How i Set Up a $0 IT Virtual Home Lab Without Leaving my Chair

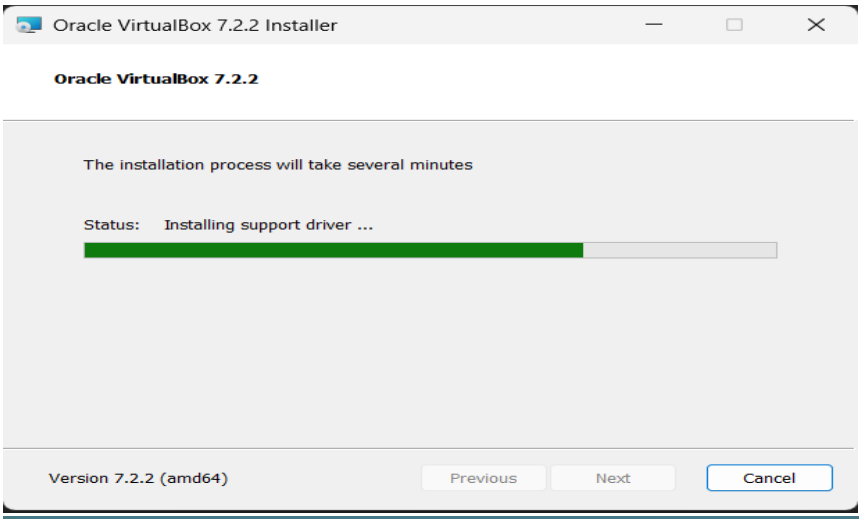
Remember when learning IT meant buying a stack of loud, hot servers off eBay? Those days are over. I recently built a fully functional cybersecurity and IT Virtual Home lab using nothing but my current laptop and open-source software.

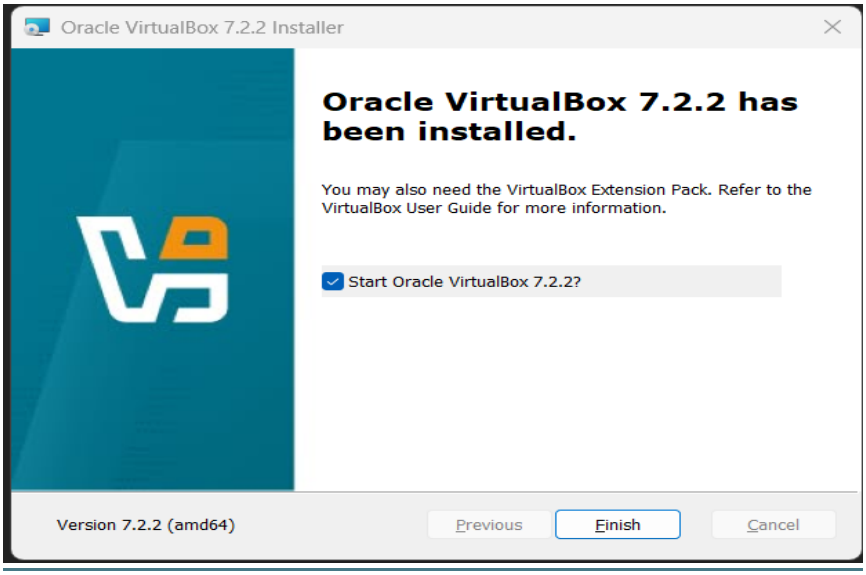
If studying for a certification or just want to test malware safely, here is the exact roadmap I used.

Step 1:

The Tools (Total Cost: $0) and Installation
We are using virtualization—running a computer inside a computer.

- **Hypervisor:** I chose **Oracle VirtualBox**. It's free and runs on Windows/Linux. https://ww.virtualbox.org/wiki/Downloads





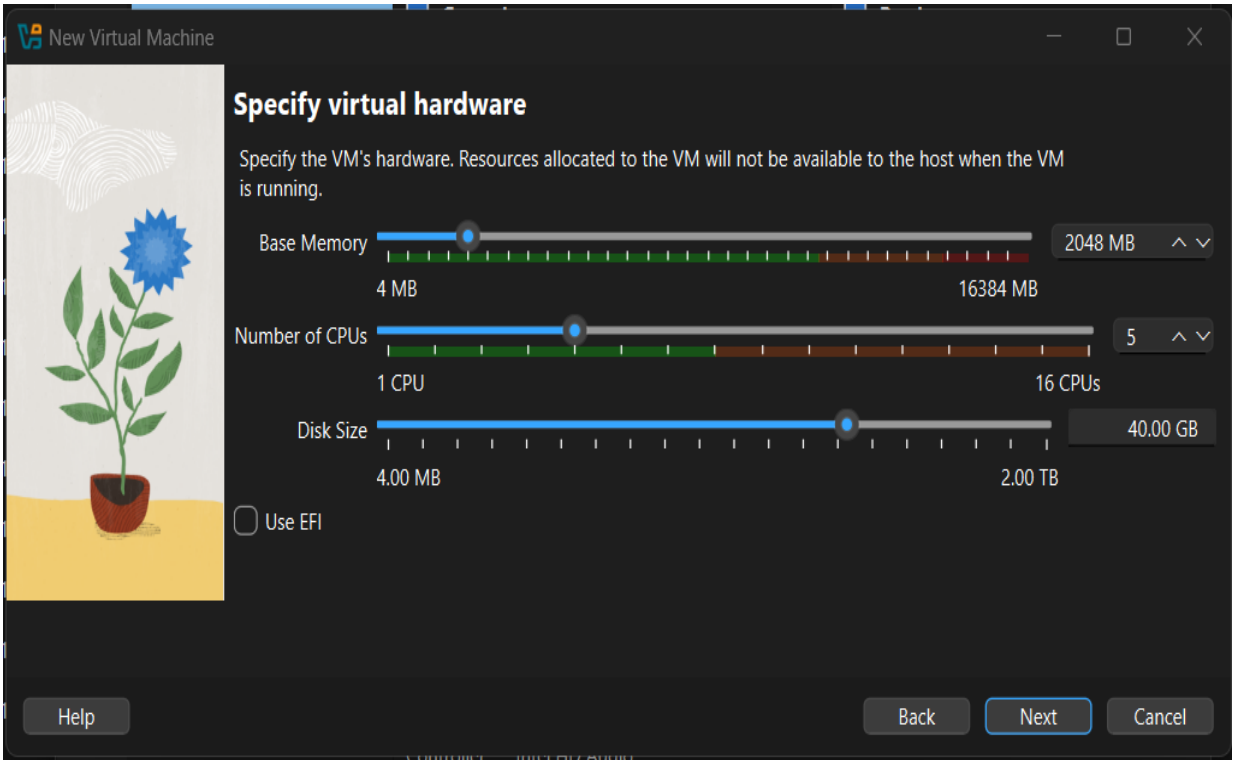
Step 2.

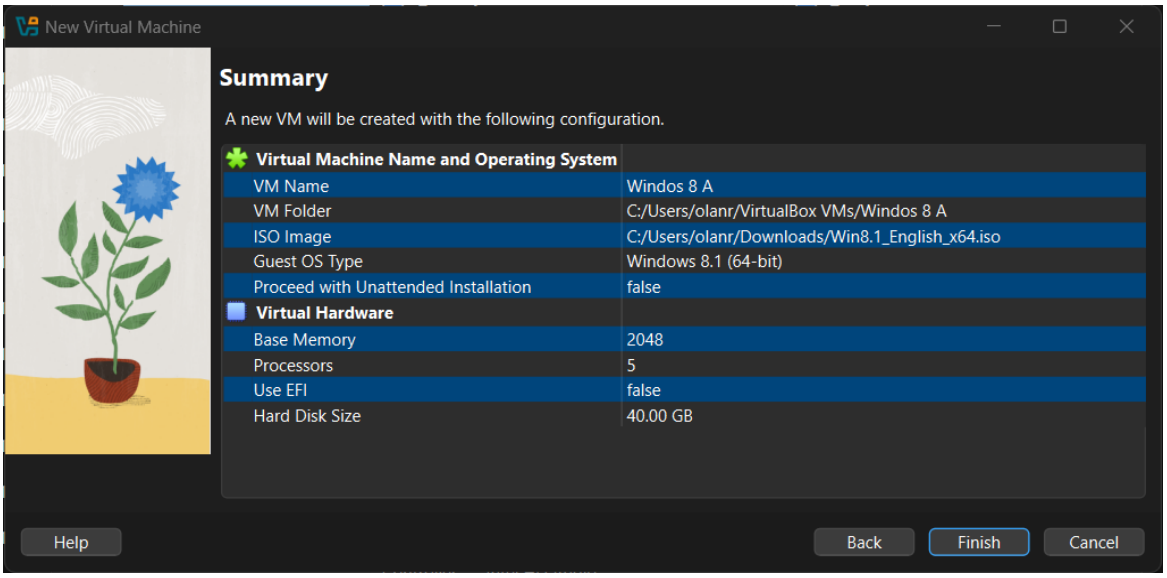
The OS: You'll need an ISO file. I recommend downloading a Windows Evaluation https://www.techworm.net/2023/03/download-windows-8-1-iso-files.html or a Linux distro (like Ubuntu) from official sources.

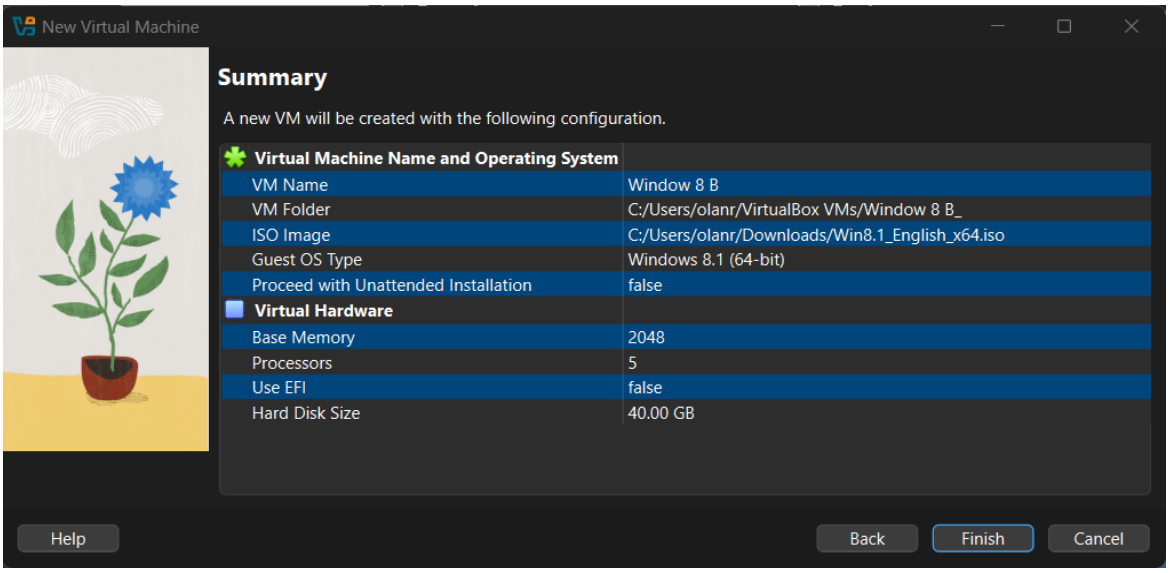
Creating the "Guests"
In VirtualBox, I set up 3 machines named *"Windows 8 A", Windows 8 B and* (Simulating a real work environment!).

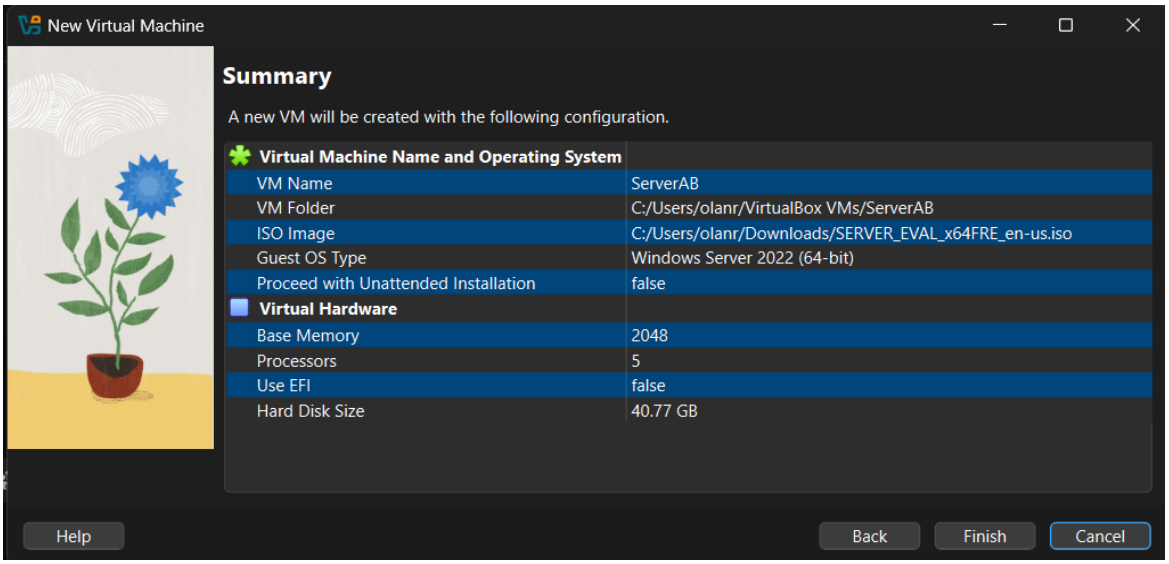
- **RAM:** I allocated **2048 MB (2GB)**. *Tip: Don't starve your host machine of RAM!*
- **Storage:** I created a **40GB Virtual Hard Disk**.

Pro-Tip: Select "Dynamically Allocated" storage. This means the file starts small and grows as you use it, saving space on your laptop.

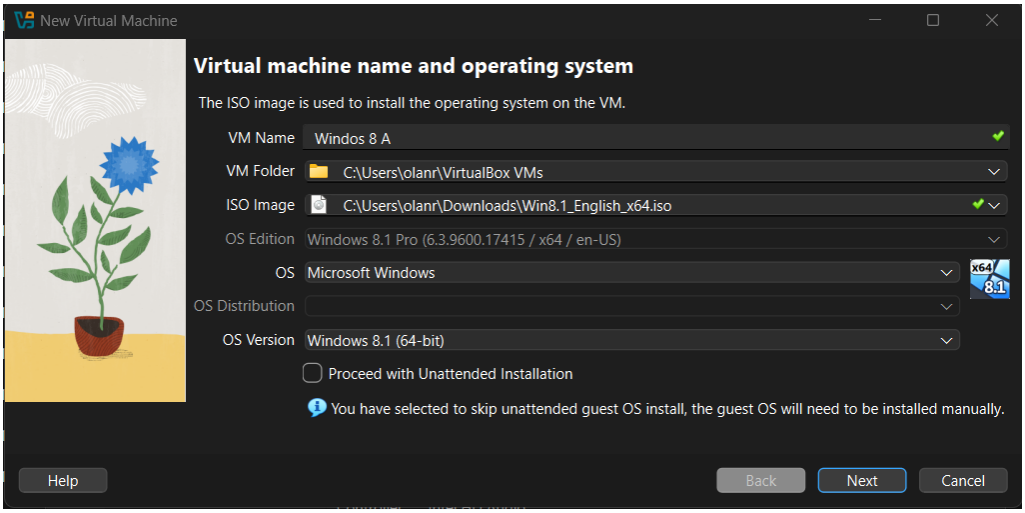


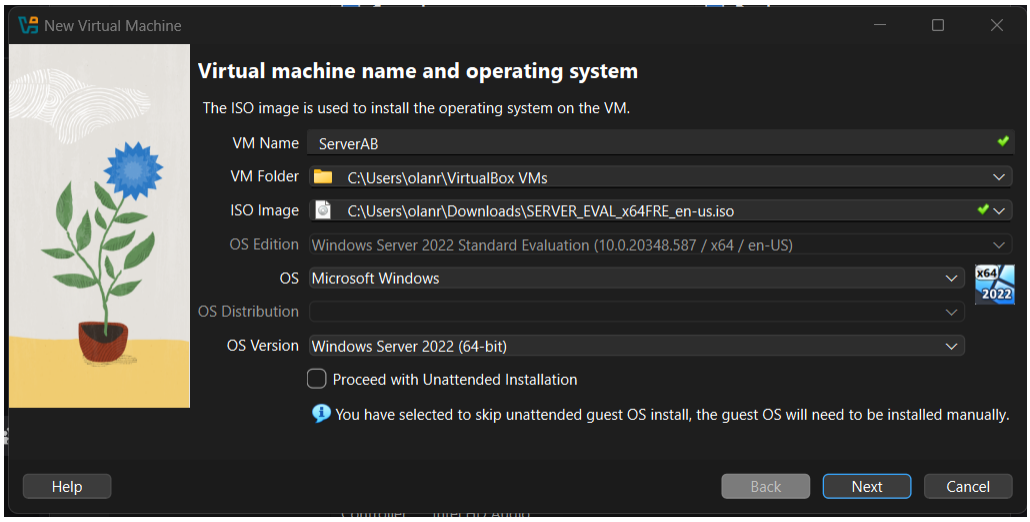

New Virtual Machine
Summary
A new VM will be created with the following configuration.
Virtual Machine Name and Operating System
VM Name
Windos 8 A
VM Folder
C:/Users/olanr/VirtualBox VMs/Windos 8 A
ISO Image
C:/Users/olanr/Downloads/Win8.1_English_x64.iso
Guest OS Type
Windows 8.1 (64-bit)
Proceed with Unattended Installation
false
Virtual Hardware
Base Memory
2048
Processors
5
Use EFI
false
Hard Disk Size
40.00 GB
Help
Back
Finish
Cancel

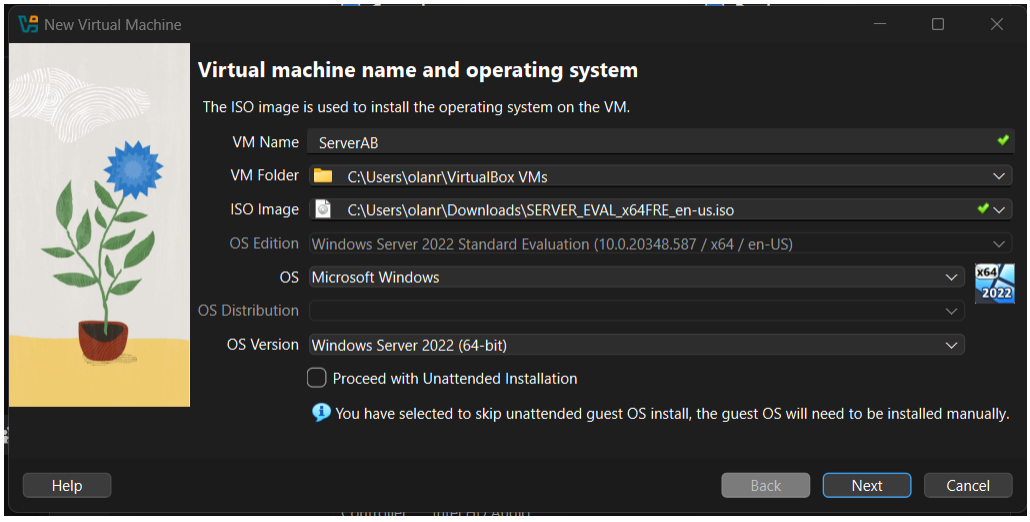

New Virtual Machine
Summary
A new VM will be created with the following configuration.
Virtual Machine Name and Operating System
VM Name
Window 8 B
VM Folder
C:/Users/olanr/VirtualBox VMs/Window 8 B_
ISO Image
C:/Users/olanr/Downloads/Win8.1_English_x64.iso
Guest OS Type
Windows 8.1 (64-bit)
Proceed with Unattended Installation
false
Virtual Hardware
Base Memory
2048
Processors
5
Use EFI
false
Hard Disk Size
40.00 GB
Help
Back
Finish
Cancel


New Virtual Machine
Summary
A new VM will be created with the following configuration.
Virtual Machine Name and Operating System
VM Name
ServerAB
VM Folder
C:/Users/olanr/VirtualBox VMs/ServerAB
ISO Image
C:/Users/olanr/Downloads/SERVER_EVAL_x64FRE_en-us.iso
Guest OS Type
Windows Server 2022 (64-bit)
Proceed with Unattended Installation
false
Virtual Hardware
Base Memory
2048
Processors
5
Use EFI
false
Hard Disk Size
40.77 GB
Help
Back
Finish
Cancel

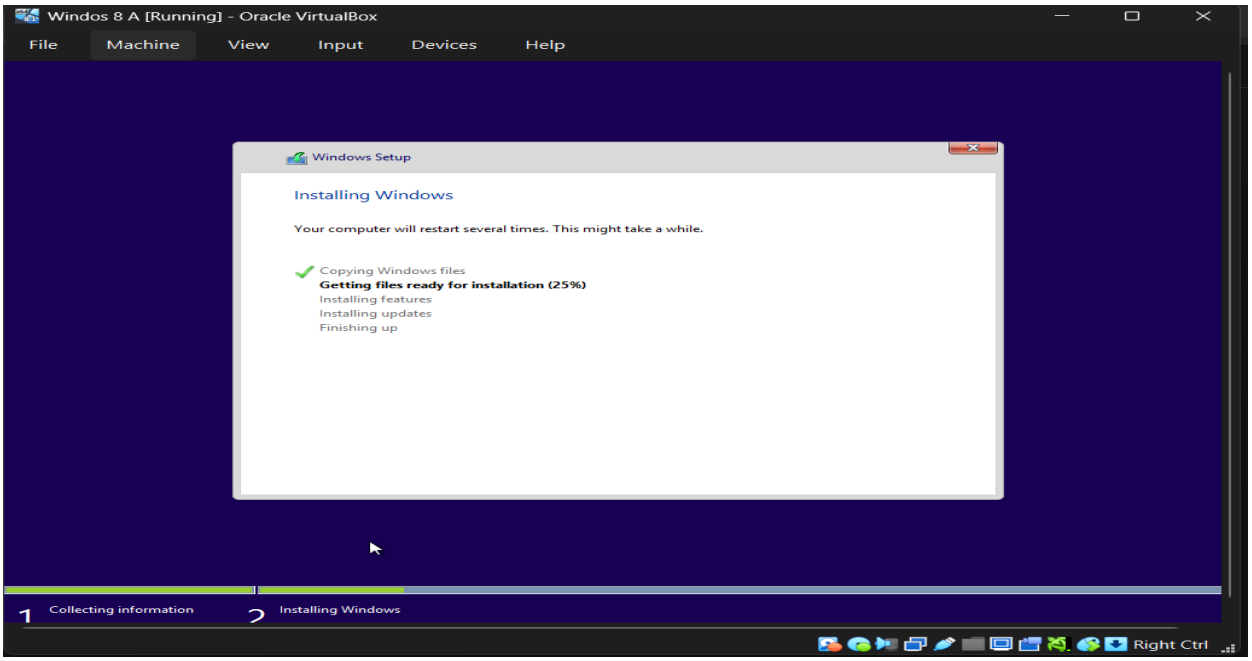
Set up for the 3 machines

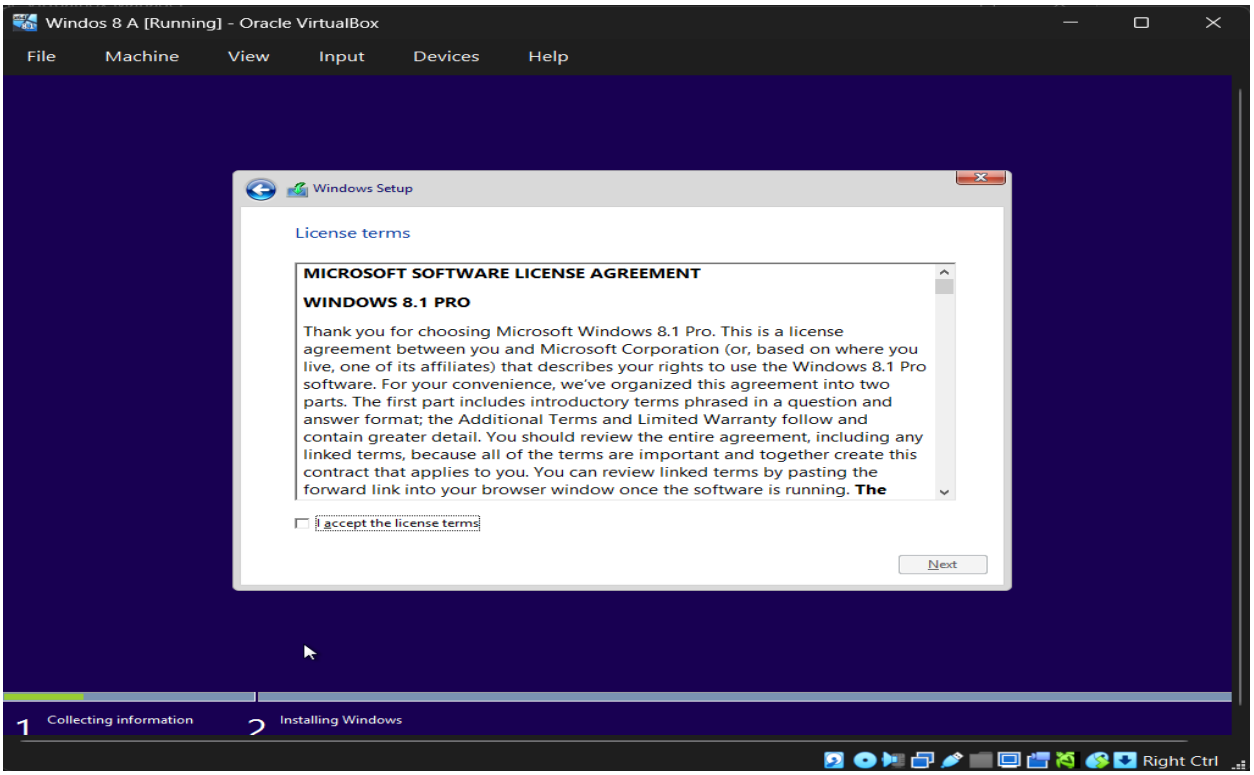


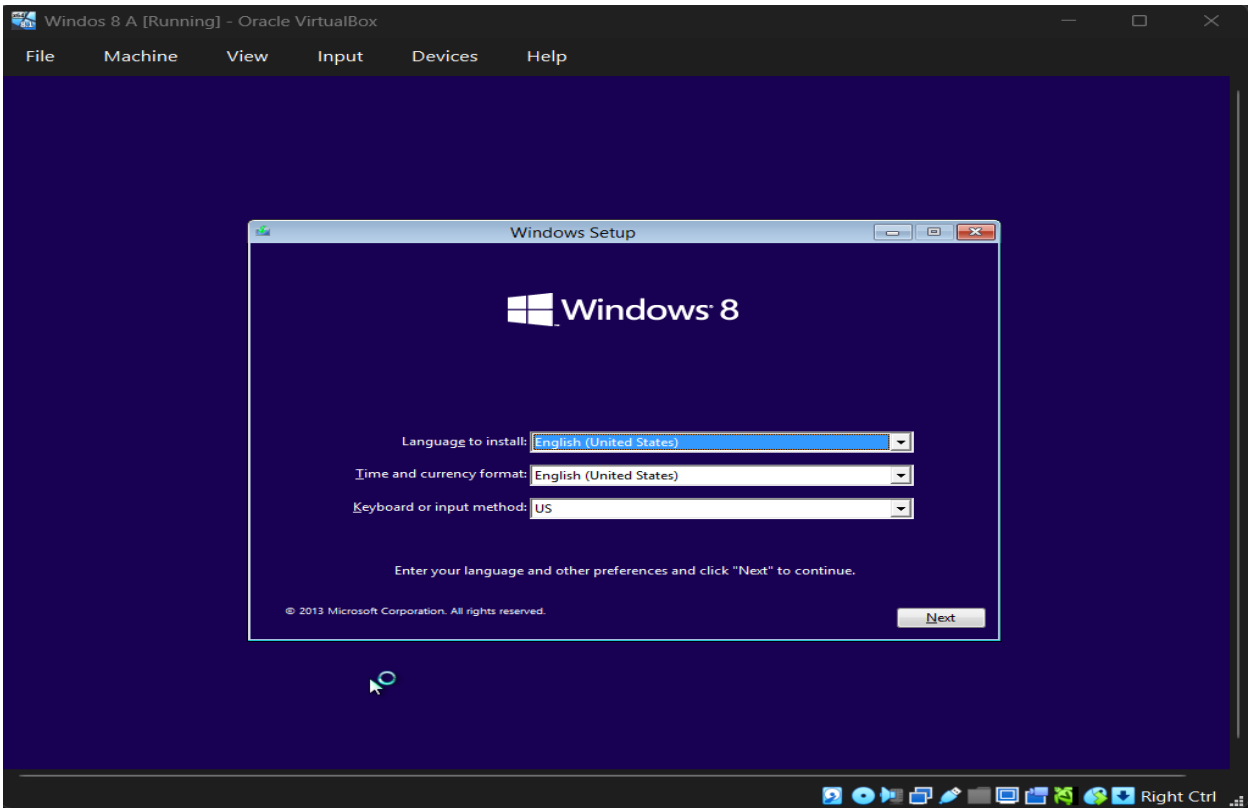




Windows 8 A installation in progress






Windos 8 A [Running] - Oracle VirtualBox
File
Machine
View
Input
Devices
Help
Windows Setup
Windows 8
Language to install:
English (United States)
Time and currency format:
English (United States)
Keyboard or input method:
US
Enter your language and other preferences and click "Next" to continue.
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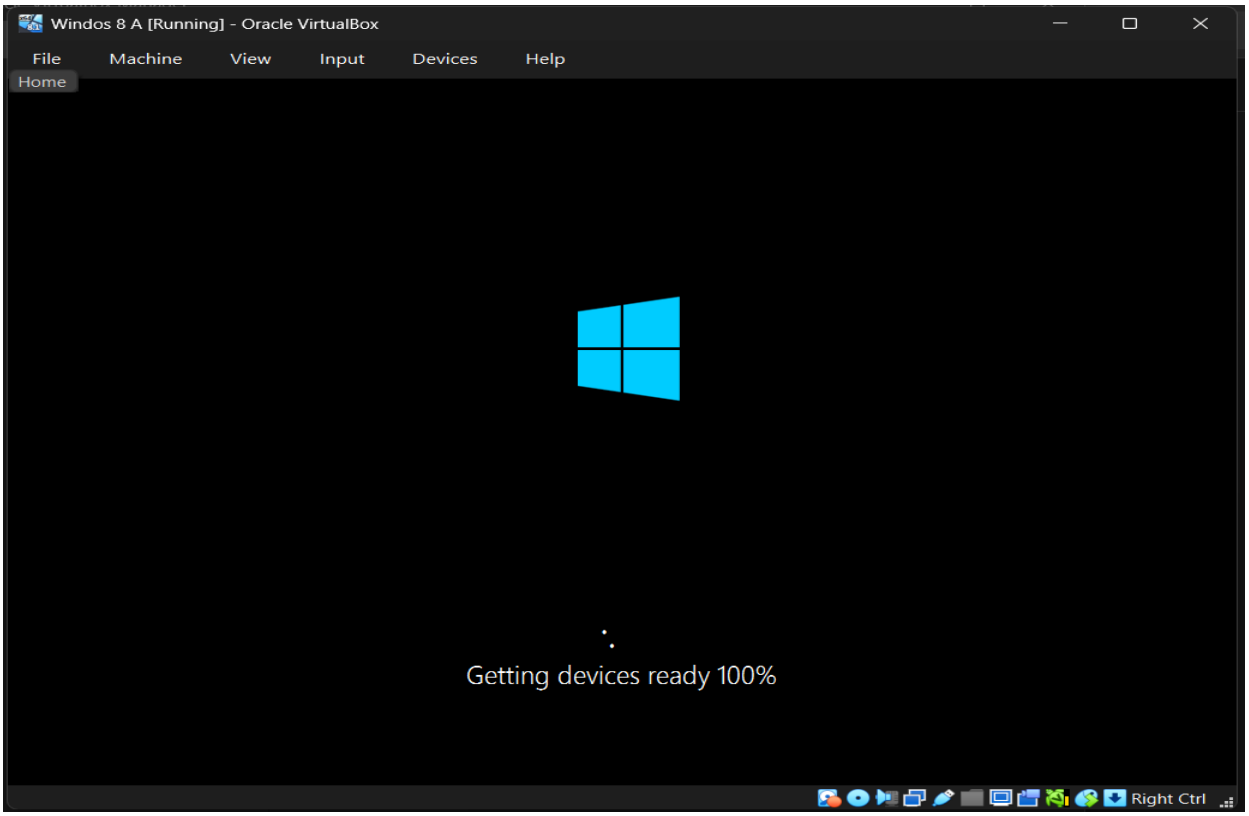
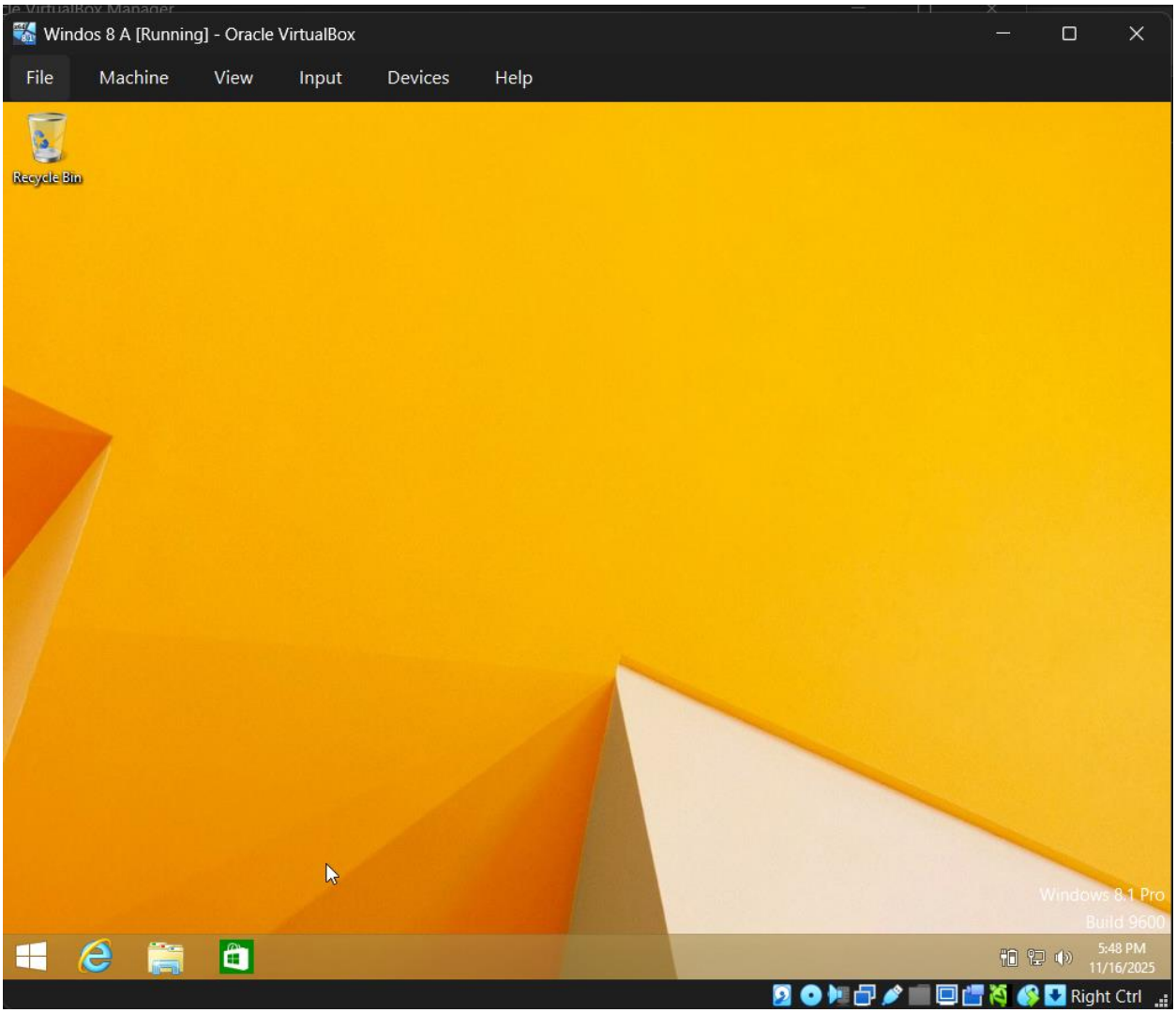
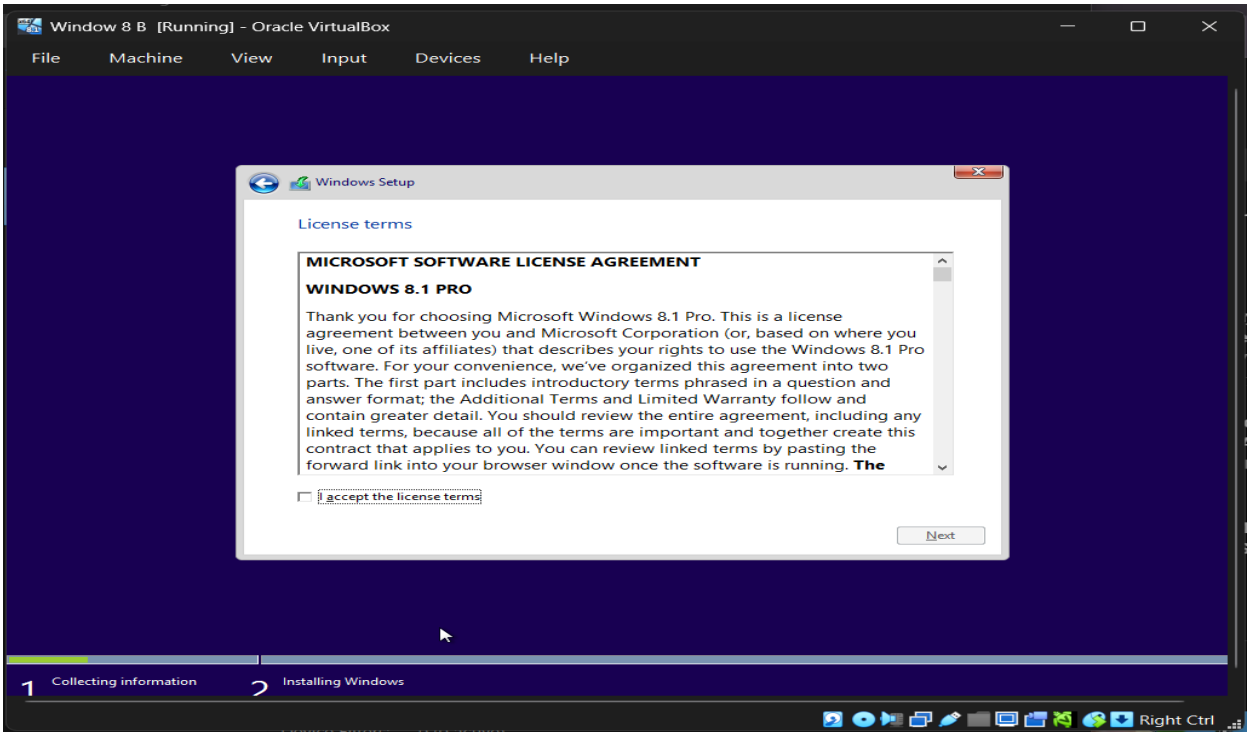
Next
Right Ctrl

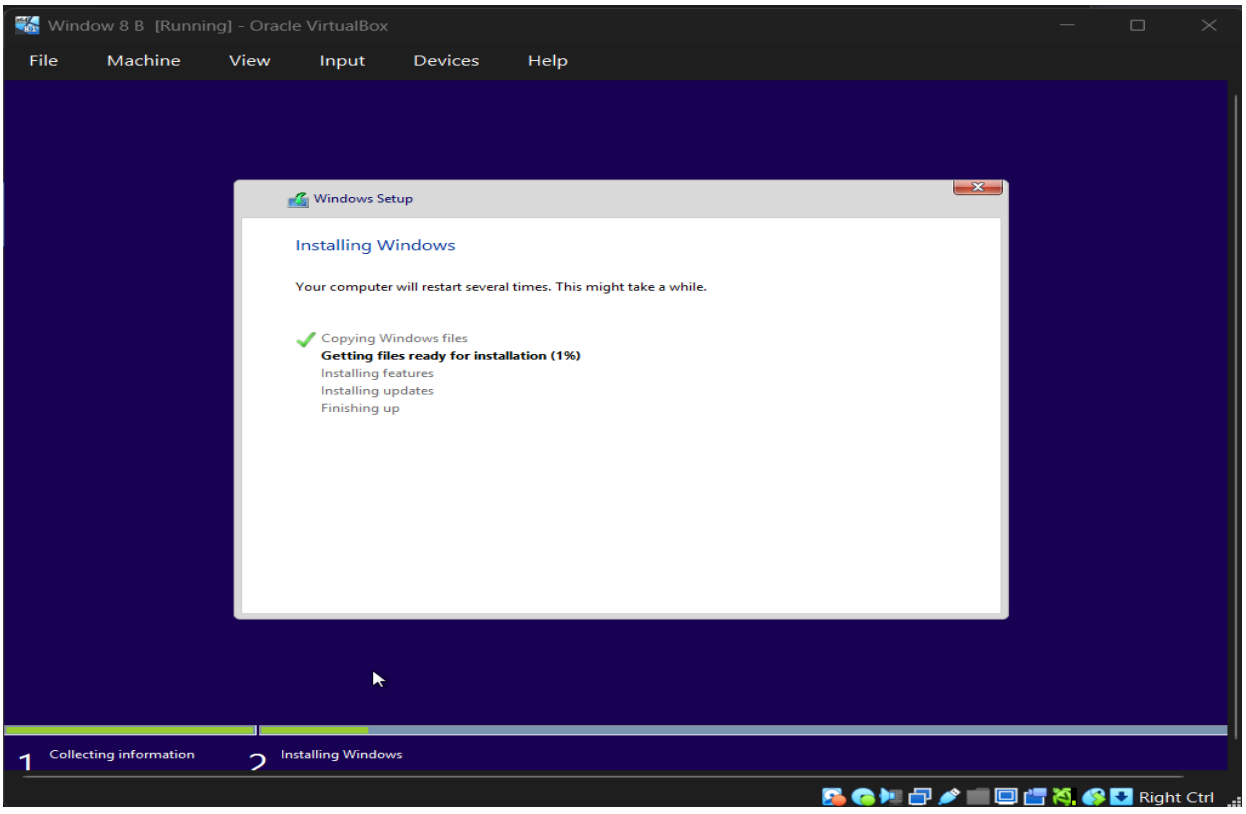

Windos 8 A [Running] - Oracle VirtualBox
File
Machine
View
Input
Devices
Help
Home
Getting devices ready 100%
Right Ctrl

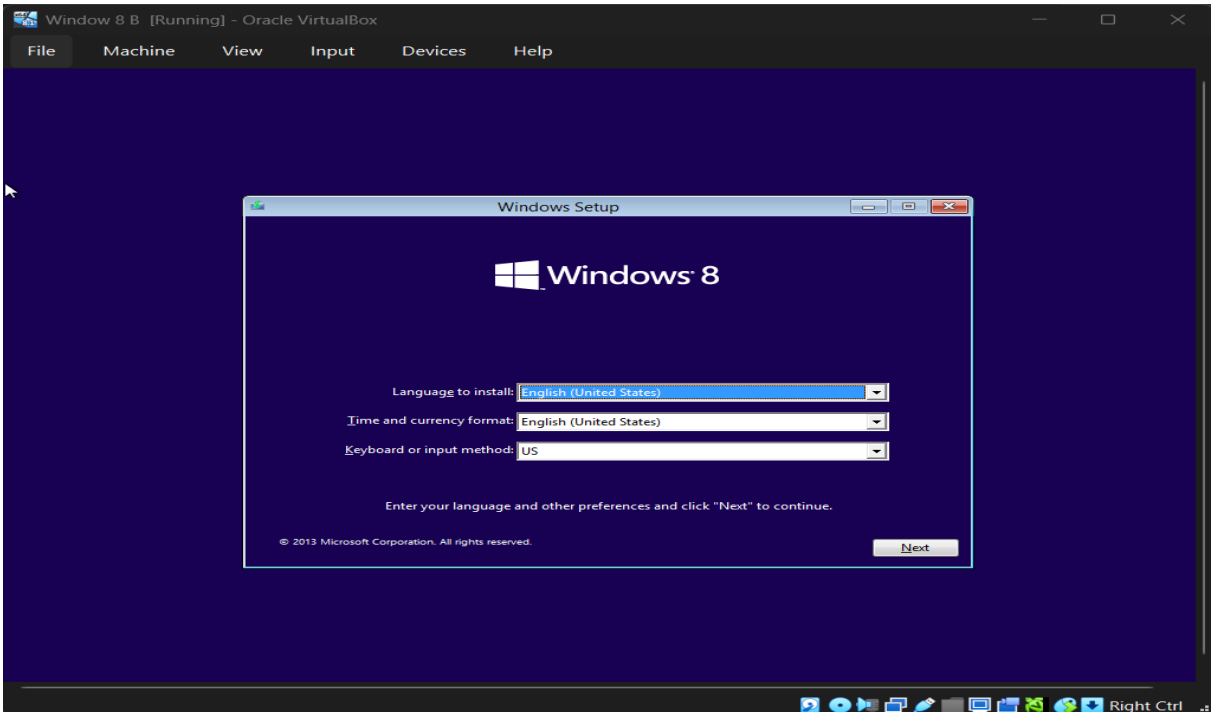
Virtual Machine Windows 8 A ready



Windows 8 B installation in progress


Window 8 B [Running] - Oracle VirtualBox
File
Machine
View
Input
Devices
Help
Windows Setup
License terms
MICROSOFT SOFTWARE LICENSE AGREEMENT
WINDOWS 8.1 PRO
Thank you for choosing Microsoft Windows 8.1 Pro. This is a license agreement between you and Microsoft Corporation (or, based on where you live, one of its affiliates) that describes your rights to use the Windows 8.1 Pro software. For your convenience, we've organized this agreement into two parts. The first part includes introductory terms phrased in a question and answer format; the Additional Terms and Limited Warranty follow and contain greater detail. You should review the entire agreement, including any linked terms, because all of the terms are important and together create this contract that applies to you. You can review linked terms by pasting the forward link into your browser window once the software is running. The
I accept the license terms
Next
1 Collecting information
2 Installing Windows
Right Ctrl


Window 8 B [Running] - Oracle VirtualBox
File
Machine
View
Input
Devices
Help
Windows Setup
Installing Windows
Your computer will restart several times. This might take a while.
Copying Windows files
Getting files ready for installation (1%)
Installing features
Installing updates
Finishing up
1 Collecting information
2 Installing Windows
Right Ctrl


Window 8 B [Running] - Oracle VirtualBox
File
Machine
View
Input
Devices
Help
Windows Setup
Windows 8
Language to install: English (United States)
Time and currency format: English (United States)
Keyboard or input method: US
Enter your language and other preferences and click "Next" to continue.
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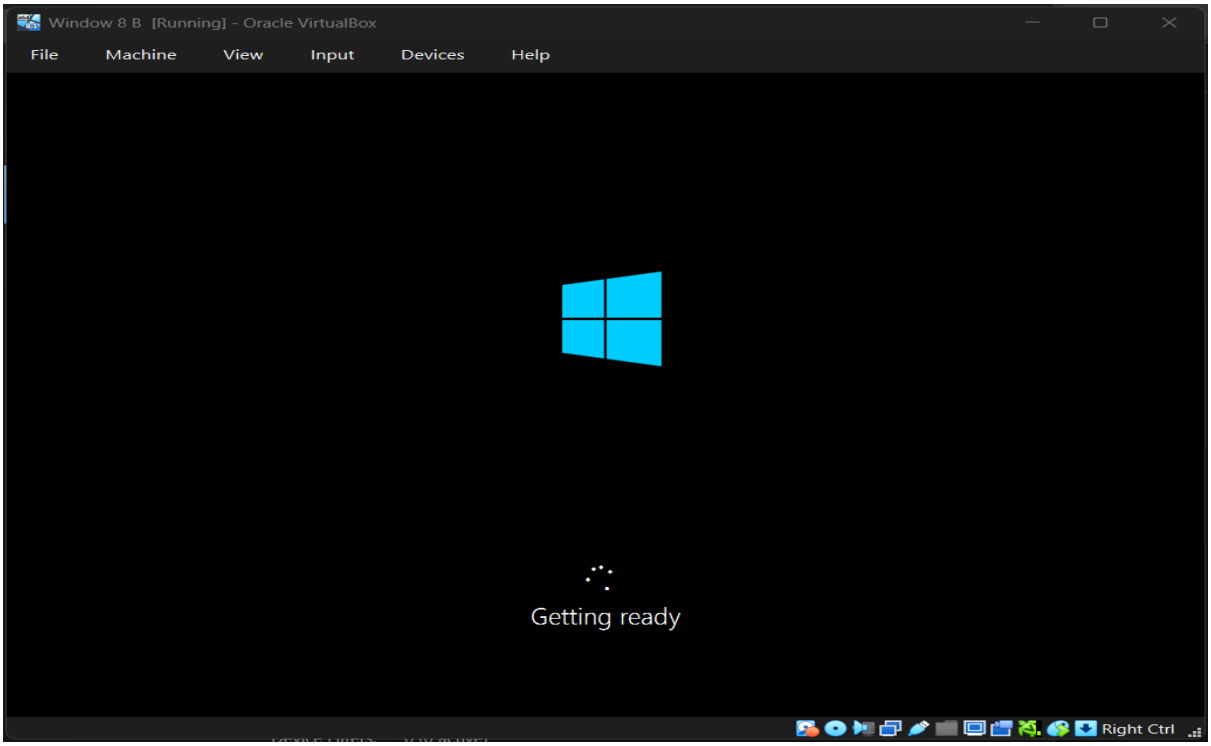
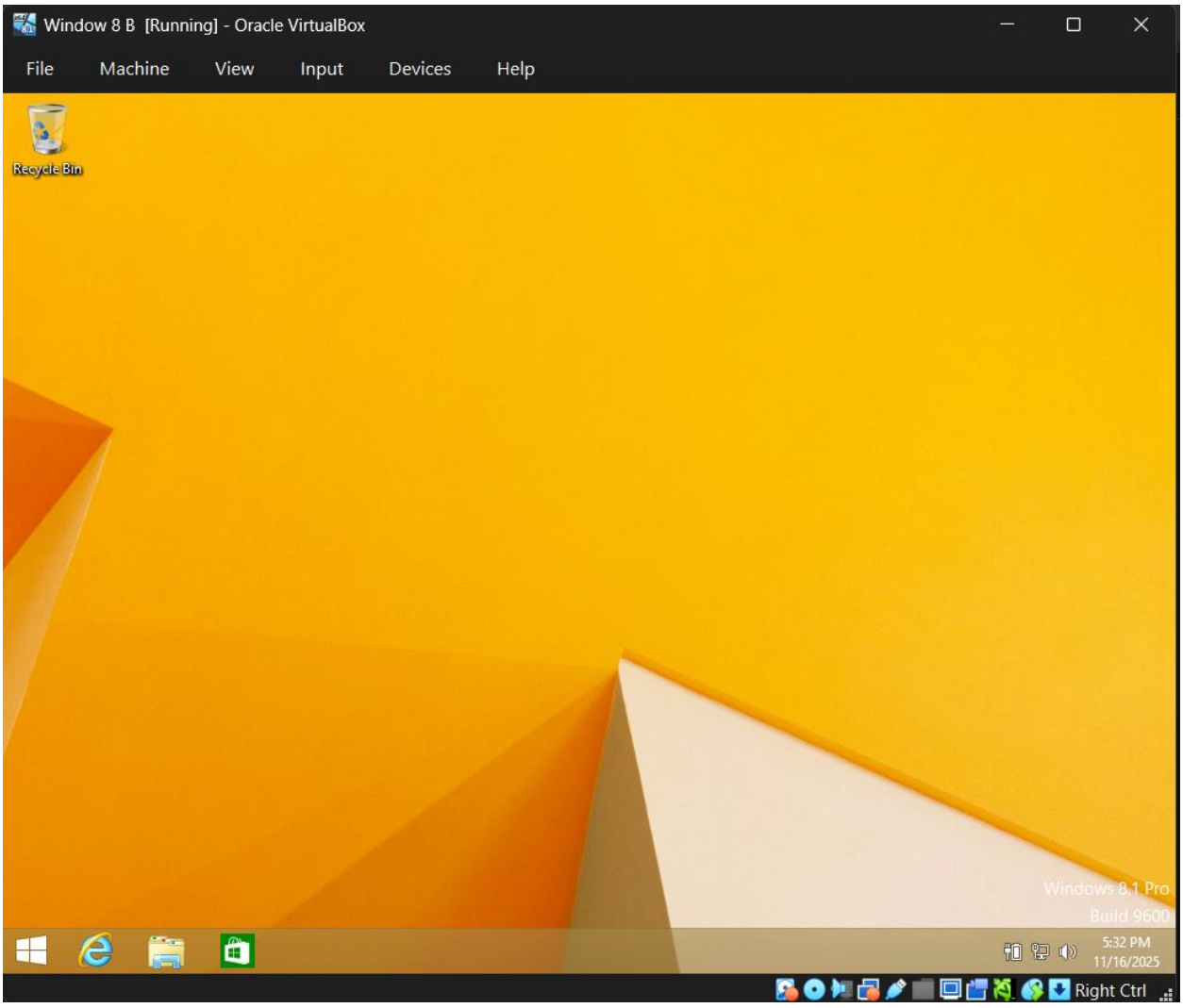
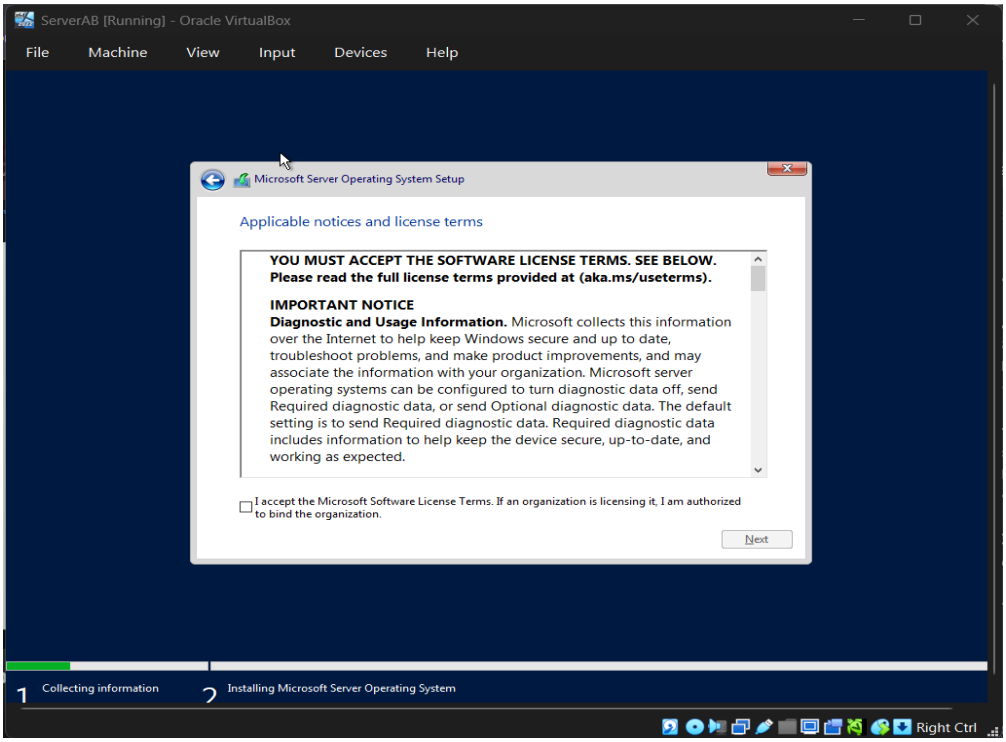
Next
Right Ctrl

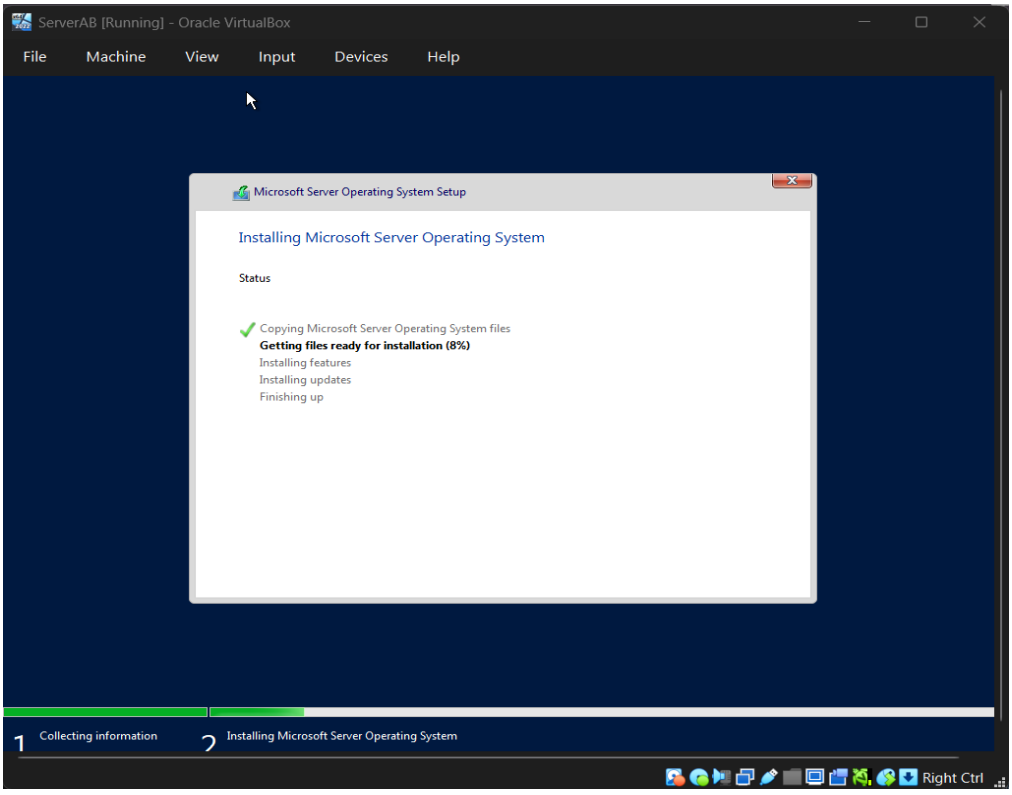

Window 8 B [Running] - Oracle VirtualBox
File
Machine
View
Input
Devices
Help
Getting ready
Right Ctrl

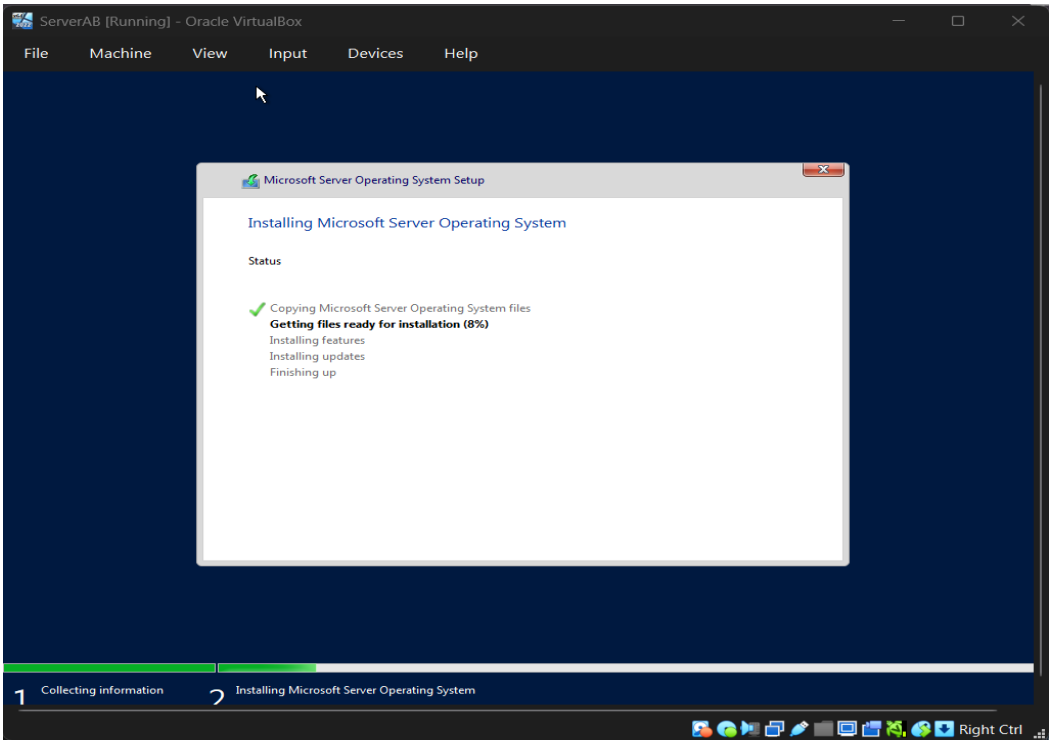
Virtual Machine Windows 8 B ready

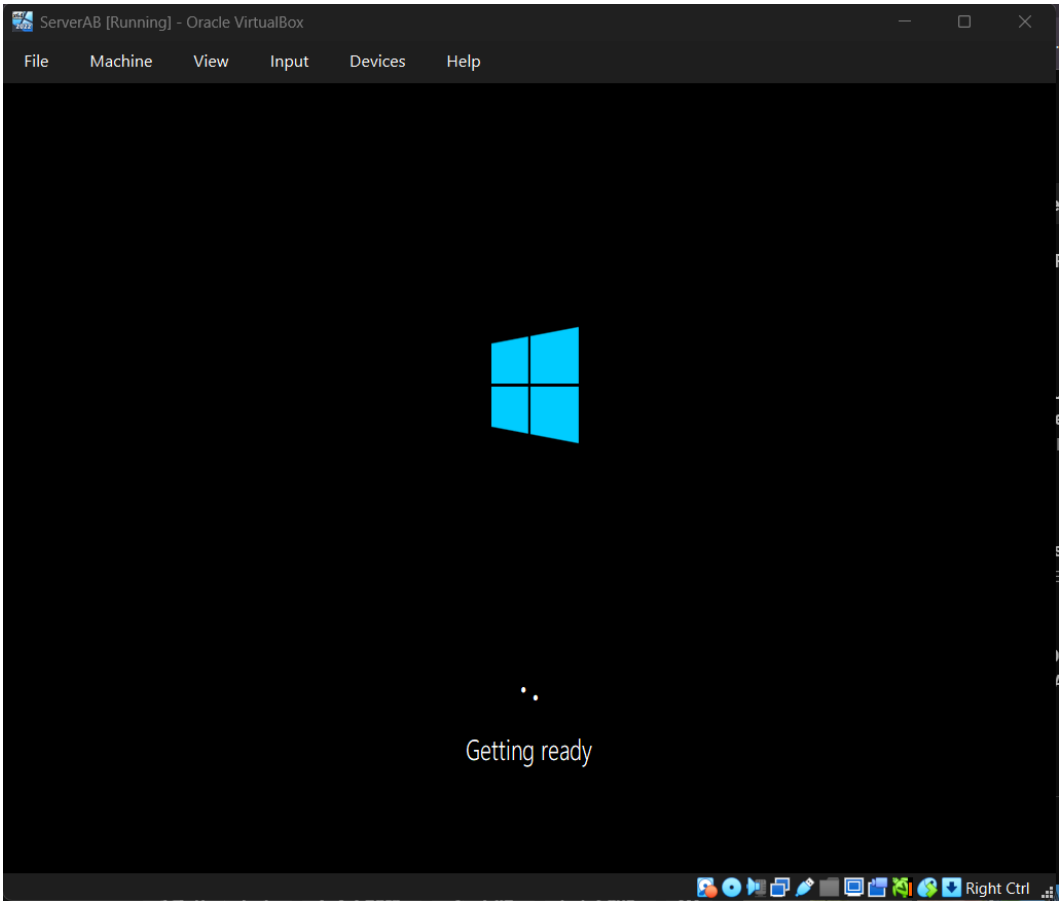


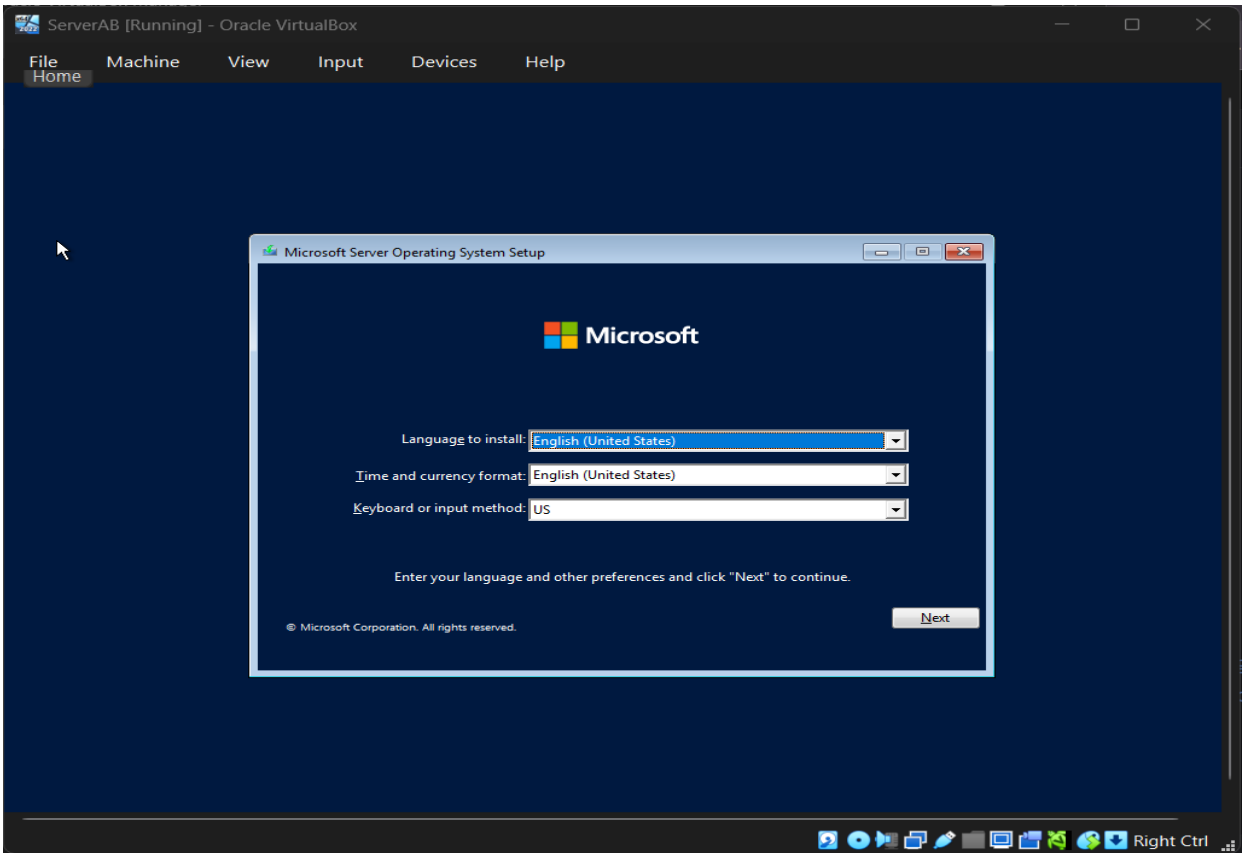
Server AB Instalation Inprogress






ServerAB [Running] - Oracle VirtualBox
File
Machine
View
Input
Devices
Help
Microsoft Server Operating System Setup
Installing Microsoft Server Operating System
Status
Copying Microsoft Server Operating System files
Getting files ready for installation (8%)
Installing features
Installing updates
Finishing up
1 Collecting information
2 Installing Microsoft Server Operating System
Right Ctrl


ServerAB [Running] - Oracle VirtualBox
File
Machine
View
Input
Devices
Help
Getting ready
Right Ctrl


ServerAB [Running] - Oracle VirtualBox
File
Home
Machine
View
Input
Devices
Help
Microsoft Server Operating System Setup
Microsoft
Language to install: English (United States)
Time and currency format: English (United States)
Keyboard or input method: US
Enter your language and other preferences and click "Next" to continue.
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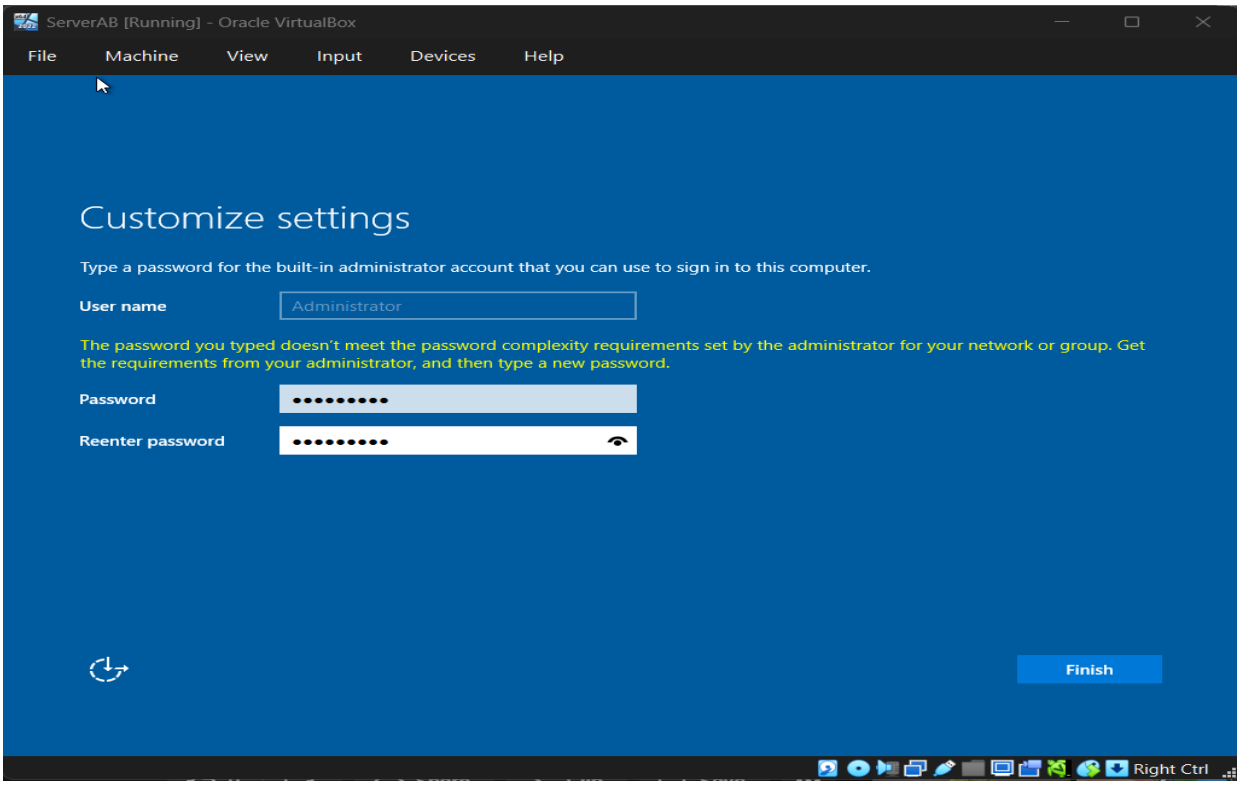
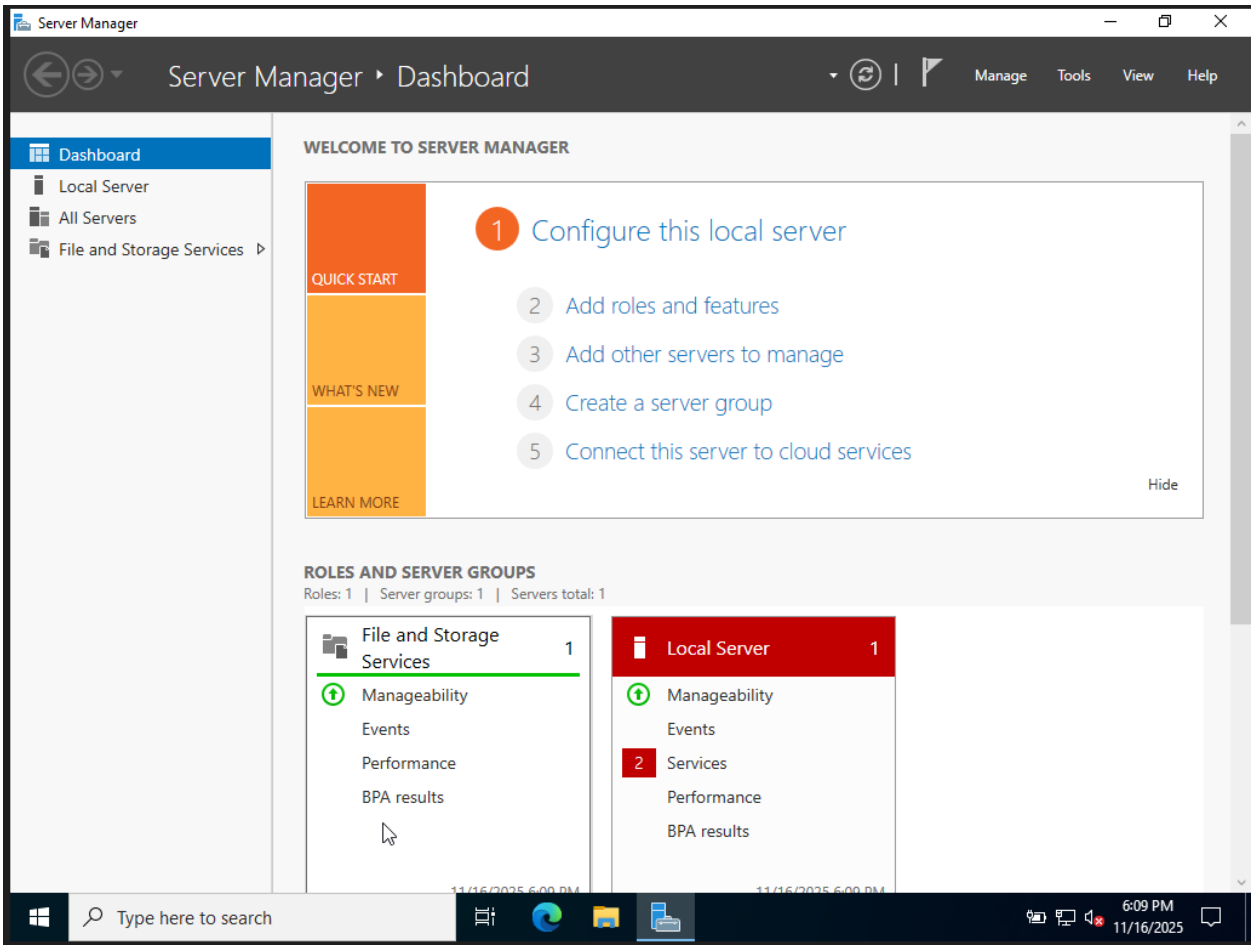
Next
Right Ctrl

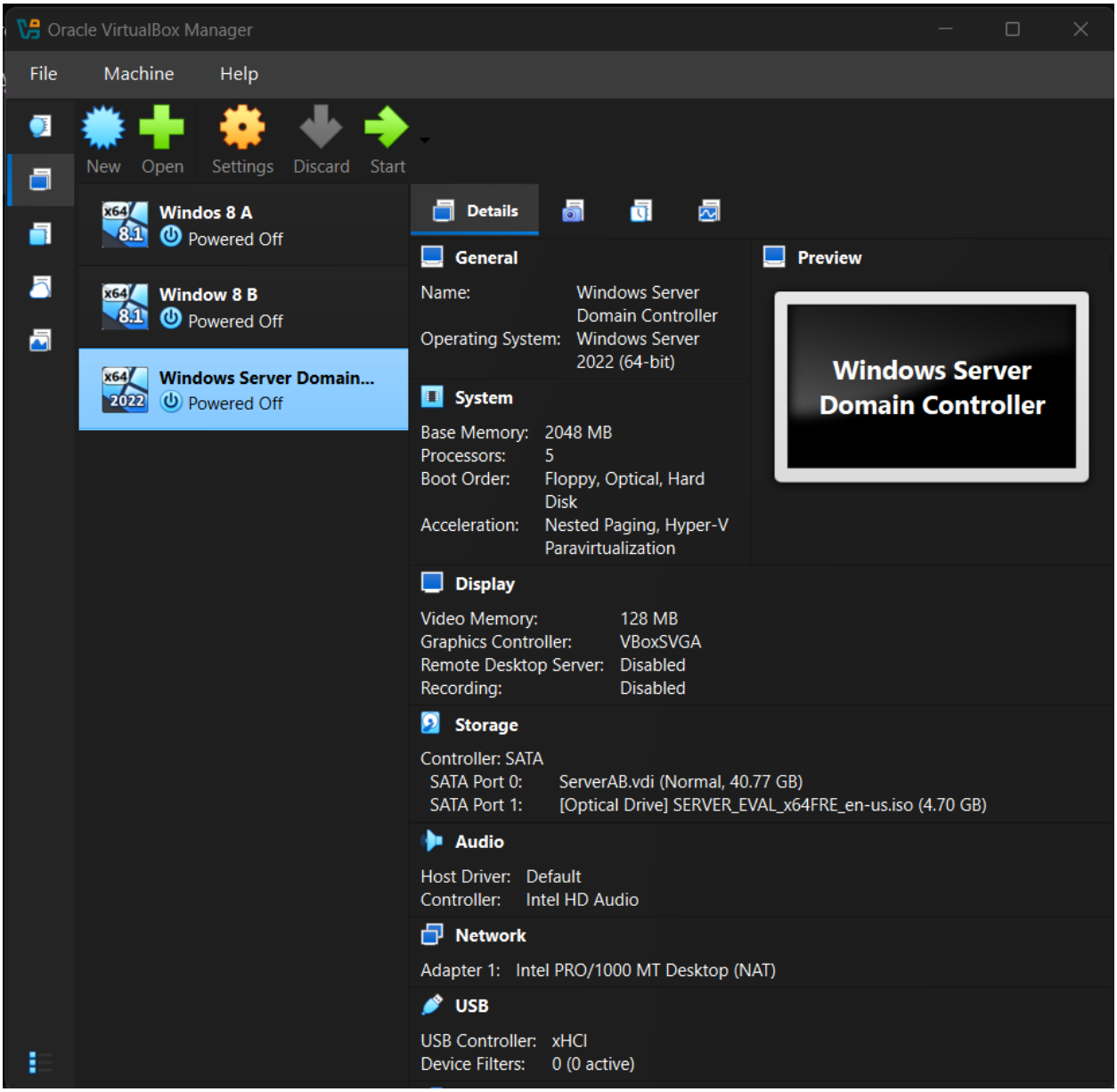

ServerAB [Running] - Oracle VirtualBox
File
Machine
View
Input
Devices
Help
Customize settings
Type a password for the built-in administrator account that you can use to sign in to this computer.
User name
Administrator
The password you typed doesn't meet the password complexity requirements set by the administrator for your network or group. Get the requirements from your administrator, and then type a new password.
Password
Reenter password
Finish
Right Ctrl

Server AB ready

Server Manager Dashboard



3 Machines setup completely on Virtual Box



Step 3: The Networking (Crucial Step)
This is where people get stuck. VirtualBox has different network modes:

- **NAT:** Great for simple internet access.

- **Internal Network:** Perfect for malware analysis (no internet access, totally isolated).
- **NAT Network:** The Goldilocks zone. Your VMs can talk to each other AND the internet. **I chose this for my lab.**

Wrap up

You've now built the core foundation of your virtual lab and are ready to move into the operating system installation phase. By setting up your virtual machine, configuring your network environment, and preparing your OS installation media, you've recreated the essential building blocks of a real-world IT environment—all on a single machine.

This setup marks the beginning of hands-on learning where you can safely experiment, break things, fix them, and develop practical IT and cybersecurity skills.

Summary of What You Completed:

- Built and configured a fully functional virtual machine
- Set up a virtual network tailored for lab use
- Selected and downloaded the appropriate OS ISO file
- Prepared your environment for a clean and smooth OS installation

With the groundwork complete, your lab is ready to grow into a powerful training environment. Your next steps can include adding more VMs, simulating networks, testing tools, and exploring any IT or cybersecurity scenarios you want to master.