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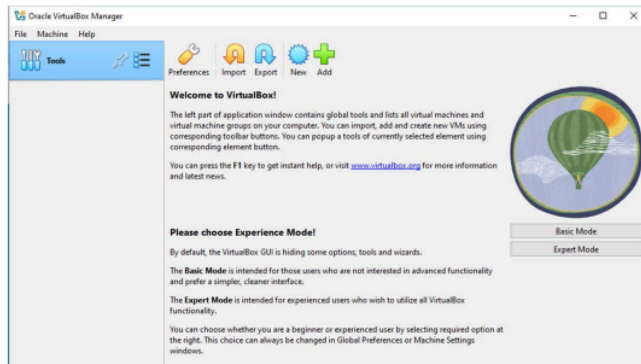
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Daniel Meskill

Introduction to Computer systems

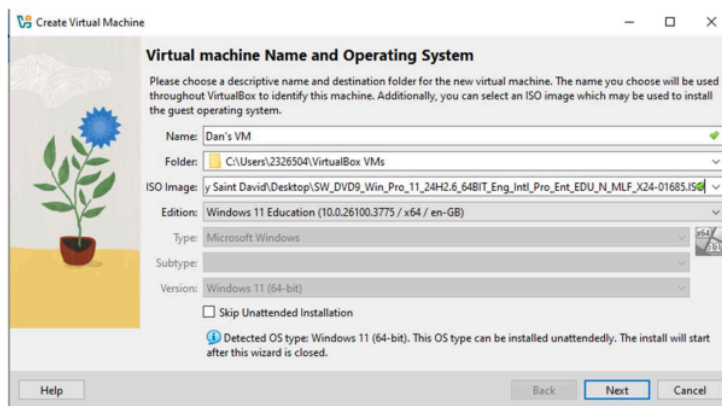
For this assignment the objective is to instruct step by step, how to install windows 11 on a VM or (Virtual Machine), covering the optimal configuration available for the machine we are installing on to, this will include the CPU Core count, assigned memory (RAM) and also storage which will be partitioned off from the main machine.

To start this installation of Windows 11 on the Vm a clean installation is required, This starts at the home screen of Oracle VM.



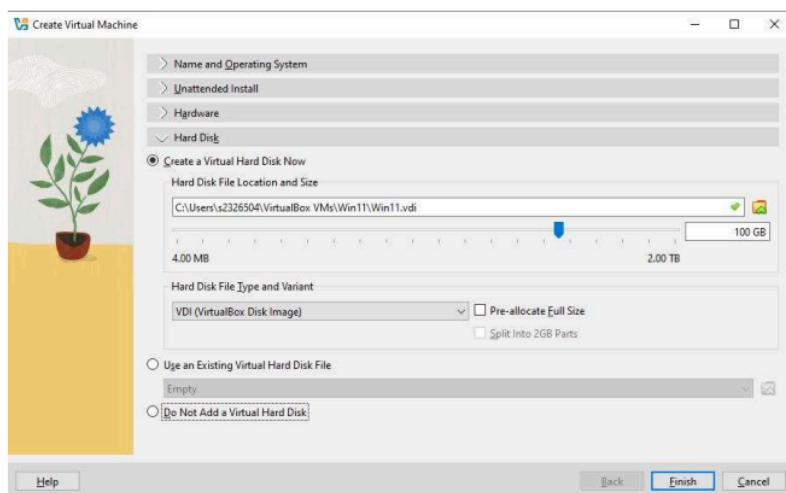
Firstly click New, and here configuration of the installation can begin.

The user are presented with options Like VM Name and folder location, The option to select the user ISO (Disk Image) and also the hardware allocation.



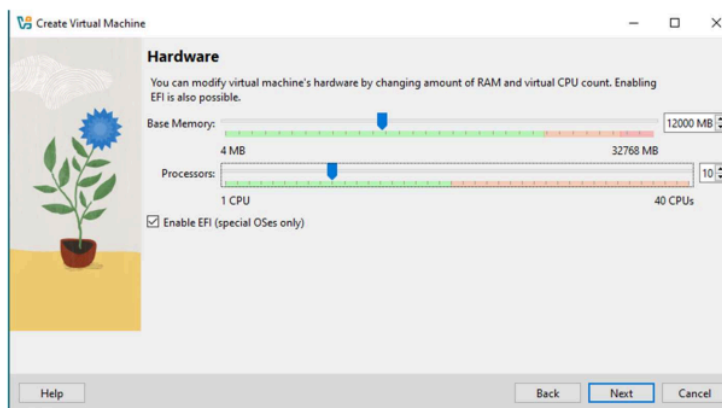
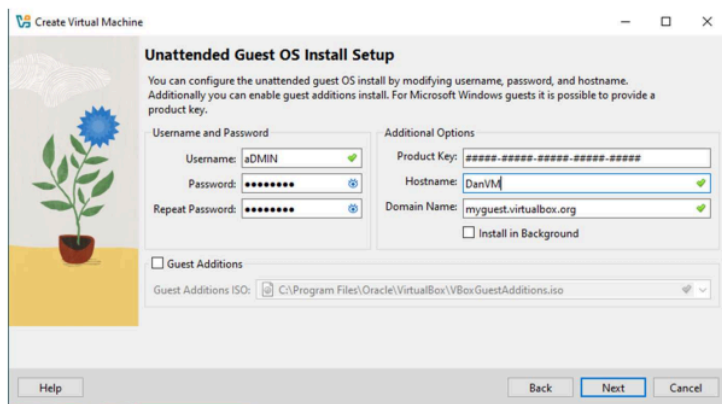
The VM name and folder, now while the Name is not that important the folder location is. The VM Folder is the main location where all files for a virtual machine are stored, and understanding its role is essential for keeping the VM safe and usable. This folder contains everything the VM needs to run, including its settings file, its virtual hard disk, and any logs or snapshots. Because all of these components are kept together in one place, the folder acts as a complete package of the entire virtual machine. This makes backup extremely simple: shutting down the VM and copying the folder creates a full, working backup that can be stored anywhere. Redeploying the VM on another computer is just as straightforward, as the folder can be moved to a new system and

opened in VirtualBox without reinstalling anything. If the VM becomes damaged or stops working properly, restoring it is done by replacing the broken folder with a backed-up version.



The user will also see the option for attended install or unattended, this just means An *attended installation* is when the operating system is installed manually and requires the user to interact with the setup process. During this type of installation, the user must stay at the computer to choose options such as language, time zone, disk partitions, user accounts, and other configuration settings. The installation cannot continue without these inputs, which means the user must be present from start to finish.

An *unattended installation* is the opposite. In this method, all required answers and settings are provided in advance through an automated setup file. Once the installation begins, it runs on its own without needing any user interaction. This makes it useful for installing the same operating system on many machines or for saving time when a fully automated setup is preferred. The system completes the installation using the pre-configured instructions and finishes without supervision, the user will just be presented with the options to input a username and password



Now probably the most important configurations are the hardware options, These include how much memory (RAM) the VM gets, how many CPU cores it can use, how much video memory is available, what type of storage controller it uses, and how it connects to the network. Each of these settings controls how much of the users real hardware the virtual machine is allowed to use. Configuring these options correctly is important because the VM depends entirely on the resources the user assign to it. If the user gives the VM too little RAM or too few CPU cores, it will run slowly and may freeze during tasks like installing Windows or running applications. If the user assign too many resources, the host computer may struggle, causing both the VM and the main system to perform poorly. Choosing the right graphics controller memory ensures the display works properly,

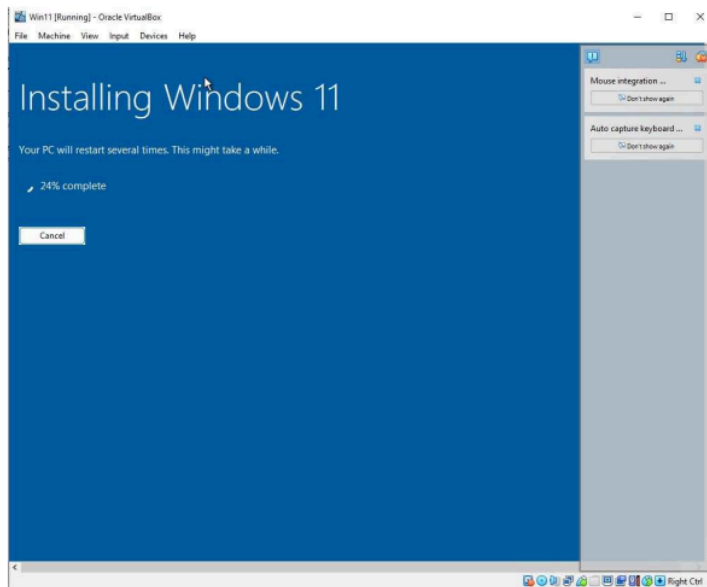
For this install the decision to go with 12gb of Ram was made, well below half, this insures both host and VM have sufficient Memory.

Going even more cautious, with the cpu cores, using only 10 out of the 40 available. This is due to 10 cpu cores being more than sufficient for what it is going to be used for. Yet leaving plenty for the host computer

If the user's system is struggling, there are a few things the user can do to optimize performance. These are some suggestions on the Oracle website (1) To Paraphrase

- To keep the user's virtual machines running smoothly, it is important to carefully manage the system's processor (CPU) and memory. Even though the system handles a lot automatically, the user can boost performance by fine-tuning how processing power is shared and reducing the extra background work caused by virtualization. This involves adjusting features like Hyper-Threading and memory page sizes to fit the specific tasks. Alongside the CPU, the user will also want to balance the memory settings between the main server and the virtual machines so that everything has enough room to operate without causing a system traffic jam.

After selecting these options to best fit the needs of both host and Virtual Machine, whilst staying cautious not to assign too much resources, the user should be able to start the installation



If for example the user were using attended install, the user would be required to select languages, regions, time zones etc. However, this information is automatically captured using the device's GPS.

Once installed the user will need to log-in, use the credentials created at the start.

Its then good practice to run windows updates so the user gets all the latest firmware and the up-to-date patches.

Acer Extensa 215-24	
① Device info	
Device name	
Processor	
Installed RAM	
Graphics card	
Storage	
Device ID	
Product ID	
System type	
Pen and touch	

If the users unfamiliar with the hardware the user is running, a simple solution is to open “system”

Here the user can find what the virtual Machine is utilising

Furthermore if the users running stock equipment, like sound card and display adapter straight off motherboard, it's a good idea to install the windows default display driver and windows audio driver

Troubleshooting hardware in Windows

Audio

Fix sound or audio problems in Windows

Fix audio issues when not muted plays from speakers or headphones in Windows

Fix missing or uninstalled audio output device in Windows

Fix low or quiet sound in Windows

Fix audio stops working after a Windows update in Windows

Fix microphone problems in Windows

Fix distorted or crackling audio in Windows

Fix tape audio not working while system sounds work in Windows

Fix Bluetooth connected but no sound issue on Windows

Update Audio drivers in Windows

Bluetooth

Camera

Drives

Keyboard and Mouse

Printers and Scanners

Update Audio drivers in Windows

Applies to: Windows 11 Windows 10

Support for Windows 10 has ended on October 14, 2025

After October 14, 2025, Microsoft will no longer provide free software updates from Windows Update, technical assistance, or security fixes for Windows 10. Your PC will still work, but we recommend moving to Windows 11.

Learn more

Updating audio drivers helps maintain sound quality and prevents issues such as missing audio, low volume, or microphone problems. Windows can install updated audio drivers automatically, or you can update them manually.

Update audio drivers using Windows Update (Recommended)

Windows Update is the recommended way to get the latest audio drivers.

1. Select Start > Settings > Update & Security > Windows Update.

2. Select Check for updates.

Check for Windows updates

3. Install any available updates.

Settings

admin Local Account

Find a setting

System

Bluetooth & devices

Network & internet

Personalisation

Apps

Accounts

Time & language

Gaming

Accessibility

Privacy & security

Windows Update

Windows Update

(estimate: 10 min)

Your device is missing important security updates. Make sure to keep your device on and plugged in so updates can complete.

Restart now

2026-05 .NET Framework Security Update (KB5087054)

Pending restart

2026-05 Security Update (KB5089549) (26100.8457)

Pending restart

More options

Get the latest updates as soon as they're available

Be among the first to get the latest non-security updates, fixes, and improvements as they roll out. [Learn more](#)

Off

Pause updates

To help keep your device secure, get the latest updates -- then you'll be able to pause again.

Pause for 1 week

Update history

Advanced options

Delivery optimisation, optional updates, active hours, other update settings

Now with a working version of windows 11 running on VM. Caution, be sure to power down the vm when not in use as the is set to use around half your resources.

Reference

(1) Optimizing Oracle VM

Available at

<https://www.oracle.com/a/tech/docs/ovm-performance.pdf>, Accessed on
14/5/2026

FINAL GRADE

40/100

GENERAL COMMENTS

Engagement with Literature Skills

One source listed, far below the minimum of five; not formatted to IEEE standard (no author, no bracketed number, access date not in [Accessed: DD Mon. YYYY] format, spread across multiple paragraphs). One in-text marker "(1)" is present. The correct format is `[#] Author, "Title," Source, Year. [Online]. Available: URL. [Accessed: DD Mon. YYYY].`

2/15

Knowledge and Understanding Skills

Genuine understanding shown of VM folder purpose, attended versus unattended installation, and the rationale behind RAM and CPU allocation. Coverage ends there - partitioning, driver configuration, and office software are not addressed, leaving the second half of the assignment's knowledge base unmarked.

15/25

Practical Application Skills

Screenshots confirm VirtualBox is installed and the VM creation wizard was completed (name, ISO, 100 GB VDI, 12 GB RAM, 10 CPUs); a Windows Update page inside the running VM confirms the OS install completed. Drive partitioning is entirely absent - no screenshot or description at any point. Part 2 is not delivered: the only driver-related image is a screenshot of a Microsoft support webpage rather than Device Manager; no second interface is documented; no office software is installed or evidenced; no file locations are described.

20/50

Transferable Skills for Life and Professional Practice

Title page has student name, ID, and module title but no module code and no date. No table of contents and no section headings anywhere in the document. All nine screenshots are uncaptioned and unreferenced in the text; no table of figures. Several typographical errors ("userr" twice, "to go with12gb", "the is set to use") and abbreviations RAM, CPU, ISO, VDI not expanded on first use.

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Total: 40/100

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