

Introduction computer system

by Naod Habtom

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Computing Foundation Streams

Introduction to Computer Systems (ACCA4021)



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A working Windows operating system installed on a virtual machine

1, Download and Install VirtualBox:

Visit the Oracle VirtualBox website at <https://www.virtualbox.org/>. Download the installation file that matches with the operating system. Proceed by running the installer and carefully following the prompts displayed on screen to complete the VirtualBox installation process.

2,Download a Windows ISO:

To get started it will require a Windows installation ISO file. We can acquire it from the Microsoft website. Obtain it from other reputable sources.

3, Create a New Virtual Machine:

- Start by launching VirtualBox. Then click on the "button located in the toolbar.
- Giving machine name, for example "Naodh".
- Choose the type and version of the operating system to install such as Microsoft Windows or Windows 10 64 bit.

Assign an amount of memory (RAM), to machine based on system specifications and the Windows version you are installing.

Set up a disk using default settings unless you have specific preferences.

4,Configure Virtual Machine Settings:

- Choose the machine made from the options, in VirtualBox.
- Press the "Settings" button.
- In the "System" section we can modify the boot sequence and toggle features like EFI on or off.
- In the "Display" section we can adjust parameters such, as video memory. Activate 3D acceleration.
- In the "Storage" section pick either "Controller; IDE" or "Controller; SATA". Click on the disk icon beside "Empty". Then opt for "Virtual Optical Disk File". Select the Windows ISO file that you previously saved.

5, Install Windows:

- Begin the machine by pressing the "Start" button, in VirtualBox. The process of installing Windows will kick off. Simply follow the prompts on the screen to proceed with the installation of Windows, such as picking your language inputting a product key (if needed) and selecting a disk partition for installation. Let the installation process finish and note that there might be a restart of the machine, along the way.

6, Install VirtualBox :

- Once we have successfully set up Windows on the machine you can enhance its functionality by installing VirtualBox Guest Additions. To do this go to the virtual machine window. Click on "Devices" > "Insert Guest Additions CD image". Follow the prompts, on the screen to complete the installation process. Remember to reboot the machine if necessary.

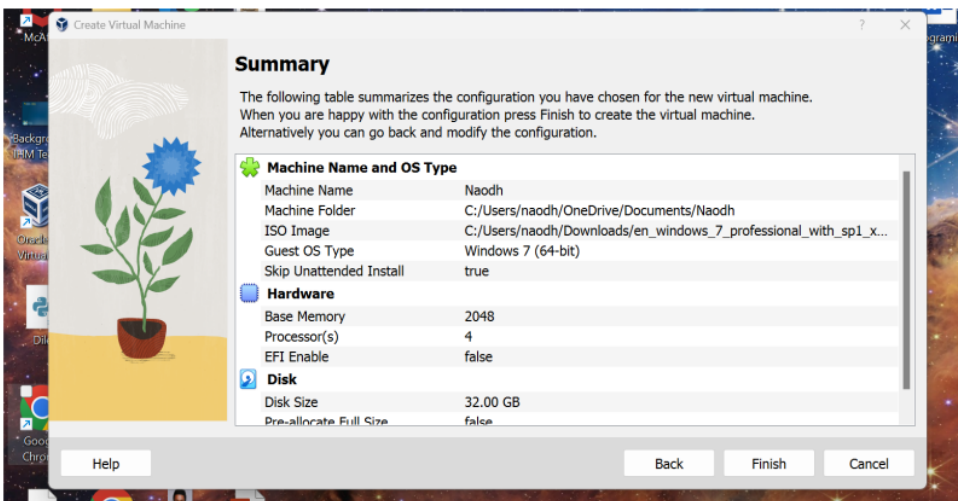
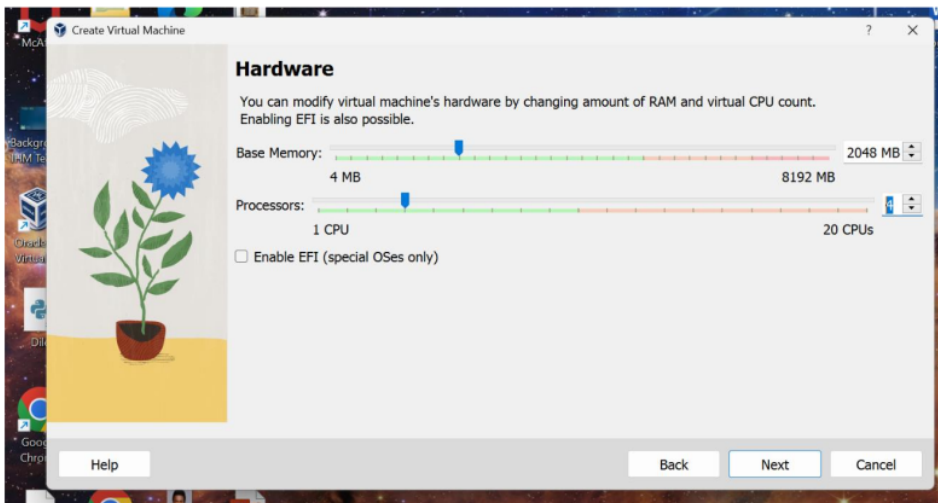
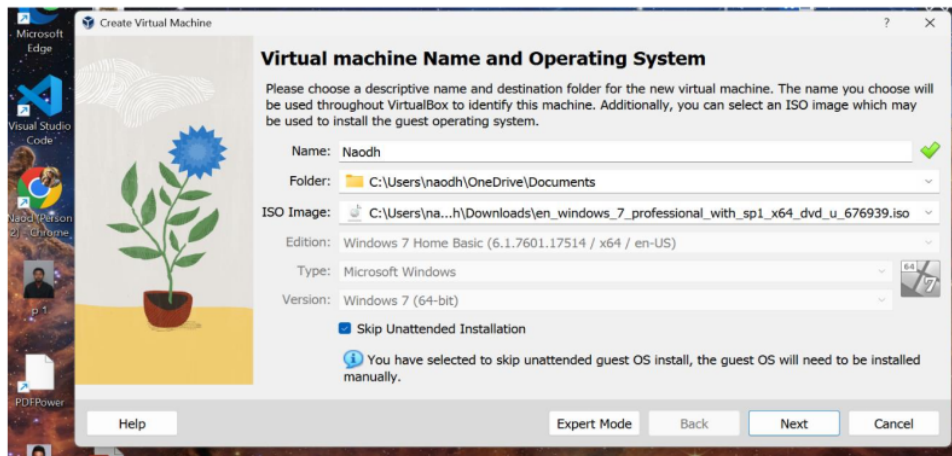
7, Configure Additional Settings

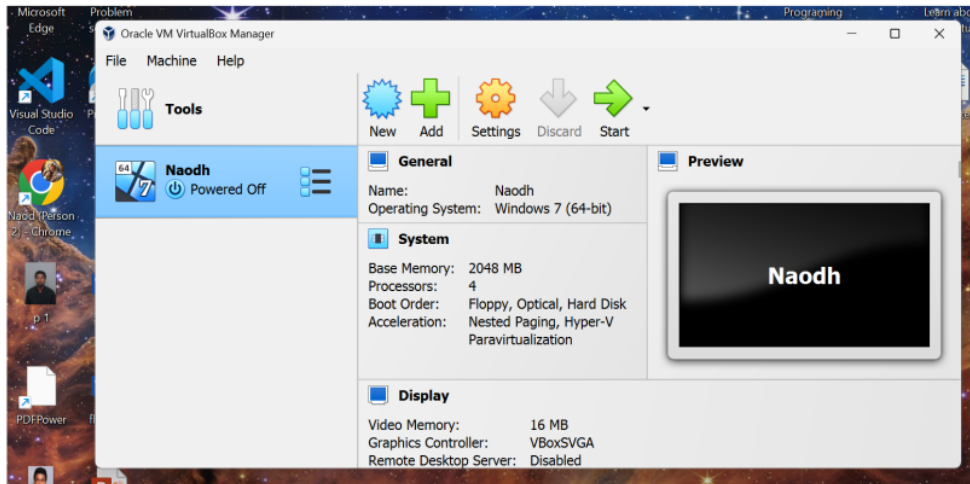
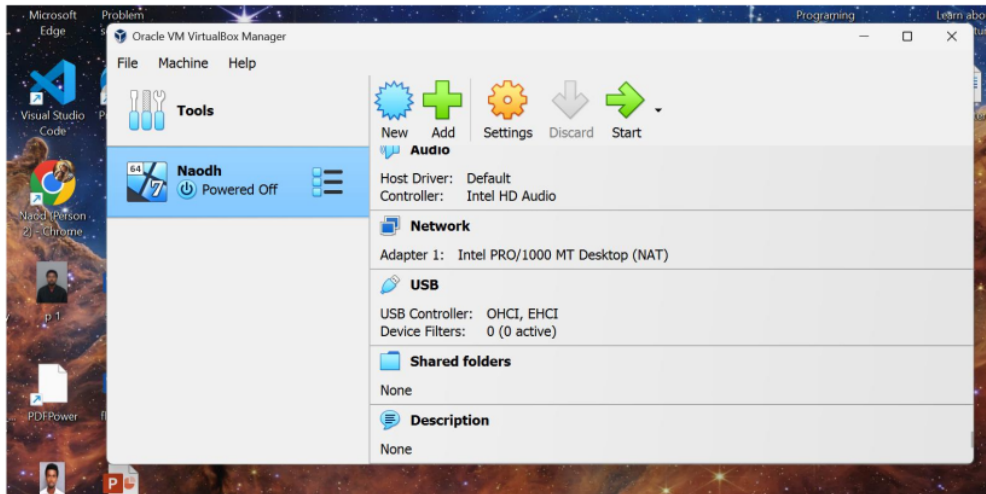
- After setting up Windows on our computer we have the option to adjust settings in the machine like screen resolution, network preferences, shared folders and other customization options.

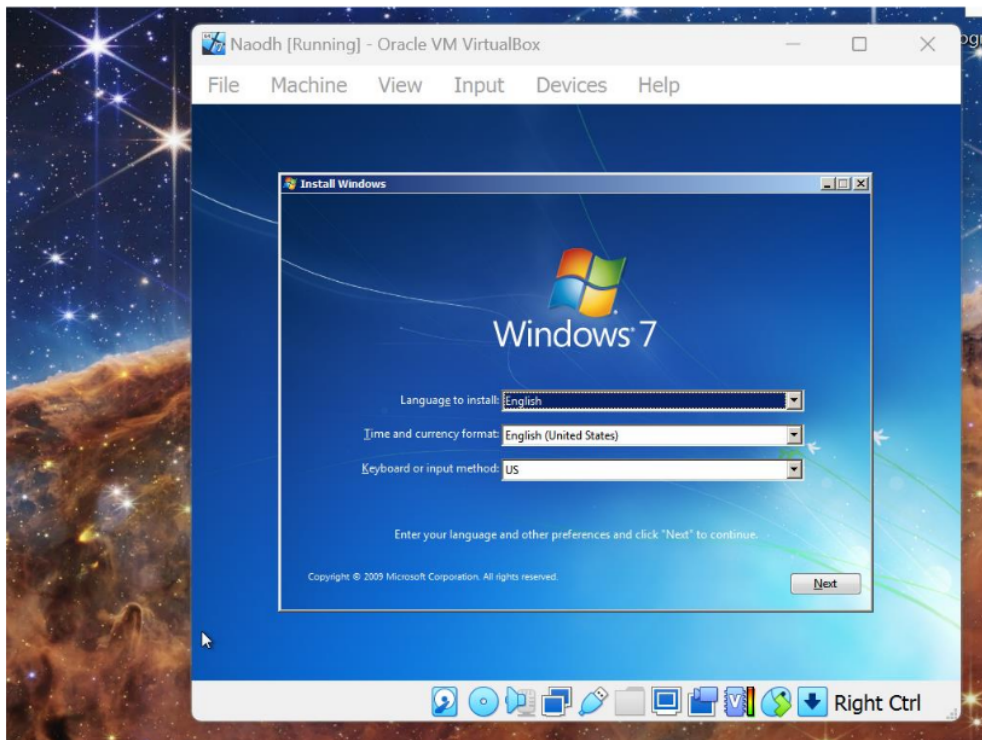
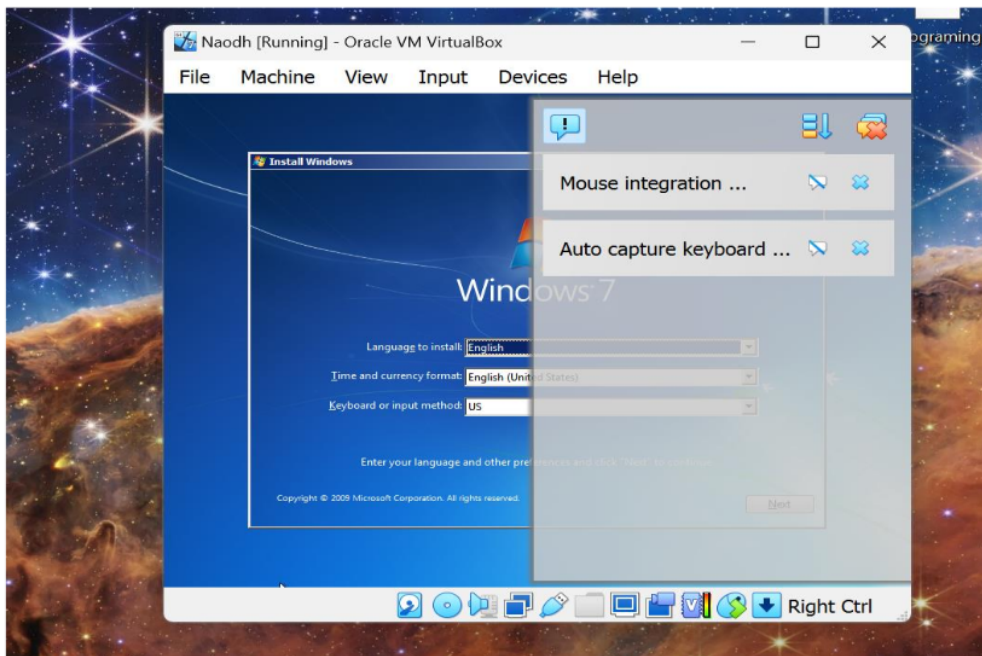
Great job! we've finished setting up a Windows machine, with Oracle VirtualBox. Now you can easily operate Windows on the machine as if it were a computer.

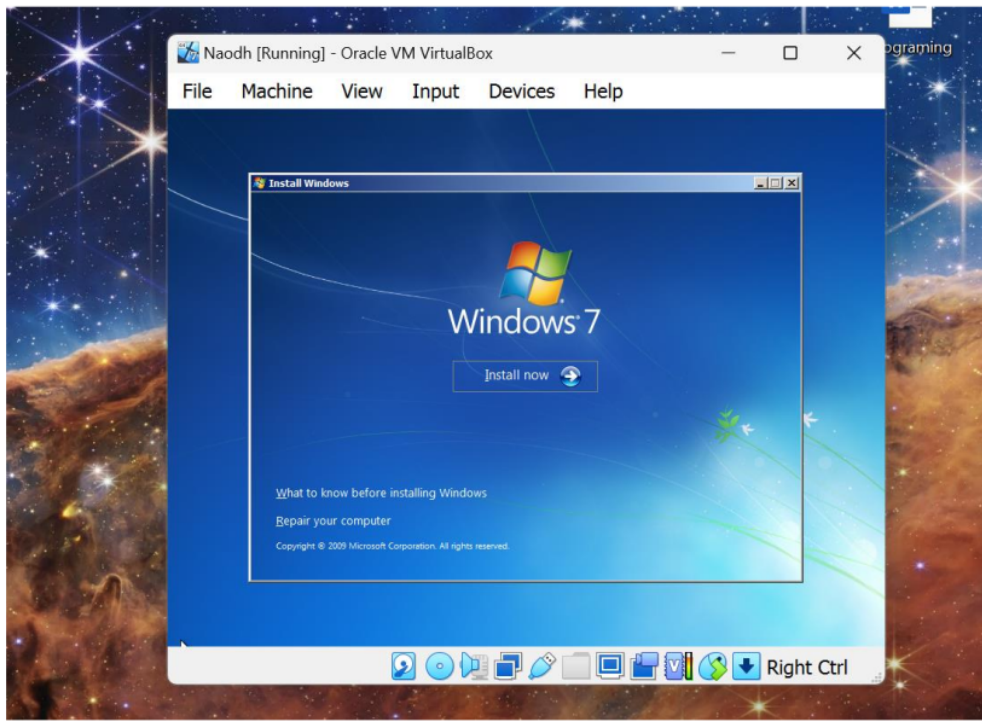
Here's a step-by-step guide on installing a Windows virtual machine using Oracle VirtualBox:

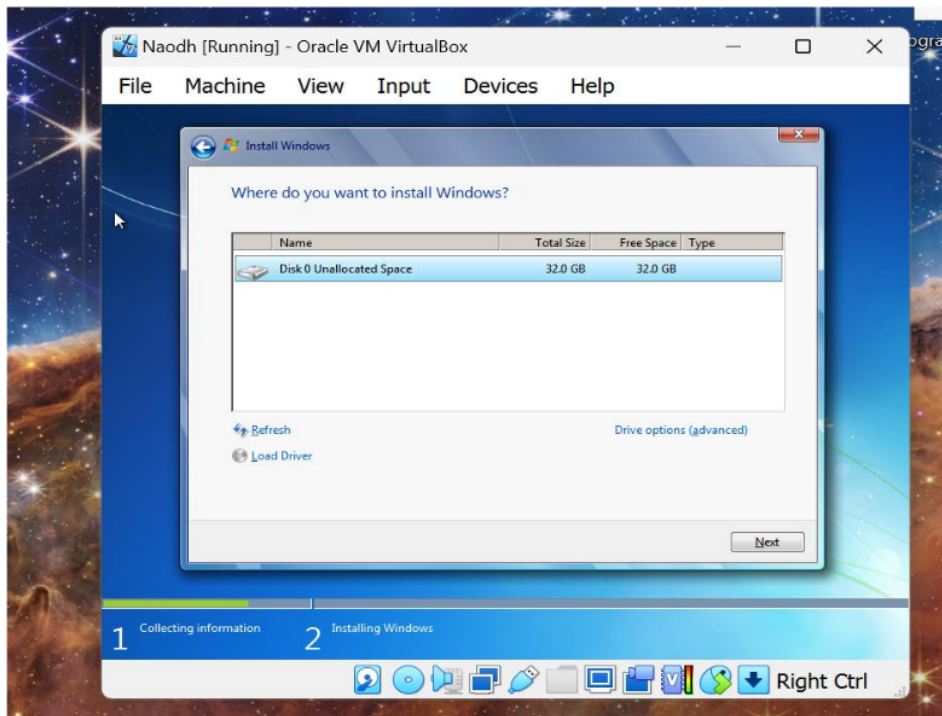
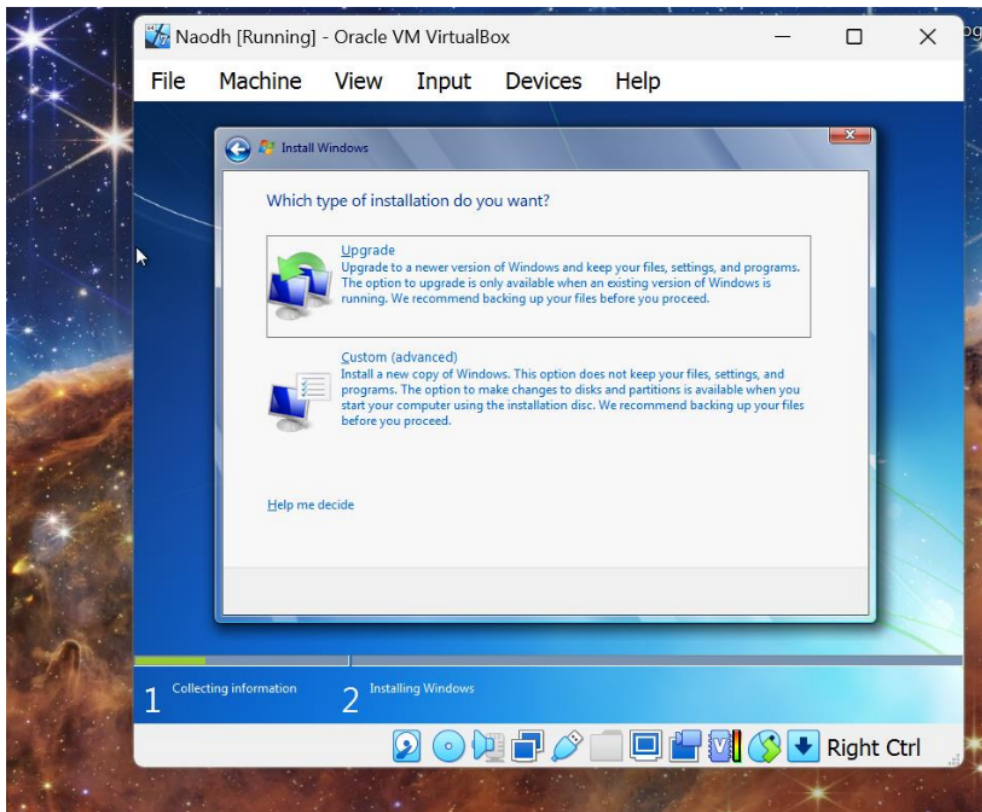


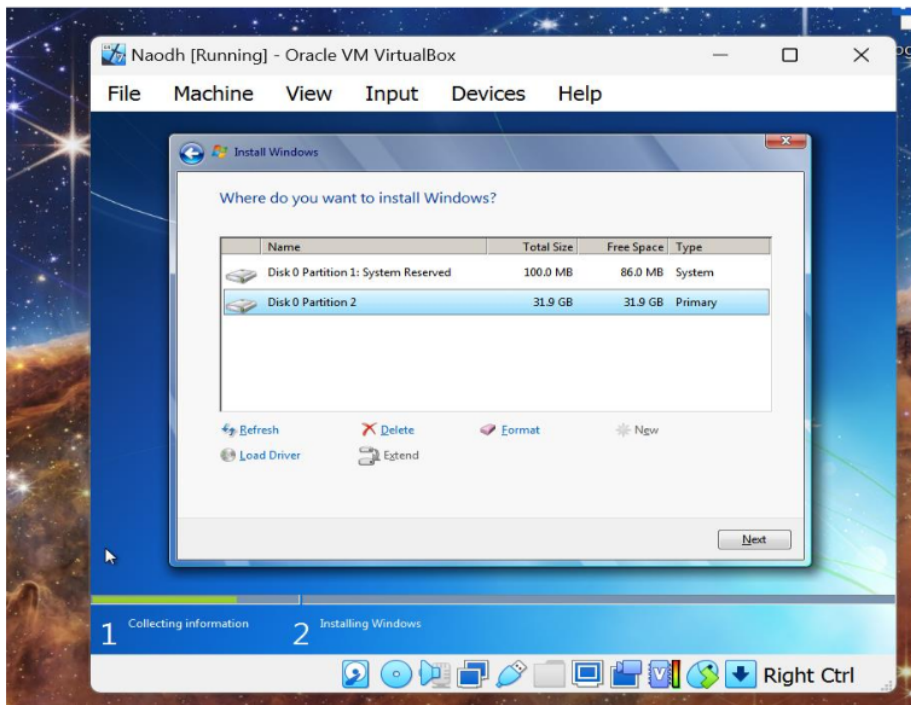
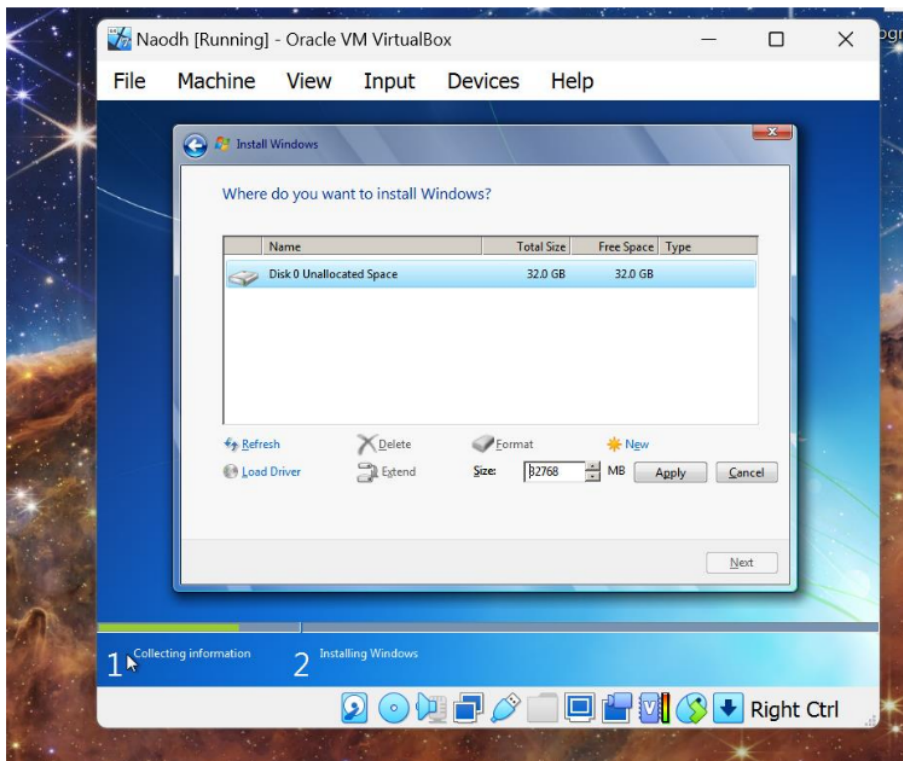


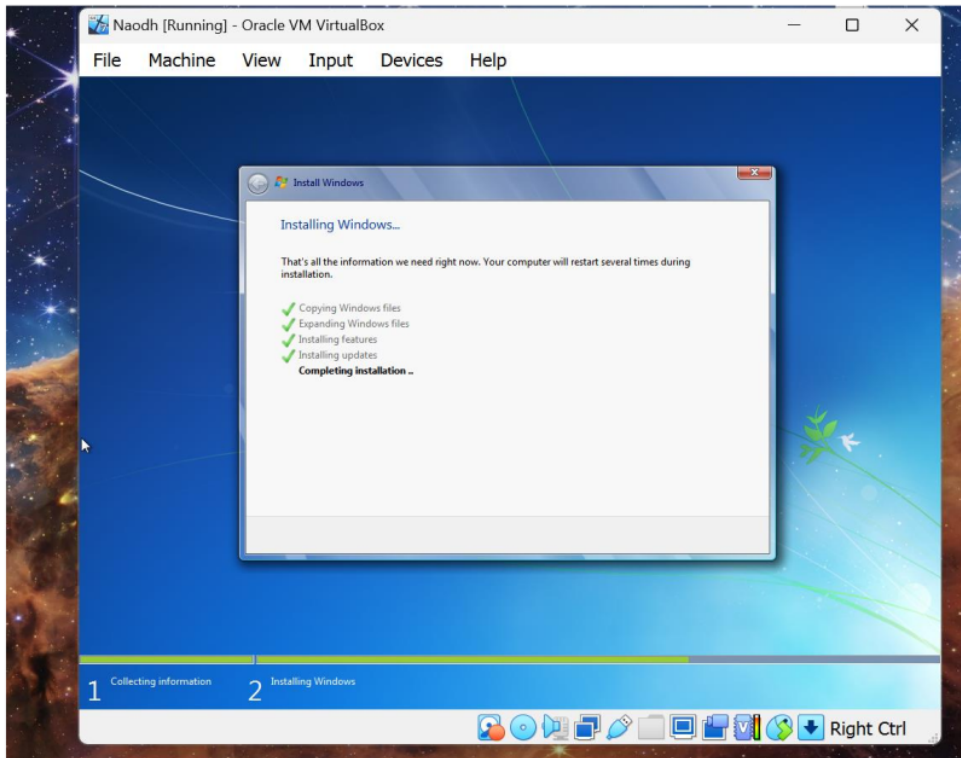
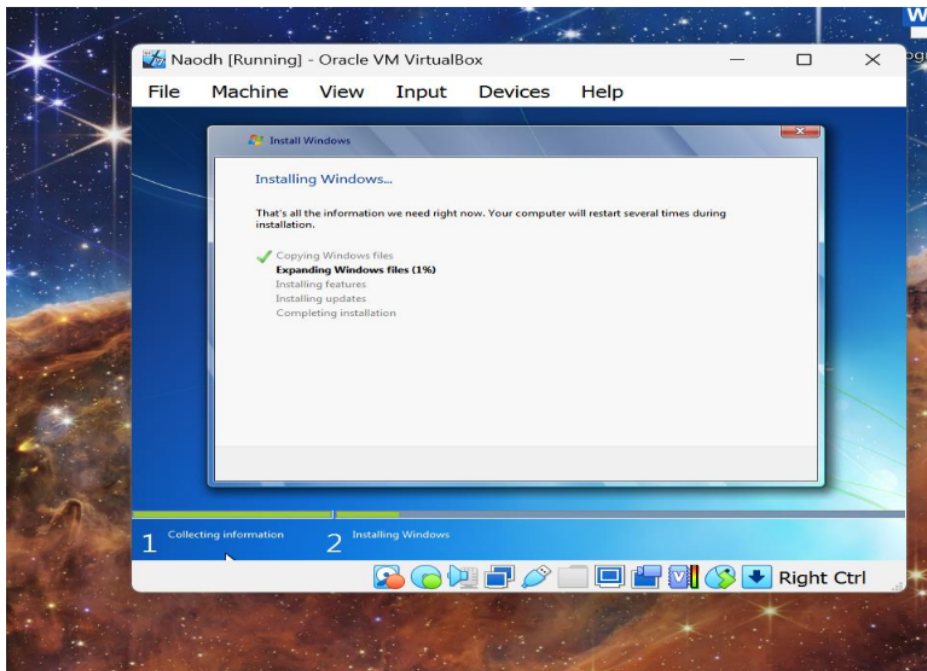


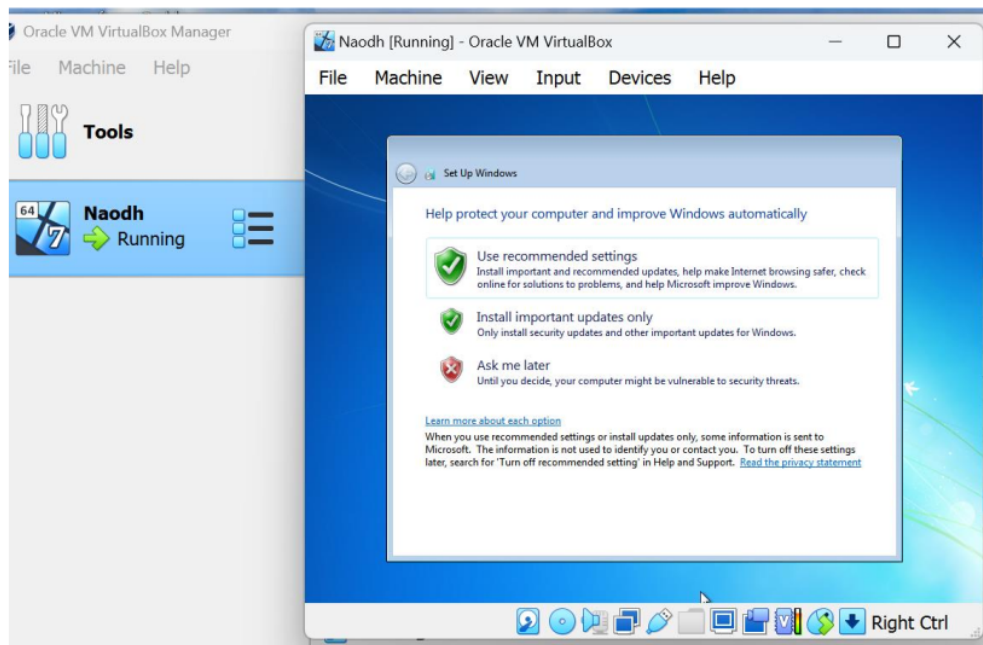
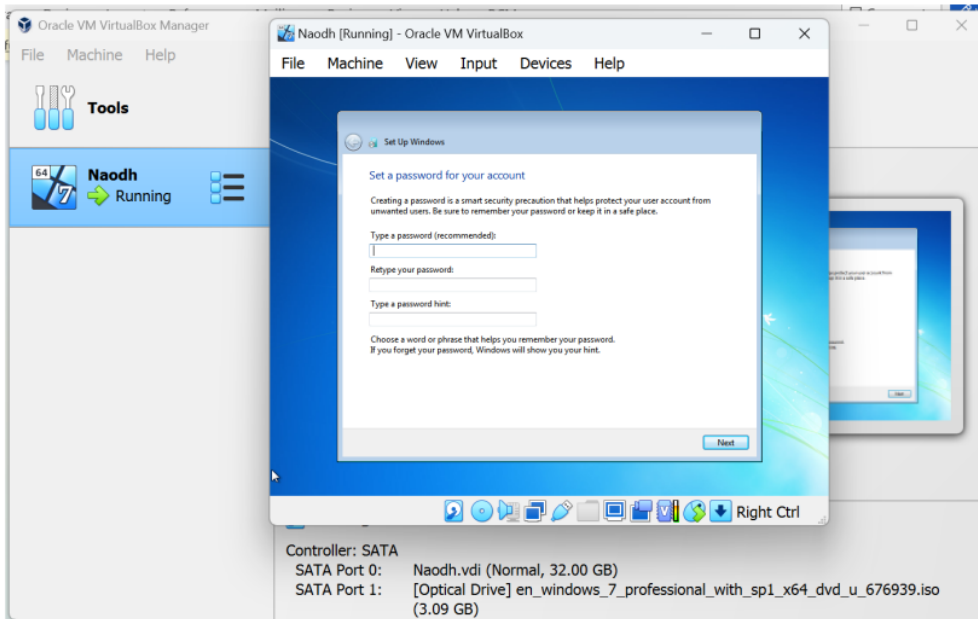


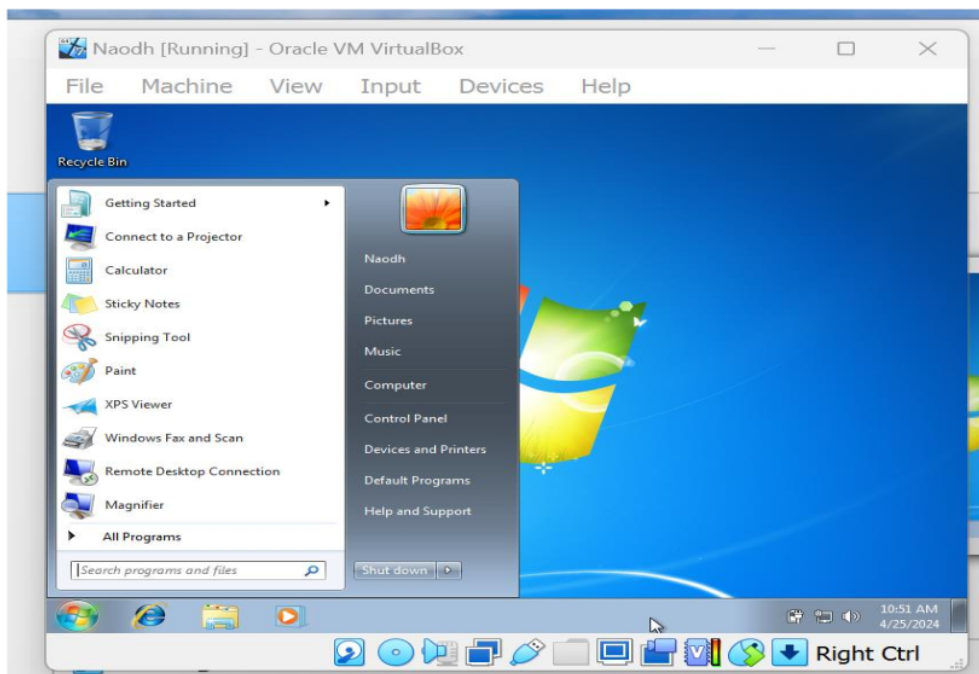
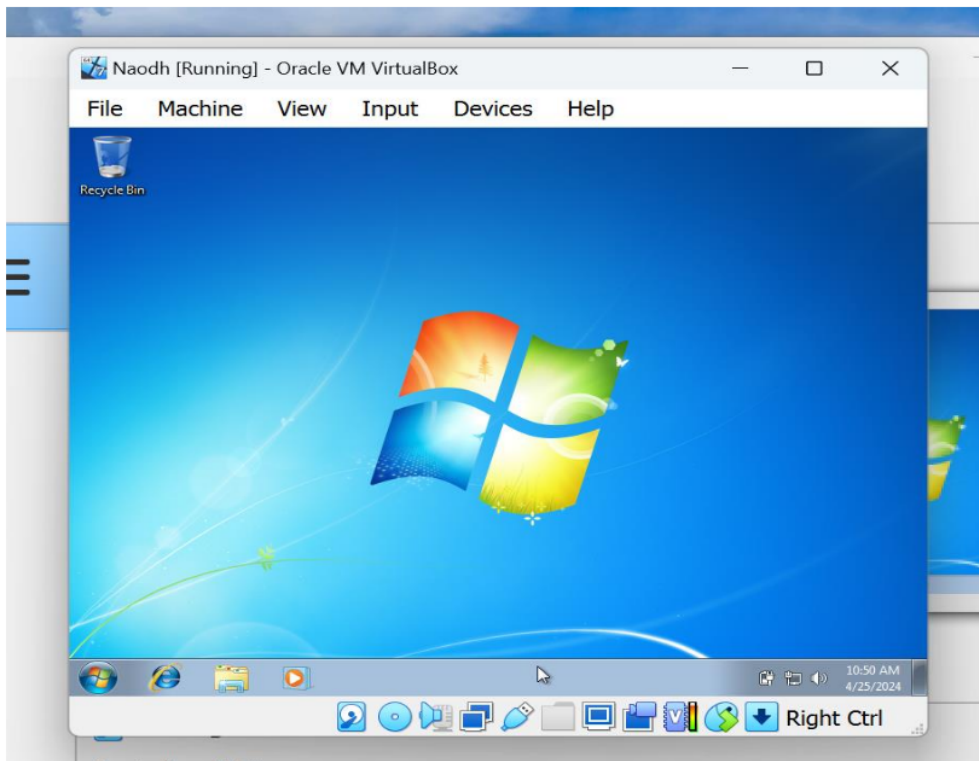


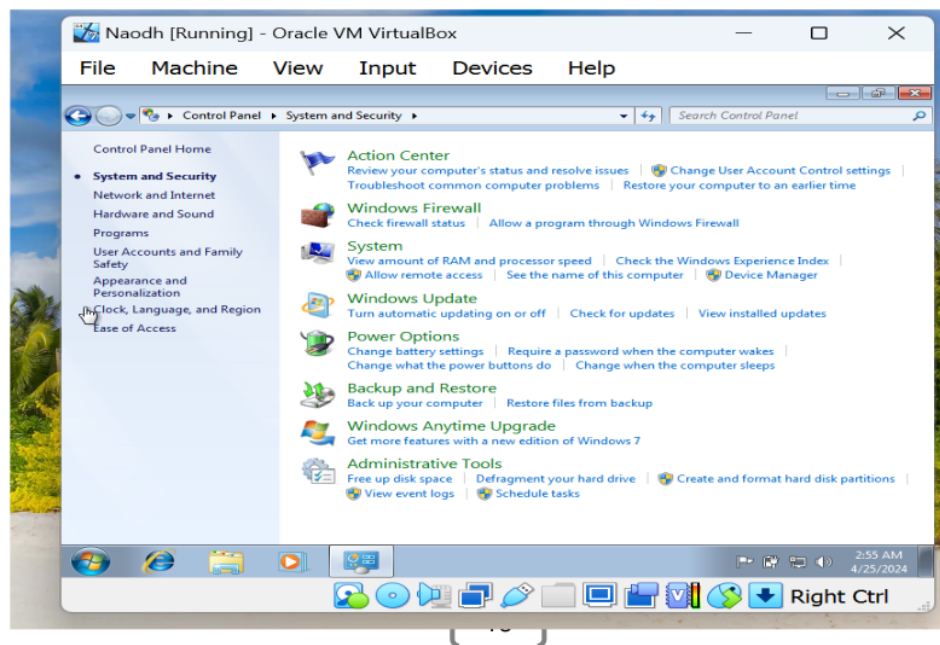
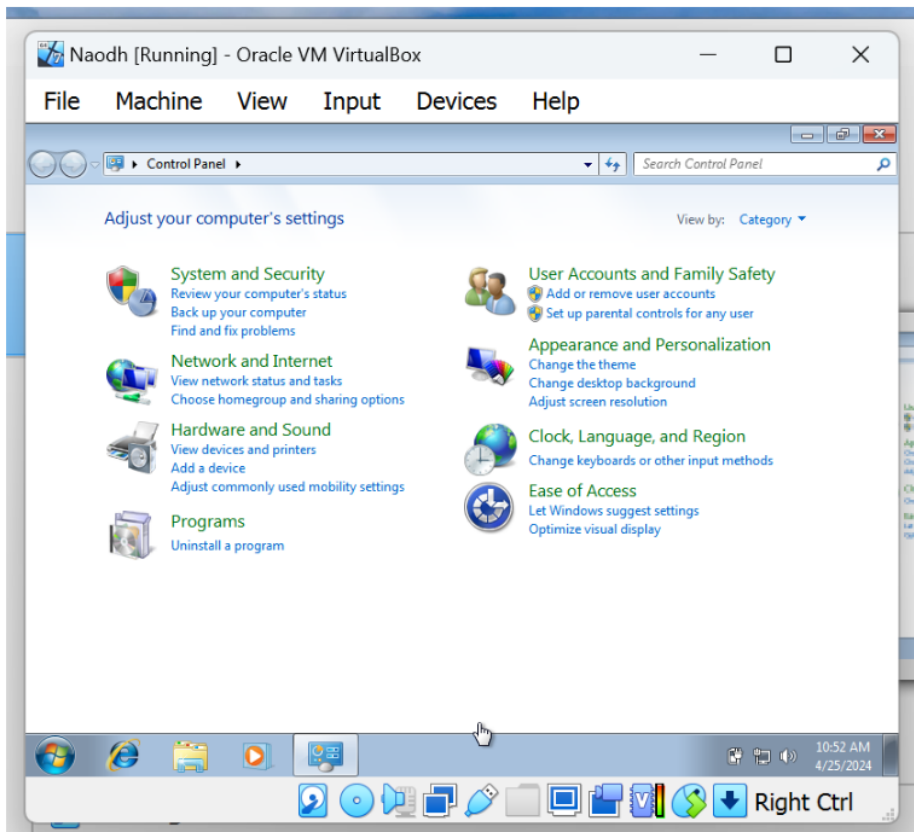












Sound cards

Sound cards play a role, in improving the quality and functionality of a computer system. It's crucial to have an understanding of the types, compatibility factors and features associated with sound cards before you go ahead and install one on a Windows 10 system.

Before We install a card, on your Windows 10 PC it's important to gather all the tools and materials you'll need. Being prepared ahead of time will make the installation process smoother. Help avoid any hiccups. Here's a list of items required for installing the sound card;

1. Screwdriver; You might need a screwdriver to open your computer case and secure the sound card in place. Depending on your case either a Phillips or flathead screwdriver may be necessary.

2. Antistatic wrist strap; This strap is essential for grounding electricity from your body, which could harm electronic parts. Wearing it ensures protection against damage, to your card during installation.

3. New sound card; Ensure you have a sound card that meets your computers requirements. Refer to the manufacturers instructions. Consult your computer's documentation to confirm compatibility. [1]

Computer network card

Many modern computers come equipped with a built in network interface card (NIC) that's already part of the motherboard saving you the trouble of having to add one. If your computer doesn't have an integrated network card or if you prefer an one you can explore aftermarket choices available. Additionally if your existing onboard network card malfunctions you won't be able to remove it. Can opt to install an one instead. Take a look, at the following sections for guidance, on how to set up a network card in your computer.

Installing a network card on a PC can be moderately challenging, like a 3, out of 5 difficulty rating. Remember to jot down details, like the Model Number, Serial Number and specs located on the card. It's important to understand ESD (discharge) and its risks before you begin. When you're ready to install the network card make sure the computer is switched off and disconnected from power.

Step

Put the network card into one of the slots you have, in your computer. These network cards connect to a PCI (peripheral component interconnect) slot, on the motherboard. Find an open PCI expansion slot in your computer. Carefully insert the card into it until it clicks into position. Once you've done that use a screw to secure the cards metal bracket to the computer case.

Attach internal cables

Most network cards typically do not come with cables. You might come across a Wake on LAN cable that helps activate the computer when there is network activity. If the network card includes cables and your computer is compatible, with them go ahead and install them now.

It's important to ensure that the Wake on LAN cable is compatible with the motherboard of your computer. This cable should be connected to the Wake on LAN port or a similar connection on the motherboard. Refer to the manual. Contact the manufacturer for more details, on whether this feature is supported and where to connect the cable.

Attach external cables

After you've installed the network card put back the side or top panel of the computer case. Plug, in the keyboard, mouse, monitor, power cable and network cable. Next attach the end of the network cable to the network port on a hub, switch or router.

After you've physically installed the network card put back the side or top panel of your computer case. Connect the keyboard, mouse, monitor, power cable and network cable. Then plug the end of the network cable into a hub, switch or router.

Software setup

Once everything is connected power, on your computer and install the drivers for both the network card and your chosen operating system. Whether it's Windows or macOS. If you're missing drivers for your network card or encounter issues with the ones provided you can find links to download them on our dedicated network card drivers page.

Once the network card is in place configure its settings within your software. These settings typically vary based on your network setup. For a home network setup refer to your routers manual either in print or online. In case you're connecting to an business network. Need assistance with configuring the network card settings don't hesitate to reach out to your network administrator, for guidance. [2]

Important setup parameters

1 System Memory (RAM):

RAM, short, for Random Access Memory is commonly known as the storage, on your computer where applications can temporarily store and retrieve data. Having an amount of RAM allows for access and retrieval of data compared to storing it on your hard drive or SSD. [3]

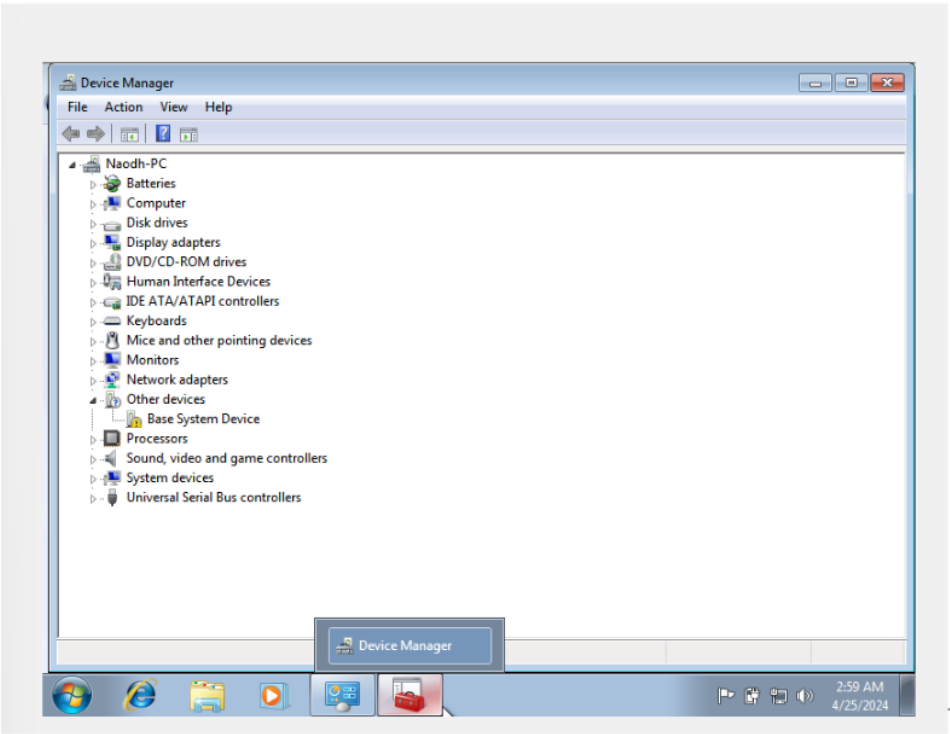
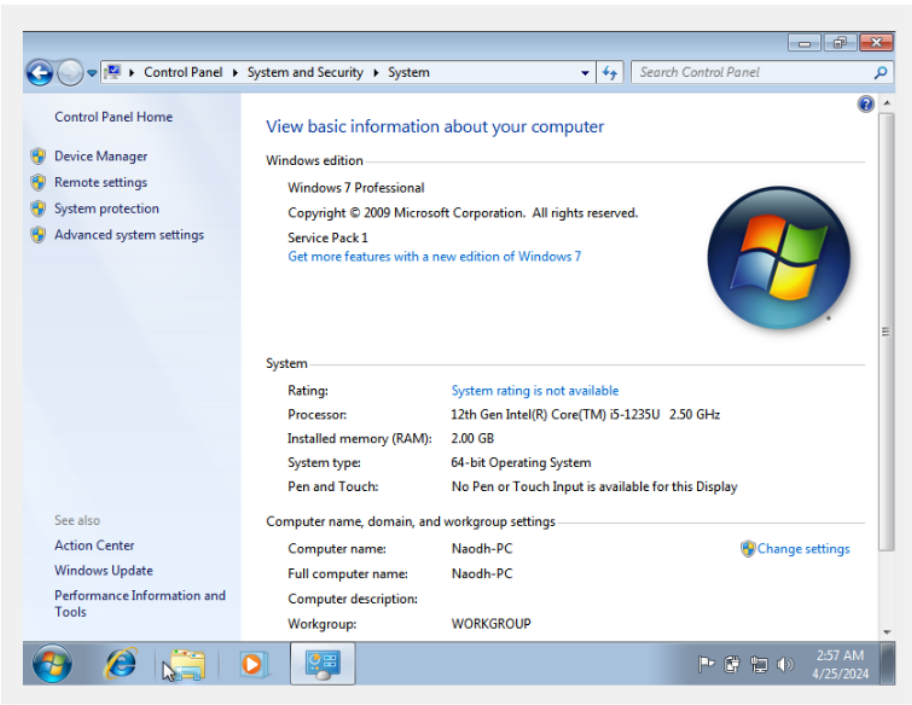
2. Virtual Hard Disk Size and Type:

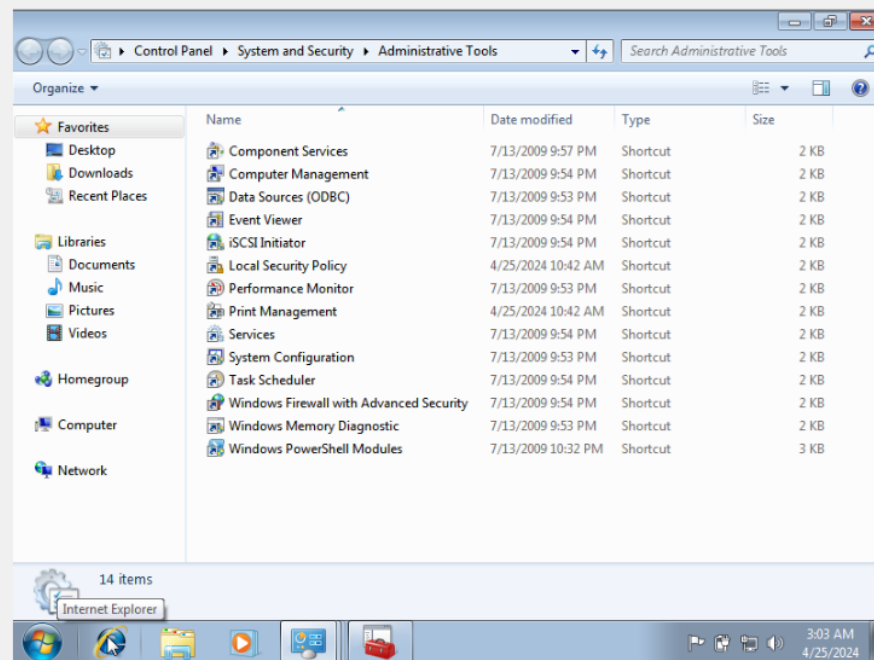
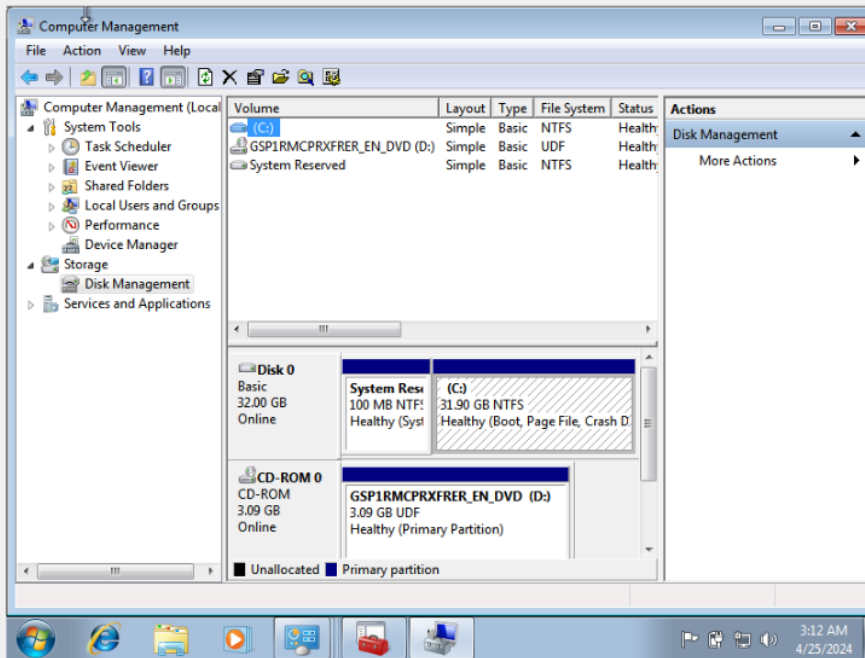
A virtual hard disk (VHD) is a file format that stores all the data and structure of a computers drive in an image file. This disk image, also known as a machine (VM) mimics a hard drive and can be saved in any location accessible, by the host computer. Furthermore it is portable. Can be stored on a USB flash drive, for transport. [4]

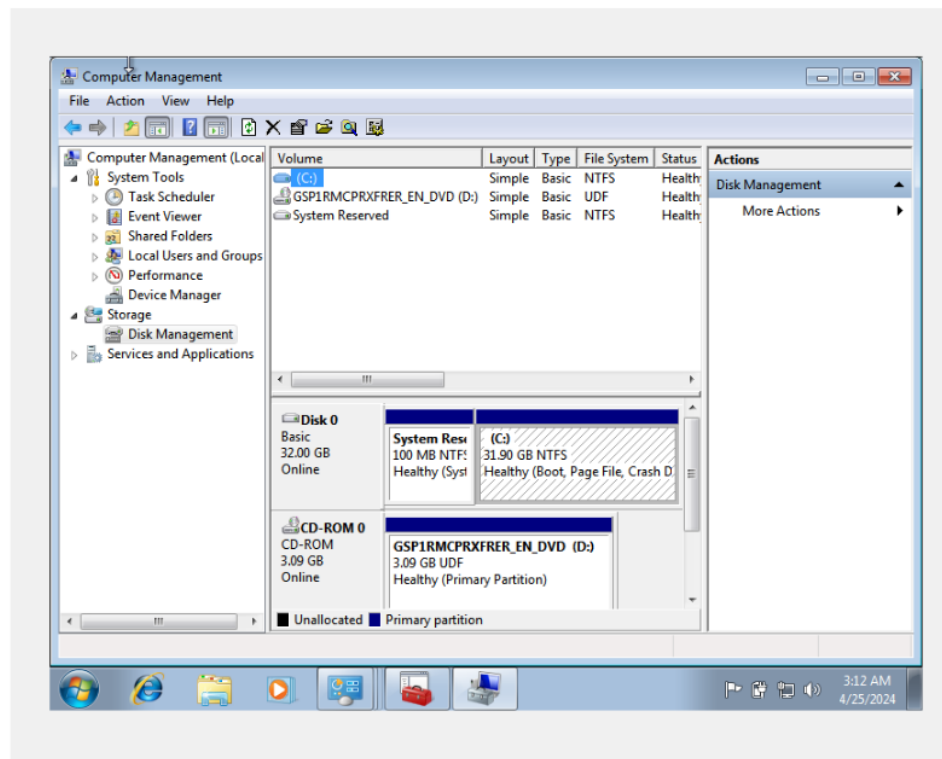
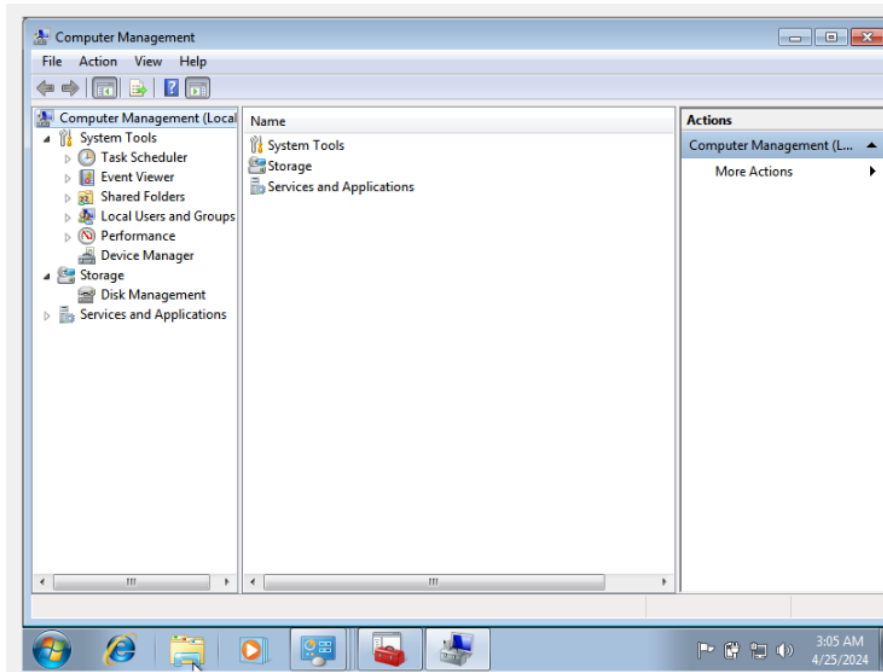
3. Processor/CPU Allocation:

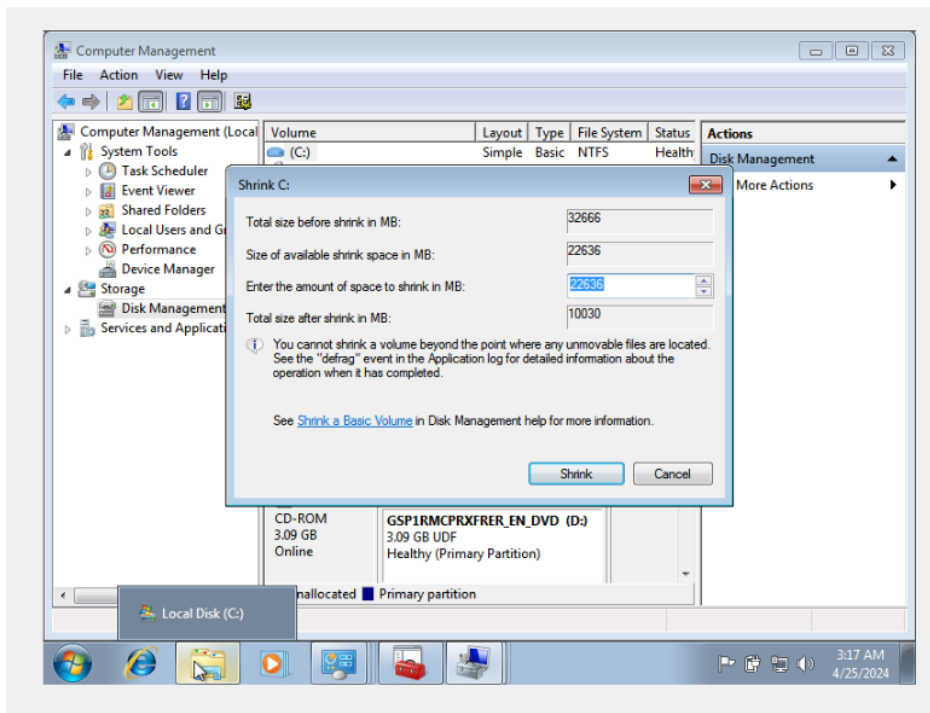
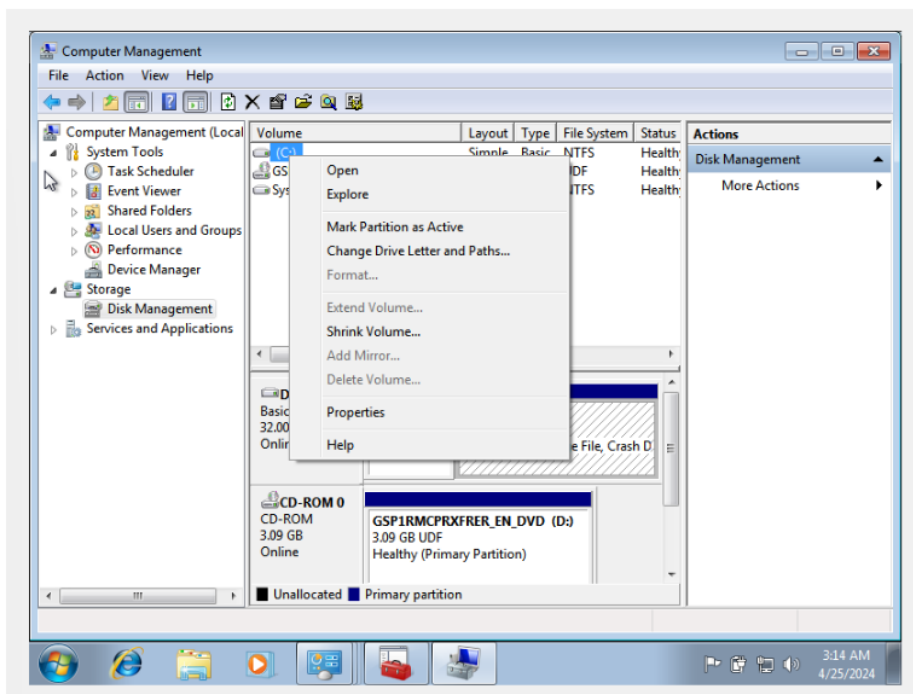
The CPU or central processing unit is often considered the component, in any computer system. Whether you have a of the line processor or a basic one the CPU acts as the core of your device sending commands to hardware components and handling all tasks efficiently. For an insight into the CPU feel free to explore our guide, on what exactly a CPU is. [5]

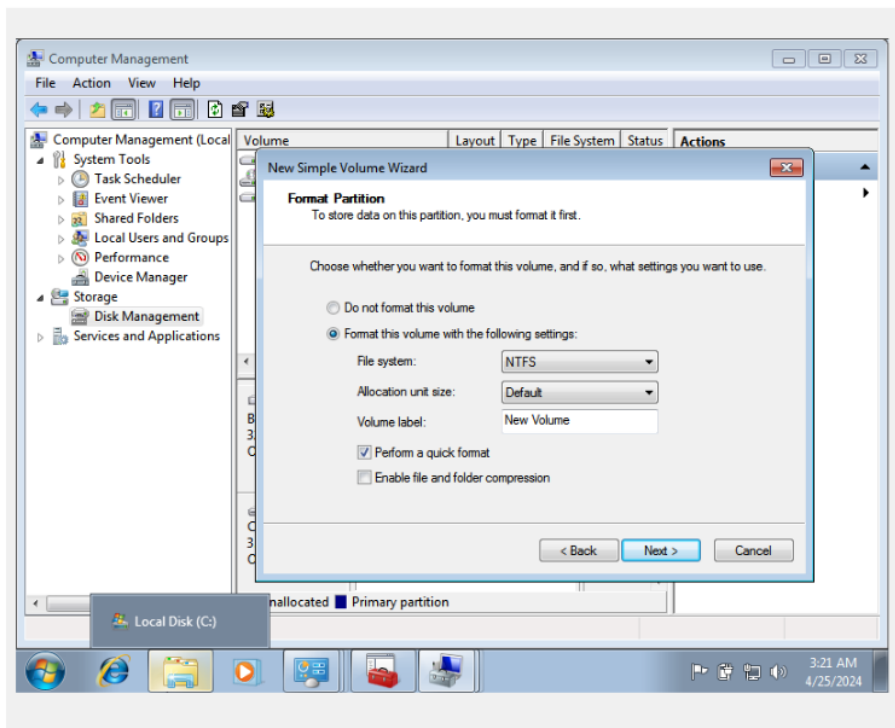
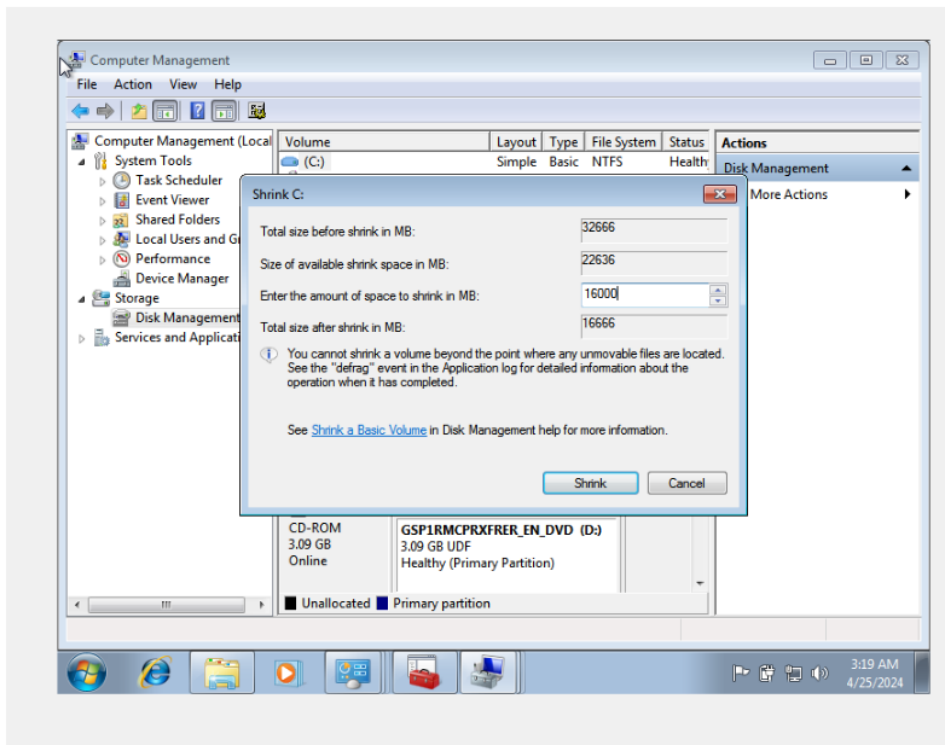
Control Panel

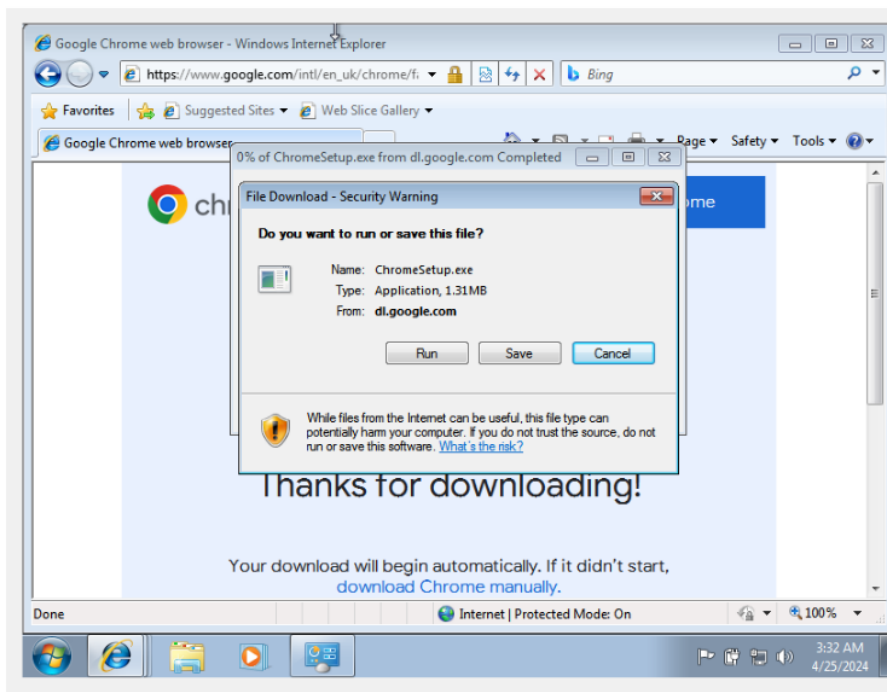
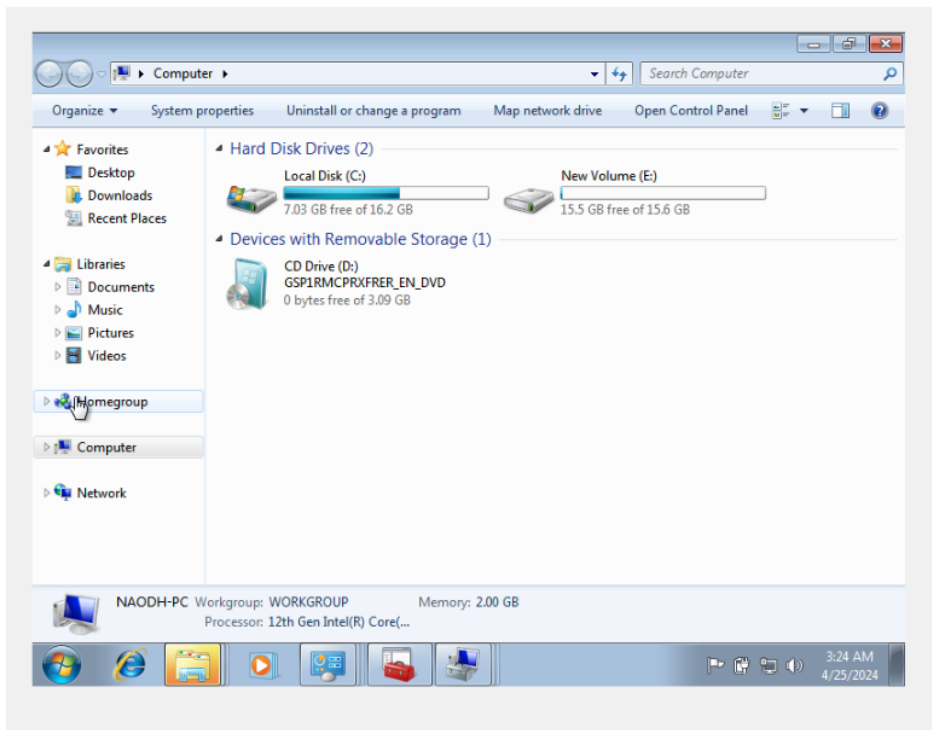


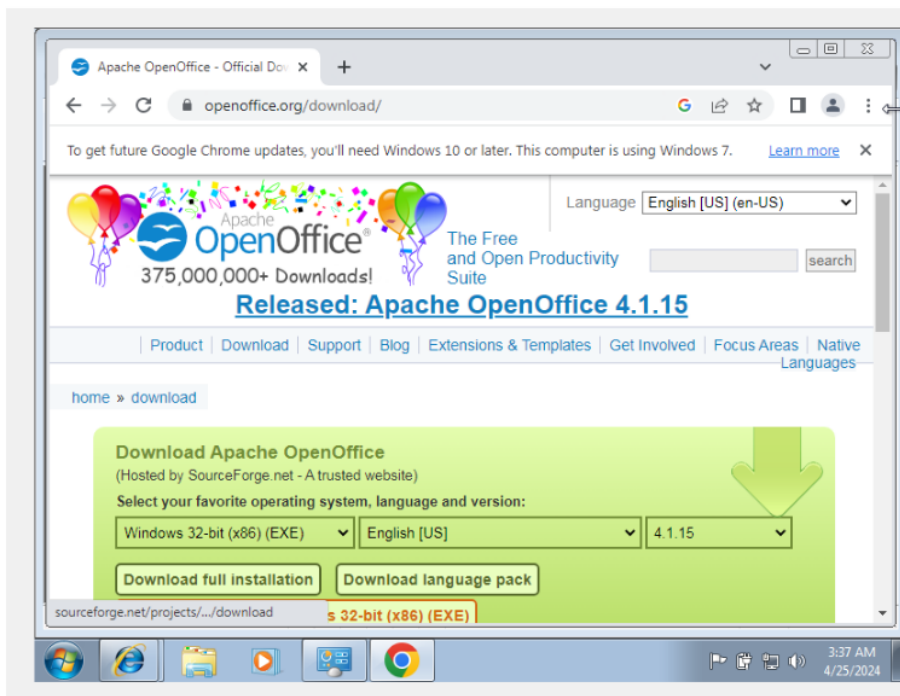
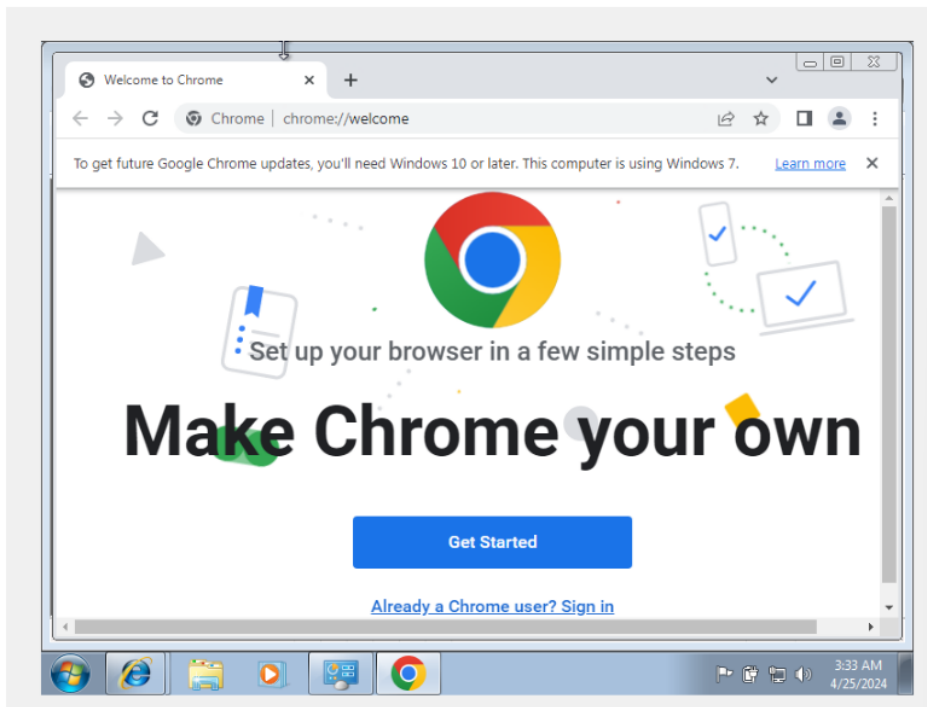


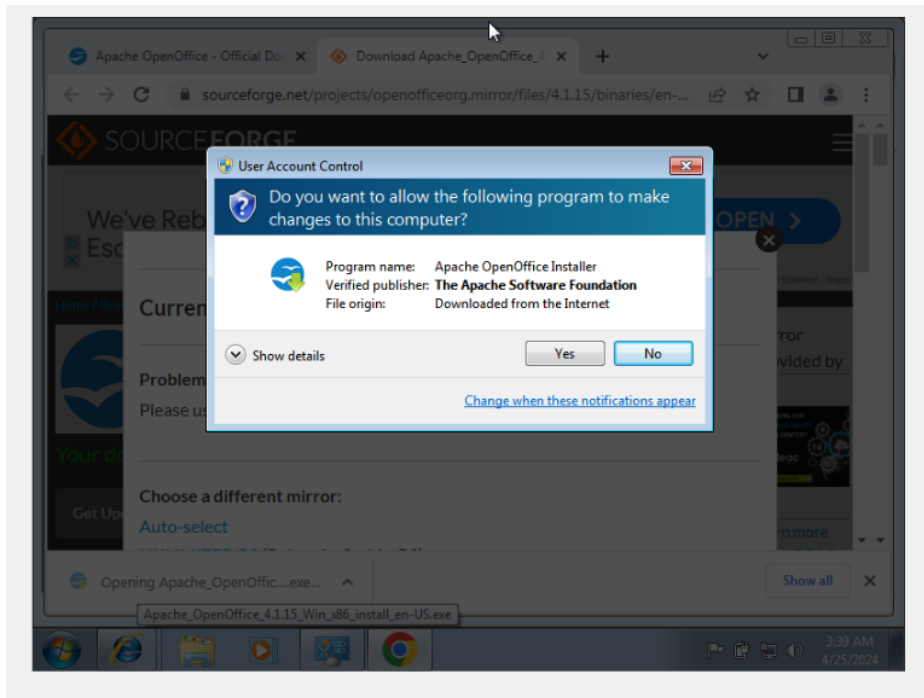
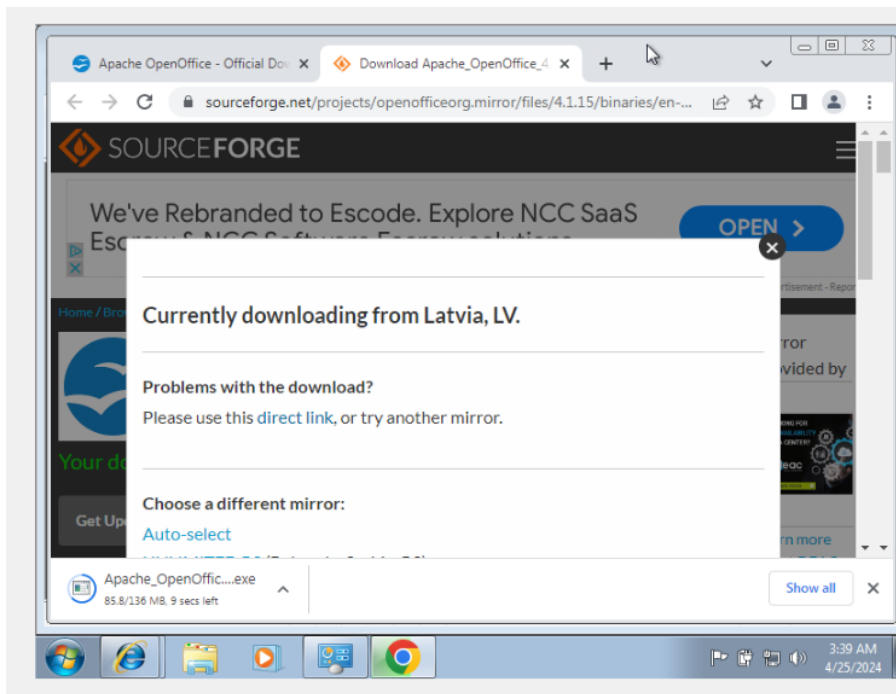


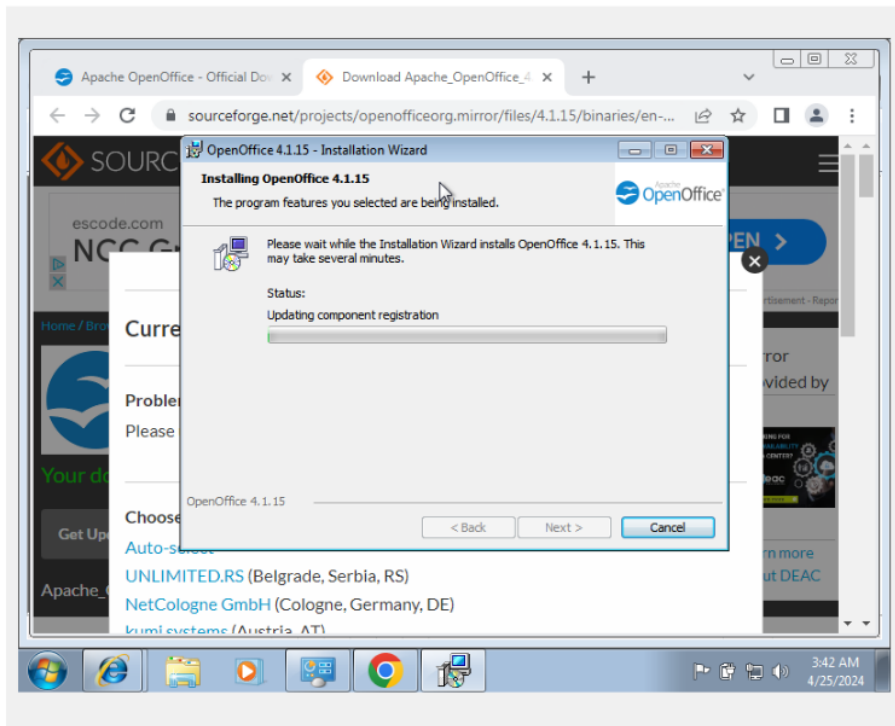
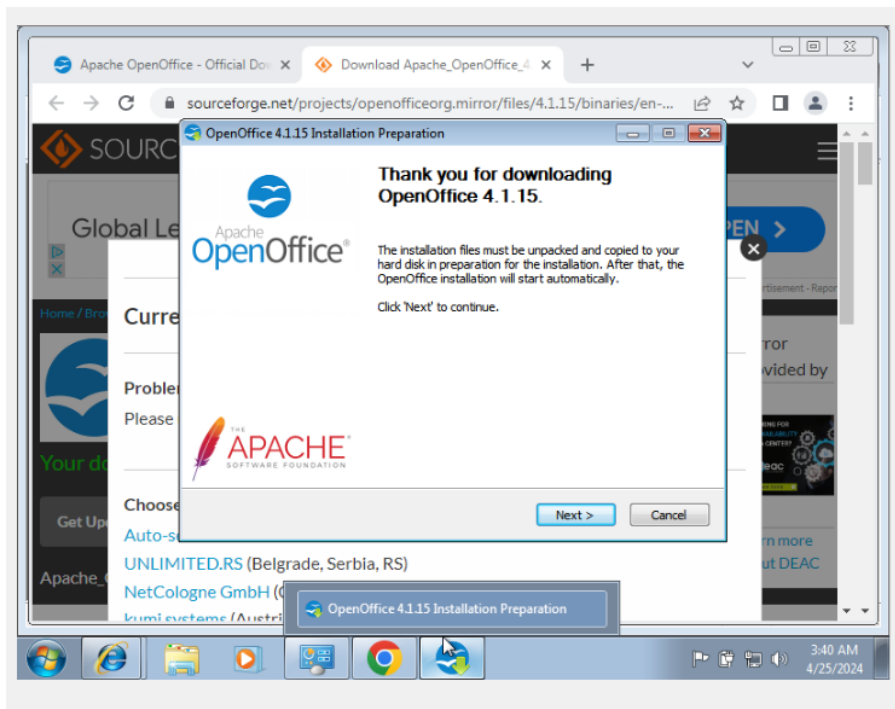


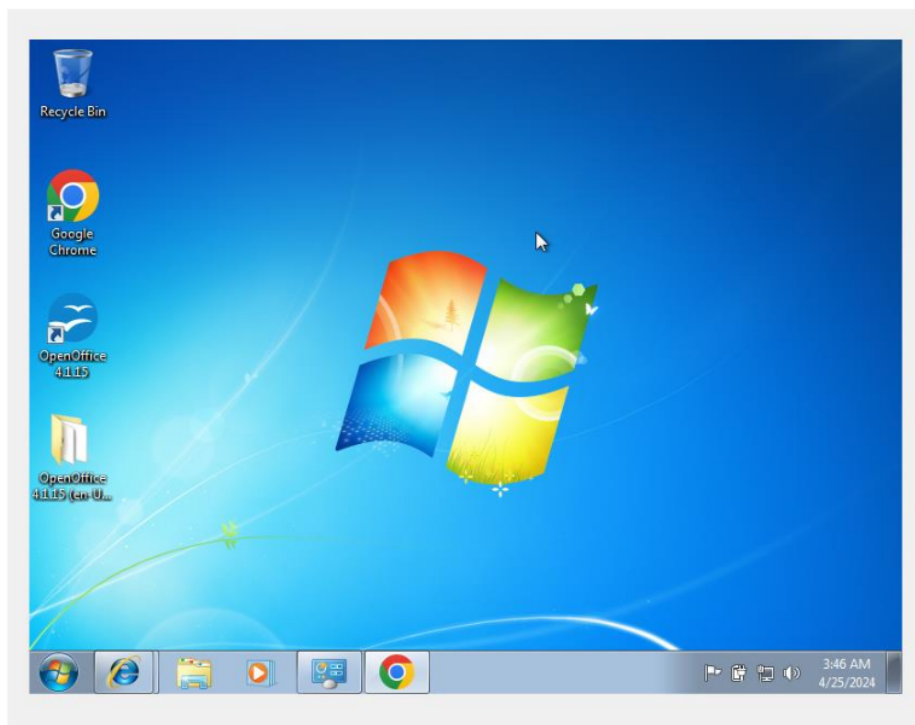
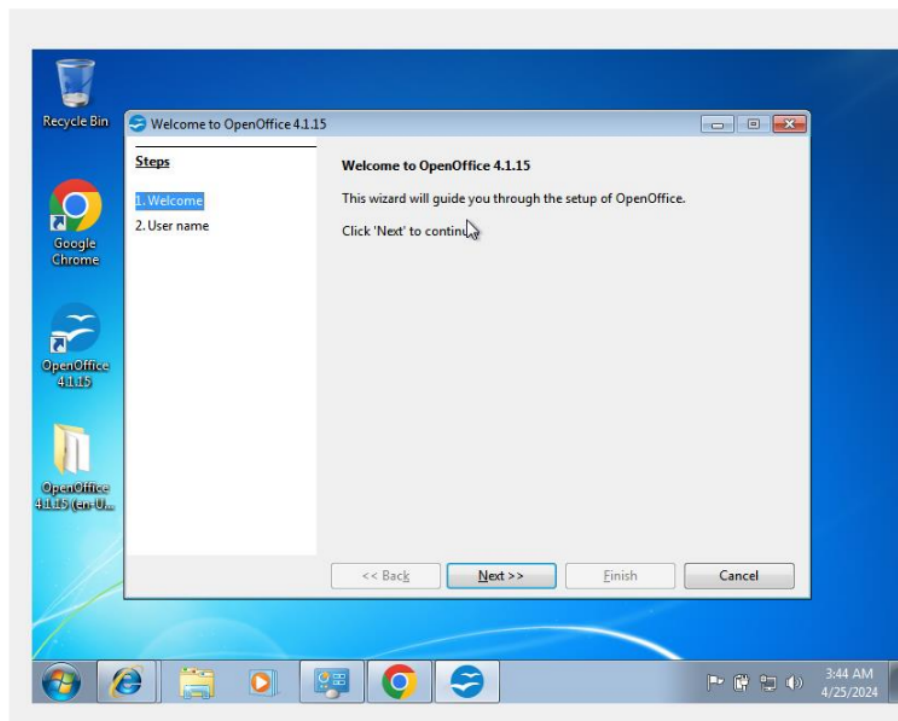


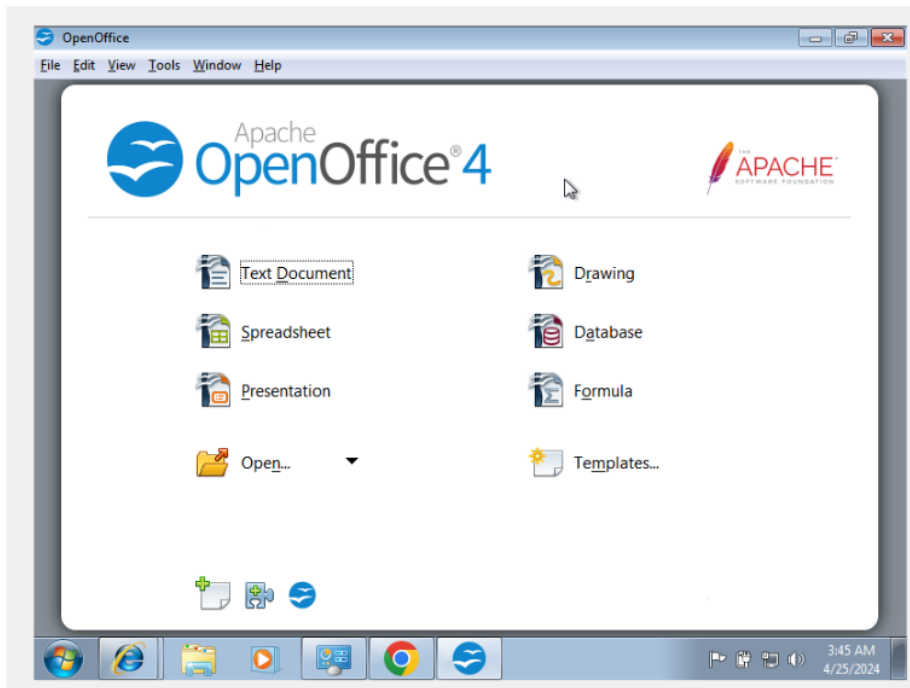












1, Downloading OpenOffice:

First, I visited the official OpenOffice website (<https://www.openoffice.org/>) and found the download section.

From there, I selected the appropriate version of OpenOffice for my Windows operating system and initiated the download.

2, Saving Setup Files:

Once the download completed, I located the downloaded setup file. It was saved in my browser's default downloads folder, which I accessed by clicking on the download icon in my browser's toolbar.

3, Running the Installer:

Next, I double-clicked on the downloaded setup file to start the installation process.

Windows prompted me with a security warning, asking if I wanted to run the file. I clicked "Run" to proceed.

The OpenOffice setup wizard launched, guiding me through the installation process.

4, Choosing Installation Options:

The setup wizard presented me with various installation options, such as the installation directory and components to install.

I opted to leave these settings at their default values, as they seemed suitable for my needs.

I clicked "Next" to proceed to the next step.

5, Starting Installation:

With my installation options selected, I clicked on the "Install" button to begin the installation process.

The setup wizard then copied files and configured the installation, which took a few moments to complete.

6, Completing the Installation:

Once the installation finished, the setup wizard displayed a completion message, confirming that OpenOffice was successfully installed.

I clicked "Finish" to exit the setup wizard and complete the installation process.

7, Locating Program Files:

To find the installed program files, I navigated to the "Program Files" directory on my Windows system.

Within the "Program Files" directory, I located the folder for OpenOffice, where the installation program files were stored.

The main executable file for OpenOffice (e.g., "soffice.exe") was located in a subdirectory within the OpenOffice installation folder.

8, Creating and Saving Data Files:

With OpenOffice installed, I launched the desired applications such as Writer, Calc, or Impress from the Start menu or desktop shortcuts.

As I created and saved documents, spreadsheets, or presentations using OpenOffice, they were typically saved to a default directory such as "Documents" or "My Documents" unless I specified a different location during the saving process.

By following these steps, I successfully installed OpenOffice on my Windows system, located the installation program files, and created and saved data files using the office suite.

References

- [1] (April 18,). *How to install sound card*. Available: How to Install a Sound Card in Windows 10: A Step-by-Step Guide (thetechylife.com).
- [2] (11/18/). *How to Install a Computer Network Card* . Available: How to Install a Computer Network Card (computerhope.com).
- [3] (). *What is RAM?*. Available: <https://www.crucial.com/articles/about-memory/support-what-does-computer-memory-do>.
- [4] Anonymous Anonymous Manage virtual hard disks. Manage virtual hard disks. pp. 1-2. pp. 1-2. 2023. Available: What is virtual hard disk (VHD)? (techtargget.com).
- [5] (Jan 11,). *What is CPU usage*. Available: <https://www.digitaltrends.com/computing/what-is-cpu-usage-and-how-to-fix-it/>.

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FINAL GRADE

GENERAL COMMENTS

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GRADING FORM: GJ_2019

NAOD HABTOM

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ENGAGEMENT WITH LITERATURE



A few sources cited, but these do seem to be 'how to' guides rather than providing in depth technical info.

40

KNOWLEDGE AND UNDERSTANDING



Most of the text seems to either be a simple declaration of what was done, or it reads as if its paraphrased/copied from installation guides.

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COGNITIVE AND INTELLECTUAL

PRACTICAL APPLICATION



All the required tasks have been covered and screengrabs made.

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TRANSFERABLE SKILLS



Fairly tidy layout, but multiple screengrabs one after the other with no explanatory text is not very readable.

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