

How to Install a Minecraft Server on Debian 11

Learn how to set up and install a Minecraft server on Debian 11 with our step-by-step guide. Get your own gaming server running quickly and efficiently.

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Introduction

By setting up a Minecraft server, you get the power to create and control your own Minecraft worlds. This article explains how to install Minecraft Java Edition server 1.18.2, the latest version of Minecraft Java Edition server for now, on a Debian 11 Bullseye cloud server at Vultr from scratch.

Prerequisites

Before diving in, you need to:

- [Deploy a Debian 11 server instance at Vultr](#) near your location with at least **2 GB** of memory, which is suitable for hosting up to 10 players with some basic plugins or mods. This article uses **203.0.113.100** as an example IP address.

1. Harden the System

Open your favorite SSH client on your desktop machine, such as PuTTY on Windows, and then log in to your server instance as **root** with the initial password you found on the **Server Details** page.

After logging in, execute the following tasks to harden the system.

Find out if any swap file or swap partition is in use:

```
# swapon -s
```

If so, feel free to go to the next task. Otherwise, set up a swap file of 2GB to smooth system operations:

```
# fallocate -l 2g /swap
# chmod 0600 /swap
# mkswap /swap
# swapon /swap
```

```
# echo '/swap    none swap defaults 0 0' | tee -a /etc/fstab
# free -m
```

Change the initial root password to a private and strong one, such as **r00tyHvM%2ka\$8E3**:

```
# echo 'root:r00tyHvM%2ka$8E3' | chpasswd && history -d -1
```

Create a non-root user account with sudo privileges, such as **mcninja**, and then also set up a strong password for it, such as **sud04QeXbcx#6&Cw**:

```
# useradd -ms /bin/bash mcninja
# echo 'mcninja:sud04QeXbcx#6&Cw' | chpasswd && history -d -1
# echo 'mcninja    ALL=(ALL)    NOPASSWD: ALL' | tee -a /etc/sudoers.d/designated
# chmod 0440 /etc/sudoers.d/designated
```

Setup UFW firewall rules to allow only traffic on SSH (22) and the default Minecraft (25565) ports:

```
# ufw default deny
# ufw allow 22
# ufw allow 25565
# ufw enable
Command may disrupt existing ssh connections. Proceed with operation (y|n)?
y:key_enter:
# ufw status verbose
```

Update the system, and then reboot:

```
# apt update
# apt upgrade -y
# apt autoremove -y
# shutdown -r now
```

After the server instance gets up and running again, log in as the newly created sudo user **mcninja** for the following tasks.

2. Install the Temurin 17 OpenJDK Distribution

Minecraft Java Edition server 1.18.2 requires Java 17. Among various Java 17 distributions, this article chooses to install Temurin (the continuation of AdoptOpenJDK) 17 OpenJDK binaries from [Eclipse Adoptium](#).

Make sure required packages are in place:

```
$ sudo apt install wget apt-transport-https -y
```

Download the Eclipse Adoptium GPG key for package verification:

```
$ wget -O - https://packages.adoptium.net/artifactory/api/gpg/key/public | sudo tee /usr/share/keyrings/adoptium.asc
```

Setup the Eclipse Adoptium Advanced Packaging Tool (APT) repository:

```
$ echo "deb [signed-by=/usr/share/keyrings/adoptium.asc] https://packages.adoptium.net/artifactory/deb $(awk -F= '/^VERSION_CODENAME/{print$2}' /etc/os-release) main" | sudo tee /etc/apt/sources.list.d/adoptium.list
```

Install Temurin 17 OpenJDK:

```
$ sudo apt update
$ sudo apt install temurin-17-jdk -y
```

Setup the **JAVA_HOME** environment variable, and then add Temurin 17 OpenJDK to the **PATH** environment variable:

```
$ echo "export JAVA_HOME=$(readlink -f /usr/bin/java | sed "s:bin/java::")" | sudo tee -a /etc/profile && source /etc/profile
$ echo "export PATH=$PATH:$JAVA_HOME/bin" | sudo tee -a /etc/profile && source /etc/profile
```

```
$ echo $JAVA_HOME
$ echo $PATH
```

Confirm the installation of Temurin 17 OpenJDK:

```
$ java --version
openjdk 17.0.2 2022-01-18
OpenJDK Runtime Environment Temurin-17.0.2+8 (build 17.0.2+8)
OpenJDK 64-Bit Server VM Temurin-17.0.2+8 (build 17.0.2+8, mixed mode, sharing)
```

3. Install Minecraft Java Edition Server 1.18.2

Create a directory for Minecraft Java Edition server:

```
$ sudo mkdir /opt/minecraft
$ sudo chown mcninja:mcninja /opt/minecraft
```

Download Minecraft Java Edition server 1.18.2 using the download link found from the official [Minecraft Java Edition Server Download Page](#).

```
$ cd /opt/minecraft
$ wget https://launcher.mojang.com/v1/objects/c8f83c5655308435b3dcf03c06d9fe8740a77469/server.jar -O minecraft_server.1.18.2.jar
```

Create a text file to confirm that you agree to the Minecraft end-user license agreement:

```
$ echo "eula=true" > /opt/minecraft/eula.txt
```

Test drive Minecraft Java Edition server 1.18.2:

```
$ cd /opt/minecraft
$ java -Xms1024M -Xmx1024M -jar /opt/minecraft/minecraft_server.1.18.2.jar nogui
...
[06:59:58] [Server thread/INFO]: Done (62.240s)! For help, type "help"
```

Note: In the previous command, the **-Xms1024M** and **-Xmx1024M** flags define initial and maximum memory allocation values for the Minecraft Java Edition server. Both are 1024M in this case. The two values are suitable for a Debian 11 server instance with 2GB of memory. Consider increasing the values if your server instance has more memory.

When you see the server prompts **Done!**, which means it is up and running:

1. Launch your Minecraft client.
2. Add a server name and the server's IPv4 address, such as **203.0.113.100** for example.
3. Join the server to explore the newly created world.

After the test drive, press `Ctrl+C` in the SSH terminal to stop Minecraft Java Edition server 1.18.2.

To customize your Minecraft Java Edition server, you need to edit a newly generated file named **server.properties** within the Minecraft Java Edition server directory.

For example, if you want to allow non-premium players to log in to your Minecraft server:

```
$ nano /opt/minecraft/server.properties
```

Find the line:

```
online-mode=true
```

Change it to:

```
online-mode=false
```

Press `Ctrl+O`, `Enter`, and `Ctrl+X` to save your changes and quit. And then restart the Minecraft Java Edition server to load the new settings.

To learn more about configuring Minecraft server properties, visit the [Minecraft Wiki](#) page.

4. Install Supervisor

To keep the Minecraft Java Edition server running, it's recommended to use the Supervisor program to start and restart the Minecraft Java Edition server processes automatically.

Install the Supervisor program:

```
$ sudo apt install supervisor -y
$ supervisord -v
```

Start the Supervisor service:

```
sudo systemctl daemon-reload
sudo systemctl start supervisor.service
sudo systemctl enable supervisor.service
```

Create a Supervisor configuration file for the Minecraft Java Edition server:

```
$ sudo nano /etc/supervisor/conf.d/minecraft.conf
```

Populate the file with:

```
[program:minecraft]
directory=/opt/minecraft/
command=java -Xms1024M -Xmx1024M -jar /opt/minecraft/minecraft_server.1.18.2.jar nogui
user=mcninja
autostart=true
autorestart=true
stderr_logfile=/var/log/supervisor/error_minecraft.log
stderr_logfile_maxbytes=100MB
stdout_logfile=/var/log/supervisor/out_minecraft.log
stdout_logfile_maxbytes=100MB
```

Press `Ctrl+O`, `Enter`, and `Ctrl+X` to save the configuration file and quit.

Load the Minecraft Java Edition server configuration file:

```
$ sudo supervisorctl reread
$ sudo supervisorctl update
```

Determine if the Minecraft Java Edition server is up and running:

```
$ tail -f /var/log/supervisor/out_minecraft.log
...
[08:15:49] [Server thread/INFO]: Done (123.024s)! For help, type "help"
```

Press Ctrl+C to quit the tail program at any time.

More Information

- [Minecraft Java Edition Server Download Page](#)
- [Minecraft Wiki](#)



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