

Project: Deploy a private Minecraft Server With Azure



Objective: by using the free azure subscription it is possible to host a private MC server and chill 😊

Difficulty: Very simple

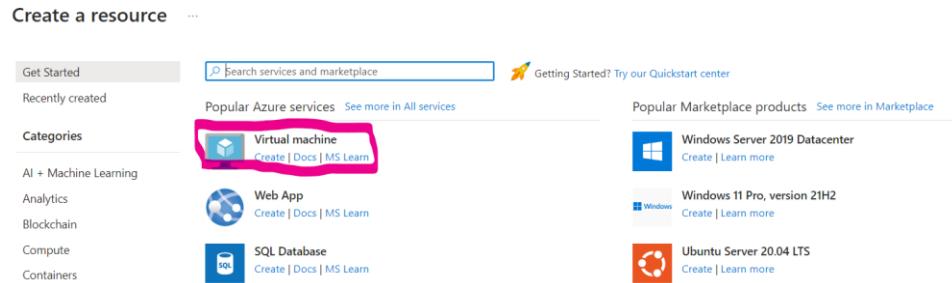
What do we need actually?: VM+SSH connection+Azure CLI

+Port rule+Minecraft Java Edition+some Commands for CLI

I recommend using SKLauncher : <https://skmedix.pl>

Step 1 : Create and configure a VM :

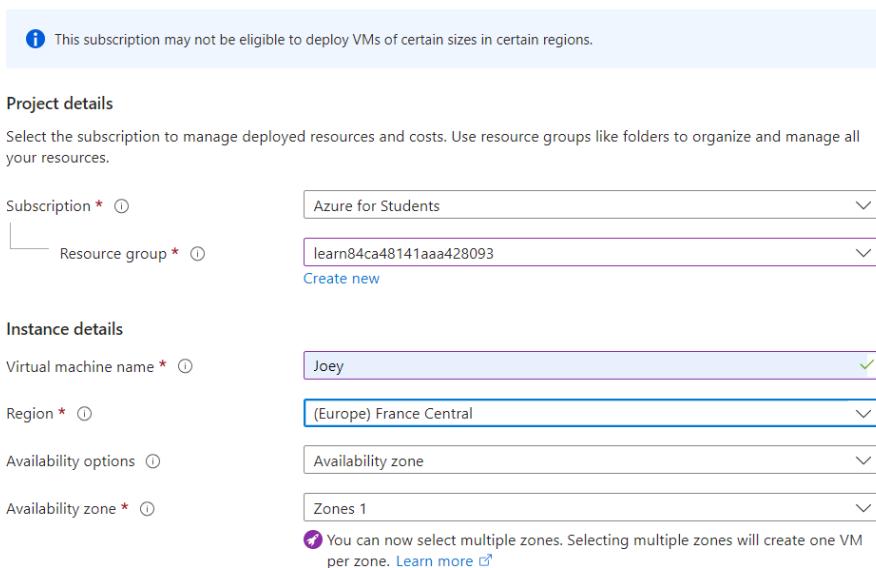
A/ in azure home choose “Create a resource” then choose Virtual Machine.



The screenshot shows the Azure portal's main dashboard. On the left, there's a sidebar with 'Get Started', 'Recently created', and 'Categories' sections. Under 'Categories', there are links for 'AI + Machine Learning', 'Analytics', 'Blockchain', 'Compute', and 'Containers'. The main area has a search bar at the top. Below it, there are sections for 'Popular Azure services' and 'Popular Marketplace products'. The 'Virtual machine' option under 'Popular Azure services' is highlighted with a pink box. Other options include 'Web App', 'SQL Database', 'Windows Server 2019 Datacenter', 'Windows 11 Pro, version 21H2', and 'Ubuntu Server 20.04 LTS'.

B/ in this page choose/create resource group , make a name for your VM instance and select the closest region to your country

Create a virtual machine ...



This screenshot shows the 'Create a virtual machine' wizard. The first step, 'Project details', is shown. A warning message at the top says: 'This subscription may not be eligible to deploy VMs of certain sizes in certain regions.' The 'Subscription' dropdown is set to 'Azure for Students'. The 'Resource group' dropdown is set to 'learn84ca48141aaa428093'. The 'Virtual machine name' field is filled with 'Joey'. The 'Region' dropdown is set to '(Europe) France Central'. The 'Availability zone' dropdown is open. A note at the bottom says: 'You can now select multiple zones. Selecting multiple zones will create one VM per zone.' with a 'Learn more' link.

C/ please choose Ubuntu Server 20.0.4 LTS – Gen 2 as the image for the virtual machine. The size of the virtual machine please choose Standard_D4s_v3 – 4 vcpus, 16 GiB memory. This specification of instance can allow 6-7 players in the server to play.

Select SSH public key: you can make your own username or leave it as default

Select Allow selected ports and choose SSH(22).

Create a virtual machine ...

Security type ⓘ Trusted launch virtual machines

Configure security features

Image * ⓘ Ubuntu Server 20.04 LTS - x64 Gen2

See all images | Configure VM generation

VM architecture ⓘ Arm64 x64

Run with Azure Spot discount ⓘ

Size * ⓘ Standard_D4s_v3 - 4 vcpus, 16 GiB memory (163,52 \$US/month)

See all sizes

Enable Hibernation (preview) ⓘ
To enable Hibernation, you must register your subscription. [Learn more](#) 

Administrator account

Authentication type ⓘ SSH public key Password

Create a virtual machine ...

Administrator account

Authentication type ⓘ SSH public key Password

Info Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username * ⓘ Joey

SSH public key source Generate new key pair

Key pair name * Joey_key

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ⓘ None Allow selected ports

Select inbound ports * SSH (22)

D/ in the Disks session select create and attach new disk

OS disk

OS disk size ⓘ	<input type="text" value="Image default (30 GiB)"/>
OS disk type * ⓘ	<input type="text" value="Premium SSD (locally-redundant storage)"/>
Delete with VM ⓘ	<input checked="" type="checkbox"/>
Key management ⓘ	<input type="text" value="Platform-managed key"/>
Enable Ultra Disk compatibility ⓘ	<input type="checkbox"/>

Data disks for Joey

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM ⓘ
Create and attach a new disk Attach an existing disk					

In “change size” select Standard HDD and make the size 40gb(feel free to make your own size) then click OK

Storage type ⓘ

<input type="text" value="Standard HDD (locally-redundant storage)"/>
Custom disk size (GiB) * ⓘ
<input type="text" value="40"/>

OK

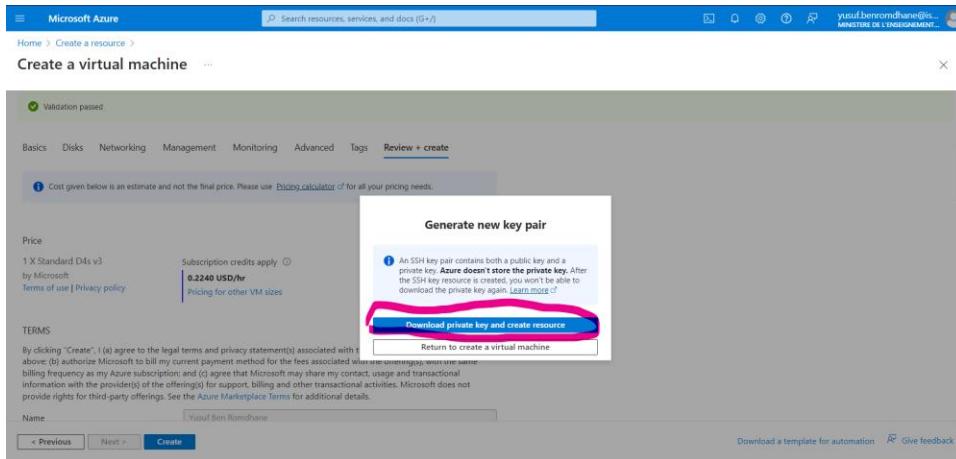
Please choose Read/write as host caching section

Data disks for Joey

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM ⓘ
0	Joey_DataDisk_0	40	Standard HDD LRS	<input type="text" value="Read/write"/>	<input type="checkbox"/>
Create and attach a new disk Attach an existing disk					

Leave the rest as default and click “Review+create”, Click download private key and create resource. After that click return and create a virtual machine.



Step 2 : Add a Port Rule

A/ after deployment is complete click on “go to resource”, in the Networking section choose Network settings. Select “Create port rule” then select “Inbound port rule”.

Priority	Name	Port	Protocol	Source	Destination	Action
300	SSH	22	TCP	Any	Any	Allow

B/ here we use port 25565 for Minecraft Java Edition with the following specific values :

Add inbound security rule

>

Source ⓘ

 ▼

Source port ranges * ⓘ

 ▼

Destination ⓘ

 ▼

Destination IP addresses/CIDR ranges * ⓘ

 ✓

Service ⓘ

 ▼

Destination port ranges * ⓘ

 ✓

Protocol

Any

TCP

UDP

ICMP

Protocol

Any

TCP

UDP

ICMP

Action

Allow

Deny

Priority * ⓘ

 ✓

Name *

 ✓

Click on “Add” to add changes...

Step 3 : Connect to VM and Install Minecraft Server

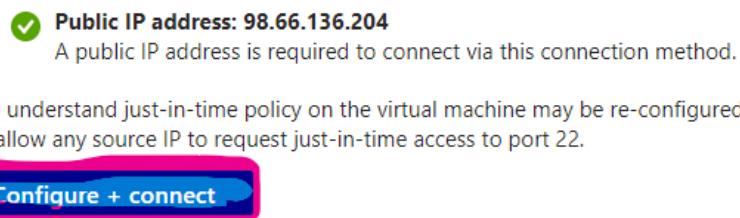
A/ in the Overview section select “Connect”,then select “SSH using Azure CLI”

The screenshot shows the Azure portal interface for connecting to a virtual machine named 'Joey'. On the left, the 'Connect' button is highlighted with a red circle. On the right, a modal window titled 'SSH using Azure CLI' is open, also with a red circle around the 'Select' button under the 'Native SSH' section.

PS : If you find any problems in this level please consider enabling
The “Just-in-time” for your VM instance, here’s the link :

https://learn.microsoft.com/en-us/azure/defender-for-cloud/just-in-time-access-usage?wt.mc_id=searchAPI_azureportal_inproduct_rmskilling&sessionld=b013230d90054f6ebd74fa2ce0c8326b

Now select “Configure+connect”



You should get the following output :

```
Bash    ▾ | ⌁ ? ⚙ ⌂ ⌃ ⌄ ⌅ ⌆ ⌇

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

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

yusuf.benromdhane@isamm.u-manouba.tn@Joey:~$ exit
logout
Connection to 98.66.136.204 closed.
Transferred: sent 6232, received 6744 bytes, in 15.1 seconds
Bytes per second: sent 413.8, received 447.8
yusuf [ ~ ]$
```

B/ now in the CLI select “Upload/Download files” to upload the shh private key then use “ls” to review the key.

```
Bash    ▾ | ⌁ ? ⚙ ⌂ ⌃ ⌄ ⌅ ⌆ ⌇

applicable law.

To run a command as admini
See "man sudo_root" for      root"), use "sudo <command>".

yusuf.benromdhane@isamm. Manage file share ↗ ~$ exit
logout
Connection to 98.66.136.204 closed.
Transferred: sent 6232, received 6744 bytes, in 15.1 seconds
Bytes per second: sent 413.8, received 447.8
yusuf [ ~ ]$ ls
clouddrive
yusuf [ ~ ]$
```

×

Upload destination: /home/yusuf

Joey_key.pem	COMPLETE
--------------	----------

C/ Type "chmod 400 <your_key_name.pem>" to change the permission . Run “pwd” to review the private key path

```
yusuf [ ~ ]$ ls
clouddrive
yusuf [ ~ ]$ ls
clouddrive Joey_key.pem
yusuf [ ~ ]$ chmod 400 Joey_key.pem
yusuf [ ~ ]$ pwd
/home/yusuf
yusuf [ ~ ]$
```

D/ run the following SSH command :

Ssh -i <private key path> <your username>@<your public Ip address>. You should get this output :

```
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.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

Joey@Joey:~$
```

Step 4 : Install Java Version of Minecraft Server

A/ type “sudo -s” to enter as root user, type “apt-get update” to update packages.

```
Joey@Joey:~$ sudo -s
root@Joey:/home/Joey# apt-get update
Get:7 http://azure.archive.ubuntu.com/ubuntu focal-security/main Transl
Get:8 http://azure.archive.ubuntu.com/ubuntu focal-security/restricted
Get:9 http://azure.archive.ubuntu.com/ubuntu focal-security/restricted
Get:10 http://azure.archive.ubuntu.com/ubuntu focal-security/universe a
Get:11 http://azure.archive.ubuntu.com/ubuntu focal-security/universe T
Fetched 7584 kB in 2s (3660 kB/s)
Reading package lists... Done
root@Joey:/home/Joey#
```

B/ Type "apt-get install openjdk-17-jdk -y" to install openjdk-17-jdk.

```
root@Joey:/home/Joey# apt-get install openjdk-17-jdk -y
```

Wait until Downloading is complete...

```
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.14) ...
Processing triggers for systemd (245.4-4ubuntu3.23) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libgdk-pixbuf2.0-0:amd64 (2.40.0+dfsg-3ubuntu0.4) ...
root@Joey:/home/Joeys# 
```

C/ Type “apt-get install wget screen unzip” to get unzip package.
Press “y” to continue..

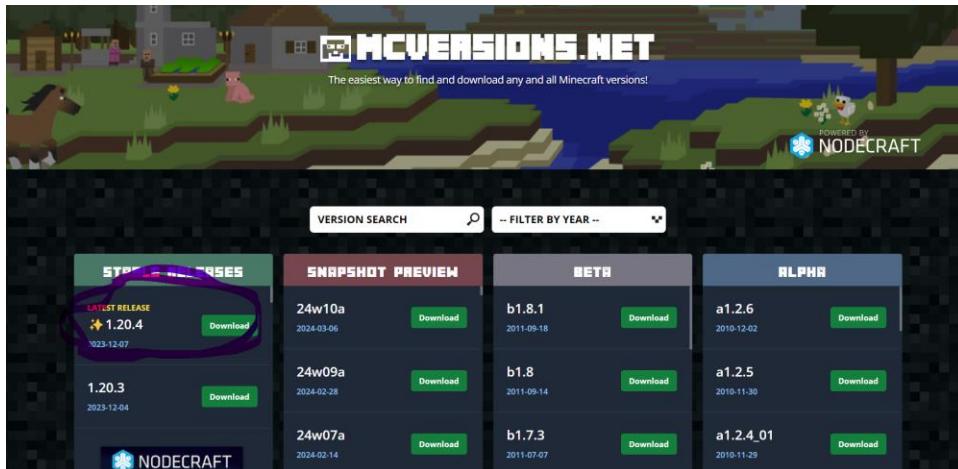
```
Do you want to continue? [Y/n] y
Get:1 http://azure.archive.ubuntu.com/ubuntu focal-
Fetched 168 kB in 0s (3626 kB/s)
Selecting previously unselected package unzip.
(Reading database ... 74607 files and directories c
Preparing to unpack .../unzip_6.0-25ubuntu1.1_amd64
Unpacking unzip (6.0-25ubuntu1.1) ...
Setting up unzip (6.0-25ubuntu1.1) ...
Processing triggers for mime-support (3.64ubuntu1)
Processing triggers for man-db (2.9.1-1) ...
root@Joey:/home/Joeys# 
```

D/ Type “mkdir server” and “cd server”, to create a folder to store server file and change directory to server.

```
root@Joey:/home/Joeys# mkdir server
root@Joey:/home/Joeys# cd server
root@Joey:/home/Joeys/server# ls
root@Joey:/home/Joeys/server# 
```

E/ You will need to type “wget [game_server_download_link]”, you can find all stable release version download URL in “mcversions.net” - Minecraft Versions Download List, please download according to your version.

[Link : mcversions.net](http://mcversions.net)



Use the following command :

“`wget https://piston-data.mojang.com/v1/objects/8dd1a28015f51b1803213892b50b7b4fc76e594d/server.jar`” for the 1.20.4 server version.

```
root@Joey:/home/Joey/server# wget https://piston-data.mojang.com/v1/objects/8dd1a28015f51b1803213892b50b7b4fc76e594d/server.jar
Length: 49150256 (47M) [application/octet-stream]
Saving to: 'server.jar'

server.jar                                              100%[=====] 46.87M  34.3MB/s   in 1.4s

2024-03-13 11:47:27 (34.3 MB/s) - 'server.jar' saved [49150256/49150256]
root@Joey:/home/Joey/server#
```

F/ Type “`vi eula.txt`”, change to insert mode with “`i`”, type :`eula=true`. Type :`wq` to save and quit. (You may use other editor such as Nano.)

```
root@Joey:/home/Joey/server# vi eula.txt
root@Joey:/home/Joey/server#
```

```
eula=true
~
~
~
~
~
~
~
~
~
~
: wq
```

G/ Type “java -Xmx1024M -Xms1024M -jar server.jar nogui “to start the server. You are completed set up a Java version Minecraft server.

```
root@Joey:/home/Joey/server# vi eula.txt
root@Joey:/home/Joey/server# ls
eula.txt  server.jar
root@Joey:/home/Joey/server# java -Xmx1024M -Xms1024M -jar server.jar nogui[]

[11:55:08] [ServerMain/INFO]: Environment: Environment[sessionHost=https://sessionserver.mojang.com, servicesHost=https://api.minecraftservices.com, name=PROD]
[11:55:09] [ServerMain/INFO]: No existing world data, creating new world
[11:55:10] [ServerMain/INFO]: Loaded 7 recipes
[11:55:10] [ServerMain/INFO]: Loaded 1271 advancements
[11:55:11] [Server thread/INFO]: Starting minecraft server version 1.20.4
[11:55:11] [Server thread/INFO]: Loading properties
[11:55:11] [Server thread/INFO]: Default game type: SURVIVAL
[11:55:11] [Server thread/INFO]: Generating keypair
[11:55:11] [Server thread/INFO]: Starting Minecraft server on "*:25565"
[11:55:12] [Server thread/INFO]: Using epoll channel type
[11:55:12] [Server thread/INFO]: Preparing level "world"

[11:55:26] [Worker-Main-2/INFO]: Preparing spawn area: 5%
[11:55:26] [Worker-Main-1/INFO]: Preparing spawn area: 3%
[11:55:27] [Worker-Main-3/INFO]: Preparing spawn area: 4%
[11:55:27] [Worker-Main-1/INFO]: Preparing spawn area: 5%
[11:55:28] [Worker-Main-1/INFO]: Preparing spawn area: 6%
[11:55:28] [Worker-Main-2/INFO]: Preparing spawn area: 7%
[11:55:29] [Worker-Main-3/INFO]: Preparing spawn area: 8%
[11:55:29] [Worker-Main-1/INFO]: Preparing spawn area: 10%
[11:55:30] [Worker-Main-1/INFO]: Preparing spawn area: 10%
[11:55:30] [Worker-Main-2/INFO]: Preparing spawn area: 11%
[11:55:31] [Worker-Main-1/INFO]: Preparing spawn area: 13%
[11:55:31] [Worker-Main-1/INFO]: Preparing spawn area: 14%

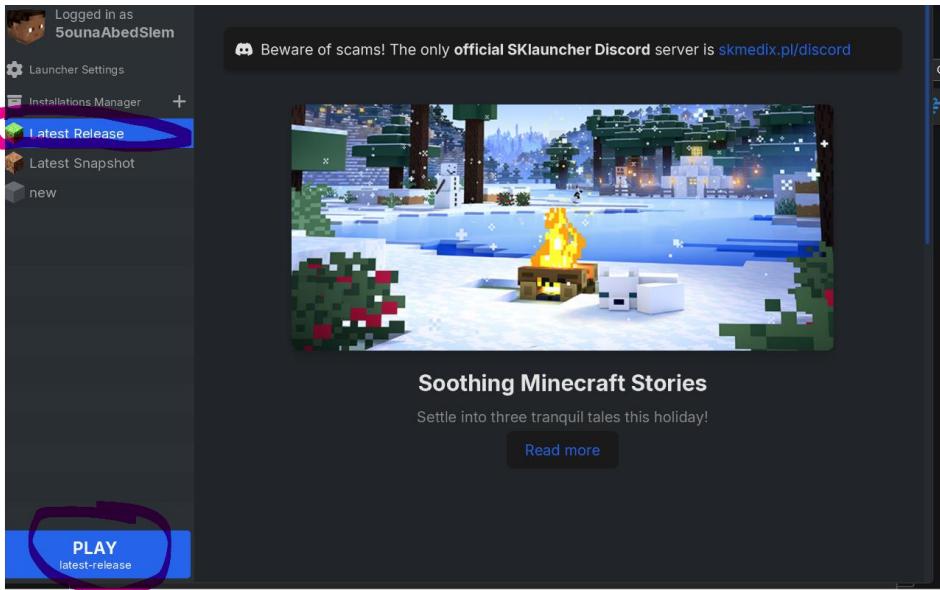
[11:55:56] [Worker-Main-1/INFO]: Preparing spawn area: 86%
[11:55:57] [Worker-Main-1/INFO]: Preparing spawn area: 89%
[11:55:57] [Worker-Main-3/INFO]: Preparing spawn area: 91%
[11:55:58] [Worker-Main-2/INFO]: Preparing spawn area: 93%
[11:55:58] [Worker-Main-1/INFO]: Preparing spawn area: 95%
[11:55:59] [Worker-Main-1/INFO]: Preparing spawn area: 97%
[11:55:59] [Worker-Main-1/INFO]: Preparing spawn area: 99%
[11:55:59] [Server thread/INFO]: Time elapsed: 38653 ms
[11:55:59] [Server thread/INFO]: Done (47.572s)! For help, type "help"
[]
```

Congratulations!!! You've come this far and your server is set...all work is done at this point.

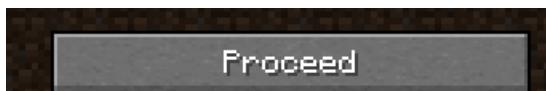
Whether playing or not goes back to you <:

Additional Step : Have Fun now 😊

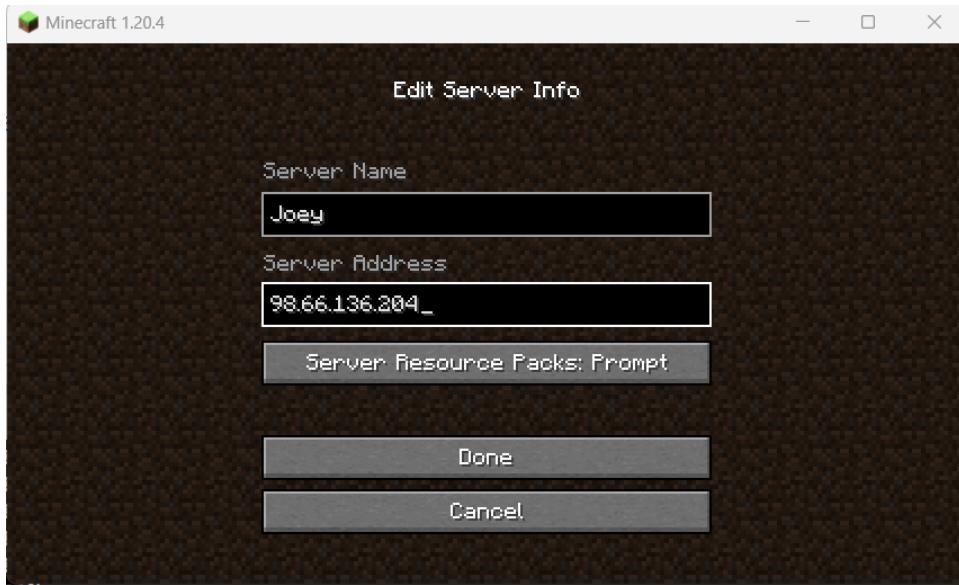
A/ Open the Launcher and Select “Latest Release“ then Click “Play”.



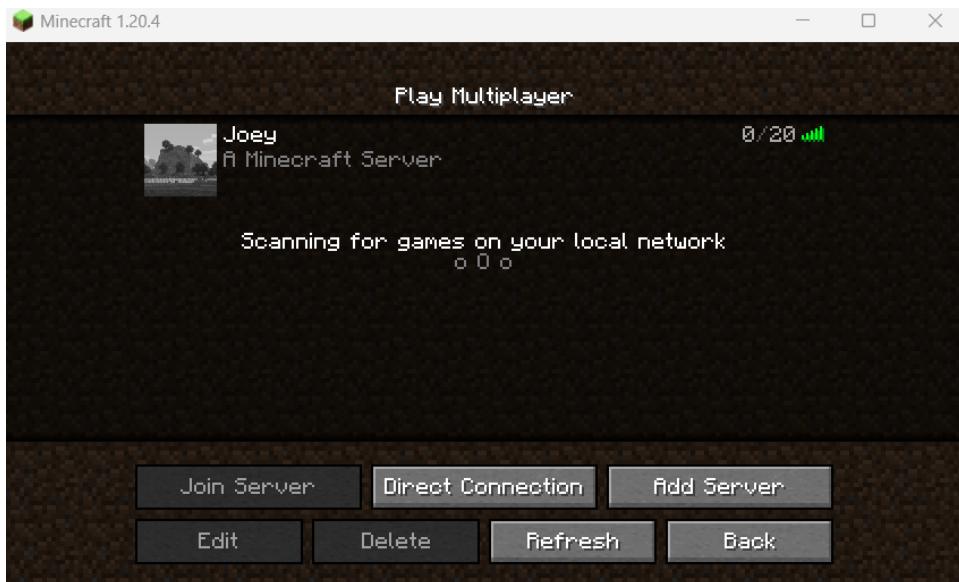
B/ Select “Multiplayer” Section and click “Proceed”



C/ click on “Add Server” and add server name+address then click “Done”



E/ ALL GOOD NOW , Have fun <3



Project Done by : Youssef Ben Romdhane 2BD1