
Experiment No. 6

Title: Installation and Configuration of Virtual Machine with Guest OS

Objective:

To set up and configure a virtual machine (VM) with a guest operating system (OS) on a macOS environment using VirtualBox or VMware Fusion.

Tools used:

- VirtualBox or VMware Fusion
- macOS

Prerequisite:

- Downloaded VirtualBox or VMware Fusion installer
- Knowledge of the guest OS ISO file to be installed

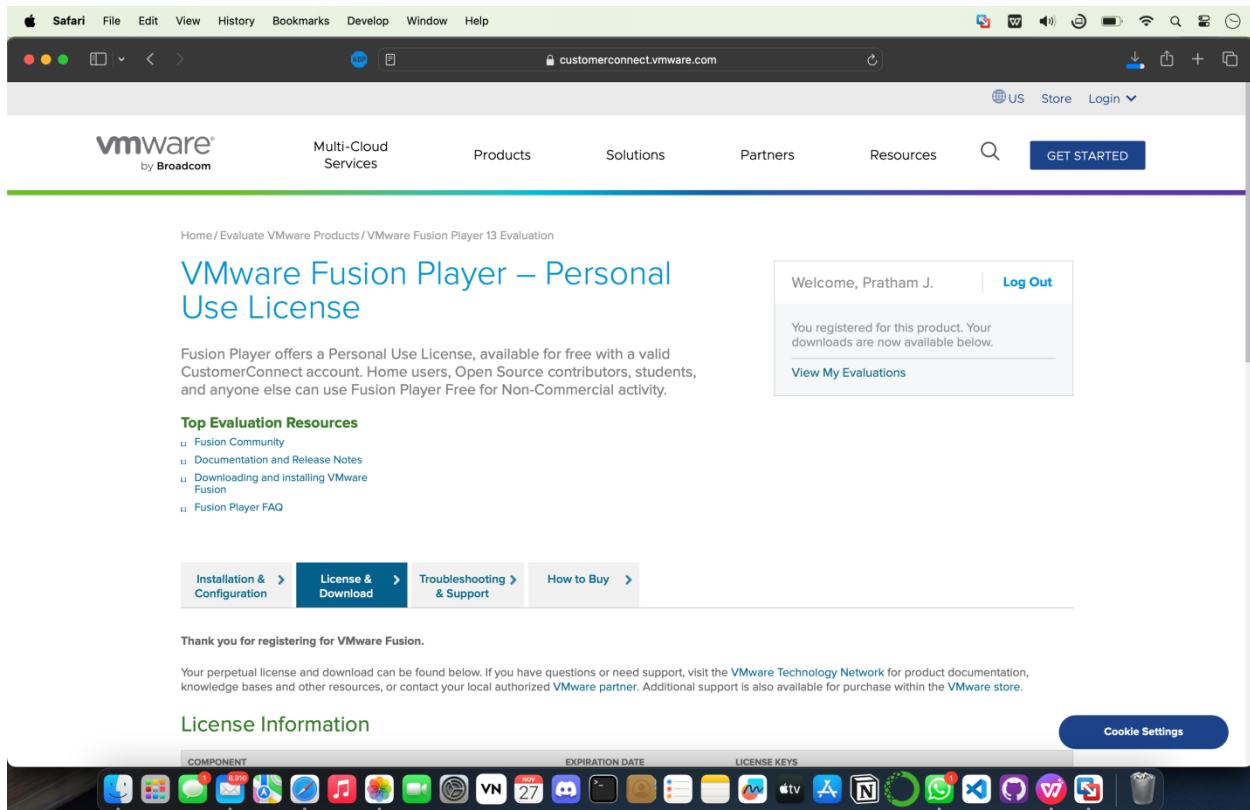
Theory:

Virtual machines enable the creation of an isolated environment within an existing operating system. This environment functions like a physical computer and allows users to install and run different operating systems simultaneously.

Steps to Install and Configure a VM with Guest OS:

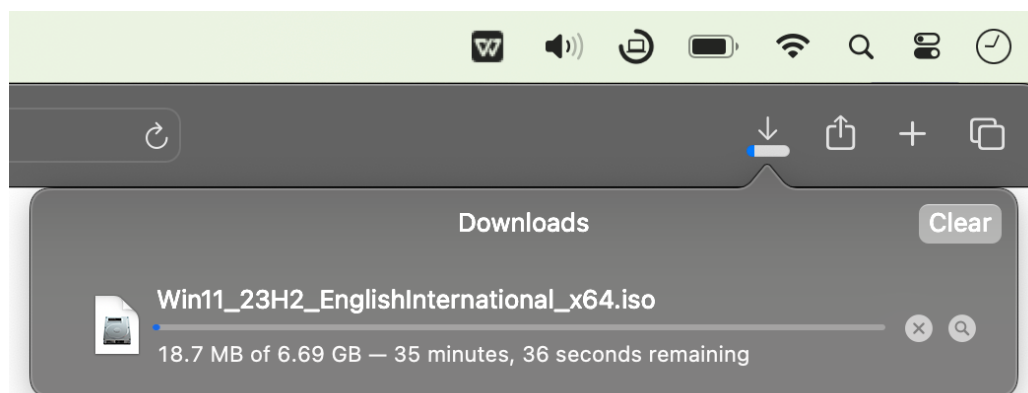
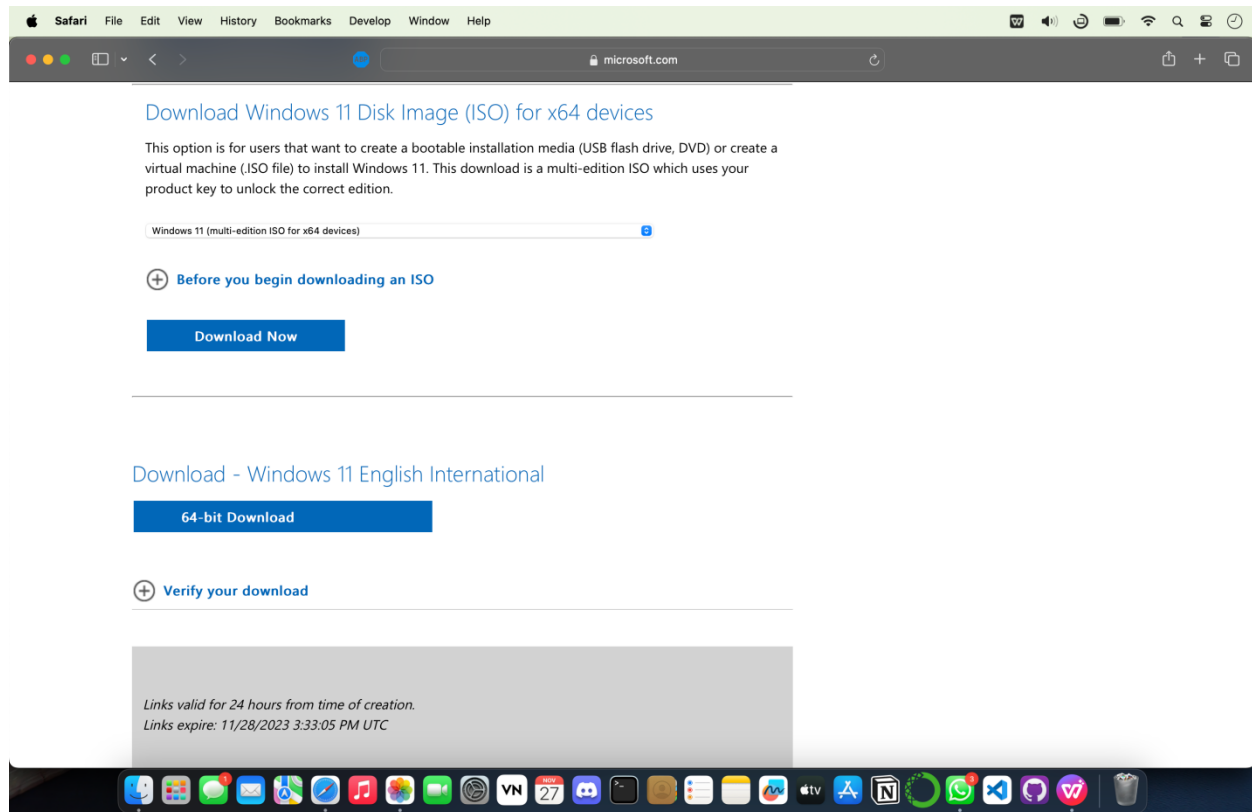
Step 1: Download and Install VirtualBox or VMware Fusion

- Visit the respective websites for VirtualBox or VMware Fusion and download the macOS version.
- Double-click the installer and follow the on-screen instructions to install the software.



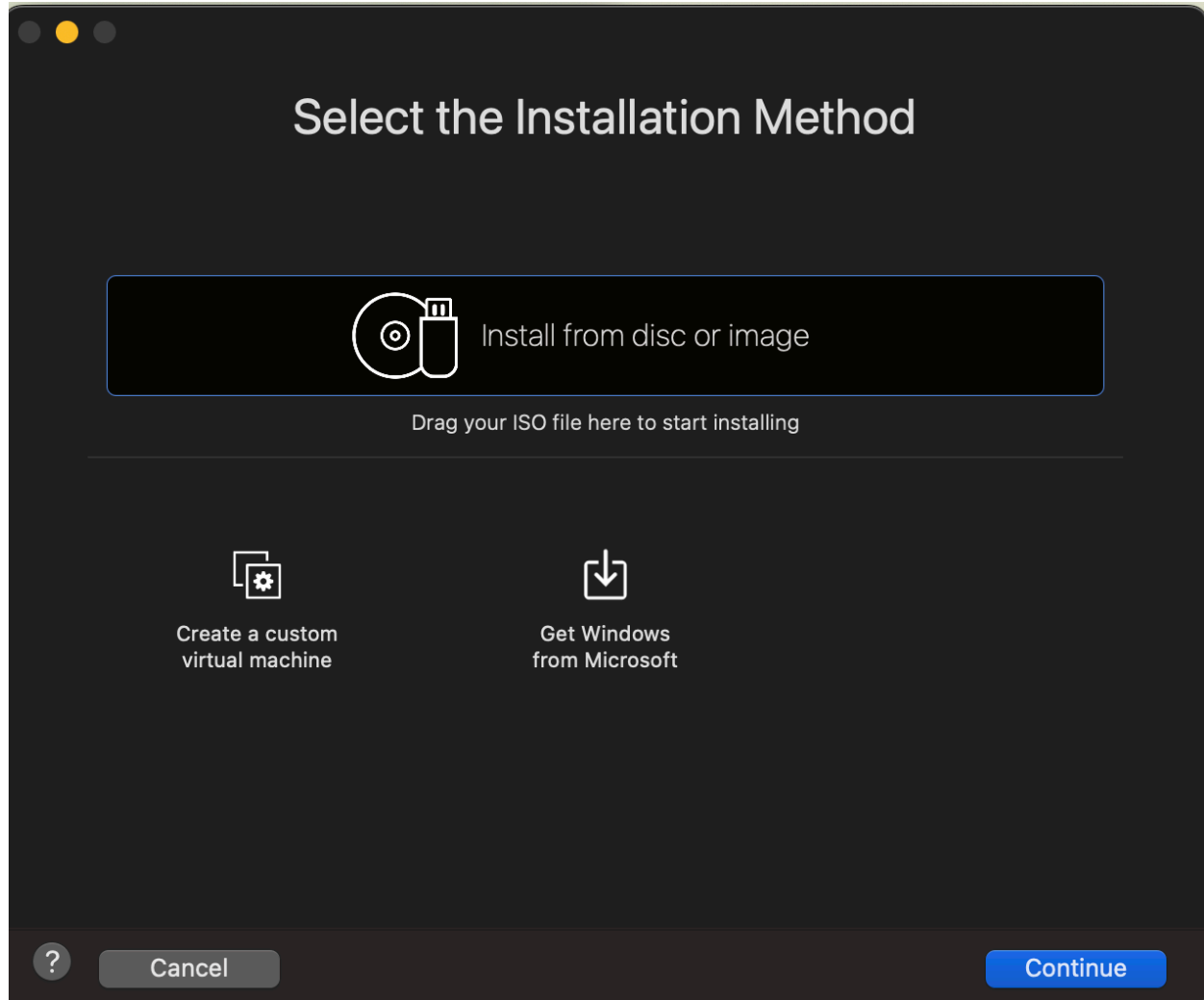
Step 2: Obtain Guest OS ISO

- Download the ISO file for the guest OS you intend to install on the VM. we will install windows 11 on macos, get ISO file from <https://www.microsoft.com/software-download/windows11>

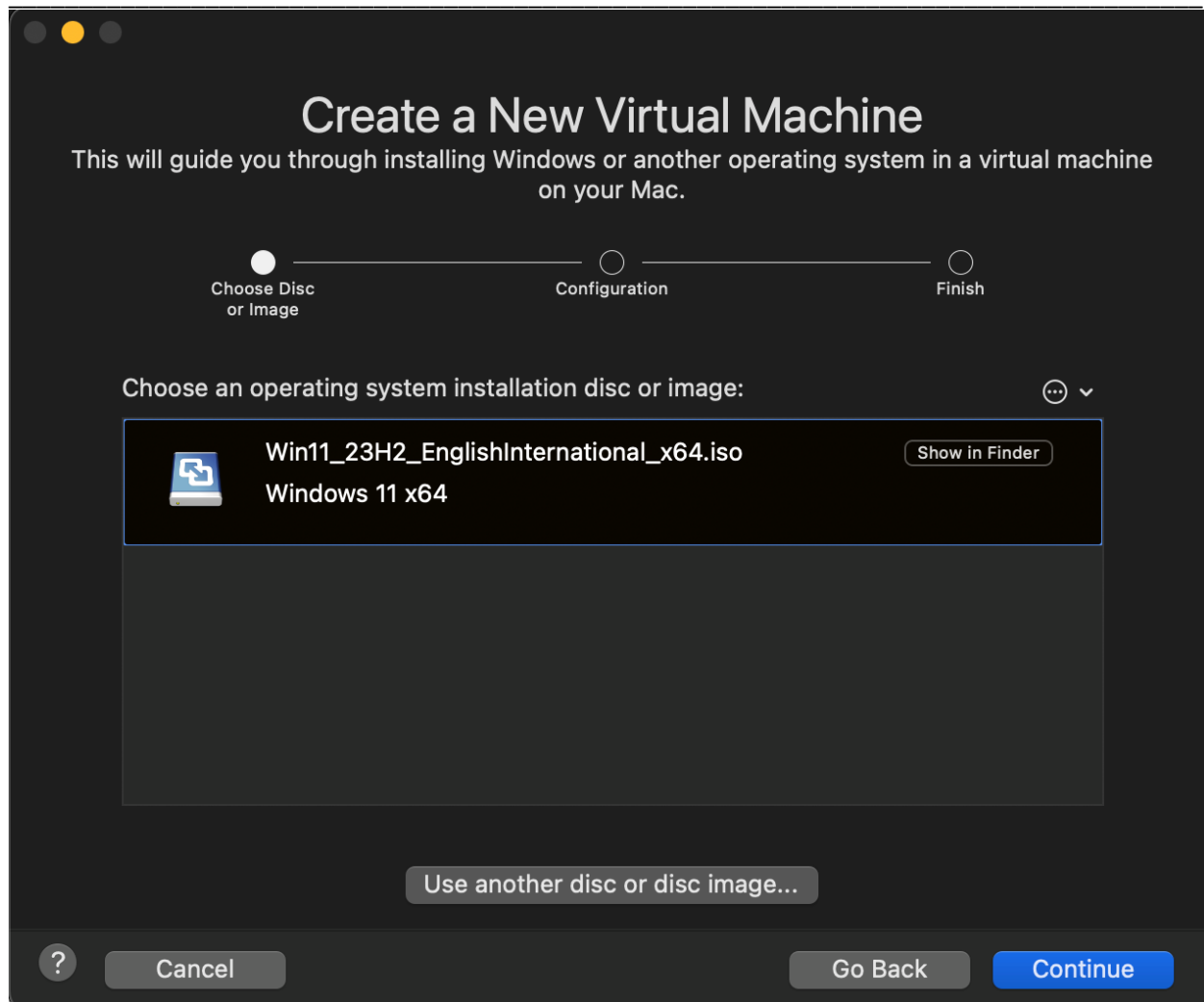


Step 3: Create a New VM

- Open VirtualBox or VMware Fusion.



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- Create a new virtual machine using the software's interface.
- Name the VM.

- Select the type and version of the guest OS.



Choose Encryption
Key in the Password for Encrypting this virtual machine.

Progress bar: Choose Disc or Image (selected), Configuration, Finish

Key in the Password for Encryption

This Guest OS requires a virtualized TPM to function securely. The VM must be encrypted with either Full or Fast encryption to add a TPM device. The password must have atleast 8 characters.

- ☐ All the files (.vmdk, .vmx, etc) for this virtual machine are encrypted.
- ☒ Only the files needed to support a TPM are encrypted. (.nvram, .vmss, .vmem, .vmx, .vmsn)

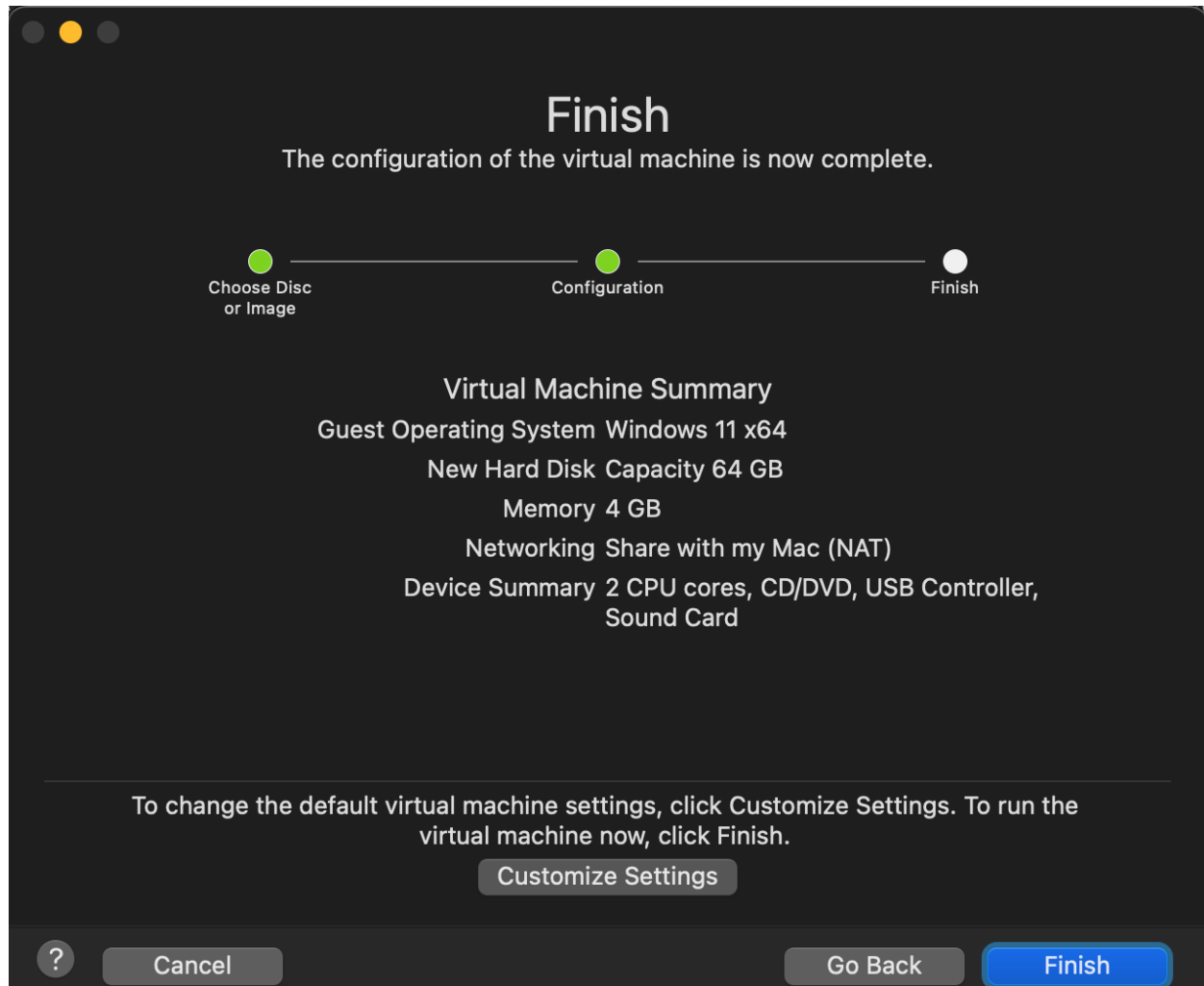
Password: Auto Generate Password

Verify:

☒ Remember Password and store it in Mac's Keychain

? Cancel Go Back Continue

- Allocate memory (RAM) and storage for the VM.

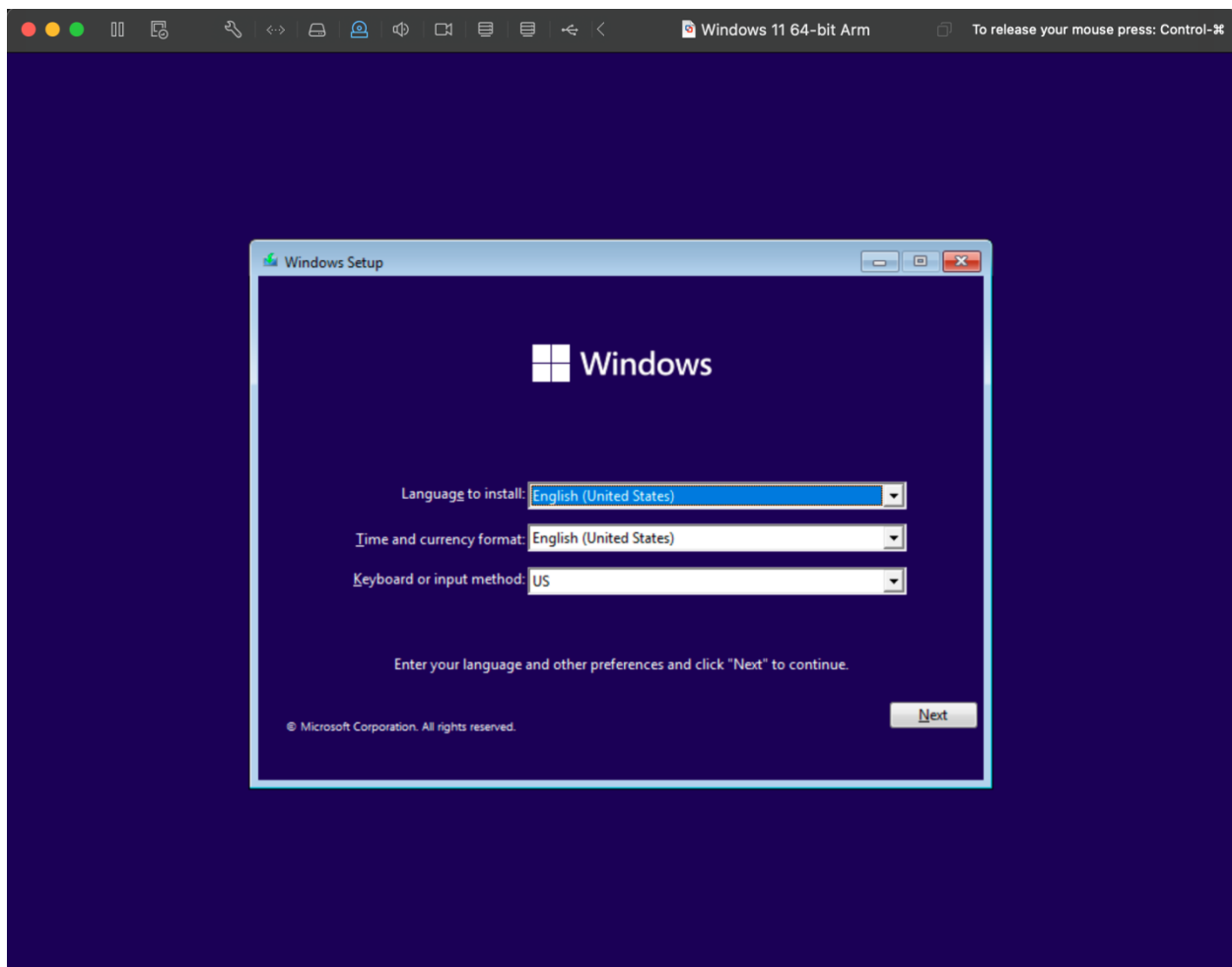


Step 4: Configure VM Settings

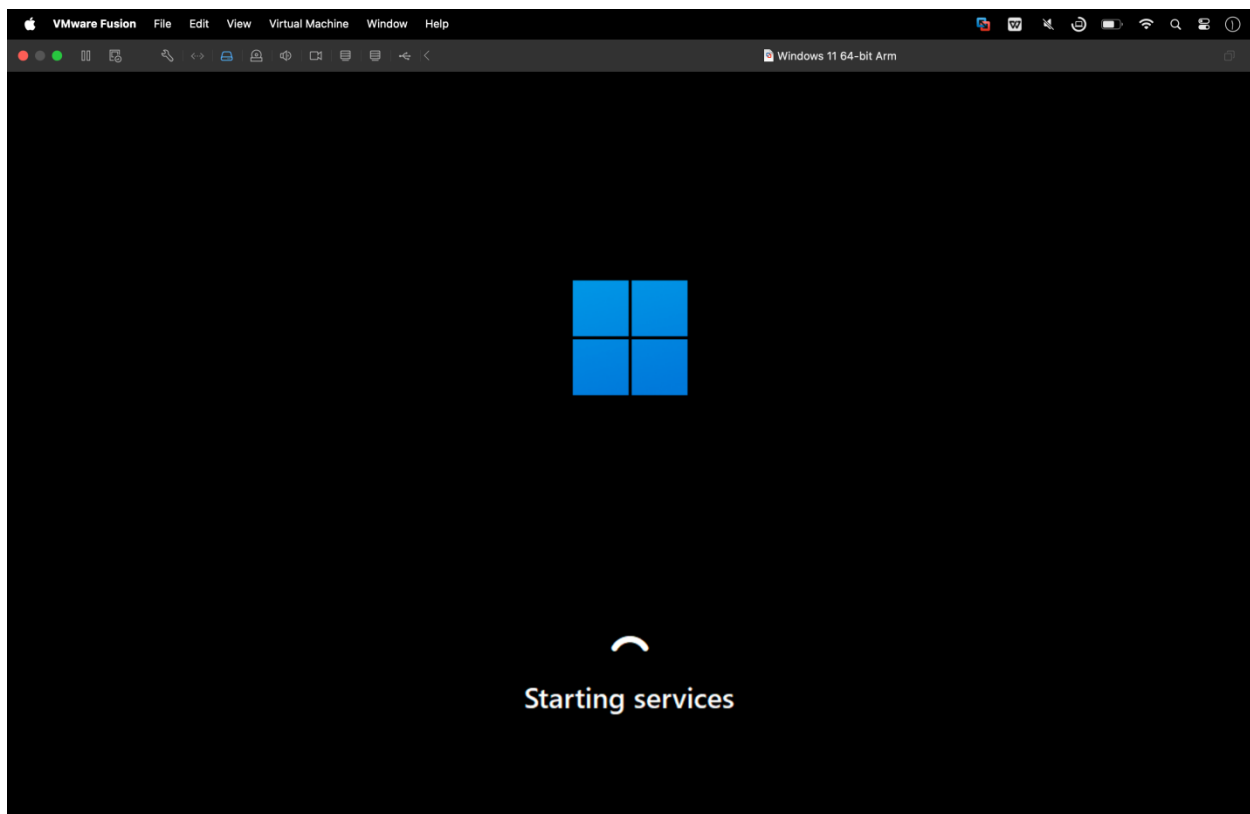
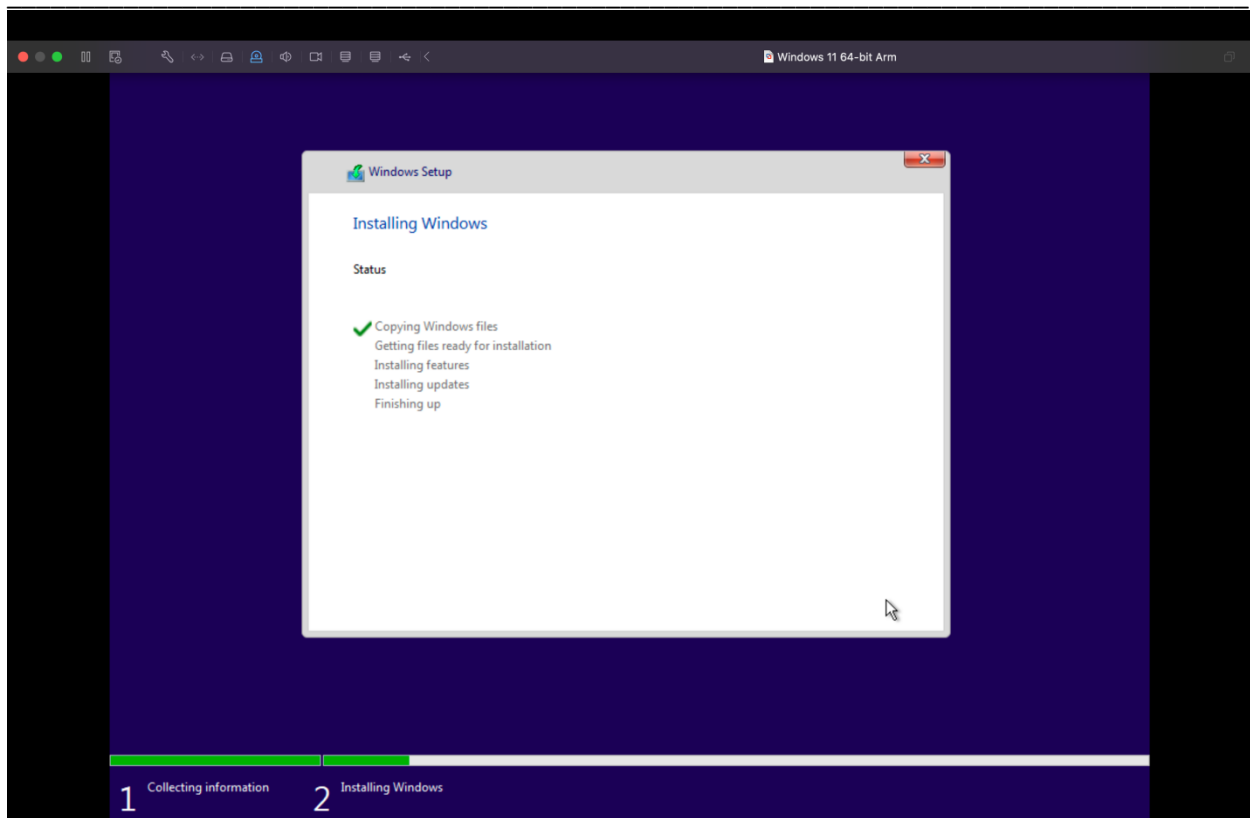
- Adjust settings like network configurations, display, and additional hardware settings as required.
- Attach the downloaded guest OS ISO file to the virtual optical drive.

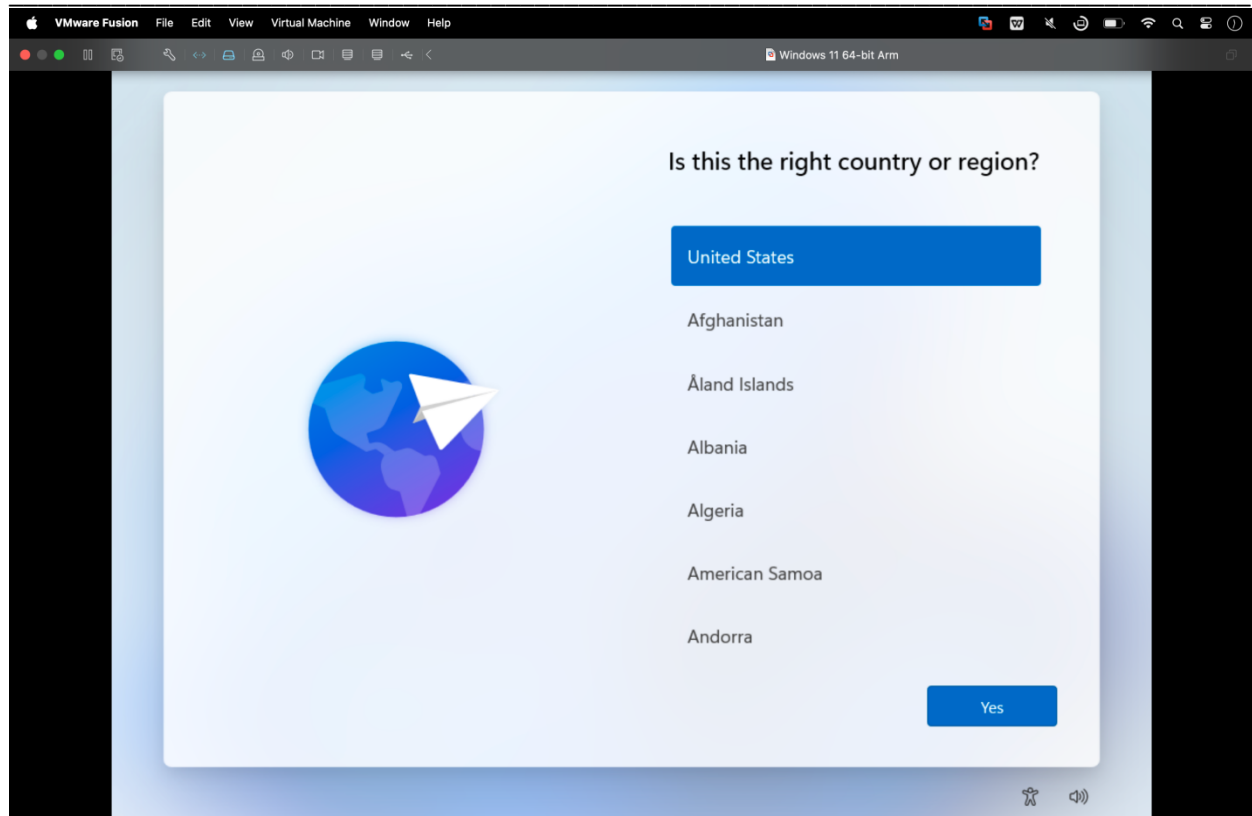
Step 5: Install Guest OS

- Start the VM and boot from the attached ISO file.



- Follow the installation prompts to install the guest OS within the VM.

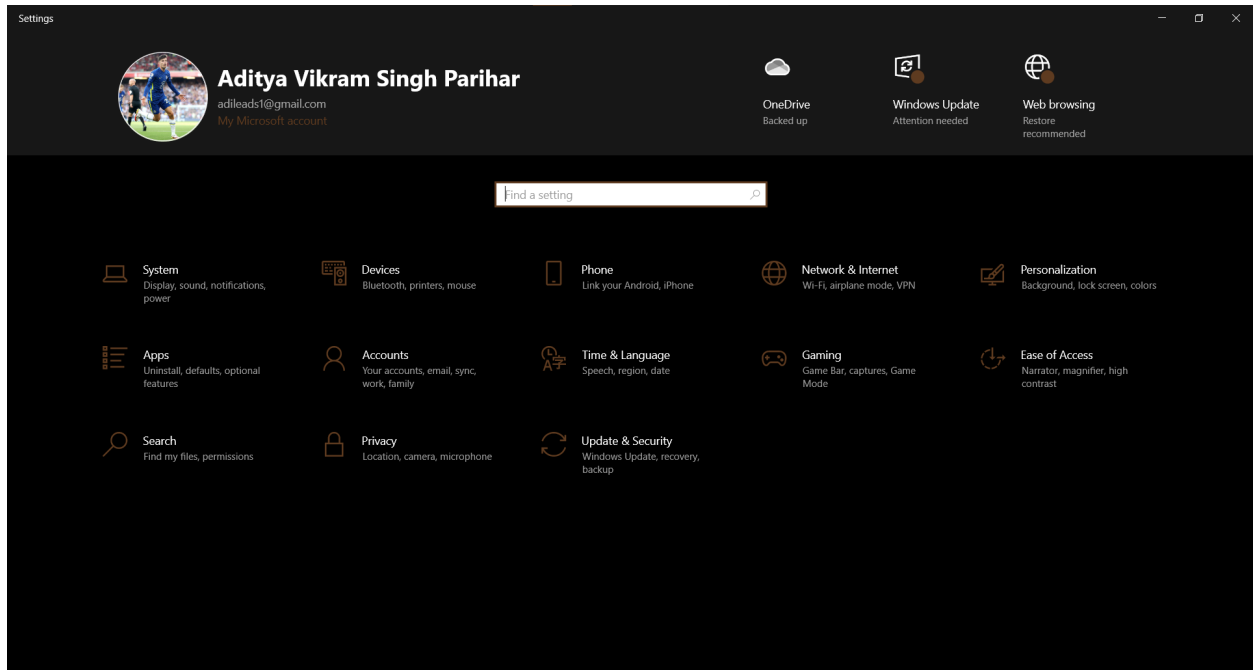




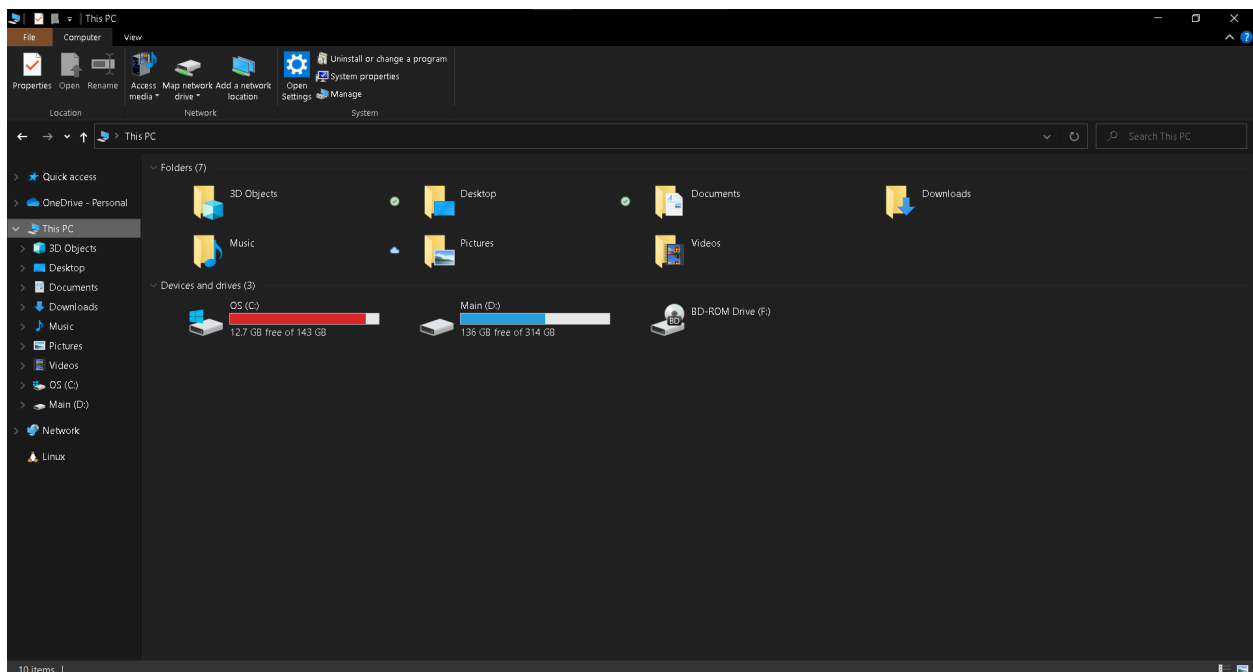


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Step 6: Complete Installation



- Eject the ISO file from the virtual optical drive after the guest OS installation is complete.



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- Restart the VM and configure any additional settings within the guest OS.

Conclusion:

Successfully set up and configured a virtual machine with a guest operating system on a macOS environment using VirtualBox or VMware Fusion. This experiment illustrated the process of creating a virtual environment and installing a guest OS, allowing for testing and running different operating systems on a single machine.