

Computer Systems Assessment Final

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Introduction

Virtual machines are commonly used to run operating systems inside another computer system without affecting the main device. This makes them useful for testing software, installing operating systems, and learning how to configure computer systems in a safe environment. This report explains the process of creating and configuring a Windows 11 virtual machine using Oracle VM VirtualBox. The report also covers the creation of a secondary storage partition and the installation of OpenOffice.

Virtual Machine Setup

The first stage of the practical work was to create a new virtual machine in Oracle VM VirtualBox. This was needed before Windows 11 could be installed, as the virtual machine provides the virtual hardware that the operating system runs on. During this setup, the main settings included the operating system type, ISO image, memory, processor cores, and virtual hard disk. These settings were important because they affected how well the virtual machine would perform once Windows 11 was installed.

The Windows 11 ISO image was selected during the creation of the virtual machine so that the system could boot directly into the Windows installation process, as shown in Figure 1. This allowed the virtual machine to use the ISO file in the same way that a physical computer would use a bootable installation disc or USB drive. The virtual machine was also given a clear name so it could be easily identified in VirtualBox. The VM folder location was left as the default location, which means the virtual machine files were stored on the host computer in a dedicated VirtualBox folder. This is useful because the VM files can be backed up, moved, or restored if needed.

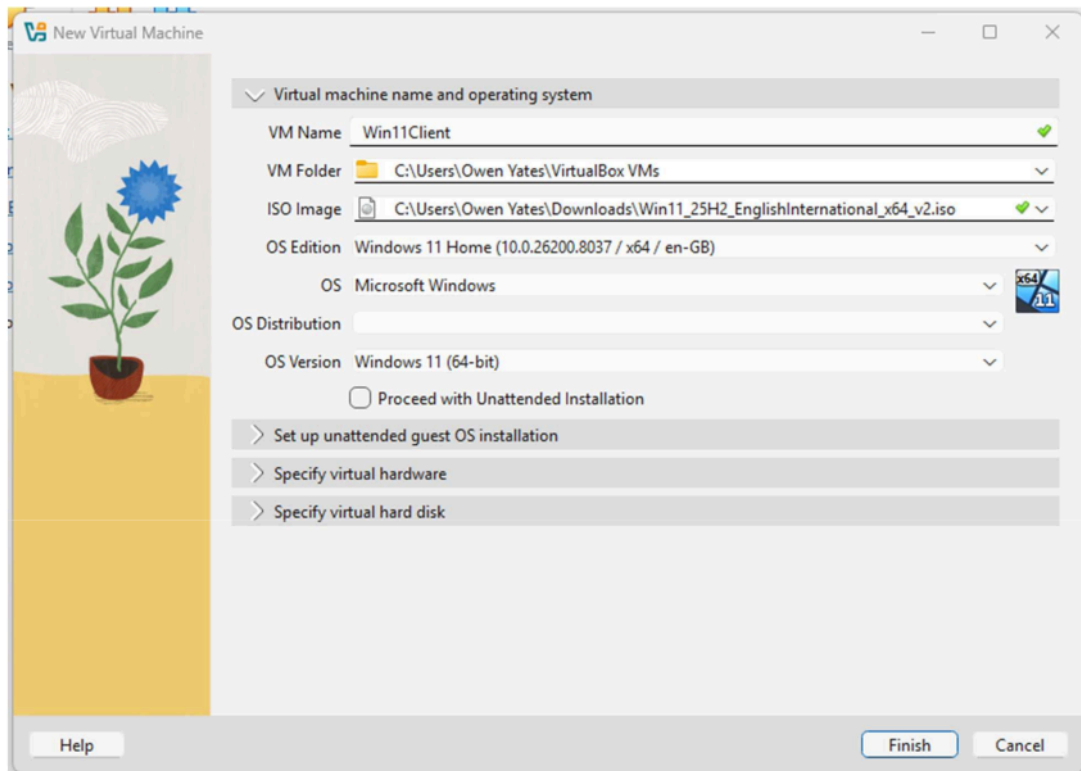


Figure 1: Creating the virtual machine and selecting the Windows 11 ISO image.

Memory and processor settings were then configured for the virtual machine, as shown in Figure 2. The amount of RAM allocated needed to be high enough for Windows 11 to run smoothly, but not so high that it affected the host computer. A balanced amount of memory was selected so that both the host operating system and the guest operating system could continue to run properly. Processor cores were also assigned to the virtual machine to improve performance during installation and general use. This is important because the virtual machine shares the physical computers CPU resources, so allocating too many cores could reduce the performance of the host system.

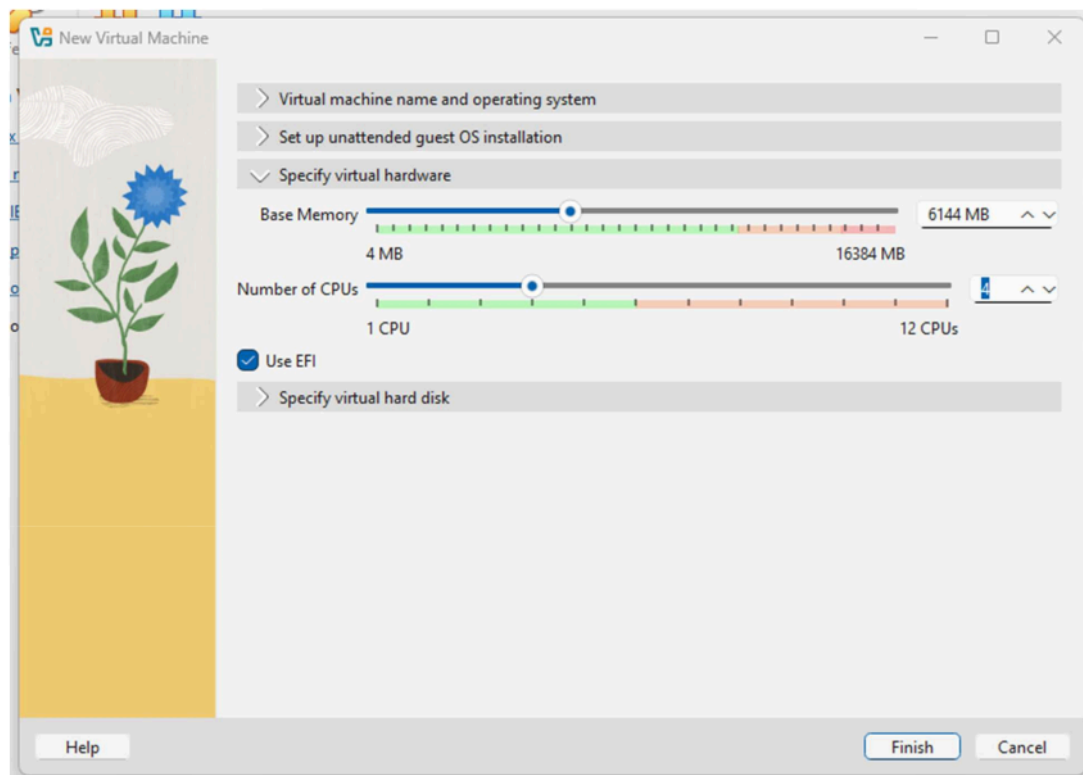


Figure 2: Configuring memory allocation and processor cores for the virtual machine.

A virtual hard disk was then created to store the Windows 11 operating system, installed applications, and user files, as shown in Figure 3. The VDI format was used because it is the standard VirtualBox disk image format and is suitable for a VirtualBox based virtual machine. Dynamically allocated storage was selected so that the virtual disk would only use physical storage space on the host computer as it was needed. This helped avoid taking up the full disk size immediately while still allowing enough space for Windows, software installation, and later partitioning.

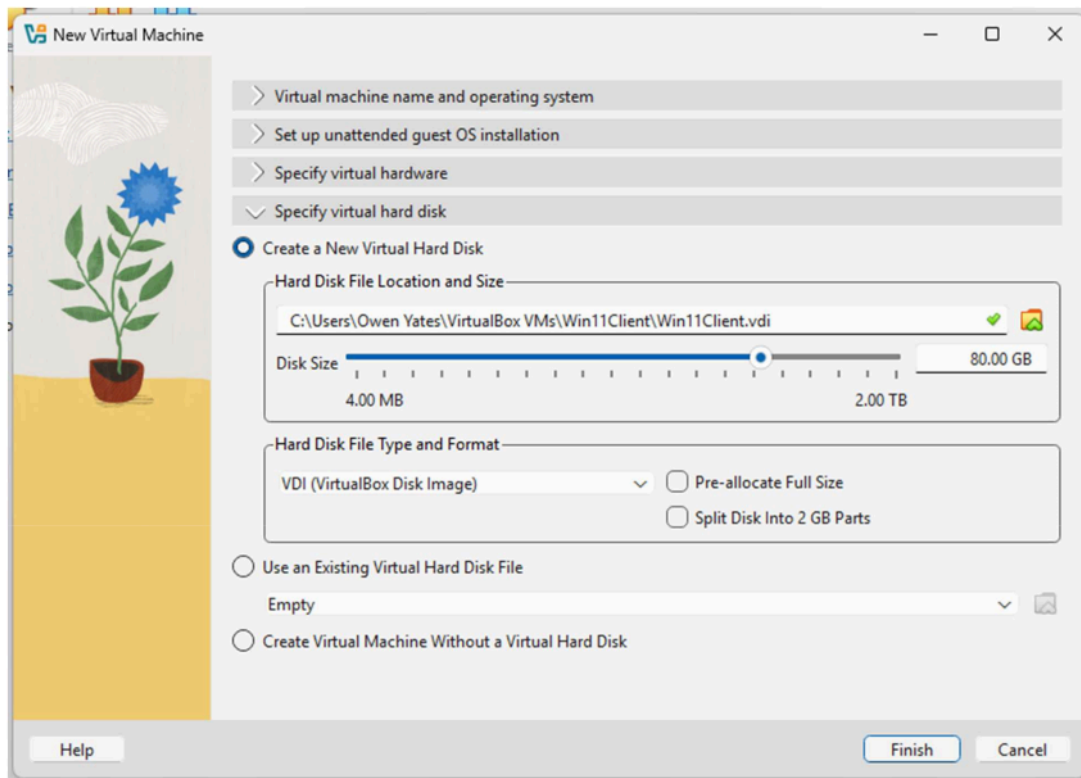


Figure 3: Configuring the virtual hard disk size and storage format.

The virtual machine setup stage was important because it prepared the environment needed for the operating system installation. By choosing suitable memory, processor, and storage settings, the virtual machine was able to run Windows 11 while still leaving enough resources available for the host computer. Once these settings had been completed, the virtual machine was ready to boot from the ISO image and begin the Windows 11 installation process.

Windows 11 Installation

After the virtual machine had been configured, it was powered on and booted from the Windows 11 ISO image. The ISO worked like a virtual installation disc, allowing Windows setup to begin inside the virtual machine. The first setup screen allowed the language, time format, and keyboard layout to be selected, as shown in Figure 4. These settings were important because they controlled the regional and input options used during the Windows installation.

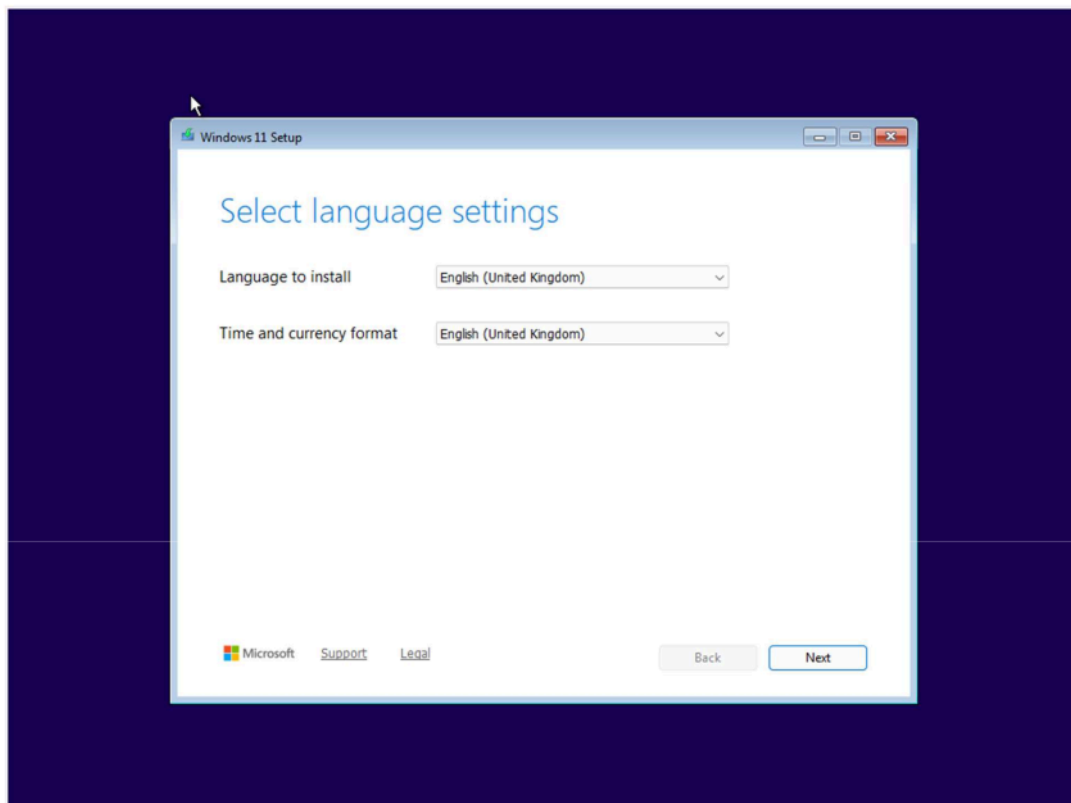


Figure 4: Windows 11 installation language and keyboard setup.

The setup process then continued through the product key screen, Windows edition selection, and licence agreement, shown in Figure 5, 6, and 7. No product key was entered during installation, so the option to continue without a product key was selected. This allowed the Windows 11 installation to continue, although activation could be completed later if required. The Windows edition selection determined which version of Windows 11 would be installed on the virtual machine, and the licence agreement needed to be accepted before the installation could continue.

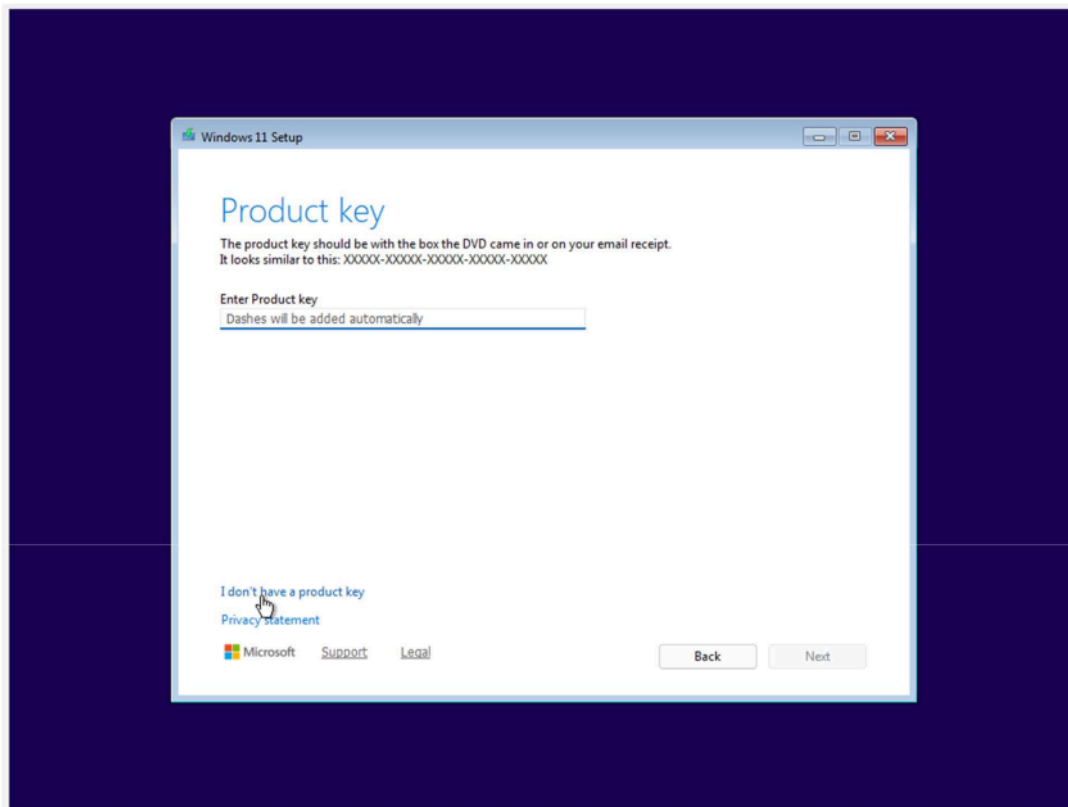


Figure 5: Windows product key screen.

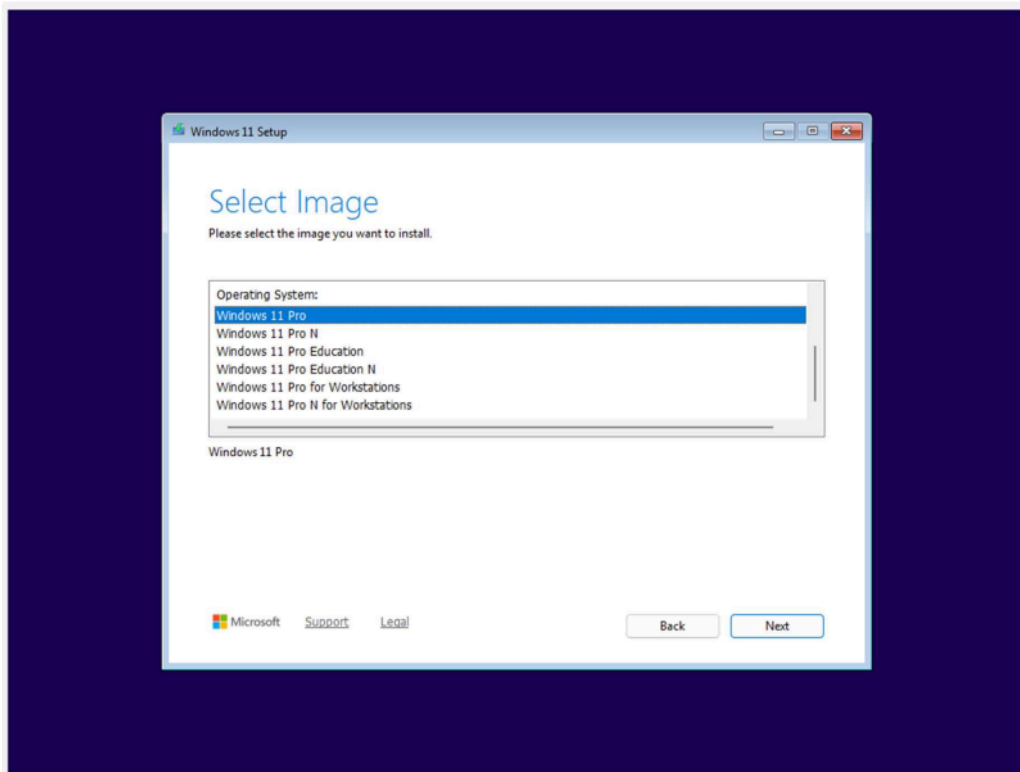


Figure 6: Selecting the Windows 11 edition.

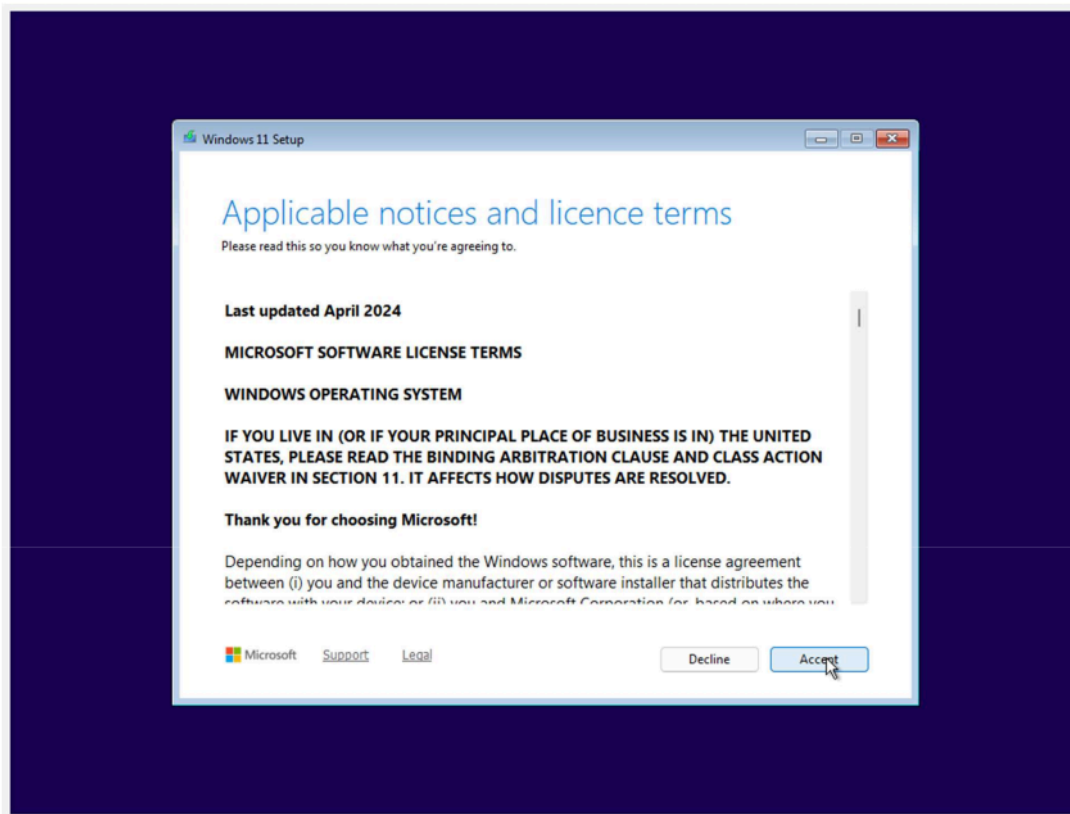


Figure 7: Accepting the Windows licence agreement.

The custom installation option was used because this was a fresh installation of Windows 11 on a new virtual hard disk, rather than an upgrade from an existing operating system. The virtual hard disk was selected as the installation location, as shown in Figure 8. During this stage, the partitions options were used to create the required Windows partitions, as shown in Figure 9. These partitions included areas for system boot files, the main operating system, and recovery tools. This was important because Windows needs these partitions to start correctly and provide recovery options if problems arise.

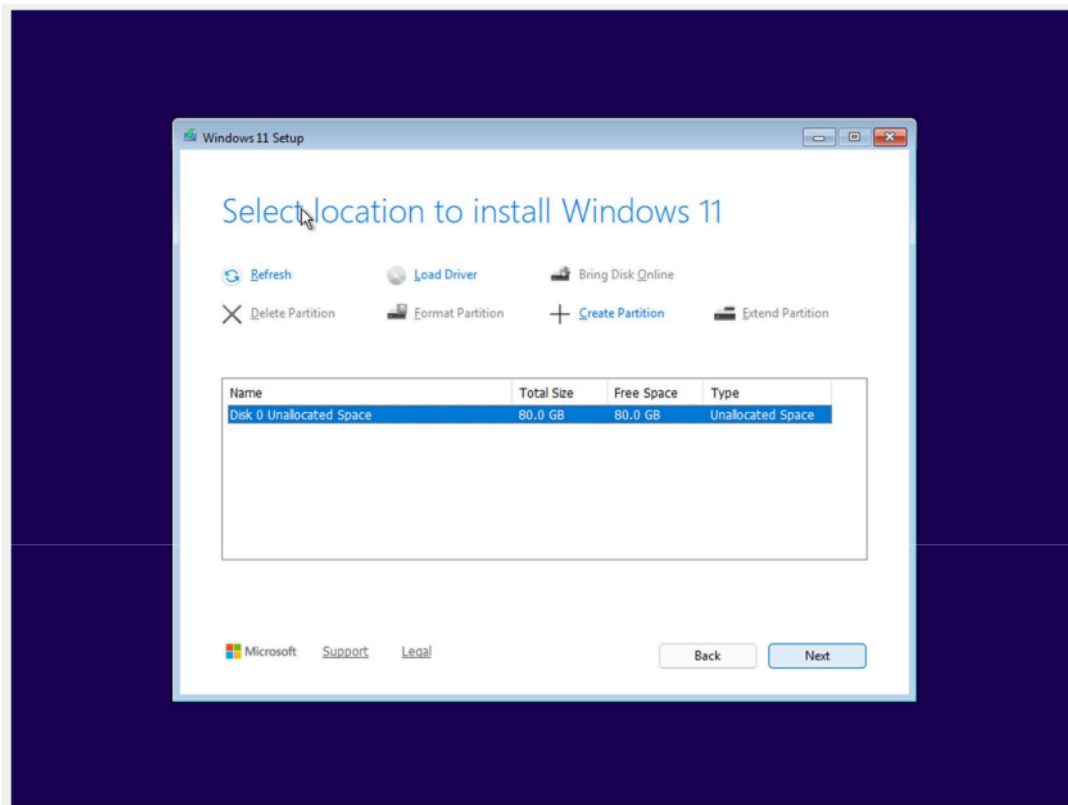


Figure 8: Selecting the virtual hard disk for installation.

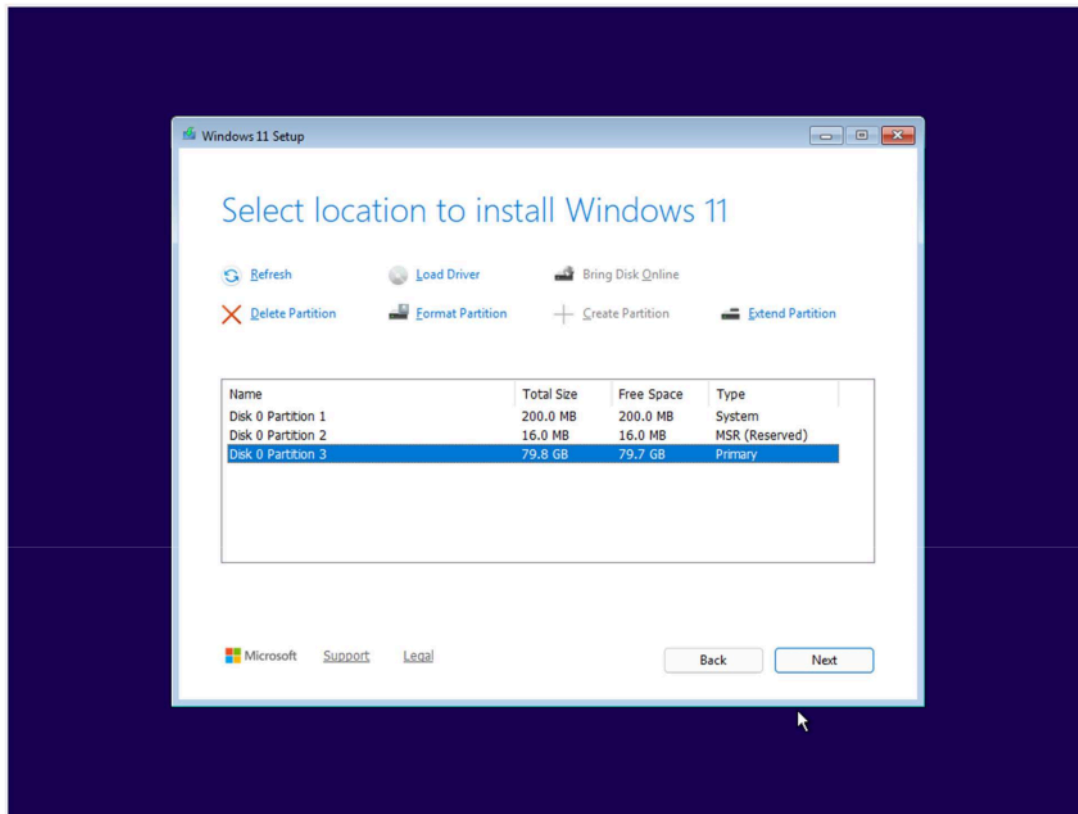


Figure 9: Windows setup creating the required partitions

Once the disk had been prepared, the installation was ready to begin, as shown in Figure 10. Windows copied the files and installed the operating system, as shown in Figure 11. After the installation, the virtual machine restarted and the first time Windows setup was completed, including region and user login configuration, as shown in Figures 12 and 13. The final desktop screen in Figure 14 confirms that Windows 11 was installed successfully and was able to boot correctly inside the virtual machine.

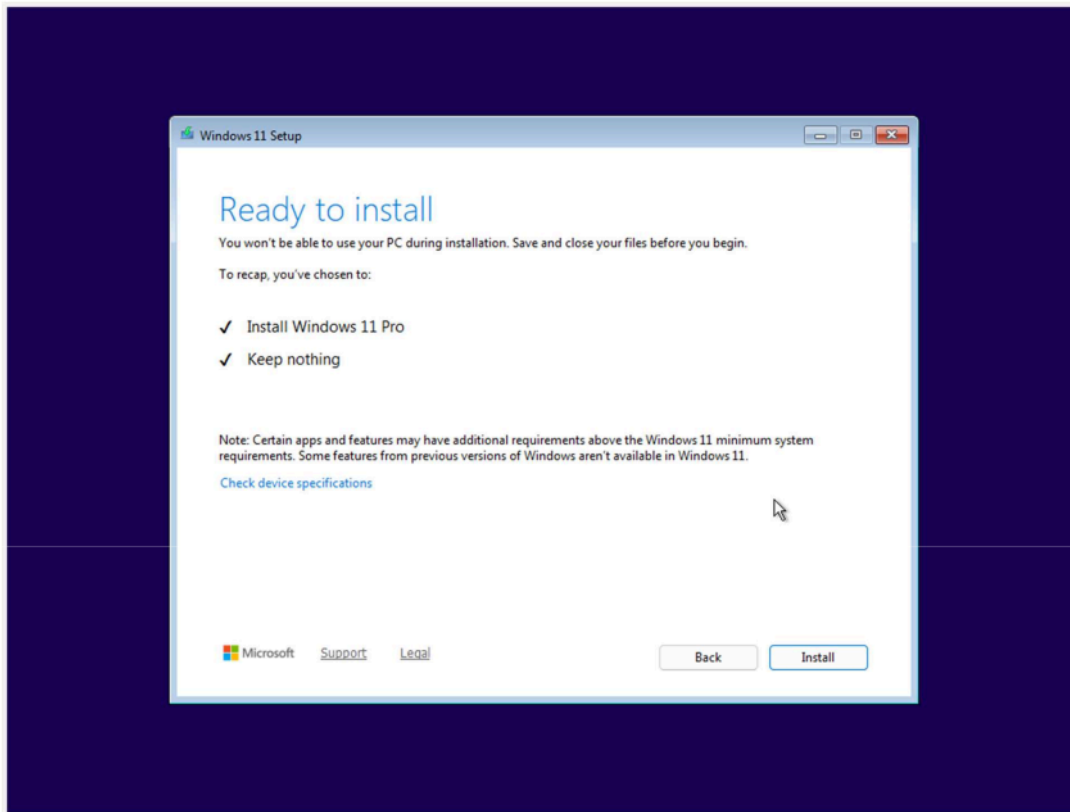


Figure 10: Ready to install Windows 11.



Figure 11: Windows 11 installation progress.

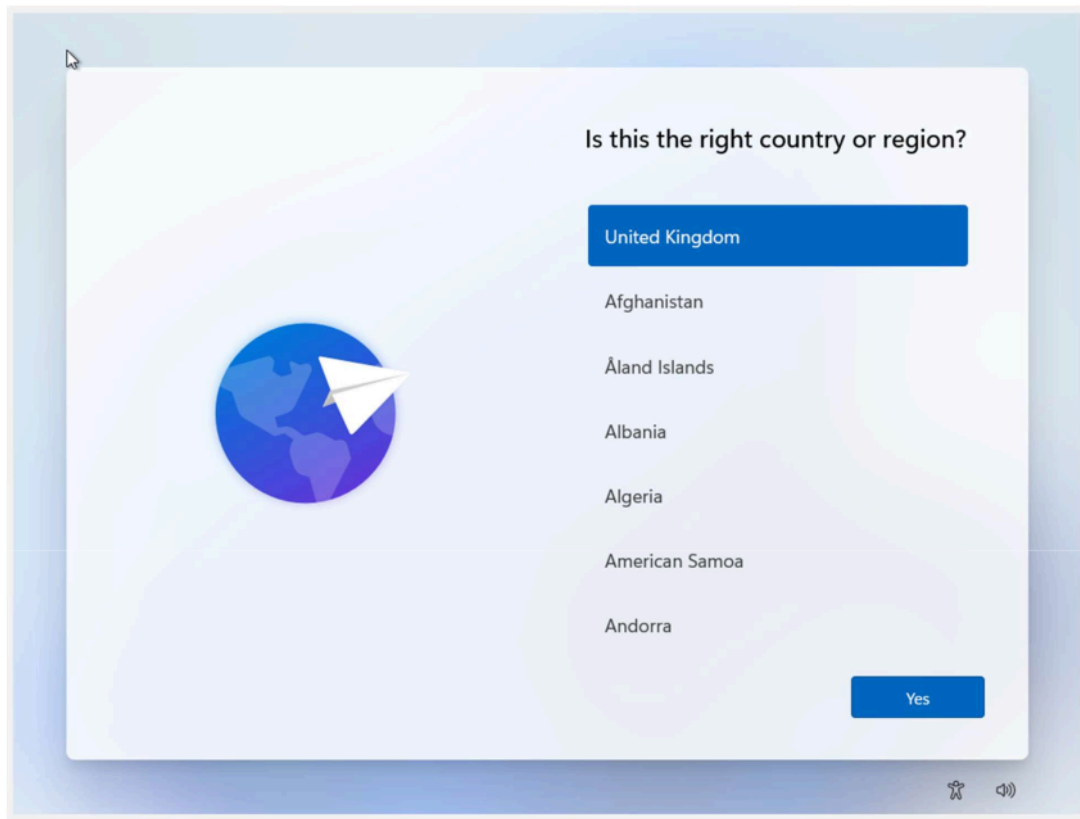


Figure 12: Windows region setup.

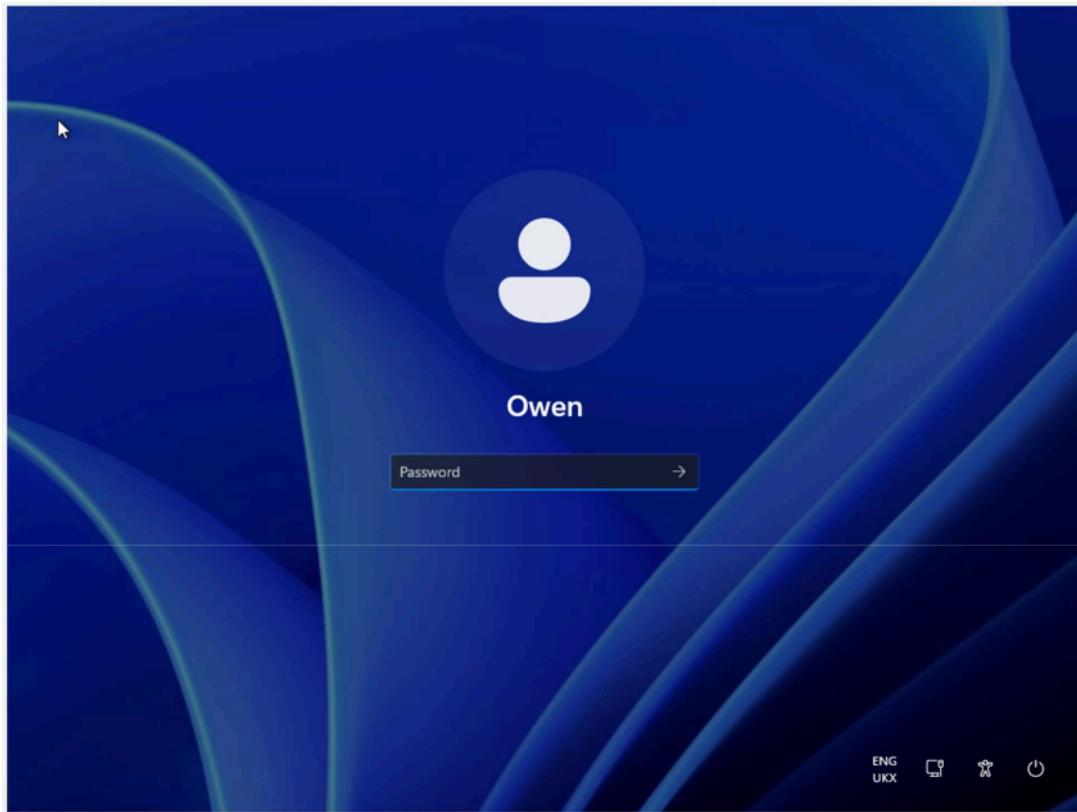


Figure 13: Windows login screen.

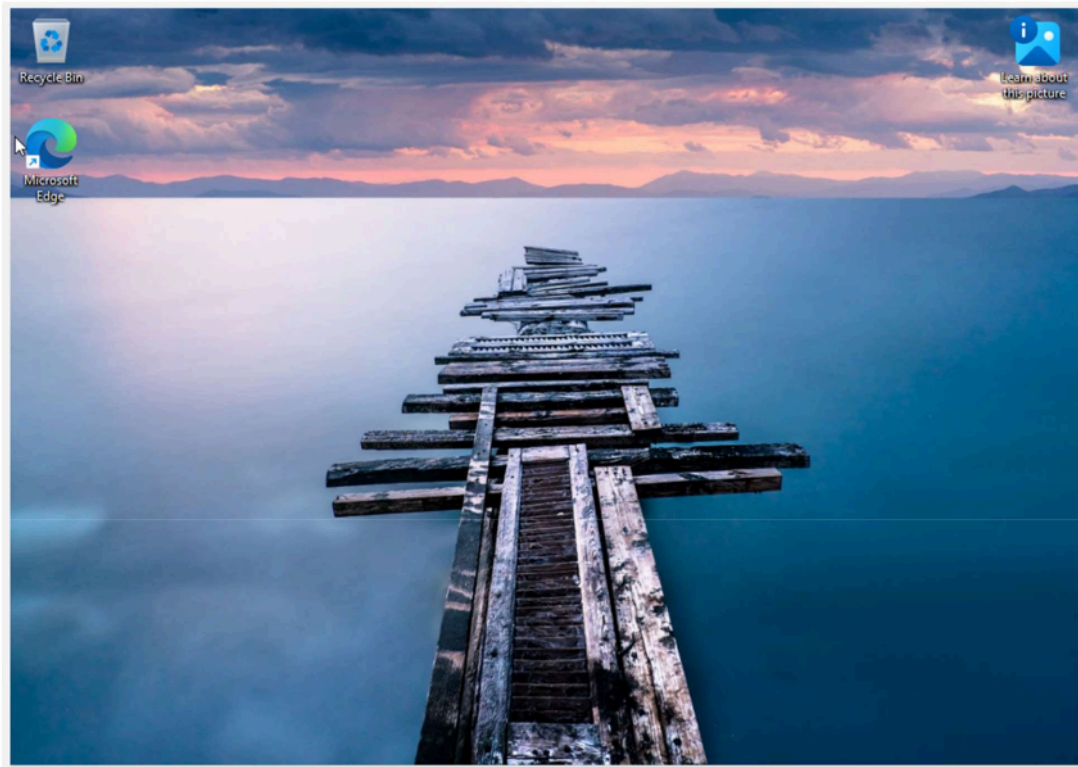


Figure 14: Windows 11 successfully installed and running.

Oracle VirtualBox Guest Additions and Driver Verification

After Windows 11 had been installed, Oracle VirtualBox Guest Additions were added to improve the functionality of the virtual machine. A new VM can run with basic default drivers, so Guest Additions help provide better graphics support, improved screen resizing, smoother mouse movement, and better integration between host computer and the guest operating system. This was important because the assignment required the virtual machine drivers to be configured and checked.

The guest Additions CD image was inserted through VirtualBox menu and opened inside Windows, as shown in Figure 15. The installer was then run from the mounted drive, as shown in Figure 16. After installation, the virtual machine was restarted so the new drives and features could take effect.

Device manager was then used to check the main virtual hardware drivers were installed correctly, as shown in Figure 17, Windows detected the virtual hardware interfaces, including the network and display adapters. This confirmed that the virtual machine was able to communicate with the virtual hardware provided by VirtualBox and that the Guest Additions installation had improved driver support.

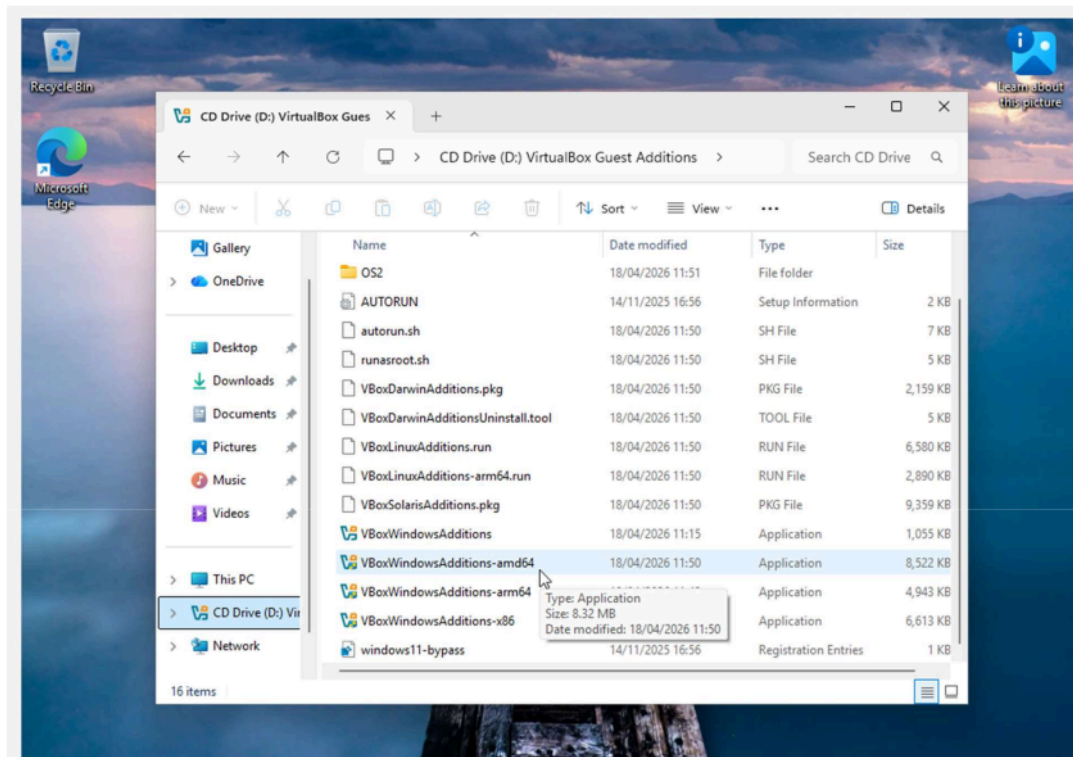


Figure 15: Oracle VirtualBox Guest Additions files mounted inside Windows 11.

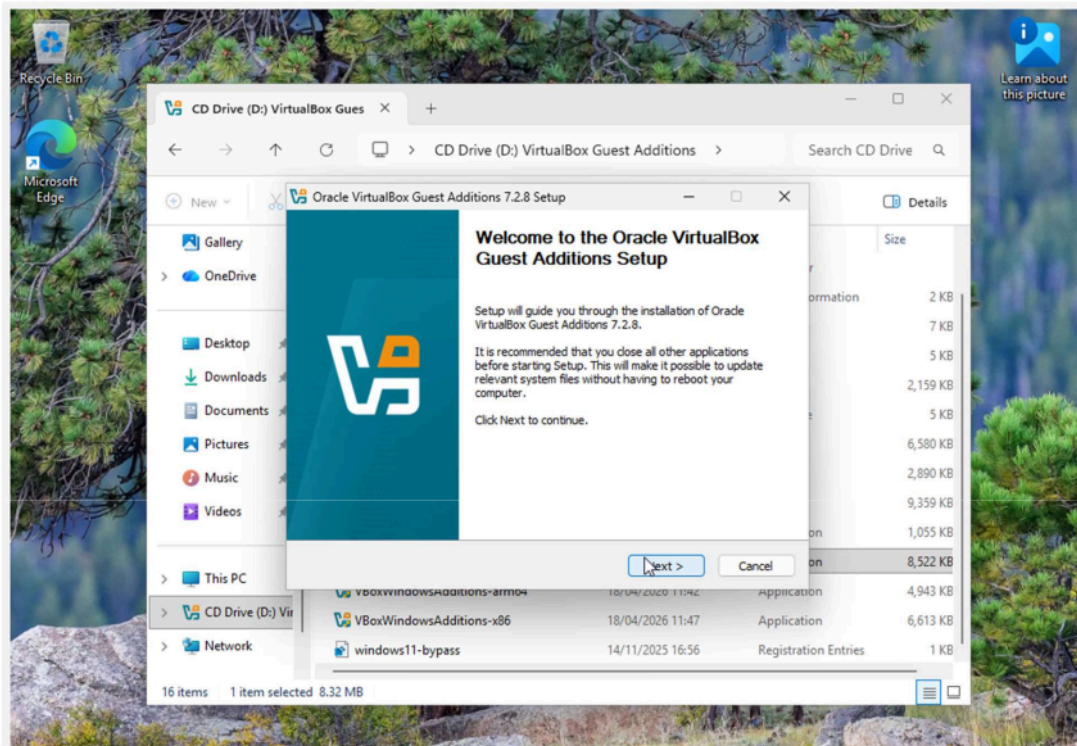


Figure 16: Installing Oracle VirtualBox Guest Additions within the virtual machine.

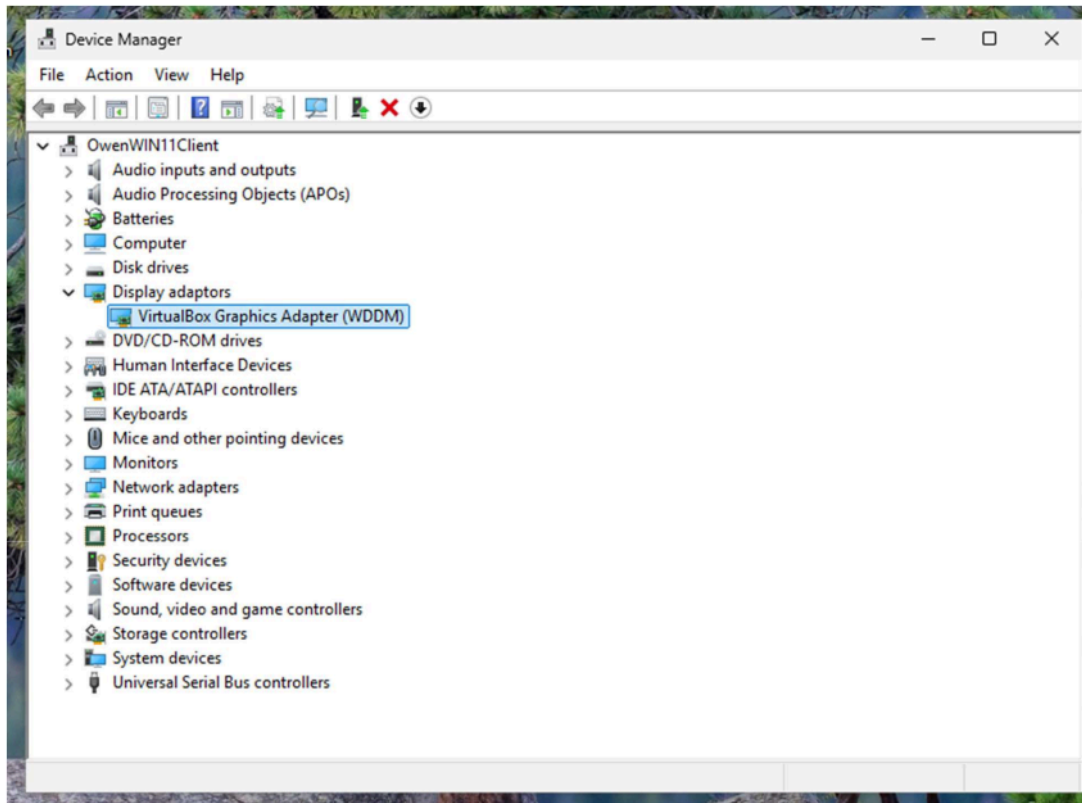


Figure 17: Device manager showing installed VirtualBox drivers and hardware interfaces

Disk Partitioning

After Windows 11 had been installed and the drivers had been checked, Disk Management was used to split the original C: drive into two separate partitions. The original disk layout shown in Figure 18, where the main C: drive was using most of the available virtual disk space. This needed to be changed so that a second drive could be created for storing files separately from the operating system.

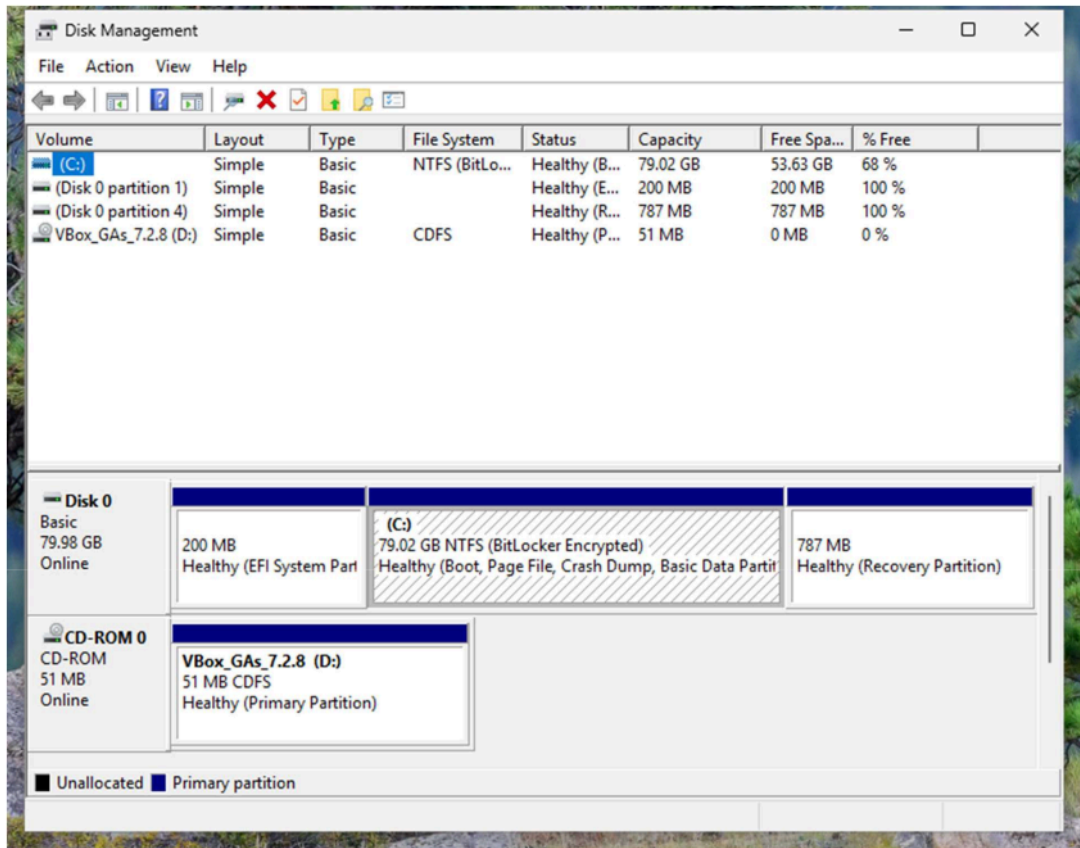


Figure 18: Disk Management showing the original C: drive before partitioning.

The C: drive was then shrunk to create unallocated space, as shown in Figure 19. This reduced the size of the main Windows partition and made space available for a new volume. The new partition was then assigned the drive letter E: as shown in Figure 20, so it could be easily accessed from the file explorer.

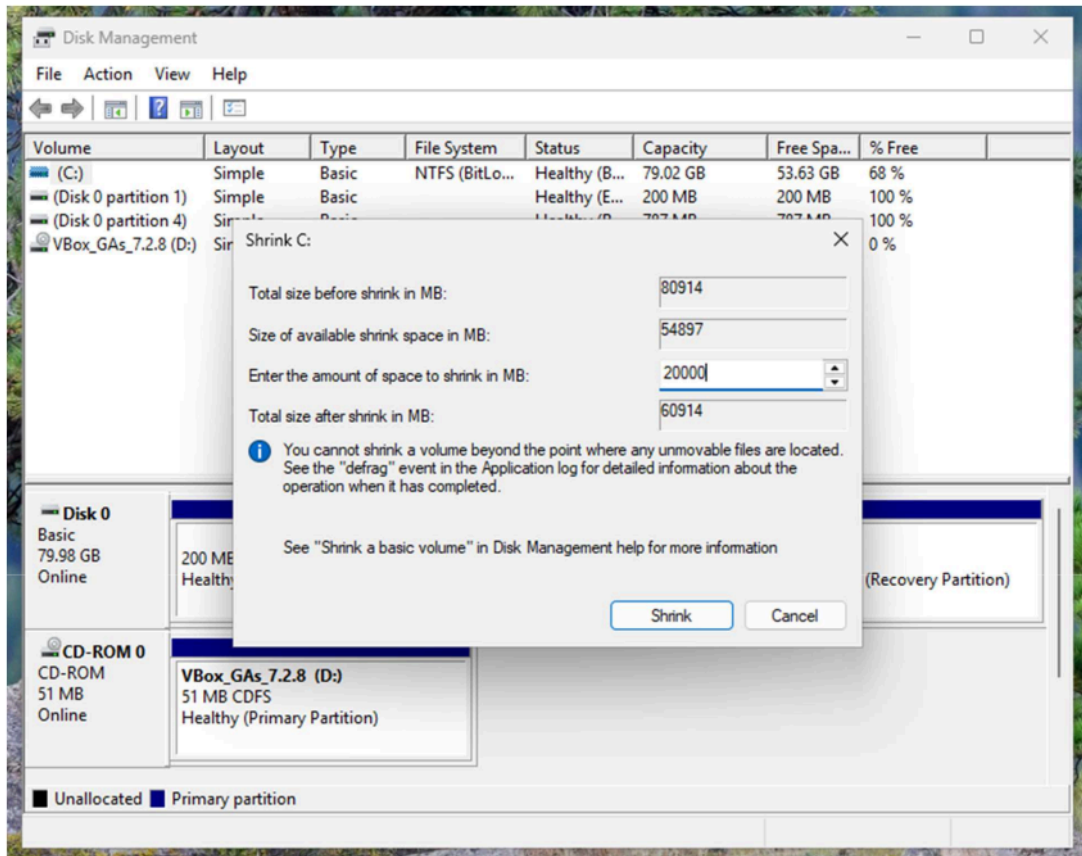


Figure 19: Shrinking the C: drive to create unallocated space.

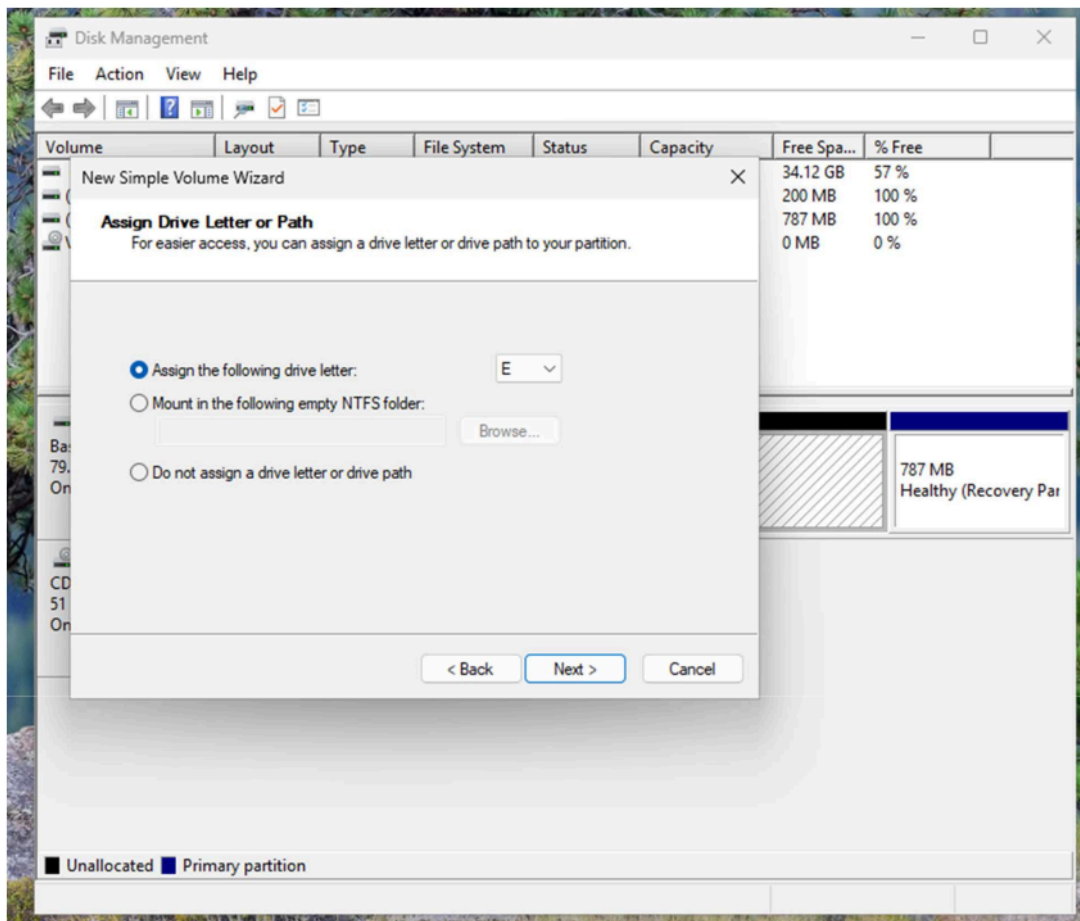


Figure 20: Assigning the E: drive letter to the new partition.

The new partition was formatted using the NTFS file system, which is suitable for Windows because it supports file permissions, large files, and reliable storage management. This completed disk layout is shown in Figure 21, where both C: and E: are visible. File explorer also confirmed that the new E: drive was available for storing files, as shown in Figure 22.

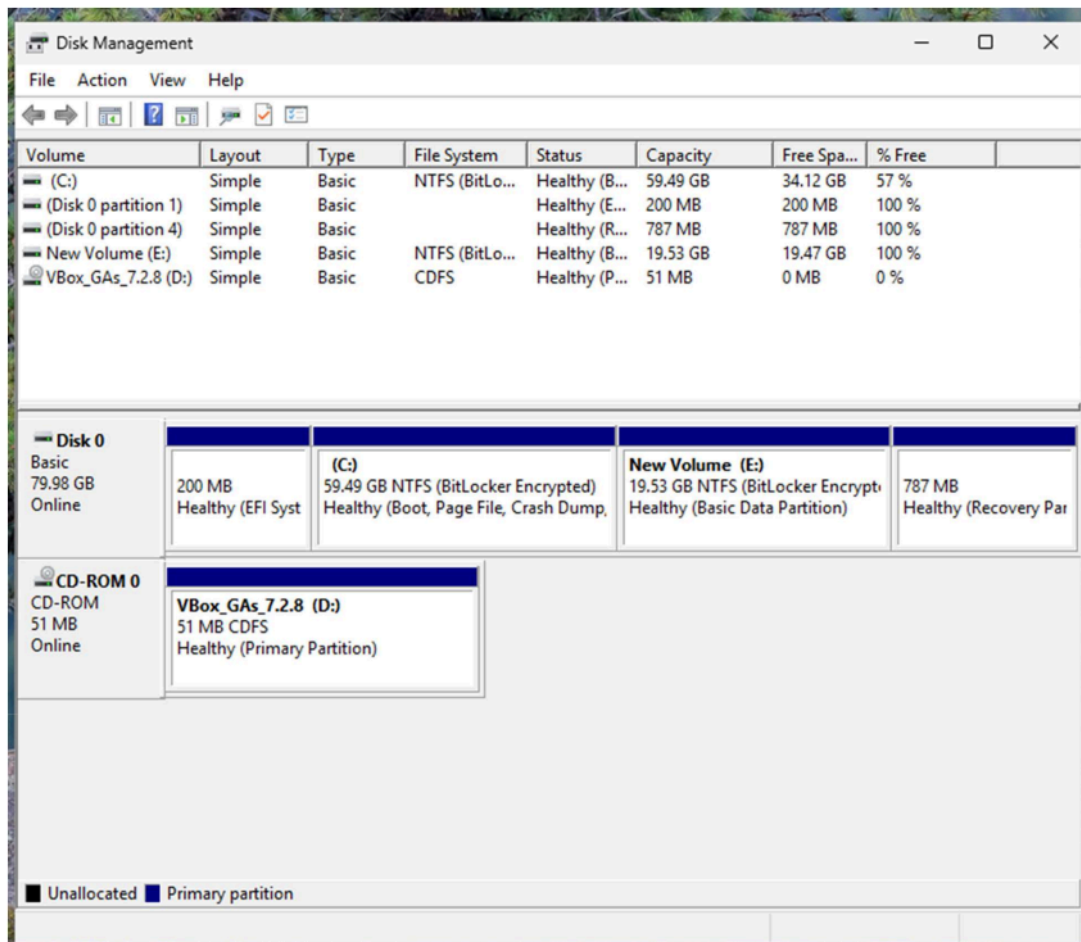


Figure 21: Final disk management layout showing both C: and E: partitions.

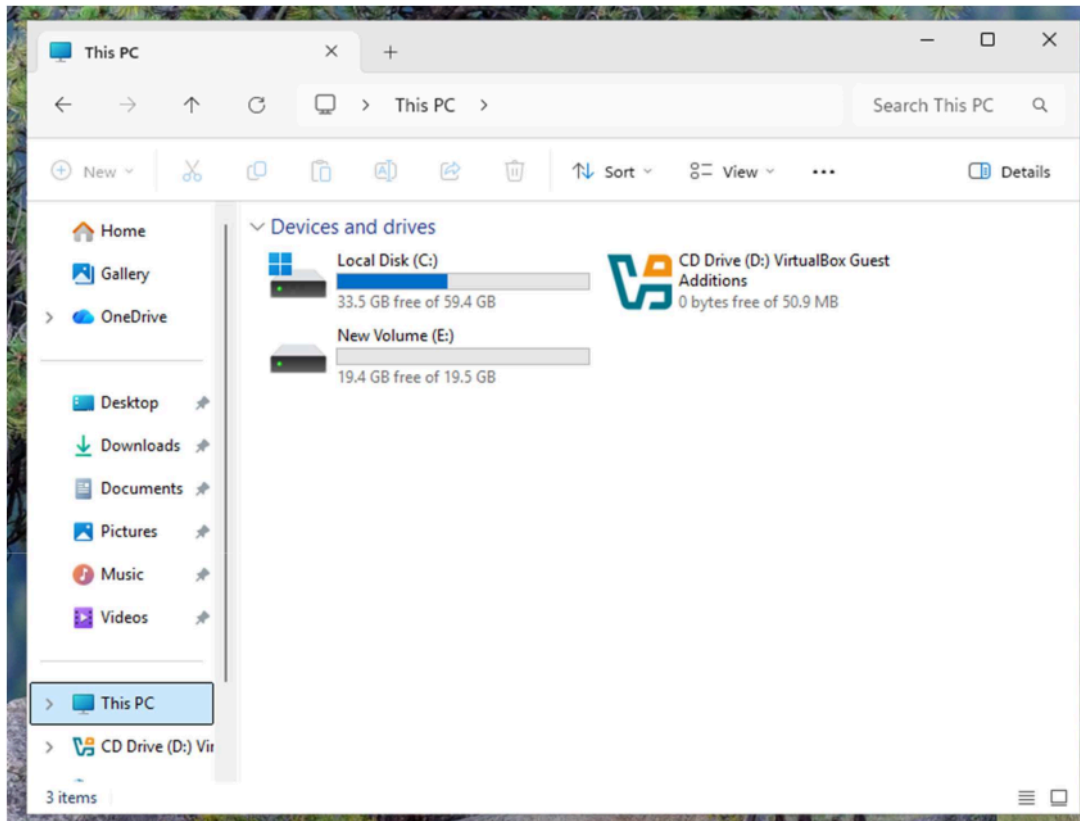


Figure 22: File explorer showing the C: and E: drives available in Windows 11.

OpenOffice Installation

OpenOffice was installed inside the Windows 11 VM to provide an office software suite for creating and editing documents. The installer was saved in the downloads folder and the run from inside Windows, as shown in Figure 23. After installation, OpenOffice Writer was opened to confirm that the software had installed correctly and was ready to use, as shown in Figure 24.

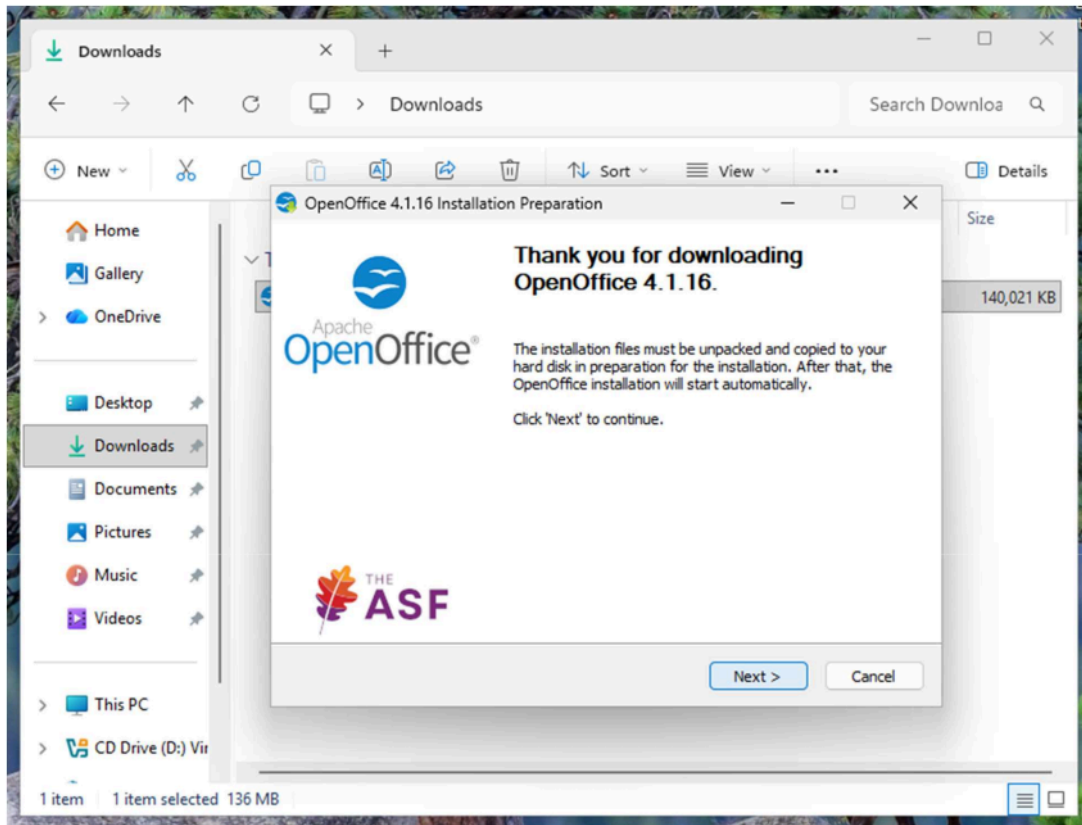


Figure 23: OpenOffice installation setup inside the VM.

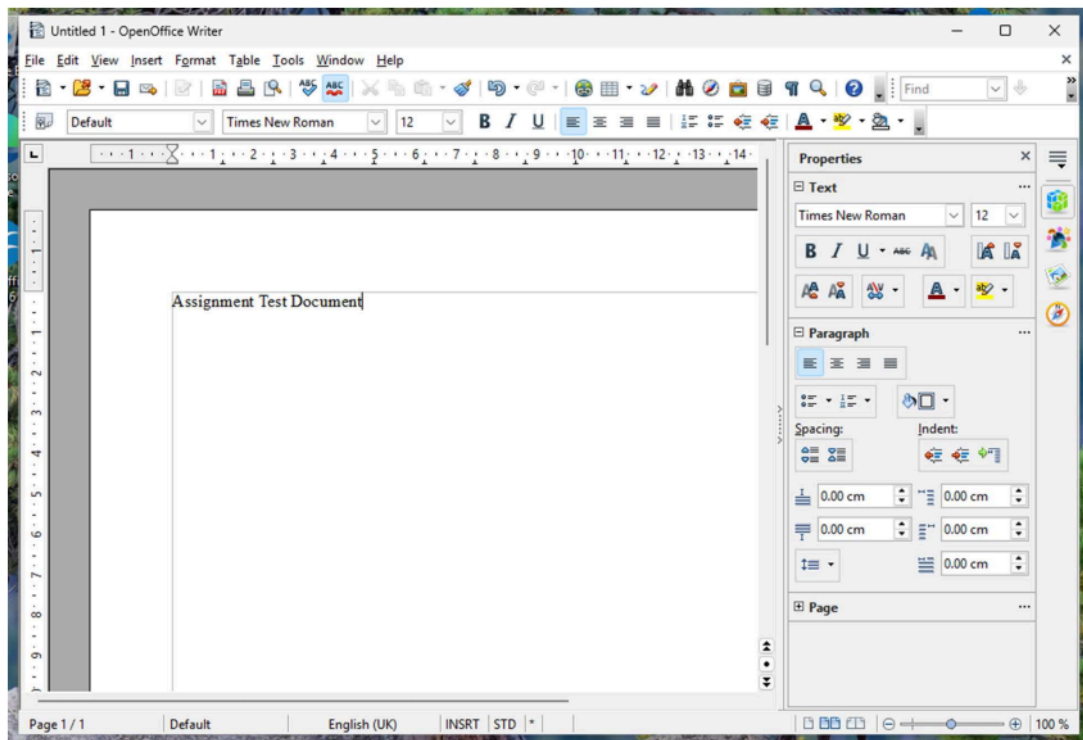


Figure 24: OpenOffice Writer running successfully in Windows 11.

A test document was then created and saved to the new E: drive, as shown in Figure 25. This confirmed that the office software was working and that the new partition could be used to store user files separately from the main Windows C: drive.

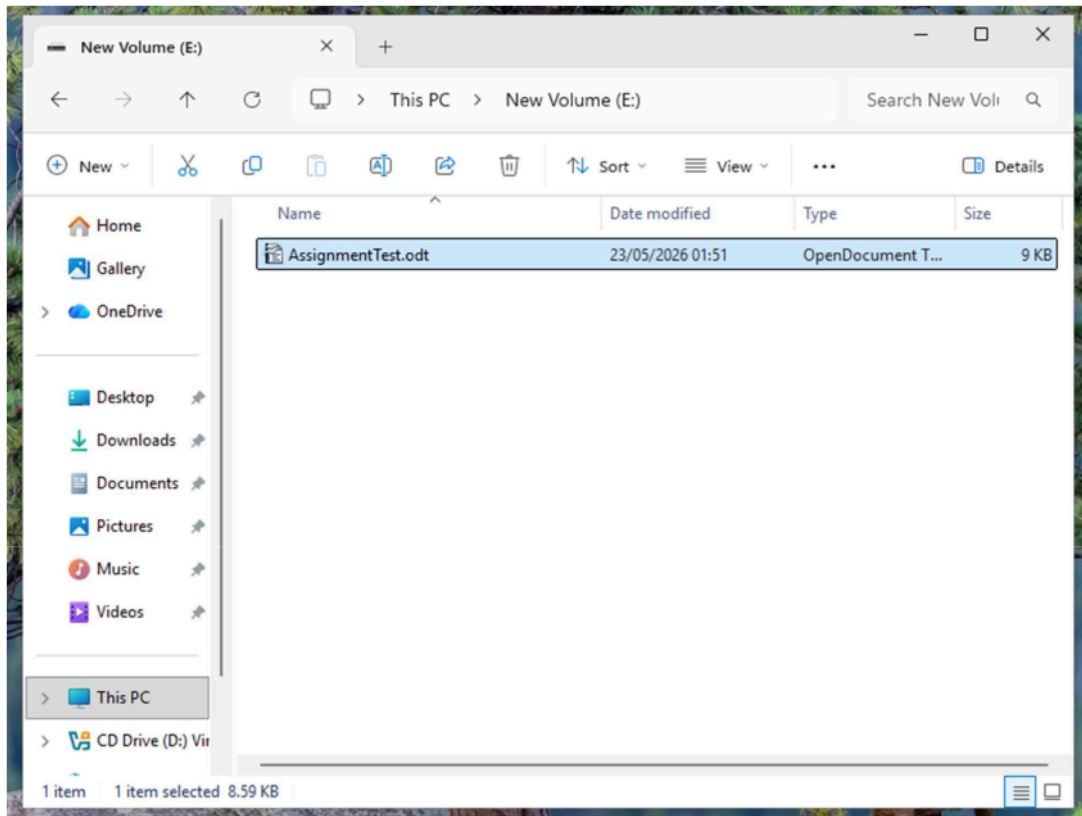


Figure 25: Test document saved successfully to the E: partition.

Conclusion

This assignment successfully demonstrated the creation and configuration of a Windows 11 VM using Oracle. The operating system was installed, Guest Additions were added, drivers were checked, and the virtual hard disk was partitioned to create a separate E: drive. OpenOffice was also installed and tested by saving a document to the new partition. Overall, the VM was configured correctly and met the main requirements of the task.

References

[1] Oracle, "Downloads – Oracle VirtualBox," Oracle, 2026. [Online]. Available: <https://www.virtualbox.org/wiki/Downloads>

[2] Microsoft, "Download Windows 11," Microsoft, 2026. [Online]. Available: <https://www.microsoft.com/en-gb/software-download/windows11>

[3] Apache OpenOffice, "Apache OpenOffice - Official Download," Apache OpenOffice, 2026. [Online]. Available: <https://www.openoffice.org/download/>

Computer Systems Assessment Final

GRADEMARK REPORT

FINAL GRADE

53/100

GENERAL COMMENTS

Engagement with Literature Skills

Three sources only (minimum five), all official download pages with no access dates; no in-text [n] citations appear anywhere in the body - the reference list is entirely detached from the report's content.

3/15

Knowledge and Understanding Skills

VM setup is well-explained - RAM balance between host and guest, CPU sharing, VDI dynamic allocation, ISO as virtual boot disc, and NTFS suitability are all correctly justified. Driver parameters are absent for both interfaces; network adapter is not addressed at all.

15/25

Practical Application Skills

Image log confirms Part 1 is complete and coherently sequenced: VM creation (6144 MB, 4 CPUs, 80 GB VDI), full Windows 11 Pro installation (Figures 1-14), and disk partitioning (C: 59.49 GB, E: 19.53 GB NTFS, confirmed in Disk Management and File Explorer). Part 2 is weaker: display adapter is documented via Guest Additions (Figures 15-16) and Device Manager (Figure 17), but the network adapter category is collapsed and undocumented, no driver parameters are stated for either interface, and the OpenOffice program installation directory is not described.

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Transferable Skills for Life and Professional Practice

No title page, no table of contents, and no numbered sections; a table of figures is absent

despite 25 figures used. Positives: figure captions are descriptive plain-text labels consistently placed after each image, figures are referenced in the body before they appear, and first person is absent throughout. Spelling errors: "enviroment" (VM Setup section), "accessed form" (Disk Partitioning), "computers CPU" (missing apostrophe).

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Total: 53/100

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