

Vault Hunters Server Hosting Guide

By Unieveth

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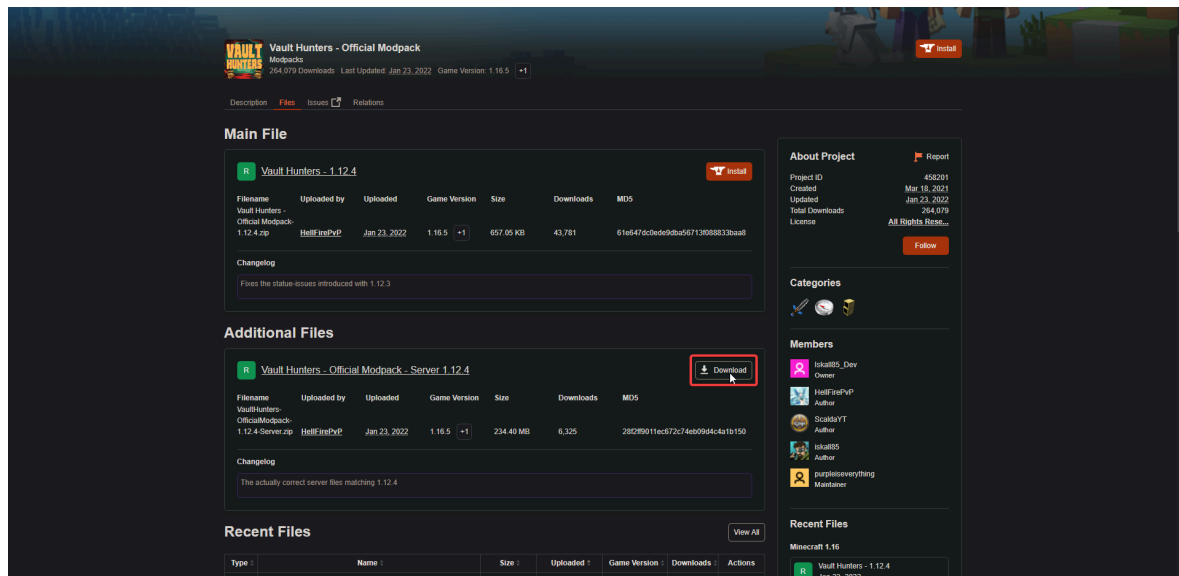
[Dynamic Render Distance.](#)

Hosting Provider

This is the easiest option in my opinion since the provider you use will take care of server upkeep and networking configurations. For this guide I'll be using [Bloom.Host](#) but you *should* be able to use this guide on other providers. For people who want to setup their own VPS/Dedicated server refer to this [section](#).

Modpack Download

The first thing to do is grab the modpack from curse forge. The modpack can be found [here](#). Be sure to download the **Server** version under the "Additional Files" heading pictured below.



[\[Larger Image\]](#)

Server Setup

Now here is where you need to get your hosting account setup. First head to <https://bloom.host/minecraft/> I personally use the "Performance" plan with a "Ryzen 9 3950x" with 12 GB of RAM. Any location will work. For a UI reference check the attached image. During checkout if the option is present feel free to select "Java - Forge" for the server type but will not be using the default install.

1. PICK YOUR HOSTING LEVEL

Essentials

Performance

Performance+

CPU: Ryzen 9 3900X*

vs

CPU: Ryzen 9 3950X*

vs

CPU: Ryzen 9 5950X

(Shared)

(Dedicated)

(Dedicated)

Not sure which to choose?

[Click here for a comparison.](#)

2. PICK YOUR LOCATION



Ashburn, Virginia

In Stock



Dallas, Texas

Restocking - [join the waitlist!](#)



Los Angeles, California

In Stock



Falkenstein, Germany

In Stock



Not sure which location to choose?

[Do a ping test here](#)



3. PICK SERVER SPECS



8 GB RAM **\$18/mo.**

2 Dedicated Logical Cores
Ryzen 9 3900/3950X
120GB NVMe SSD Storage
Create 3 Additional Servers



12 GB RAM **\$27/mo.**

3 Dedicated Logical Cores
Ryzen 9 3900/3950X
180GB NVMe SSD Storage
Create 4 Additional Servers



16 GB RAM **\$36/mo.**

4 Dedicated Logical Cores



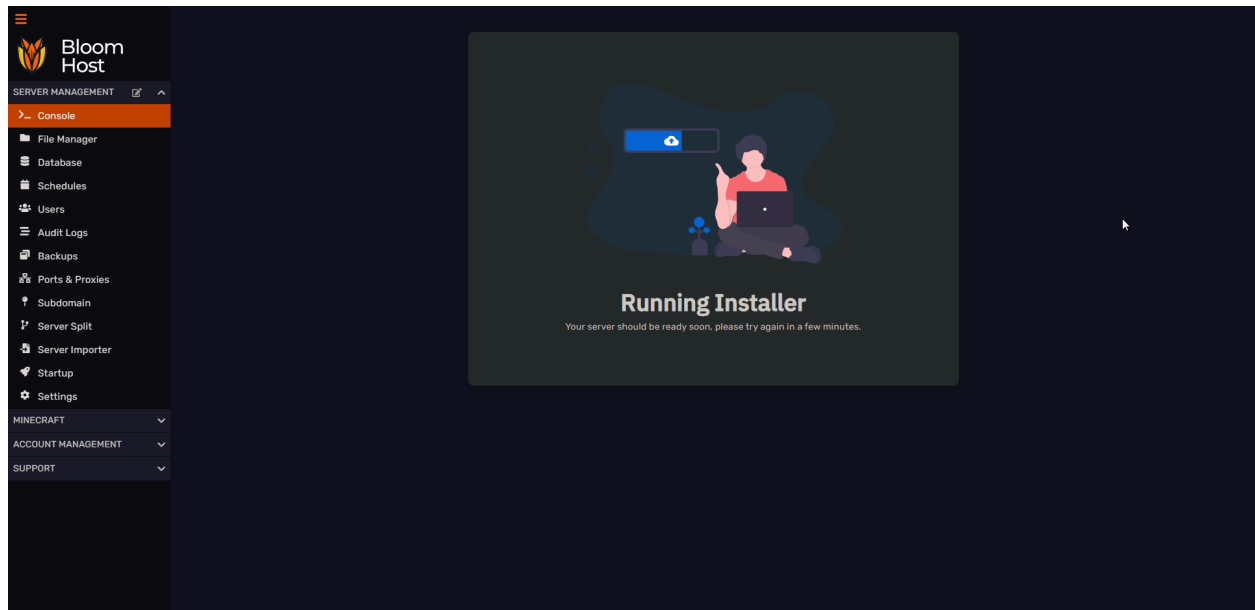
20 GB RAM **\$45/mo.**

5 Dedicated Logical Cores

[\[Larger Image\]](#)

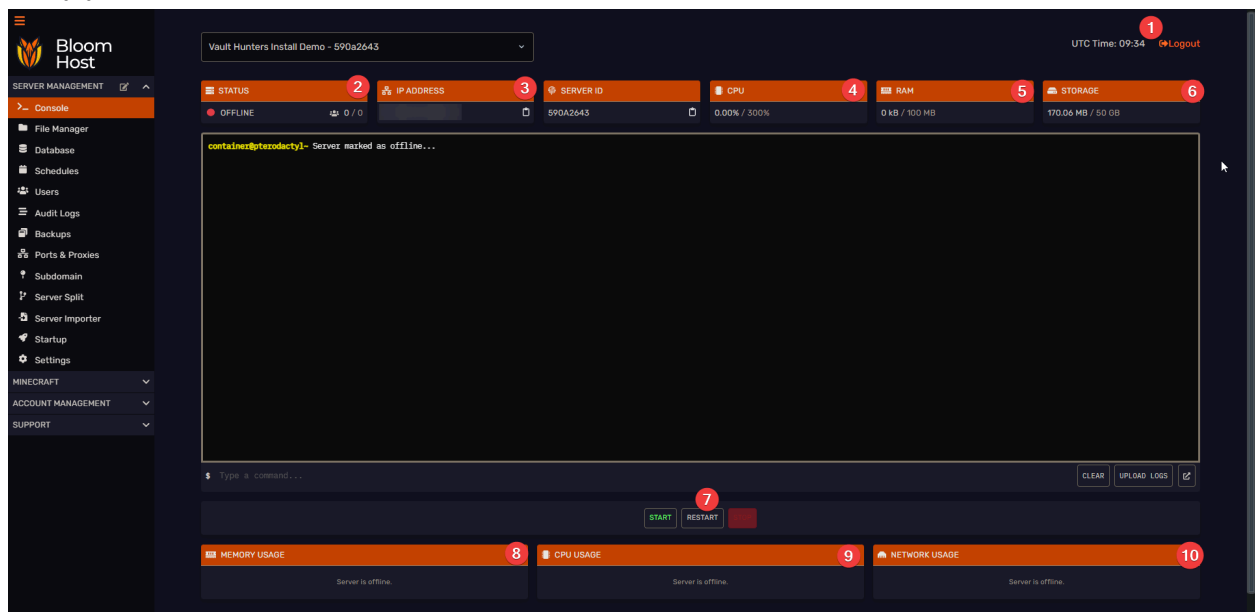
Server Initialization and Panel Overview

When you first login you may be greeted with this screen



[\[Larger Image\]](#)

Do not worry though. This takes about 3-5 minutes in my experience. When your server is ready you will be presented with a console.



[\[Larger Image\]](#)

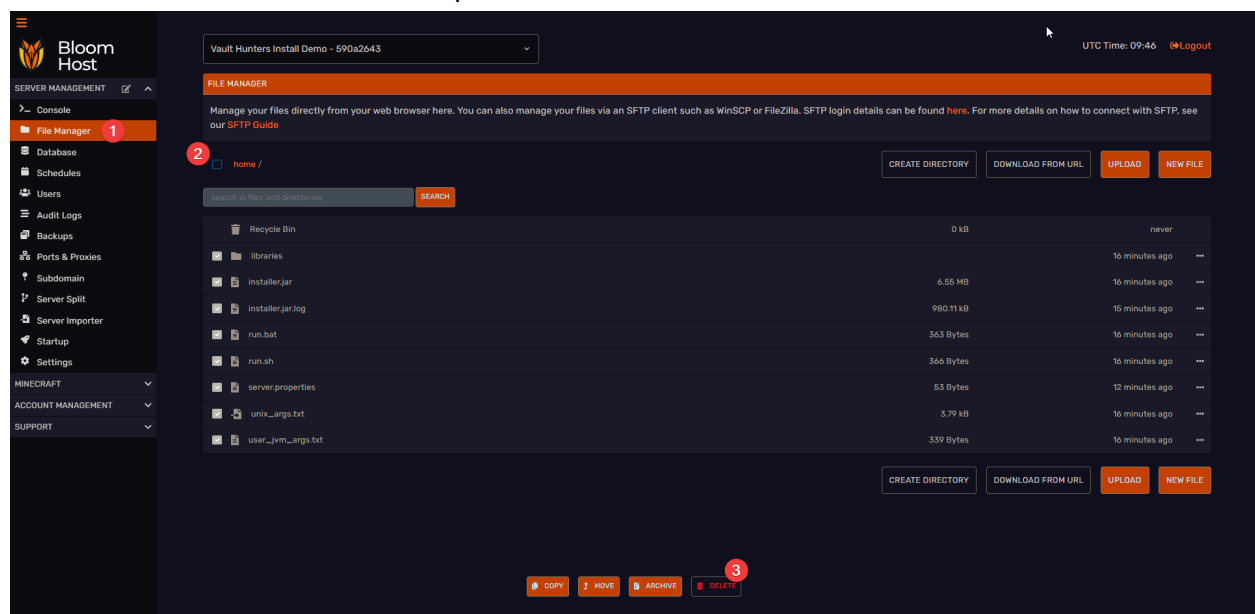
Let's do a quick rundown of the console UI so you know what's up. The numbers below correspond to the numbers in the image above.

1. Server Time - This is useful when making schedules for automatic restarts at night.
2. Server Status - This will give you a quick glance if the server is up or down along with the player count.

3. Server IP Address - This is what you give you your players to connect to the server.
4. CPU Usage Percentage - This is your CPU usage limit. Each 100% is a core. In my server I have three cores. If your CPU is maxed, you may experience performance issues. A graph can be seen on 8
5. RAM Usage - Same as the CPU limit above. (Ignore the ram limit in the image. This is a test server) A graph can be seen on 9
6. Storage Usage - You should not have to worry about this as bloom.host gives more than enough storage for the modpack.
7. Server Control Buttons - Self-explanatory. The stop button will turn into a kill button if the server fails to stop.

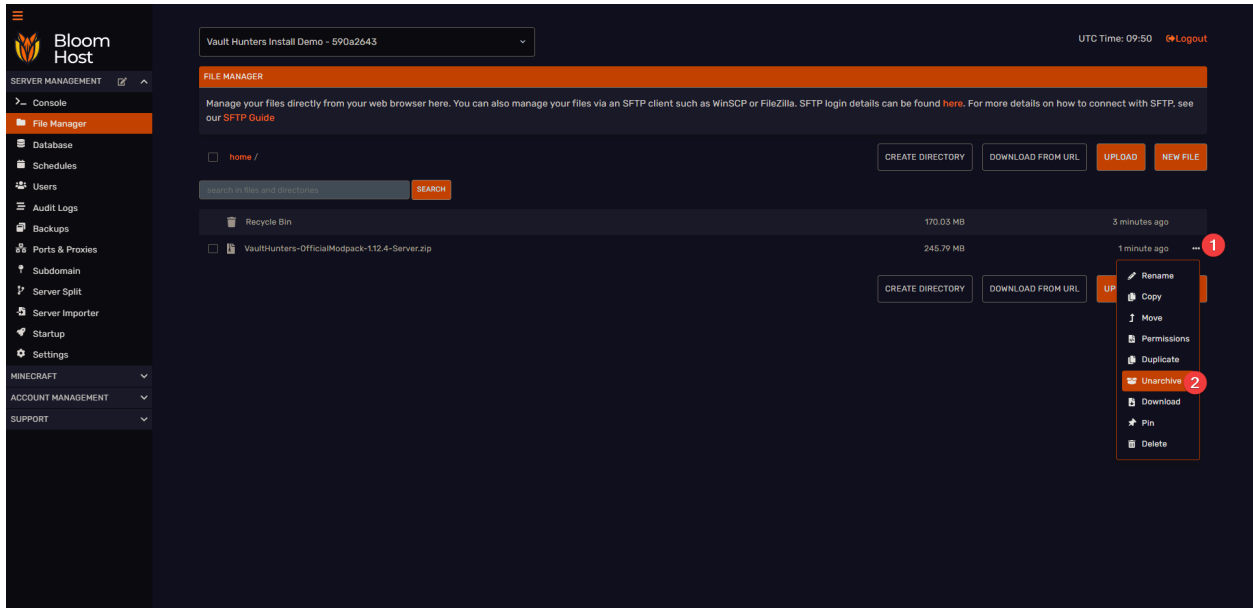
Modpack Uploading

Let's upload the modpack now. First let's delete all the existing files. Go to the "File Manager" located in the left sidebar on the panel. Next select the checkbox next to "home /" at the top of the file manager. After selecting the files select delete at the bottom of the panel. Then press "Yes, Delete Files" to confirm the operation.



[\[Larger Image\]](#)

Now press upload at the top of the file manager and select the ZIP file you download earlier in this guide. Steps on how download can be found [here](#). Once uploaded Press the 3 dots next to the file and select "Unarchive"



[\[Larger Image\]](#)

Once complete you can select the ZIP and delete it using the same method you used to delete the other files. Finally let's copy the name of our server JAR. Be sure to get the JAR that has forge at the start. Mine looks like "forge-1.16.5-36.2.23.jar" but yours may be different in the future. Save this information for later.

Log4J Server Fix

Now let's upload the Log4J fix. If you don't know what this means I would recommend [this](#) for a rundown on this exploit. First let's create the file needed for this fix to function. Press "New File" at the top of the file manager. Now copy the contents of [this webpage](#) and paste it into this file. The pasted text should look like this

```

Performance Minecraft - 12GB
home / Actions
1 <Configuration status="warn">
2 <appenders>
3 <console name="stdout" target="system_out">
4 <PatternLayout pattern="%d{HH:mm:ss} [%d/level]: %msg%n%n">
5 </Console>
6 <Queue name="ServerOutConsole">
7 <PatternLayout pattern="%d{HH:mm:ss} %level: %msg%n%n">
8 </Queue>
9 <rollingRandomAccessFile name="file" fileName="logs/latest.log" filePattern="logs/%d{yyyy-MM-dd}-%i.log.gz">
10 <PatternLayout pattern="%d{HH:mm:ss} [%d/level]: %msg%n%n">
11 </rollingRandomAccessFile>
12 <timeBasedTriggeringPolicy/>
13 <onStartupTriggeringPolicy/>
14 </Policies>
15 <rollingRandomAccessFile>
16 </Append>
17 <loggers>
18 <root level="info">
19 <filters>
20 <markerFilter marker="NETWORK_PACKETS" onmatch="DENY" onmismatch="NEUTRAL"/>
21 </filters>
22 <appender ref="stdout"/>
23 <appender ref="file"/>
24 <appender ref="ServerOutConsole"/>
25 </root>
26 </loggers>
27 </Configuration>

```

[\[Larger Image\]](#)

Now press "Create File" and name it exactly "log4j2_112-116.xml"

Startup Settings

By default, bloom will select “Java 17” as your Java Version. We need to change this to “Java 8” for the modpack to function. We also need to set the server jar file to what we copied [earlier](#). Attached are my completed Startup settings. You can copy them just be sure to change the jar name to the one you copied.

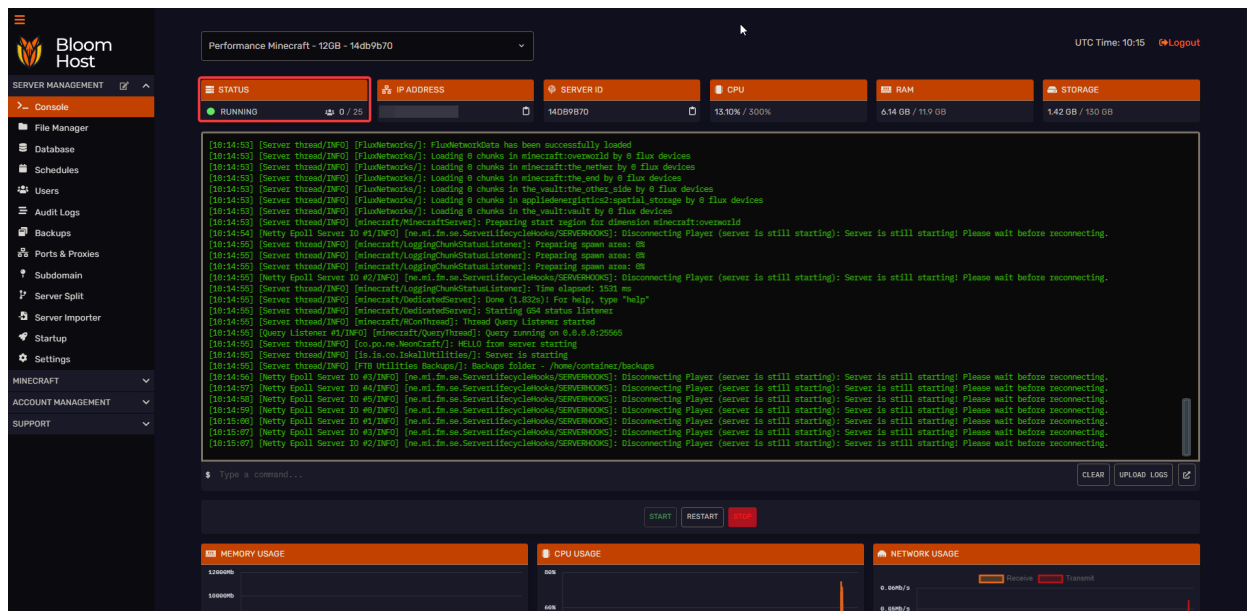


The screenshot shows the 'Startup Settings' page in the Bloom Host control panel. At the top, there's a dropdown for 'Performance Minecraft - 12GB - 14db9b70'. Below it, a 'STARTUP COMMAND' field contains a Java command to run 'forge-1.16.5-36.2.23.jar'. To the right, the 'JAVA VERSION' is set to 'Java 8'. Under the 'Variables' section, the 'SERVER JAR FILE' is 'forge-1.6.5-36.2.23.jar'. The 'STARTUP FLAGS' field is empty. There are 'RESET DEFAULT' buttons for both the jar file and startup flags. The top right shows 'UTC Time: 10:10' and a 'Logout' link.

[\[Larger Image\]](#)

Starting and Connecting

Now it's time to do the fun part. Let's start by booting our server. Go to the “Console” page and select “Start”. Now this will take a few mins to do a boot and world generation. Once done you will see “Server marked at running” message in the console along with the server status changed to “Running”

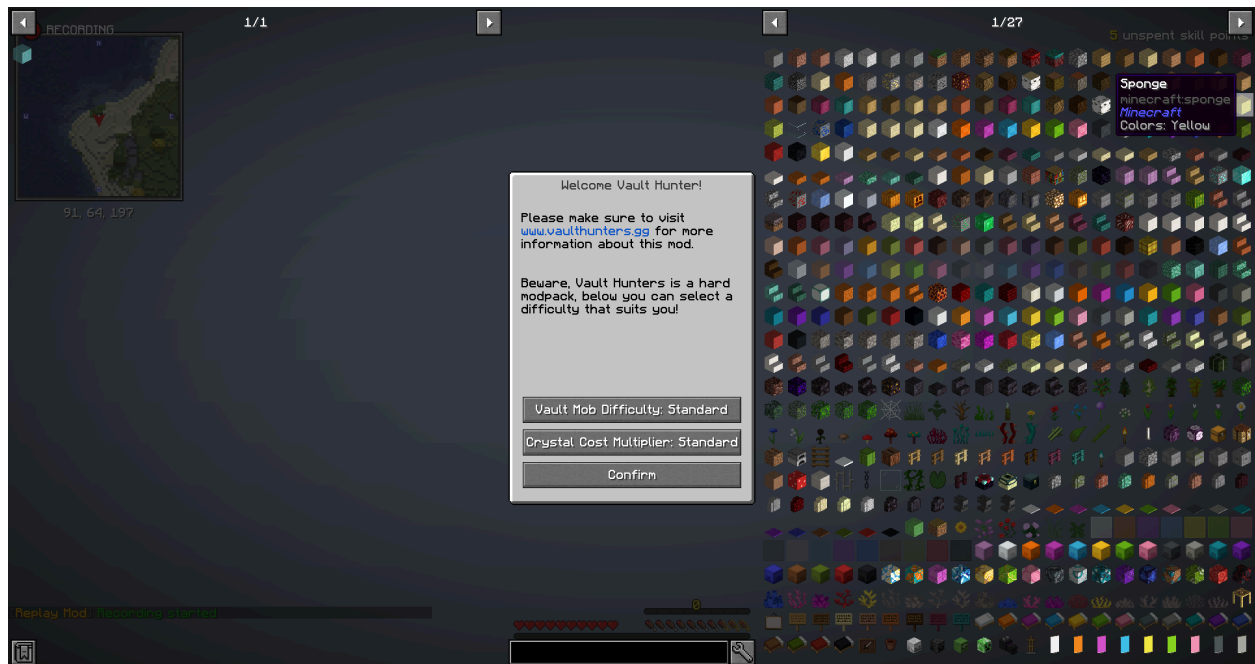


The screenshot shows the 'Console' page in the Bloom Host control panel. The left sidebar has a 'Console' tab selected. The main area shows a 'STATUS' of 'RUNNING' with a green dot and '0 / 25' connections. Below this, a large text area displays server startup logs, including messages about loading chunks, preparing spawn areas, and starting the server. At the bottom, there are buttons for 'START', 'RESTART', and 'STOP'. The top right shows 'UTC Time: 10:15' and a 'Logout' link. The bottom of the screen shows resource usage graphs for Memory, CPU, and Network.

[\[Larger Image\]](#)

Now let's add you as a server operator. Run “OP MCUSERNAME” replace “MCUSERNAME” with you Minecraft username.

Now copy the IP address boot up the modpack, add the server then connect. You should join the world and have the same setup menu prompt as you did in single player. Select your difficulty and have fun.



[\[Larger Image\]](#)

Miscellaneous Things

Schedules

A guide on how to setup schedules can be found [here](#)

Backups

A guide on how to setup backups can be found [here](#)

Whitelisting

A guide on how to setup a whitelisting can be found [here](#)

Dynamic Render Distance.

This server-side mod is great for servers with less ram as it lowers the servers render distance based on TPS.

First let's download the mod from [Curseforge](#). Now stop the server. Go to "File Manager" and select the "mods" folder. Now wither press "Start"

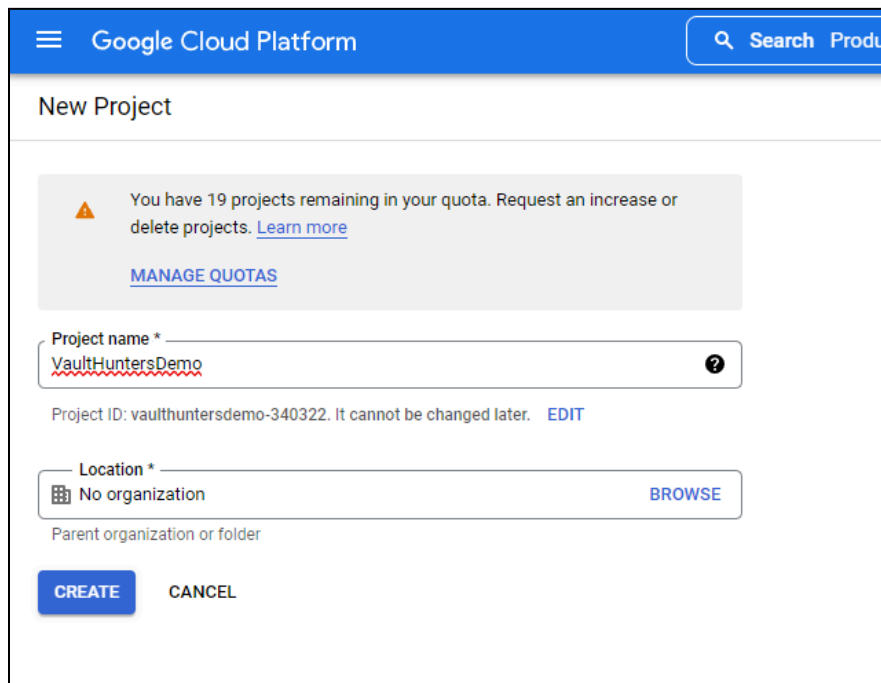
Self-Hosting / VPS Hosting

WARNING - This guide assumes you have a basic understanding of how Linux works. The distribution used in this guide will be “Ubuntu Server 20.04.3 LTS” which can be downloaded [here](#). If you are brand new to Linux and managed to get a working install or a VPS from a hosting provider here is a [cheat sheet with common useful commands](#).

For this guide I will be using [Google Cloud](#) but all this information *should* transfer to any provider (When signing up for Google Cloud you will receive \$300 credit for 90 days.)

Create your “Project”

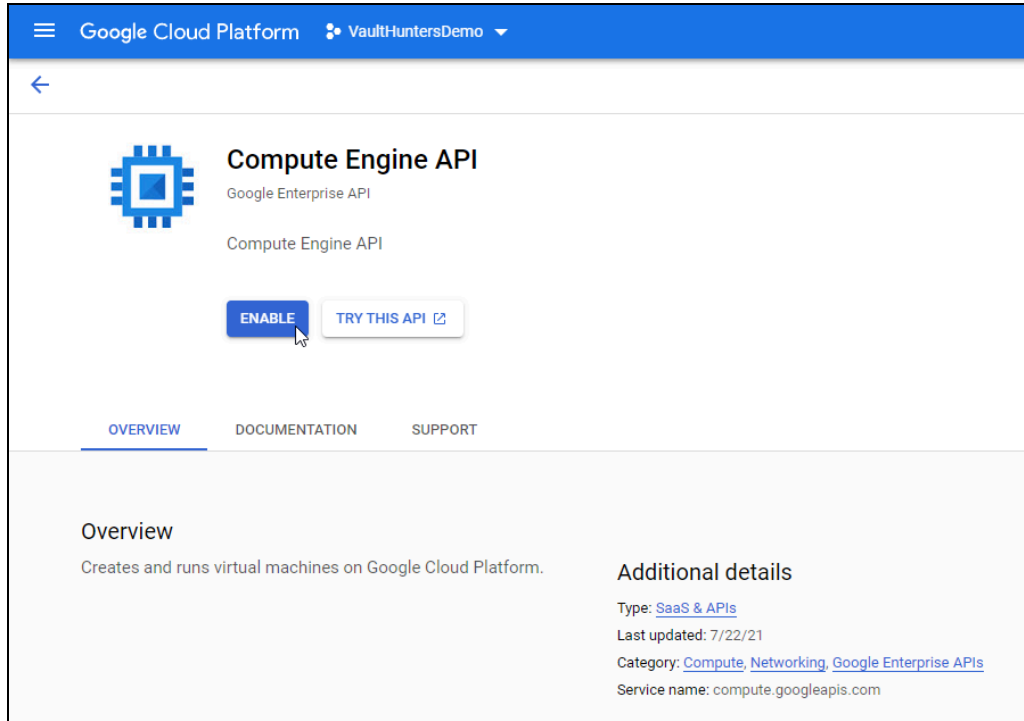
First let’s create you “project” on Google Cloud. First go [here](#) **after** signing up and setting up your account. I named my project “VaultHuntersDemo” but you can name it anything you would like.

A screenshot of the Google Cloud Platform 'New Project' form. The form is titled 'New Project' and has a blue header with the Google Cloud Platform logo and a search bar. Below the header, there is a warning message: 'You have 19 projects remaining in your quota. Request an increase or delete projects. [Learn more](#)'. Below the warning, there is a 'Project name' field with the text 'VaultHuntersDemo' and a 'Project ID' field with the text 'vaulthuntersdemo-340322. It cannot be changed later. [EDIT](#)'. There is also a 'Location' field with the text 'No organization' and a 'BROWSE' button. At the bottom, there are 'CREATE' and 'CANCEL' buttons.

[\[Larger Image\]](#)

Enable the Compute Engine API

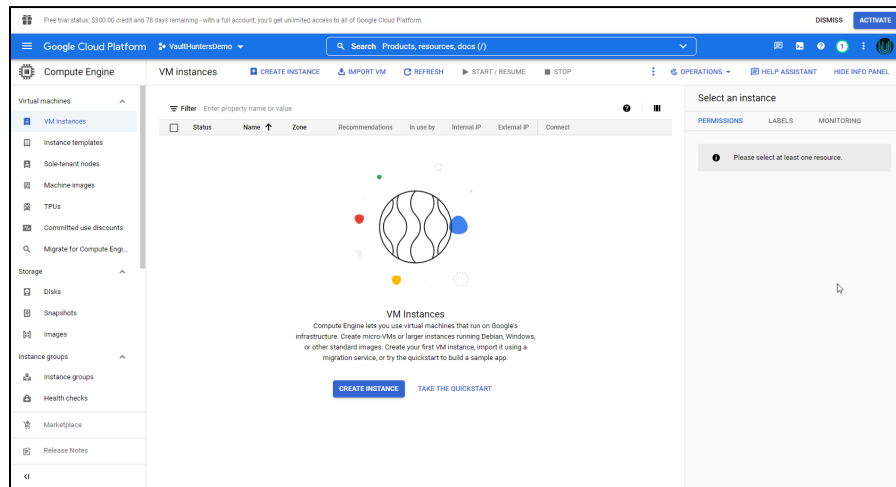
Next let’s enable the “Compute Engine API” on the google cloud console. You can access the page [here](#) and press enable. This can take a few minutes so be patient the page will redirect when finished enabling.



[\[Larger Image\]](#)

VM Creation

Now let's create the VM. First head to [this page](#). You should see a create instance. Reference the image below



[\[Larger Image\]](#)

Press "Create Instance". Now let's go through each of the options to get the VM setup. You can use the image below as a settings template, but I'll go through each setting below.

Name [?]
vault-hunters-server

Labels [?]
[+ ADD LABELS](#)

Region [?]
us-central-1 (Iowa)
Region is permanent

Zone [?]
us-central-1-c
Zone is permanent

Monthly estimate
\$50.42
That's about \$0.07 hourly
You have \$300.00 free trial credits remaining
Pay for what you use. No upfront costs and per second billing
[DETAILS](#)

Machine configuration

Machine family

[GENERAL-PURPOSE](#) [COMPUTE-OPTIMIZED](#) [MEMORY-OPTIMIZED](#) [GPU](#)

Machine types for common workloads, optimized for cost and flexibility

Series [?]
E2

CPU platform selection based on availability

Machine type [?]
e2-standard-2 (2 vCPU, 8 GB memory)

vCPU: 2 Memory: 8 GB

[CPU PLATFORM AND GPU](#)

Display device [?]
Enable to use screen capturing and recording tools.
☐ Enable display device

Confidential VM service [?]
☐ Enable the Confidential Computing service on this VM instance.
You have \$300.00 free trial credits remaining
Pay for what you use. No upfront costs and per second billing
[DETAILS](#)

Container [?]
Deploy a container image to this VM instance
[DEPLOY CONTAINER](#)

Boot disk [?]

Name	vault-hunters-server
Type	New balanced persistent disk
Size	15 GB
Image	Ubuntu 20.04 LTS

[CHANGE](#)

Identity and API access [?]

Service accounts [?]
Service account [?]
Compute Engine default service account

Access scopes [?]
☒ Allow default access
☐ Allow full access to all Cloud APIs
☐ Set access for each API

Firewall [?]

Add tags and firewall rules to allow specific network traffic from the Internet

☐ Allow HTTP traffic
☐ Allow HTTPS traffic

[NETWORKING, DISKS, SECURITY, MANAGEMENT, SOLE-TENANCY](#)

Your free trial credit will be used for this VM instance. [SCP Free Tier](#)

[CREATE](#) [CANCEL](#) [EQUIVALENT COMMAND LINE](#)

[\[Larger Image\]](#)

1. Name - You can set this to anything you want. Just make it something memorable.
2. Region - Try to select the region closest to you. This will dictate your ping to the server.
3. Zone - Leave default
4. Series - Select “E2” as your machine series.
5. Machine Type - I would recommend “ec2-standard-2” as the bare minimum.

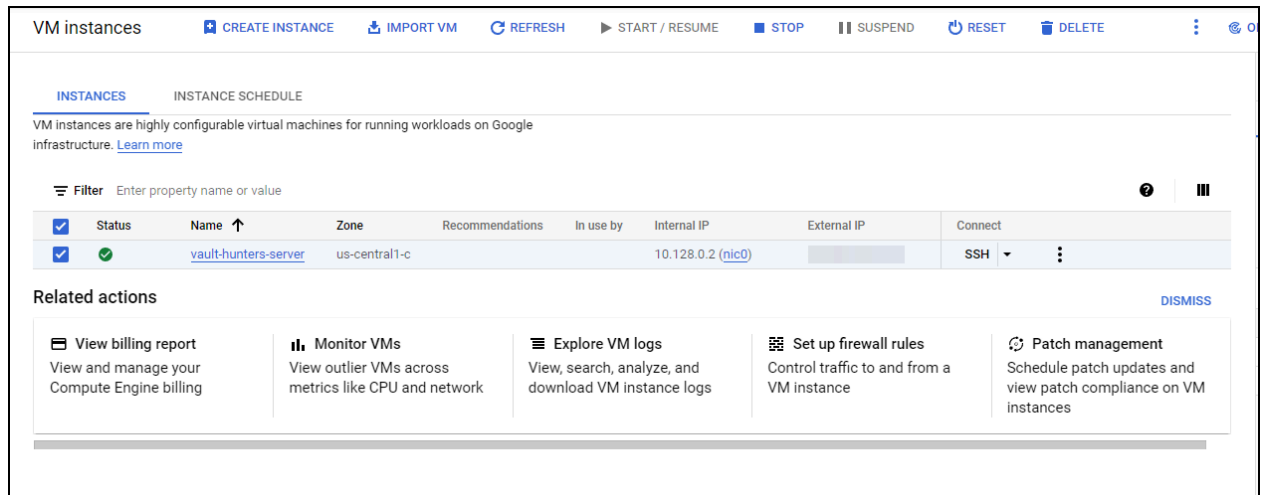
Now under the “Boot Disk” Heading select “Change”

1. Operating System - Ubuntu
2. Version - Ubuntu 20.04 LTS
3. Boot Disk Type - Balanced Persistent Disk
4. Size - 20 GB

With that all done press “Create”. This may take a few minutes to setup and boot.

Opening MC port on the Firewall

To open a port on google cloud first go back to [here](#). You should be greeted with a screen that has your VM you just created.



[\[Larger Image\]](#)

Press the three dots on the same row of your VM and select “View network details”

Next on the left side of the page select the firewall tab. Now select the “Create Firewall Rule” at the top of the page. Now use the image to make your screen match,

Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. [Learn more](#)

Name *
allow-mc ⓘ
Lowercase letters, numbers, hyphens allowed

Description

Logs
Turning on firewall logs can generate a large number of logs which can increase costs in Cloud Logging. [Learn more](#)
☐ On
☒ Off

Network *
default ⓘ

Priority *
1000 [CHECK PRIORITY OF OTHER FIREWALL RULES](#) ⓘ
Priority can be 0 - 65535

Direction of traffic ⓘ
☒ Ingress
☐ Egress

Action on match ⓘ
☒ Allow
☐ Deny

Targets
All instances in the network ⓘ

Source filter
IPv4 ranges ⓘ

Source IPv4 ranges *
0.0.0.0/0 ⓘ for example, 0.0.0.0/0, 192.168.2.0/24 ⓘ

Second source filter
None ⓘ

Protocols and ports ⓘ
☐ Allow all
☒ Specified protocols and ports

☒ tcp : 25565

☐ udp : all

☐ Other protocols
protocols, comma separated, e.g. ah, sctp

▼ **DISABLE RULE**

CREATE CANCEL

EQUIVALENT COMMAND LINE ▼

[\[Larger Image\]](#)

1. Name - anything you want but make it descriptive
2. Targets - All instances in the network
3. Source IPv4 ranges - 0.0.0.0/0
4. Ports and Protocols - Specified protocols and ports
 - a. TCP - 25565

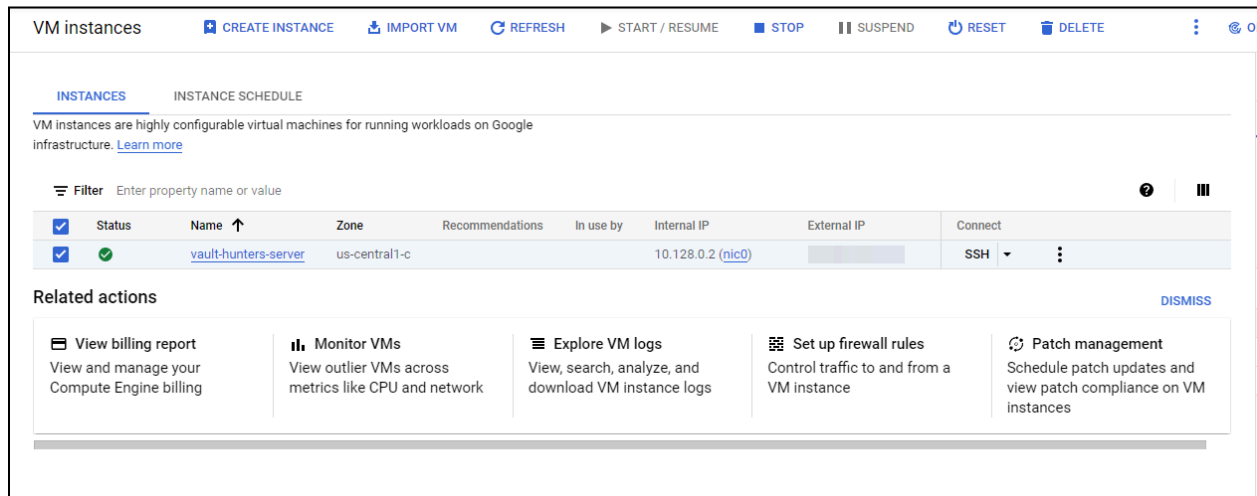
Now press create and you're done.

Connecting to the VM

This step will have two paths. One for using Google Cloud and one for other providers.

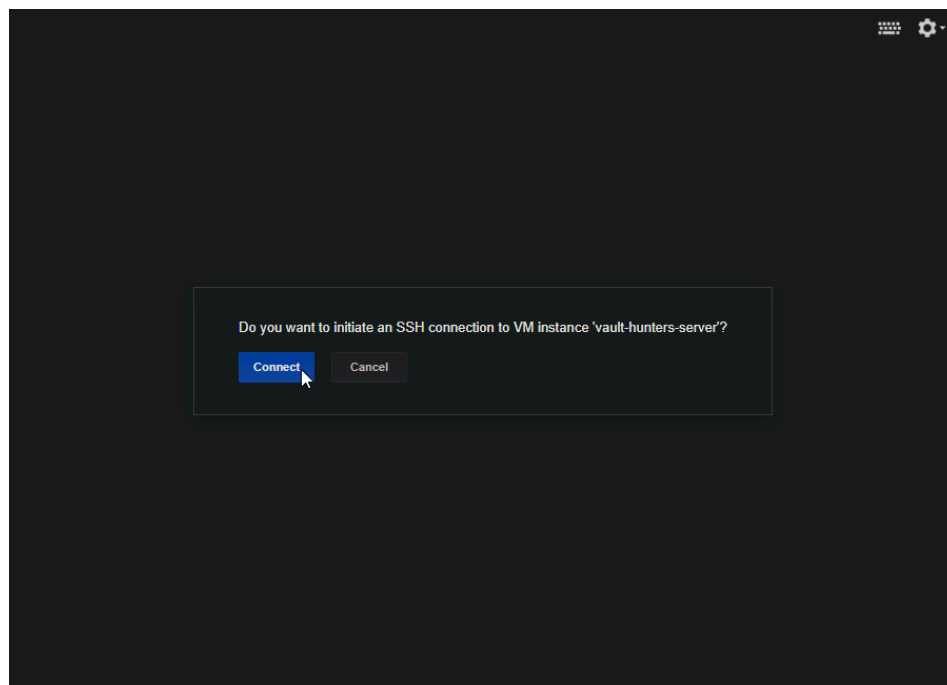
Google Cloud

To connect on google cloud first go back to [here](#). You should be greeted with a screen that has your VM you created.



[\[Larger Image\]](#)

Now press the “SSH” button under the “Connect” column. A new window should popup asking if you want to connect, press “Connect” and wait a few moments.



[\[Larger Image\]](#)

Once connected you should see a screen like this. This means you are setup and ready to start the next step.

```
Connected, host fingerprint: ssh-rsa 0 5B:7D:E7:A2:94:ED:90:36:0F:70:18:B6:30:AD
:08:C7:95:D5:A7:B8:3A:94:A1:43:95:78:6B:E3:F0:64:AC:B4
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.11.0-1028-gcp x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Fri Feb  4 22:52:26 UTC 2022

System load:  0.0          Processes:           104
Usage of /:   8.5% of 19.21GB   Users logged in:    0
Memory usage: 2%          IPv4 address for ens4: 10.128.0.2
Swap usage:   0%

1 update can be applied immediately.
To see these additional updates run: apt list --upgradable

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

@vault-hunters-server:~$
```

[\[Larger Image\]](#)

Other Providers

First grab the “Public IP” or “External IP”. It will look like 24.87.23.45. Now open “PowerShell” on windows or Terminal on Mac and Linux. This next step is different for each provider so check the information on your provider. In the command line enter admin@24.87.23.45

Replace admin with your username on the VM and replace the IP address with your servers IP. If you get something like this

```
The authenticity of host '35.184.216.244 (35.184.216.244)' can't be established.
ECDSA key fingerprint is SHA256:BhfKHWrbmGLTkMUr8pTV90U3esUzpR+pa8UZMEctPNI.
Are you sure you want to continue connecting (yes/no/[fingerprint])? |
```

Type “yes” and enter then enter your password you setup if you had one.

If you get the response “Permission denied (publickey).” Please consult your providers documentation on connecting.

Software Setup

Now let's start installing the software / packages you will need.

1. First run "sudo add-apt-repository ppa:openjdk-r/ppa" and press enter when asked.
2. Then run "sudo apt-get update -y"
3. Now run "sudo apt install openjdk-8-jre-headless screen unzip -y"
4. Next run "sudo ufw allow 25565" to open the port for the server.
5. Last run "screen" to launch a detachable session.

Modpack Download and Install

Go [here](#) and grab the latest download URL of the modpack. I'm using 1.12.4 of the modpack so use this URL for now but for updated versions you will need to get a new URL.

DL URL:

<https://media.forgecdn.net/files/3621/294/VaultHunters-OfficialModpack-1.12.4-Server.zip>

Now let's download the pack onto the box. Run "wget -O vault-server.zip URL" then "ls" replace URL with your URL you got earlier. You should get something that looks like this

```
@vault-hunters-server:~$ wget -O vault-server.zip https://media.forgecdn.net/files/3621/294/VaultHunters-OfficialModpack-1.12.4-Server.zip
--2022-02-04 23:23:41-- https://media.forgecdn.net/files/3621/294/VaultHunters-OfficialModpack-1.12.4-Server.zip
Resolving media.forgecdn.net (media.forgecdn.net)... 65.8.49.40, 65.8.49.34, 65.8.49.88, ...
Connecting to media.forgecdn.net (media.forgecdn.net)|65.8.49.40|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 245790118 (234M) [application/x-amz-json-1.0]
Saving to: 'vault-server.zip'

vault-server.zip      100%[=====>] 234.40M  198MB/s   in 1.2s

2022-02-04 23:23:43 (198 MB/s) - 'vault-server.zip' saved [245790118/245790118]

@vault-hunters-server:~$ ls
vault-server.zip
@vault-hunters-server:~$
```

[\[Larger Image\]](#)

Now let's make a folder and unzip the modpack. To do so run "mkdir vault-server" then "unzip vault-server.zip -d vault-server/" then "cd vault-server/" then finally "ls" you should see something like this.


```
creating: vault-server/config/valkyrielib/conditions/
inflating: vault-server/config/valkyrielib/conditions/conditions.json
inflating: vault-server/config/valkyrielib/conditions/conditions.txt
creating: vault-server/config/valkyrielib/guide/
inflating: vault-server/config/valkyrielib/guide/guide.json
inflating: vault-server/config/valkyrielib/guide/guide.txt
creating: vault-server/config/valkyrielib/info_tablet/
inflating: vault-server/config/valkyrielib/info_tablet/info_tablet.json
inflating: vault-server/config/valkyrielib/info_tablet/info_tablet.txt
creating: vault-server/config/valkyrielib/multiblock/
inflating: vault-server/config/valkyrielib/multiblock/multiblock.json
inflating: vault-server/config/valkyrielib/multiblock/multiblock.txt
creating: vault-server/config/valkyrielib/test/
inflating: vault-server/config/valkyrielib/test/test.json
inflating: vault-server/config/valkyrielib/test/test.txt
creating: vault-server/config/valkyrielib/themes/
inflating: vault-server/config/valkyrielib/themes/themes.json
inflating: vault-server/config/valkyrielib/themes/themes.txt
inflating: vault-server/config/valkyrielib/valkyrielib.json
inflating: vault-server/config/valkyrielib/valkyrielib.txt
inflating: vault-server/config/waddles-common.toml
creating: vault-server/config/waila/
inflating: vault-server/config/waila/waila.json
inflating: vault-server/config/waila/waila_plugins.json
inflating: vault-server/config/waystones-client.toml
inflating: vault-server/config/waystones-common.toml
inflating: vault-server/config/waystones-server.toml
inflating: vault-server/config/xaerominimap.txt
inflating: vault-server/config/xaerominimap_entities.json
inflating: vault-server/config/xaeropatreon.txt
inflating: vault-server/config/xaeroworldmap.txt
inflating: vault-server/config/xnet-client.toml
creating: vault-server/defaultconfigs/
inflating: vault-server/defaultconfigs/corpse-server.toml
inflating: vault-server/defaultconfigs/immersiveengineering-server.toml
inflating: vault-server/defaultconfigs/morpheus-server.toml
@vault-hunters-server:~$ ls
vault-server  vault-server.zip
@vault-hunters-server:~$ cd vault-server/
@vault-hunters-server:~/vault-server$ ls
config          eula.txt          libraries          mods          server-icon.png
defaultconfigs  forge-1.16.5-36.2.23.jar  minecraft_server.1.16.5.jar  scripts  server.properties
@vault-hunters-server:~/vault-server$
```

[\[Larger Image\]](#)

Apply Log4J fix

To apply this fix just run “wget

https://launcher.mojang.com/v1/objects/02937d122c86ce73319ef9975b58896fc1b491d1/log4j2_112-116.xml”

Change Server Port

Since we run the server on a dedicated host open the server.properties file using “nano server.properties” find the line that contains “server-port=25569” and change it to “server-port=25565”

Creating Start Script and Booting.

First let’s create a simple start script. Run “nano start.sh” and paste “#!/bin/sh” on line 1 then “java -Xms1024M -Xmx8G -jar forge-1.16.5-36.2.23.jar nogui” on line 2. To save press Ctrl + x -> y -> enter.

Then run “chmod a+x start.sh”

Now we can launch the server using `./start.sh` and wait until you see “[Server thread/INFO] [minecraft/DedicatedServer]: Done (59.628s)!” For help, type `"help"`

Congrats, you’re done. You should now be able to connect to your server using the IP under “Public IP” or “External IP” on your providers dashboard. Refer the section below on addition setup steps.

Miscellaneous Things

Whitelisting

A guide on how to setup a whitelisting can be found [here](#)

Dynamic Render Distance.

This server-side mod is great for servers with less ram as it lowers the servers render distance based on TPS.

First let’s download the mod from [Curseforge](#). Now stop the server. Go to “File Manager” and select the “mods” folder. Now wither press “Start”