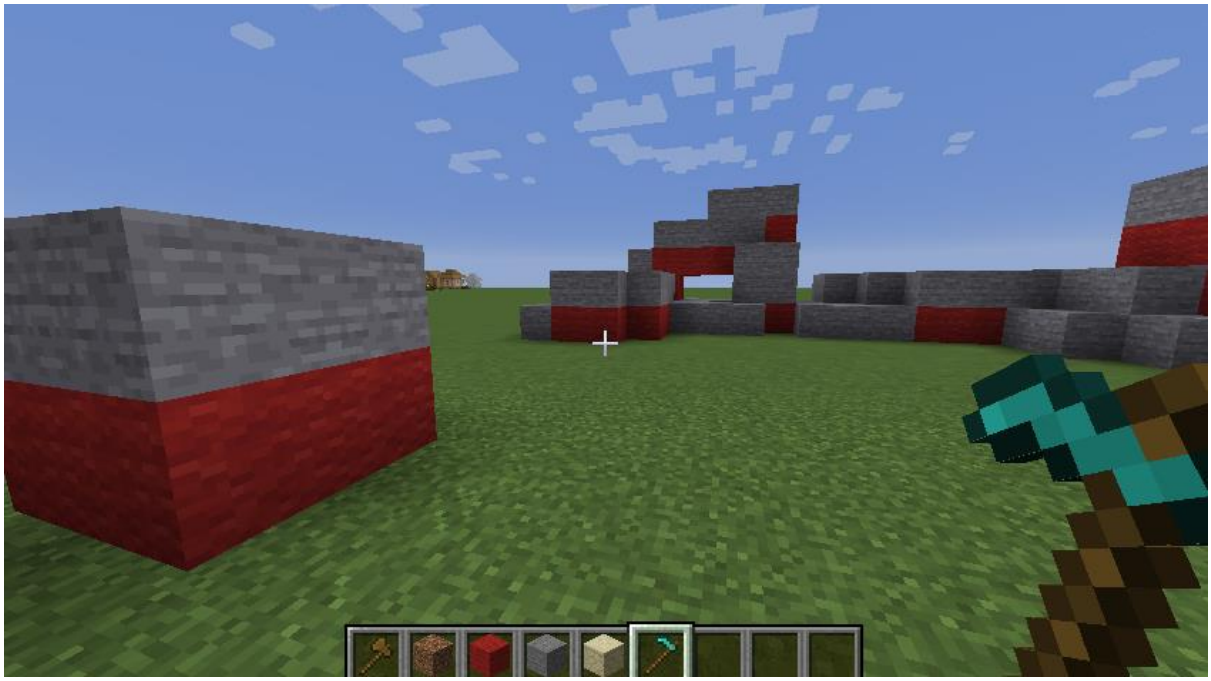
Brush Cylinder

/brush cylinder oak_wood 3 5 will create a cylindrical brush with the material oak wood and a radius of 3 and height of 5.

Brush Clipboard

/brush clipboard will let you paint with whatever is saved in the clipboard.

//copy has copied this 2x2 cube of red wool and stone. I can now use this for my brush.



Brush Gravity

/brush gravity will push floating blocks down.

Changing Size

/size will change the size of the brush.

/size 2 will change the brush to have a radius of 2.

Will not work with custom brushes used with clipboard.

Changing Material

/material will change the material of the brush.

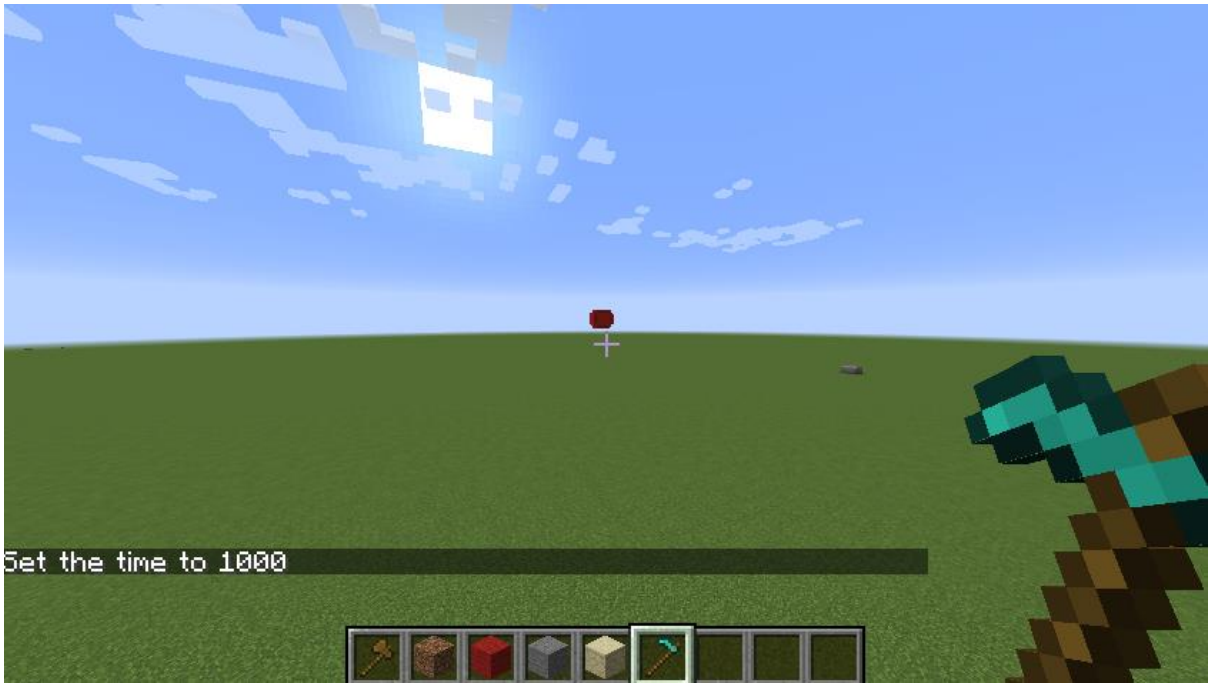
/material white_wool will change the material of the brush to white wool.

Will not work with custom brushes used with clipboard.

Changing Range

/brush range will change the range of your brush / how far you can place blocks.

/brush range 100 has the following effect.



Create Mask

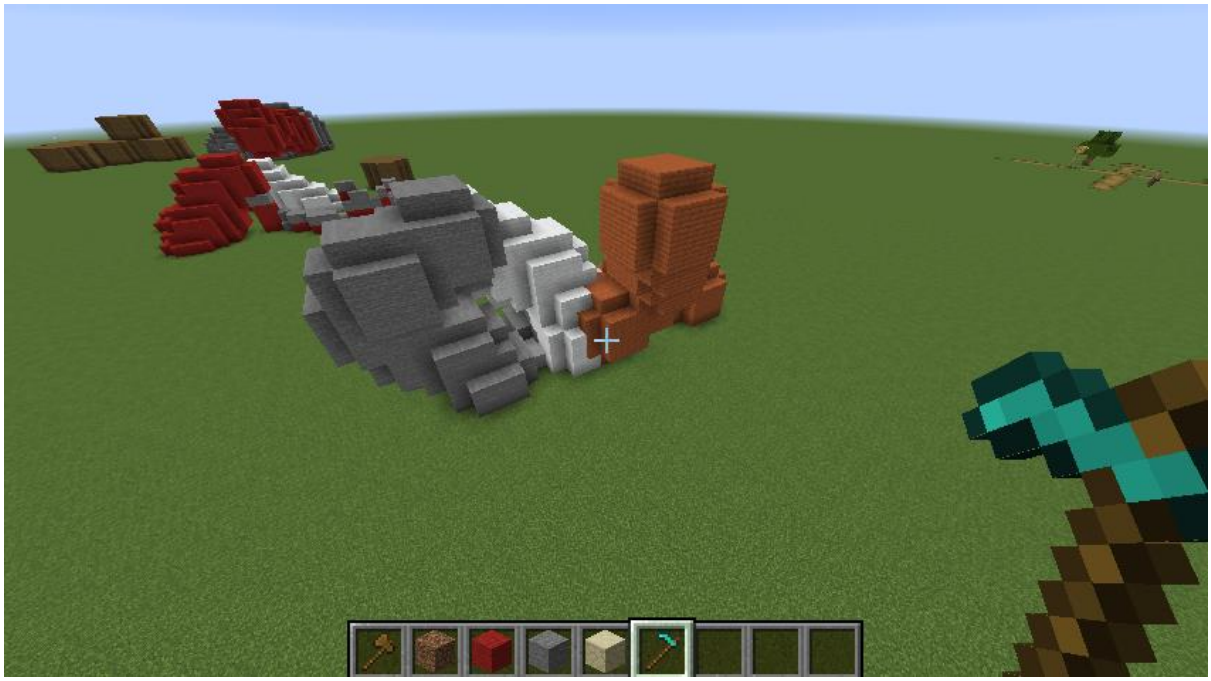
/mask will make your brush only effect the specified block.

/mask red_wool will only let you paint on red wool.

Before:

After:

The white wool brush only effects the red wool.

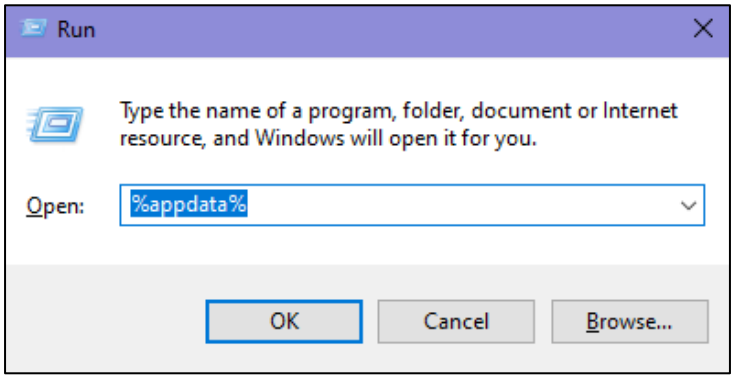


Backing Up Worlds

To backup worlds we need to find where they are saved.

To do this press **Win + R**.

When the prompt appears enter **%appdata%** into it and select ok.

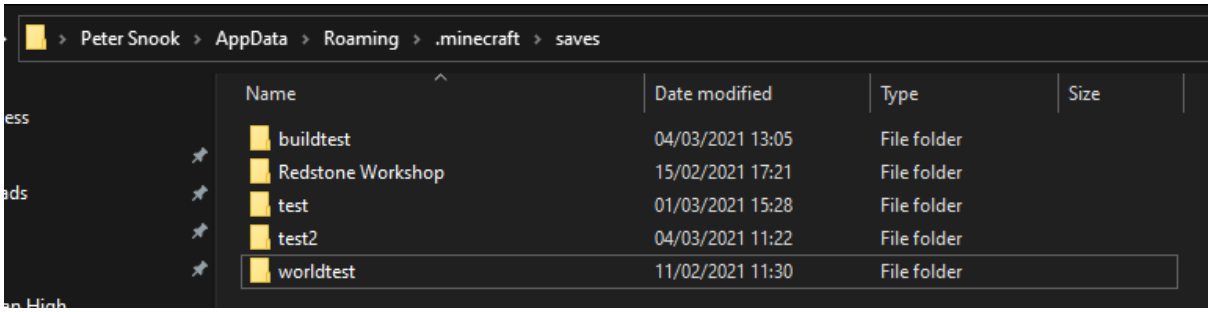


Now follow the path:

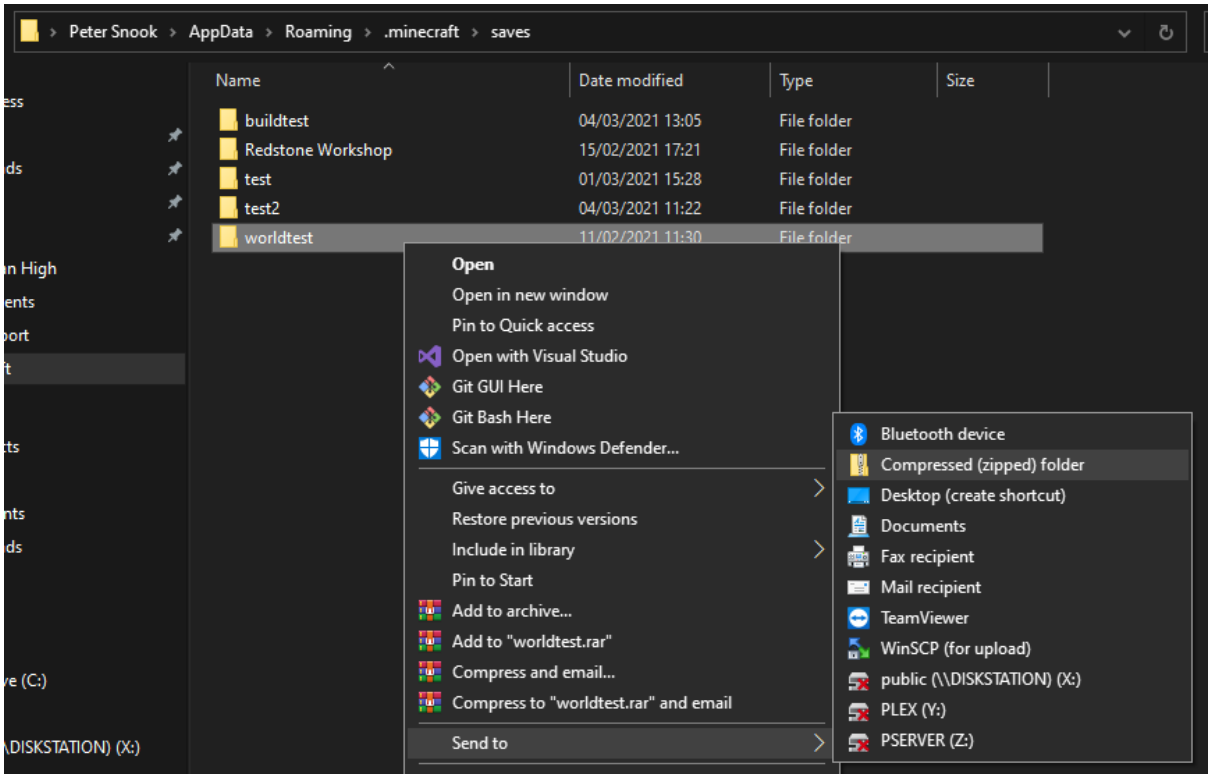
Roaming >> .minecraft >> saves

You should now be in this location.

The files here are your saved worlds.



To back the world up, Right click the world you want to backup, send to and select compressed file.



Now place this zip file in somewhere safe.

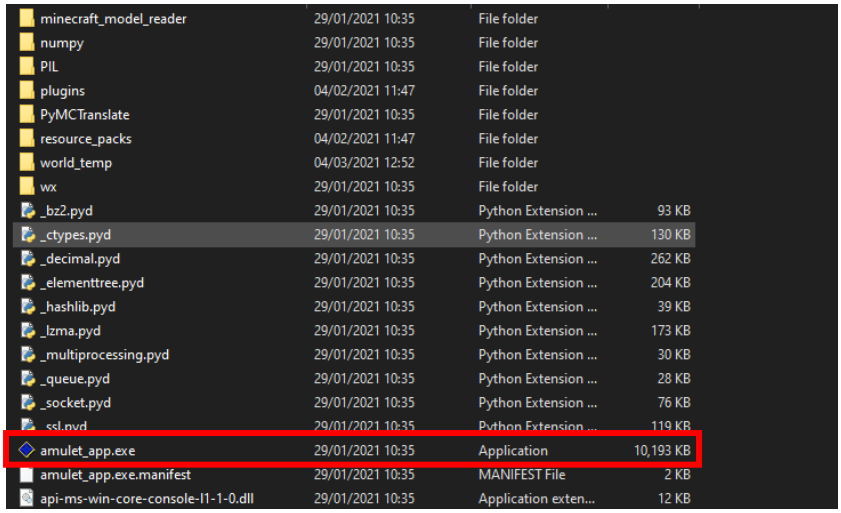
Converting Java to Bedrock

Once you have created your world in Minecraft Java Edition, we need to use the Amulet Editor to convert it to Minecraft Education Edition.

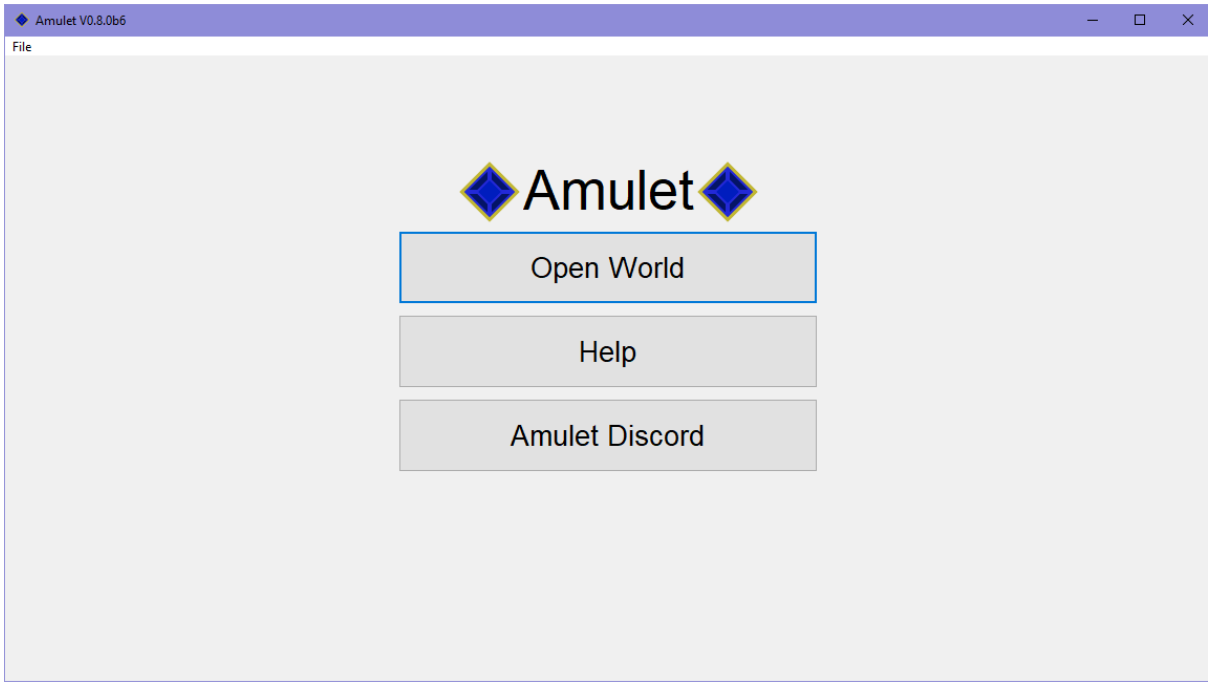
You should have downloaded the Amulet Editor earlier.

Go here to download and install.

The file should contain lots of files, the only one we need to select is **amulet_app.exe** to run the program.

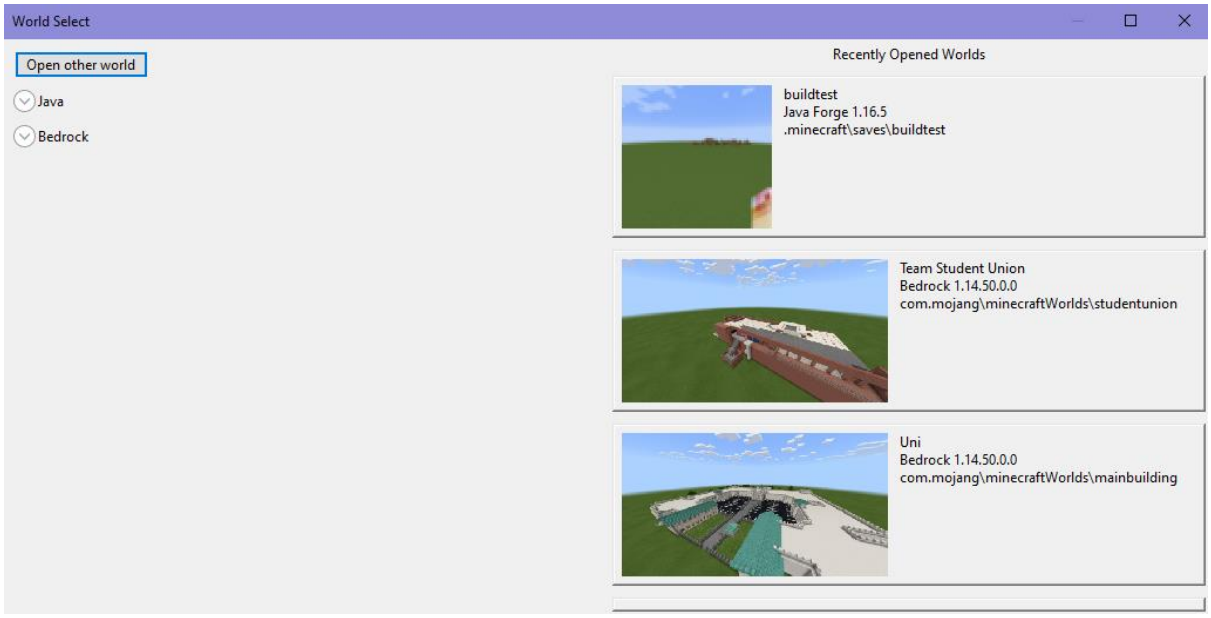


When opening the application, you should see the following.



If we select **open world**, you should get this page.

You will not have any worlds appear here as you have not used it before.



We need to first find and select the world we made in the Java edition.

To do this select open other world in the top left.

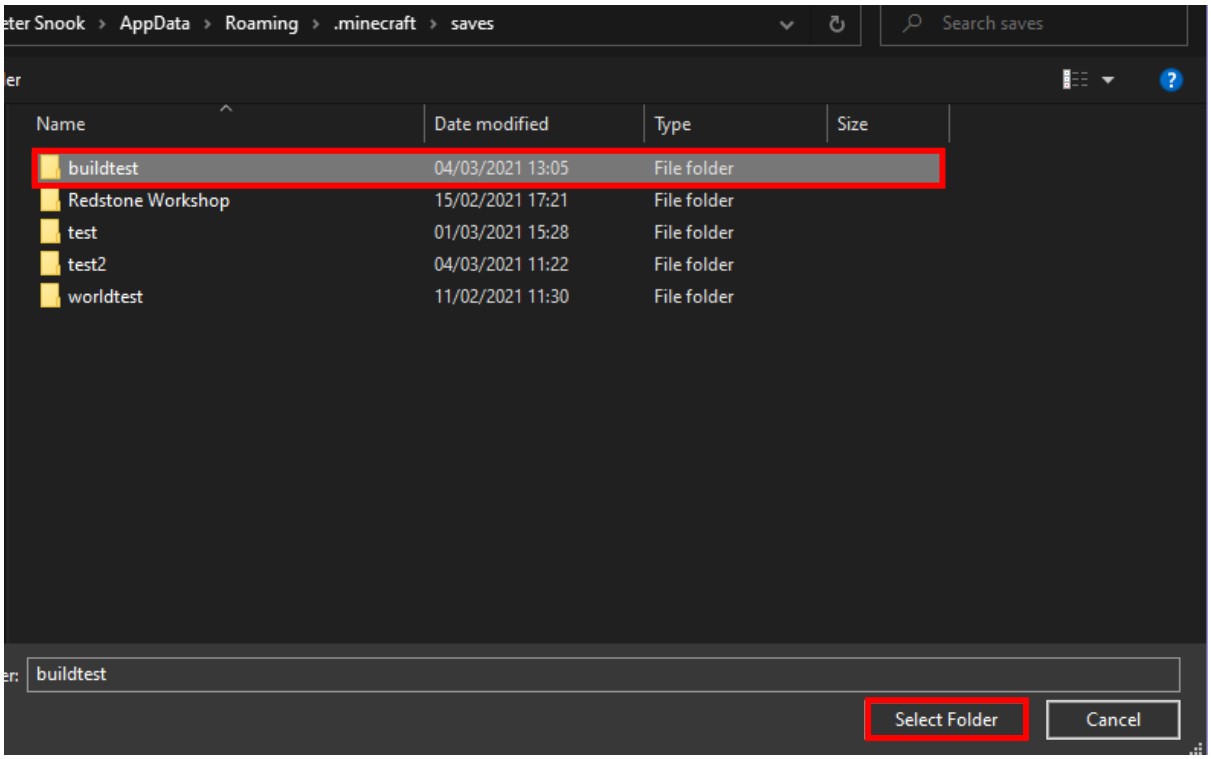
This will open a file explorer and we can now navigate to our minecraft saves location.

To get into the **%appdata%** folder type it into the following place.

We can now go into the saves folder.

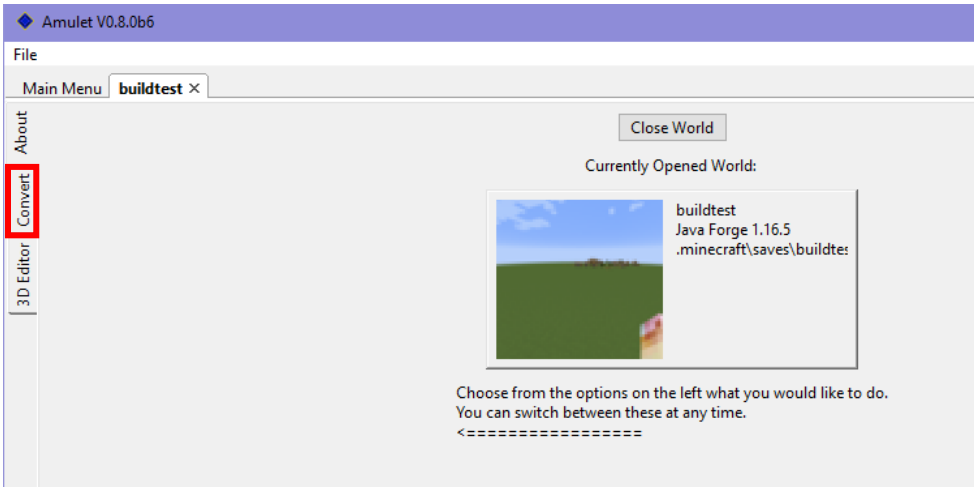
%appdata% > Roaming > .minecraft > saves

Highlight your world and click select folder.



It should open your world in the editor.

From here select convert on the left tab.

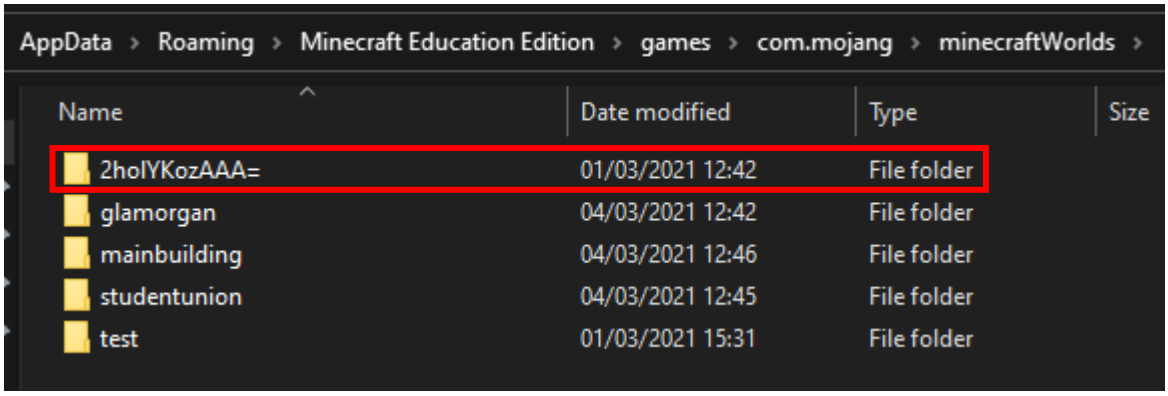


We now need to select an output world, to do this go into Minecraft Education Edition and create a new superflat world. Then exit out.

The next step is to make our life easier when selecting the output world. Minecraft Education Edition will name your saves random numbers and letters. We need to change this.

%appdata% > Roaming > Minecraft Education Edition > games > com.mojang > minecraftWorlds

This is what your saves should look like.



To find the save you just made, open each file, and then open an image called **world_icon.jpeg** this should show you what world it is.

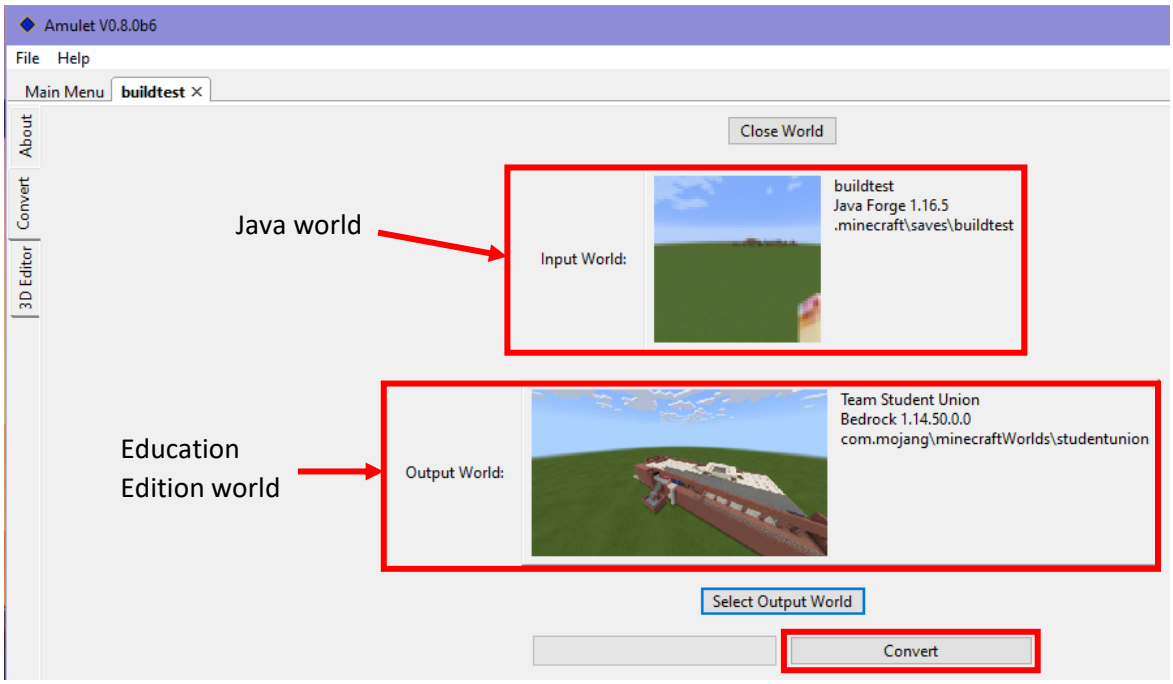
You can now rename that folder to something more suitable.

Go back to the Amulet Editor and click **select output world,** this will take you to the world selection page. Now select **open other world** and navigate to your Minecraft Education Edition save location.

%appdata% > Roaming > Minecraft Education Edition > games > com.mojang > minecraftWorlds

Here select the superflat world you renamed.

After selected we can now convert.



Converting should only take a few seconds.

Once done we can close the Amulet Editor, open Minecraft Education Edition, and select the superflat world you created.

It should now be the world you created in Java Edition.

Converting Bedrock to Java

To convert Minecraft Education Edition to Java Edition, follow the Java to Bedrock tutorial but do it the other way around.

Open the Minecraft Education Edition map first.

Create a superflat world in Java Edition.

Select the superflat world second in the Amulet Editor.

Then convert.

Command Blocks

Java and Bedrock Edition commands differ slightly, all commands in this tutorial are for **Bedrock Edition only.**

In Minecraft there are many different commands available to you. Commands can be run either directly through chat or command blocks.

Command blocks simply let you assign a command to a block. To activate the command a redstone signal needs to be sent to it, this can be done with a button or other means.

There are 3 different types of command blocks.

To get a command block we need to use the give command.

/give @s command_block.

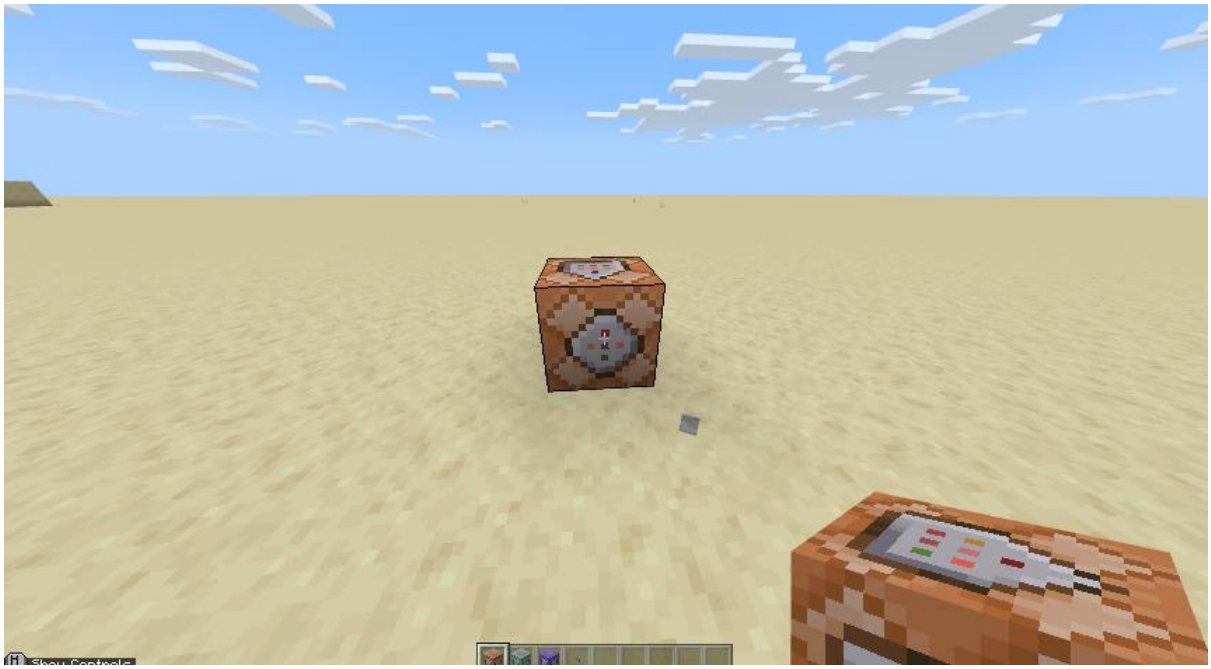
/give @s chain_command_block.

/give @s repeating_command_block.

These commands are covered in more depth in the commands section.

Command Block

This is the default command block, only the single block will activate when given a redstone signal.



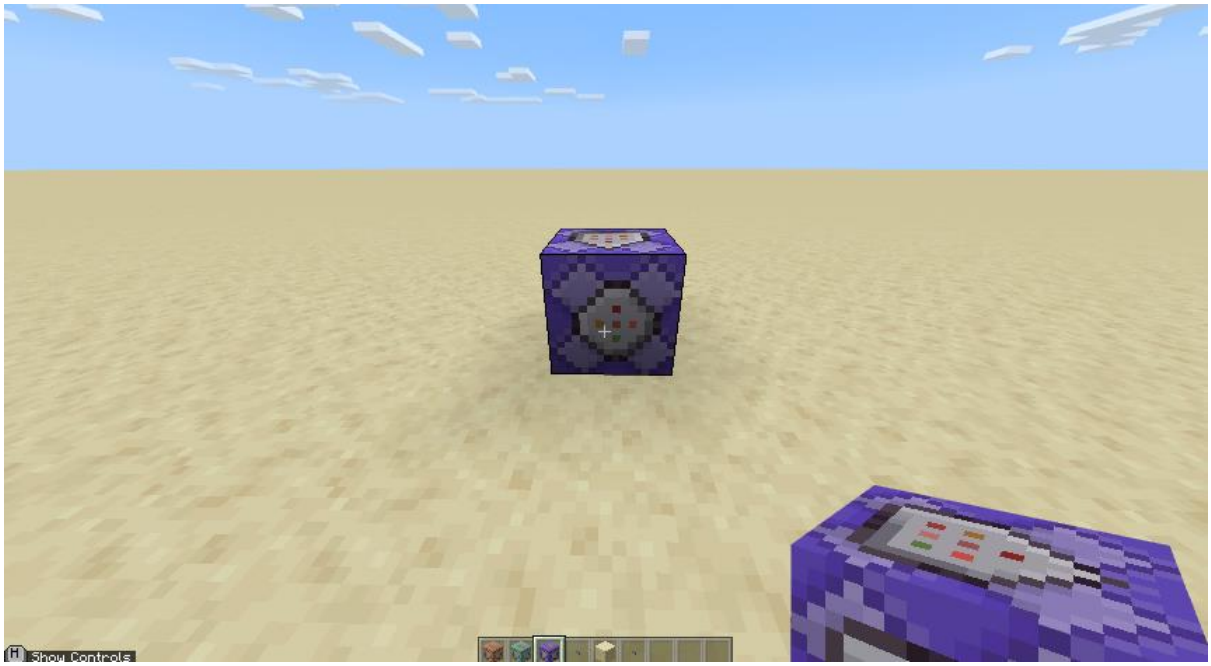
Chain Command Block

Chain command blocks are slightly different from the default. If you place them next to each other and activate the first one, it will then activate the next one it is pointing to.

The following will activate from left to right.

Repeating Command Block

Repeating command blocks are the same as the default, but the command will be run every x number of ticks in the game server.



Commands

I will only be covering a few useful commands. The full list of commands can be found here.

Selecting Player

When running commands, many will need you to select the player it effects.

@a effects all players.

@e effects all entities, includes animals and dropped items.

@p effects the closest player.

@r effects a random player.

@s will only affect yourself.

If a command requires coordinates x, y and z, we can use ~ ~ ~ for our current location.

If you would like some example commands visit this website.

Always Day

/alwaysday <true / false> will set the games time to always be day **(if true).**

Clear

/clear <player> will clear the player's inventory.

Difficulty

/difficulty <int> will change the games difficulty.

0 = peaceful, 1 = easy, 2 = normal, 3 = hard.

Effects

/effect <player> <effect> <time> <amplifier> <hide particles> will cause the player to gain the selected effects.

/effect @a absorption 10 10 true will give all players the status effect absorption 10 for 10 seconds and the particle effects are hidden.

Game Mode

/gamemode <gamemode> <player> will change the gamemode for the player selected. Game mode can be put to creative, survival or adventure.

Play Sound

/playsound <sound> <player> <position> <volume> <pitch> <minimum volume>

/playsound beacon.power @s ~ ~ ~ 10 10 10 will play the beacon power sound at a volume and pitch of 10.

Say

/say <message> will show a message in chat.

Set Block

/setblock <position x y z> <block name> will place the selected block at the coordinates x y z.

Set World Spawn

/setworldspawn <position x y z> will set where players spawn when loading in.

Summon

/summon <entity name> <position x y z> will summon the chosen mob at the location x y z.

You can use this site to create some custom summon commands.

Tell

/tell <player > <message> will send a message only to the player specified.

Tellraw

/tellraw <player > <message> will allow you to send messages with colours and font effects.

You can use this site to easily create commands.

Testfor

When using a testfor command, use a repeating command block as it will need to keep checking the location.

/testfor <player> [NBT tag] will check if there any players in a certain radius.

/testfor @a[r=10] will check if any player is within 10 blocks.

/testfor @p {XpLevel:20} will check if the nearest player has an experience level of 20.

Testfor Block

/testforblock <position x, y, z> <block name> will check if the specific block is in the location x, y, z.

/testforblock 106 56 33 Sand will check if there is sand at that location.

Time

/time set <int / string> will set the time of day.

/time set 1000 will set it to daytime.

/time set day will also set it to daytime.

A full minecraft day is 24000 ticks, day starts at 1000 and night starts at 13000.

Toggledownfall

/toggledownfall if it rains it will stop and vice versa .

Tp

/tp <player> <destination x, y, z> will teleport the selected player to a location.