

# Triple Boot Installation Guide: Windows 11, Arch Linux, and Ubuntu

Tazmeen Afroz

September 19, 2024



Figure 1: GRUB Menu with Triple Boot Options

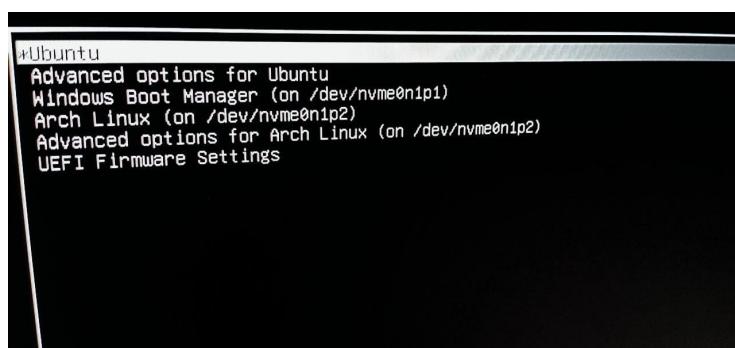


Figure 2: GRUB Menu with Triple Boot Options

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## 1 Introduction

This document provides a comprehensive, step-by-step guide to installing Windows 11, Arch Linux, and Ubuntu on a single machine using a virtual machine setup. The guide covers partitioning, operating system installations, bootloader configurations, and post-installation verification.

## 2 Virtual Machine Setup

We begin by allocating the appropriate resources for the virtual machine, ensuring optimal performance.

### 2.1 Disk and RAM Allocation

Allocate 120GB of disk space and configure the virtual machine with 6784MB of RAM for smooth operation.

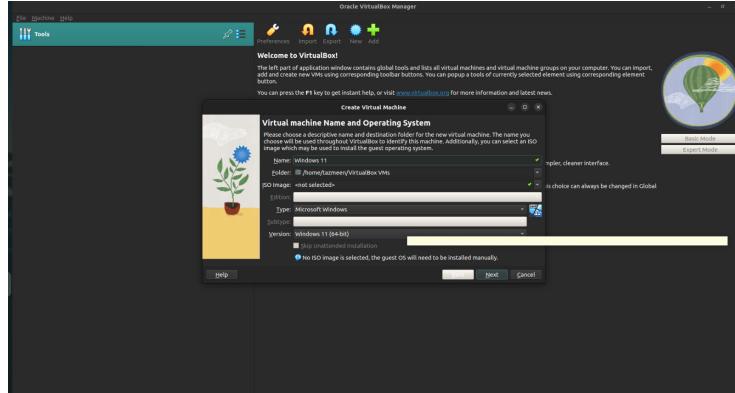


Figure 3: Virtual Machine Allocation for Windows, Arch, and Ubuntu

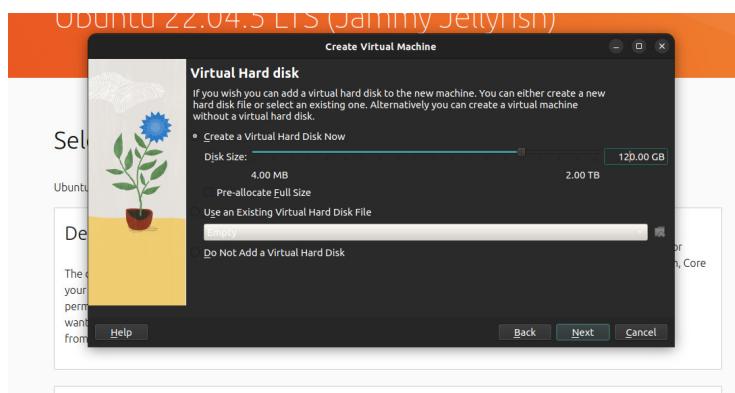


Figure 4: Virtual Machine Allocation for Windows, Arch, and Ubuntu

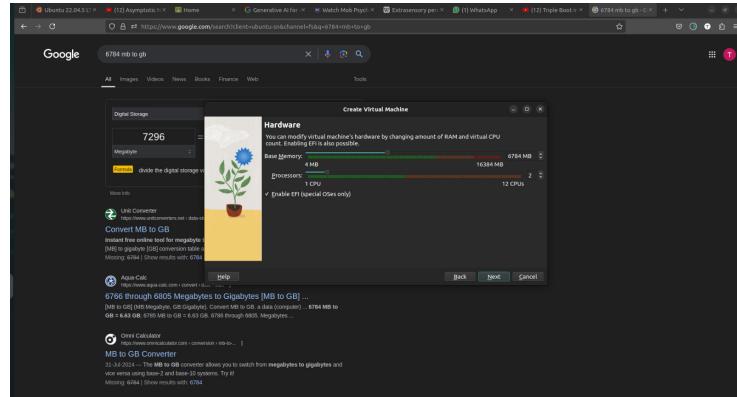


Figure 5: Virtual Machine Allocation for Windows, Arch, and Ubuntu

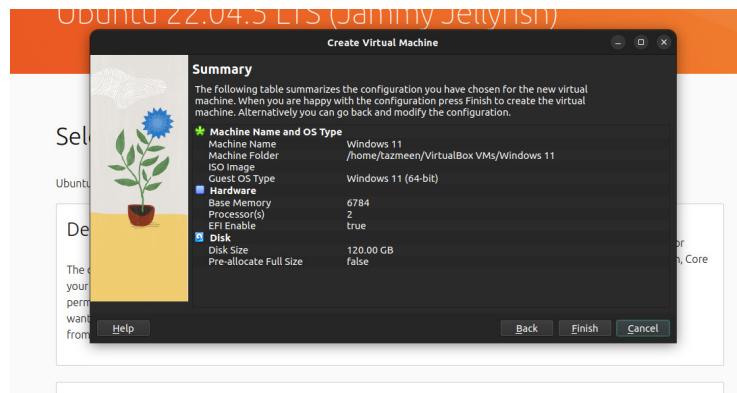


Figure 6: Virtual Machine Allocation for Windows, Arch, and Ubuntu

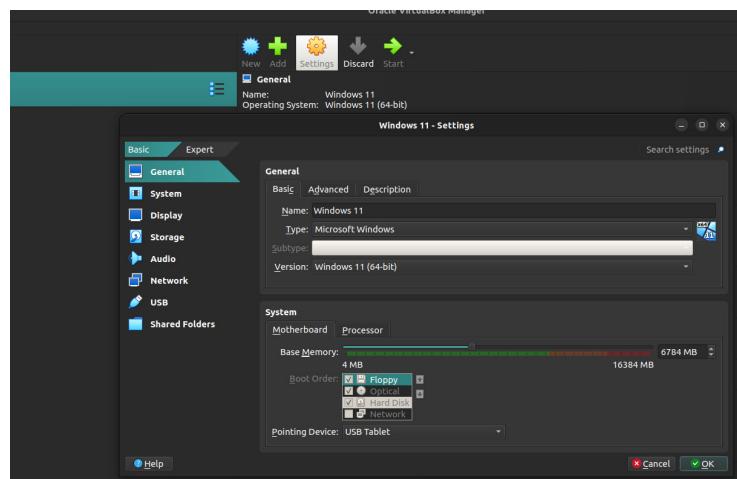


Figure 7: Virtual Machine Allocation for Windows, Arch, and Ubuntu

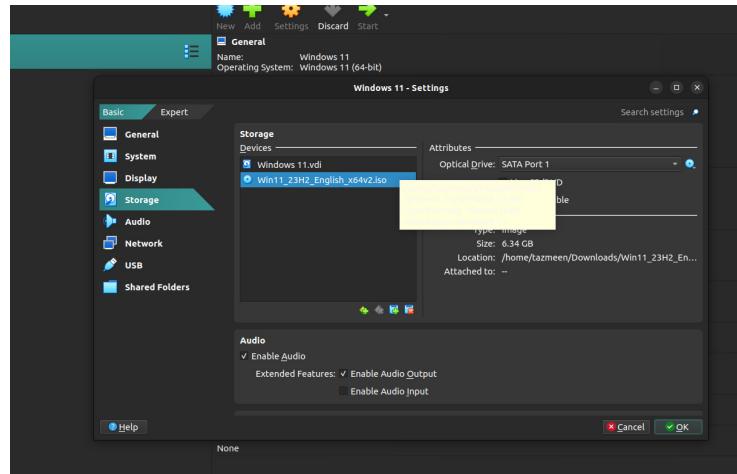


Figure 8: Virtual Machine Allocation for Windows, Arch, and Ubuntu

### 3 Installing Windows 11

Follow the instructions below to install Windows 11 on your virtual machine.

#### 3.1 UEFI Mode and ISO Selection

Ensure that the virtual machine is set to UEFI mode, then load the Windows 11 ISO file.

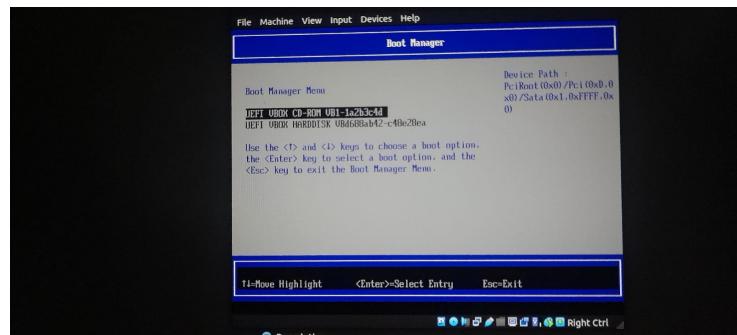


Figure 9: Selecting UEFI Mode and Windows ISO File



Figure 10: Installation of Windows

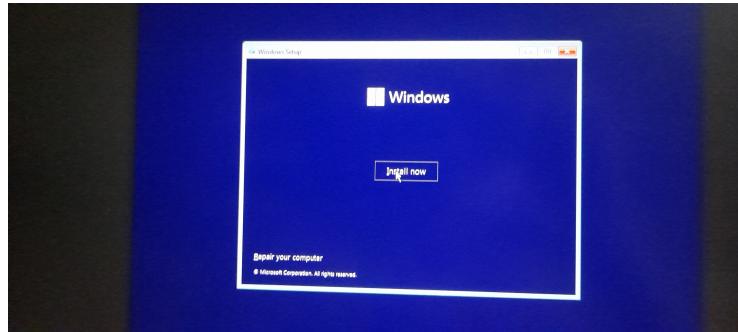


Figure 11: Installation of Windows

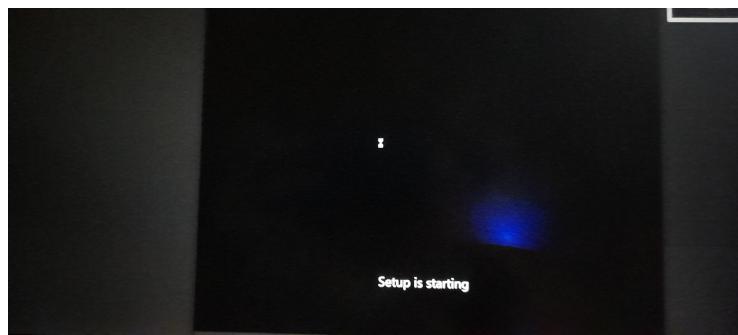


Figure 12: Installation of Windows

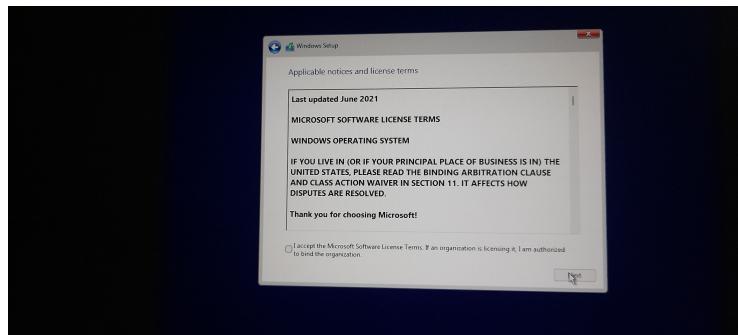


Figure 13: Installation of Windows

### 3.2 Partition Setup

During installation, create the following partitions:

- **62GB** for Windows 11
- **33GB** for Arch Linux
- **24GB** for Ubuntu

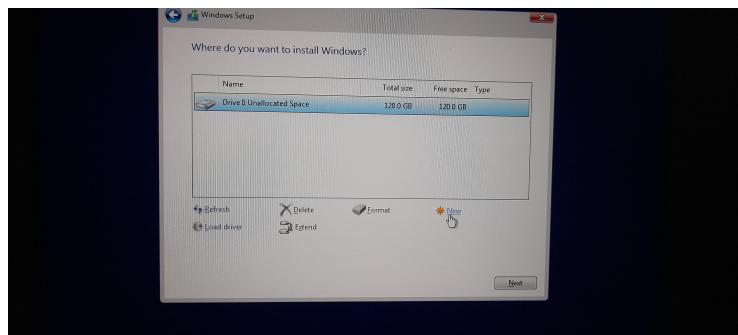


Figure 14: Partition Setup for Windows, Arch, and Ubuntu

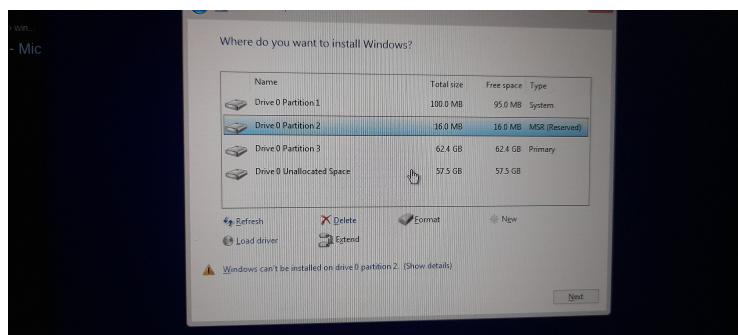


Figure 15: Partition Setup for Windows, Arch, and Ubuntu

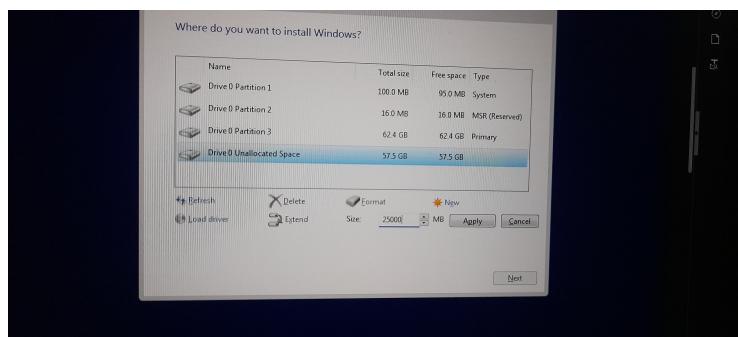


Figure 16: Partition Setup for Windows, Arch, and Ubuntu

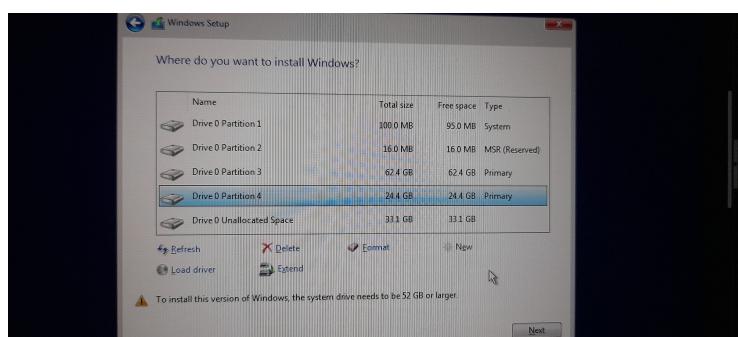


Figure 17: Partition Setup for Windows, Arch, and Ubuntu

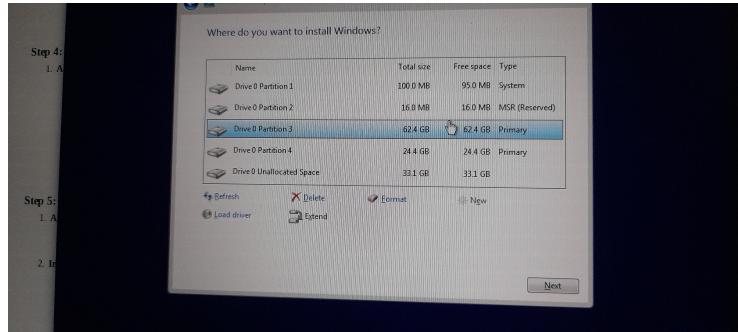


Figure 18: Partition Setup for Windows, Arch, and Ubuntu

### 3.3 Naming the Device and Disk Management

Once installation completes, name your device and verify the partitions using the Disk Management tool.

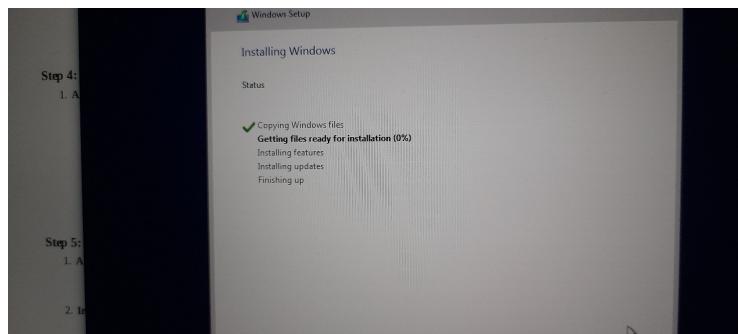


Figure 19: Setup

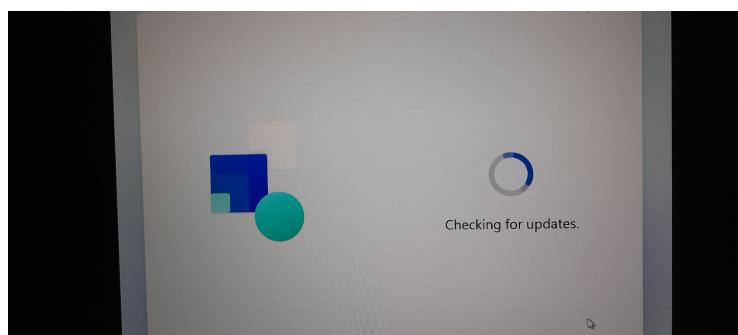


Figure 20: Setup

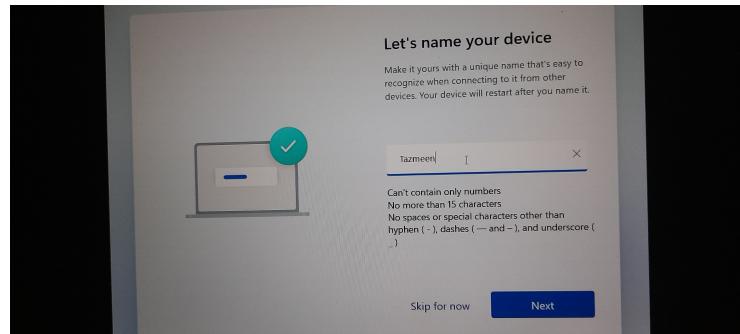


Figure 21: Setup

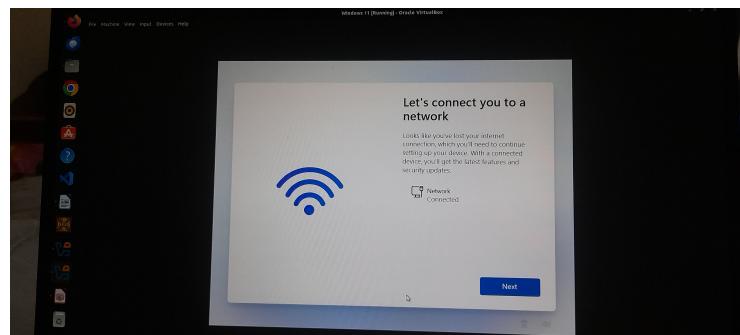


Figure 22: Setup

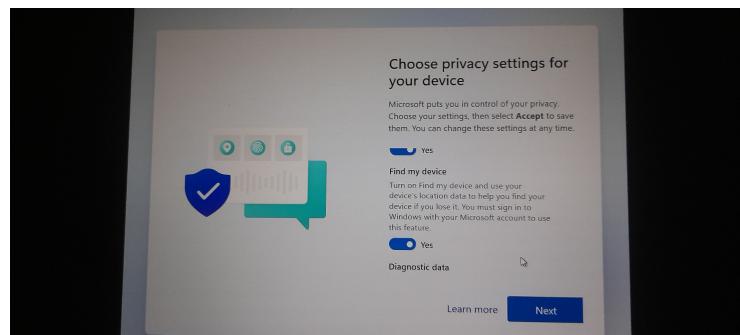


Figure 23: Setup

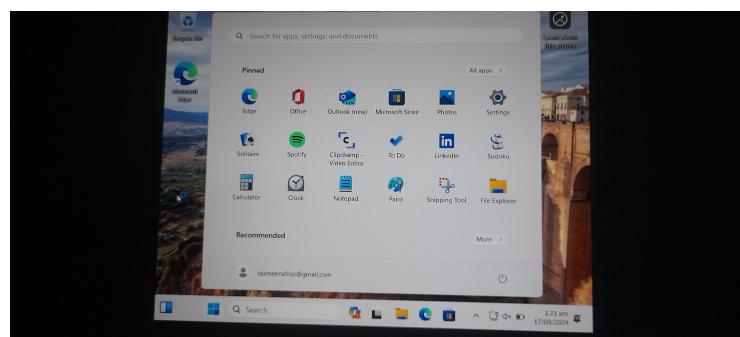


Figure 24: Setup

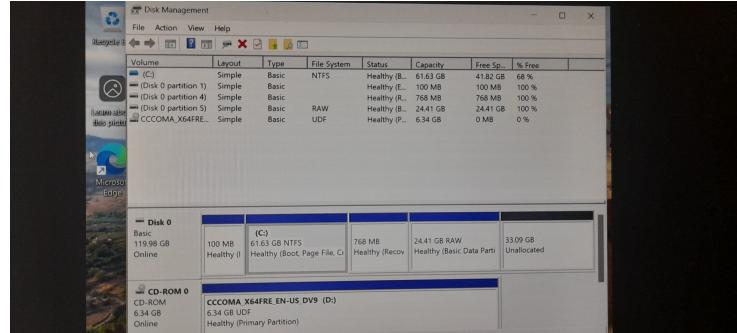


Figure 25: Verifying Partitions in Disk Management

## 4 Installing Arch Linux

Next, proceed with the installation of Arch Linux using the `archinstall` command.

### 4.1 Arch Installation Process

Follow the installation wizard and assign the 33GB partition for Arch Linux. Select the manual partitioning option and create two partitions: one formatted as ext4 for the root (/) partition and another formatted as FAT32 for the boot (/boot) partition. Set the ext4 partition as root and the FAT32 partition as the boot partition. Configure your user profile, network, and other essential settings.

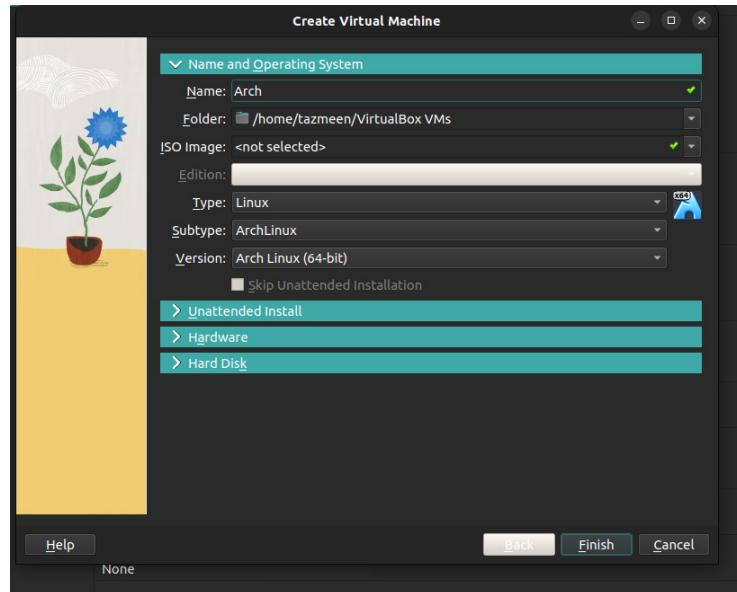


Figure 26: Arch Linux Installation Process

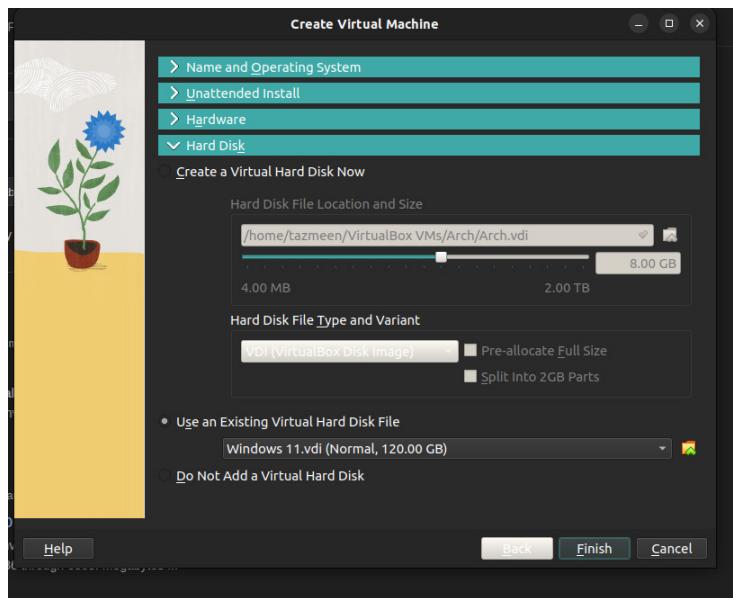


Figure 27: Arch Linux Installation Process

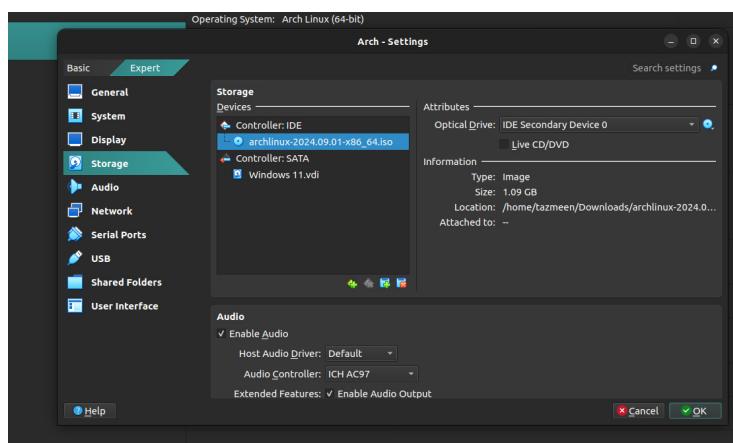


Figure 28: Arch Linux Installation Process

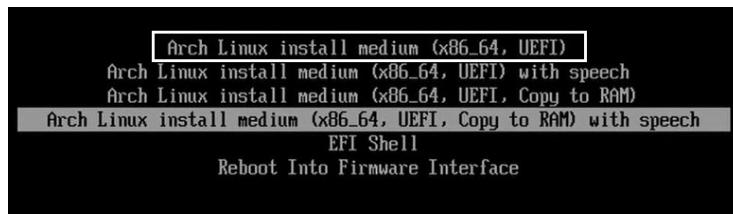


Figure 29: Arch Linux Installation Process

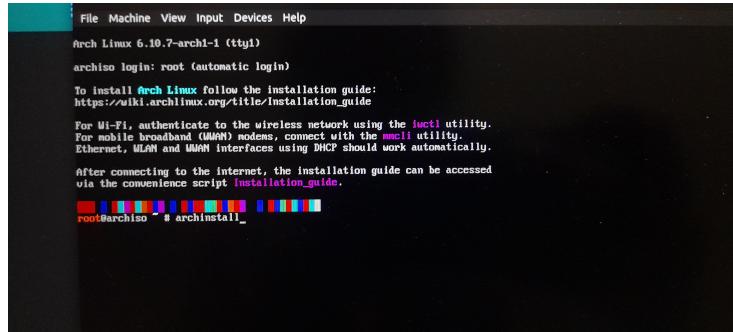


Figure 30: Arch Linux Installation Process

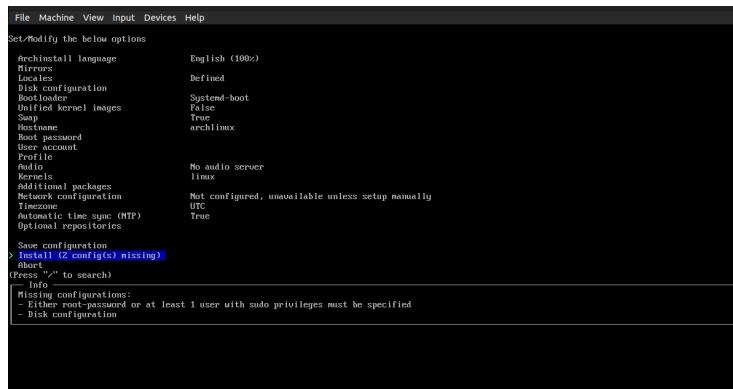


Figure 31: Arch Linux Installation Process

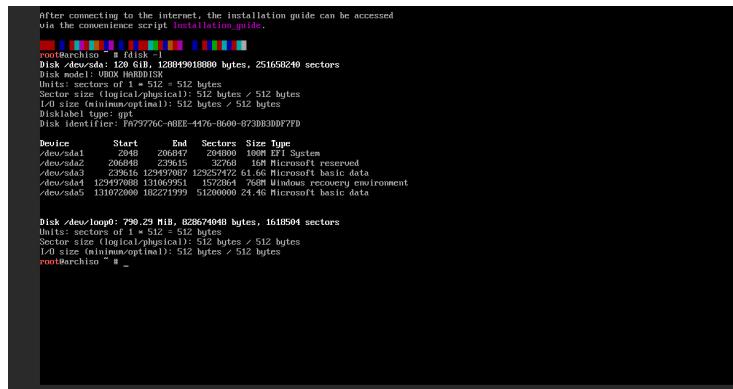


Figure 32: Arch Linux Installation Process

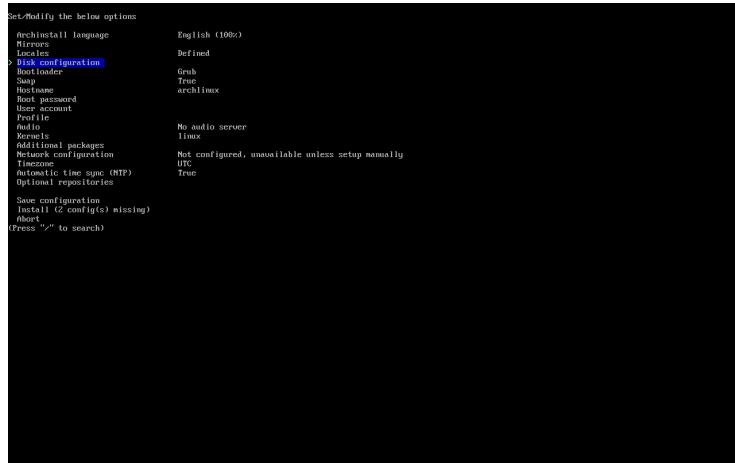


Figure 33: Arch Linux Installation Process

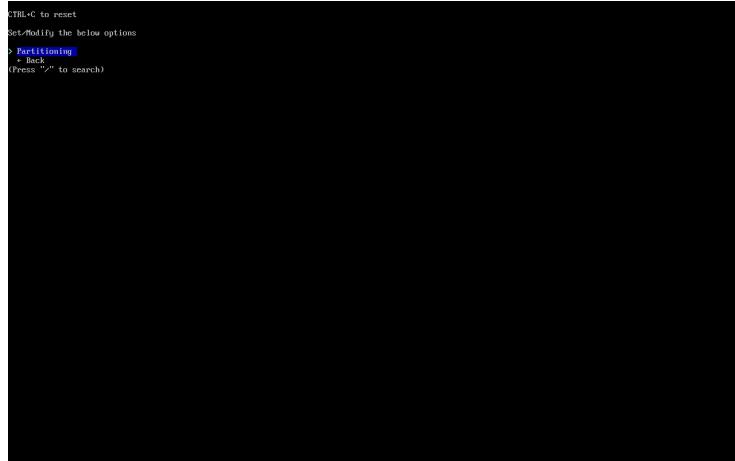


Figure 34: Arch Linux Installation Process

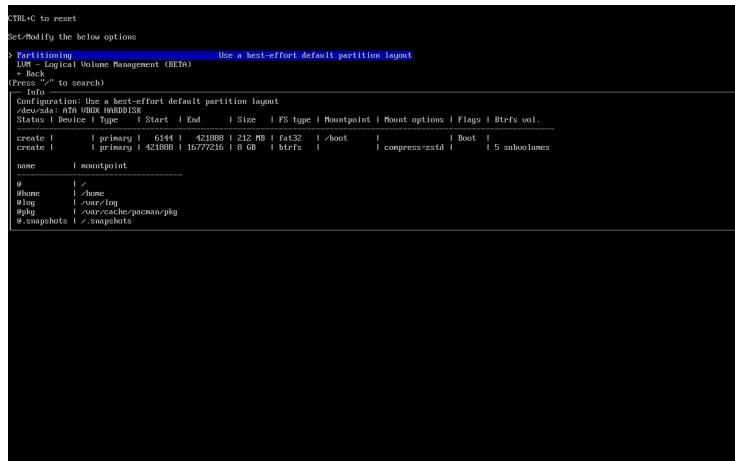


Figure 35: Arch Linux Installation Process

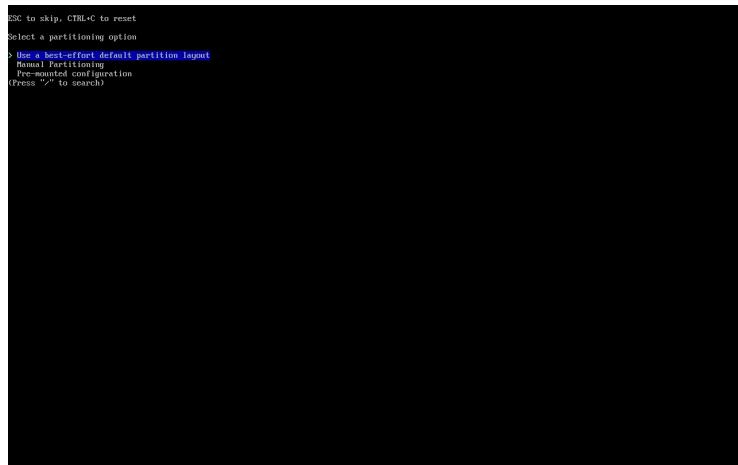


Figure 36: Arch Linux Installation Process

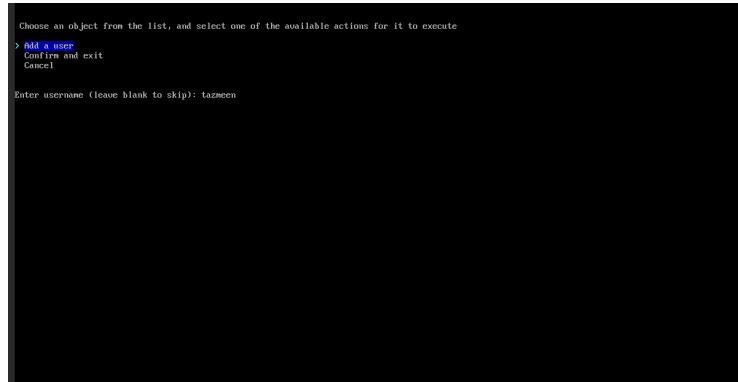


Figure 37: Arch Linux Installation Process

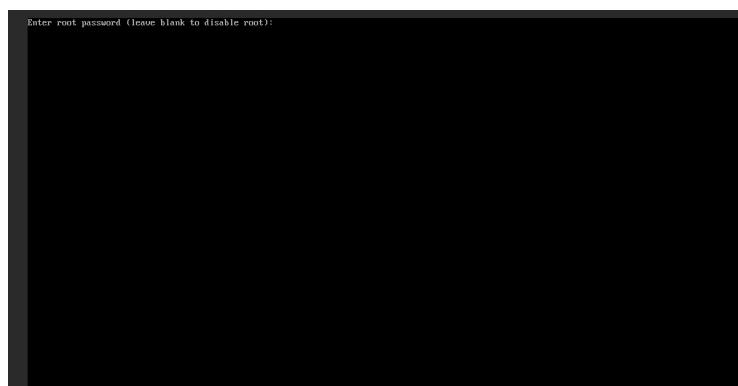


Figure 38: Arch Linux Installation Process



Figure 39: Arch Linux Installation Process

Figure 40: Arch Linux Installation Process

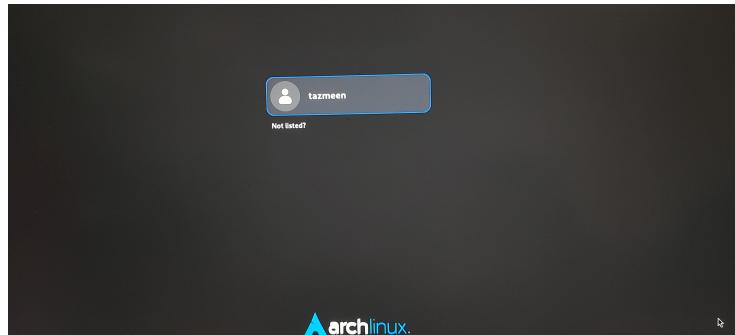


Figure 41: Arch Linux Installation Process



Figure 42: Arch Linux Installation Process

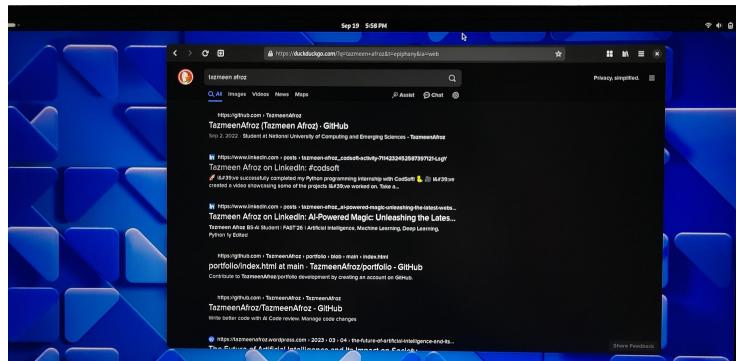


Figure 43: Arch Linux Installation Process

## 4.2 Installing the GRUB Bootloader

After installing Arch, set up the GRUB bootloader to manage all installed operating systems.

## 5 Installing Ubuntu

Finally, install Ubuntu on the remaining partition.



Figure 44: Ubuntu Installation Process



Figure 45: Ubuntu Installation Process

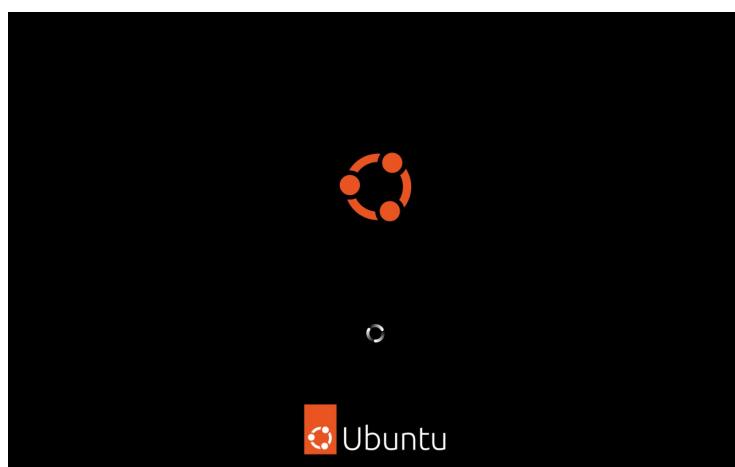


Figure 46: Ubuntu Installation Process

```

Disk model: PC711 NVMe SK hynix 512GB
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: 04C43914-FC51-49DB-94DD-84C8003E16EF

Device          Start    End  Sectors  Size Type
/dev/nvme0n1p1      2048  2099199   2097152   1G EFI System
/dev/nvme0n1p2  2099200  63981567  61882368 29.5G Linux root (x86-64)
/dev/nvme0n1p3  63981568 463982591 400001024 190.7G Linux filesystem
/dev/nvme0n1p4  463982592 464015359   32768   16M Microsoft reserved
/dev/nvme0n1p5  464015360 673697791 209682432 100G Microsoft basic data
/dev/nvme0n1p6  673697792 1000214527 326516736 155.7G Microsoft basic data

Disk /dev/loop8: 91.69 MiB, 96141312 bytes, 187776 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/loop9: 12.32 MiB, 12922880 bytes, 25240 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/loop10: 40.43 MiB, 42393600 bytes, 82800 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/loop11: 38.83 MiB, 40714240 bytes, 79520 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/loop12: 500 KiB, 512000 bytes, 1000 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/loop13: 452 KiB, 462848 bytes, 904 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
(base) tazmeen@tazmeen:~$ 
```

Figure 47: Ubuntu Installation Process

## 6 Verifying the Triple Boot Setup

After all installations are complete, reboot your system and check that the GRUB menu shows options for Windows 11, Arch Linux, and Ubuntu.

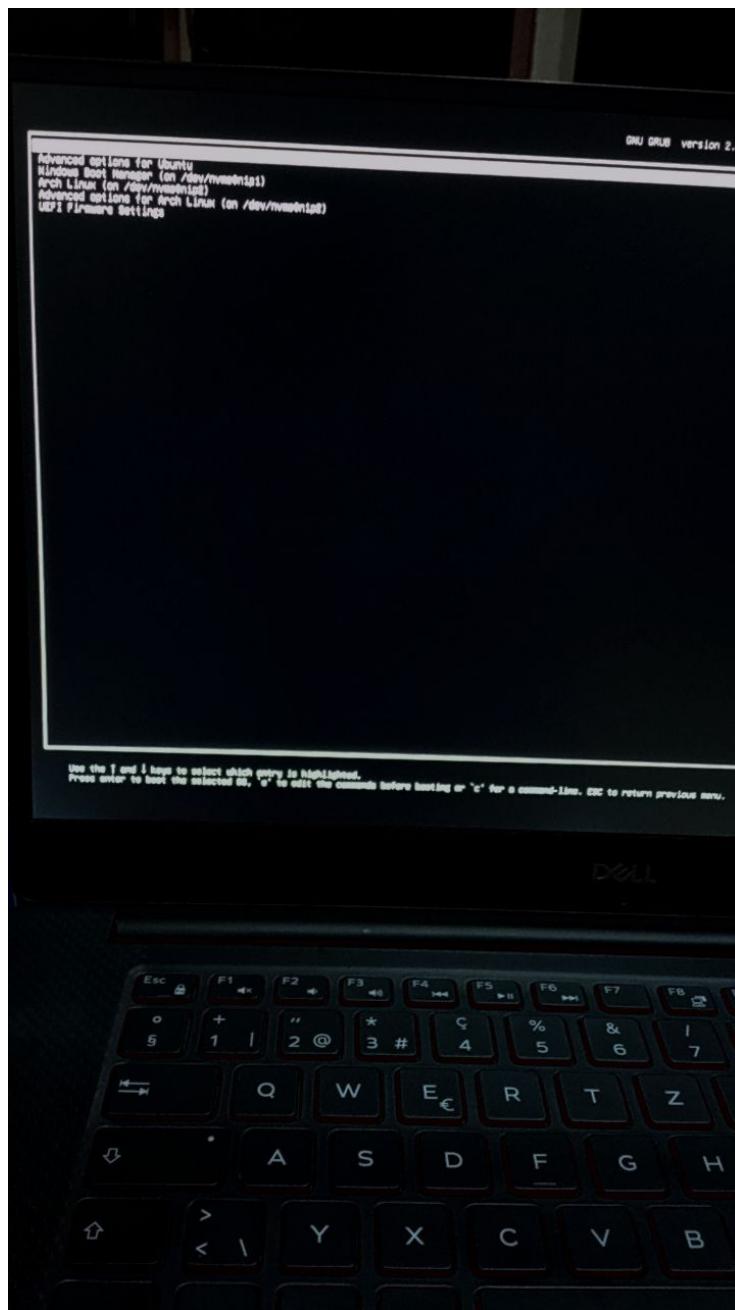


Figure 48: Final GRUB Menu

## 7 Conclusion

This guide provided detailed instructions for setting up a triple boot system with Windows 11, Arch Linux, and Ubuntu on a virtual machine. By correctly configuring partitions and the GRUB bootloader, you now have a functional

system with multiple operating systems.