PARROT OS

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For: OSSE department

INTRODUCTION

- Parrot Security OS: is a free and open-source Linux distribution based on Debian.
- It is specially designed for cybersecurity experts, ethical hackers, and privacy-conscious users.
- ParrotOS comes with a wide range of tools for penetration testing, digital forensics, software development, and secure web browsing.
- It is lightweight, secure, and supports a variety of platforms including VirtualBox and VMware, which makes it a great option for virtual environments.
- The system is designed to be powerful yet user-friendly, allowing both professionals and students to explore advanced features while learning and practicing safely

HISTORY

- ParrotOS was first released on April 10, 2013, by Lorenzo Faletra, who continues to lead the development of the project.
- It was originally developed as part of a community project called Frozenbox. Over the years, ParrotOS has grown into a popular distribution used by a global community of open-source developers, security professionals, and Linux enthusiasts.
- Today, it is maintained by Parrot Security CIC, a community interest company registered in the UK.

OBJECTIVES OF PARROT OS

- Provide a robust environment for security experts and digital forensics professionals to perform penetration testing, security assessments, and digital investigations
- Offer a complete suite of tools for IT security, forensics, and privacy, including software for penetration testing, vulnerability scanning, and secure communications.
- Make it accessible to students and developers with a focus on ease of use, while still maintaining flexibility for professionals who need advanced features.
- Allow users to choose from different desktop environments and tailor the OS for their specific needs.

OBJECTIVES OF PARROT OS CONT....

- Provide a hardened security configuration with pre-installed security profiles, minimizing the risk of exploits, and ensuring a secure environment for testing and development.
- Provide installation options for a variety of platforms, including VirtualBox, VMware, and Raspberry Pi.
- Encourage collaboration by maintaining an open-source model, allowing contributions from security researchers, developers, and enthusiasts around the world.
- Integrate AppArmor, Wine, and other security technologies to support a safe, secure, and versatile environment for a range of users, from beginners to experts.

REQUIREMENTS

Hardware Requirements

- Processor: Dual-core CPU.
- 64-bit support RAM: Minimum 4 GB.
- Disk Space: Minimum 20 GB of free disk space
- Graphics: VGA capable of 1024x768 screen resolution
- Virtualization Support: Enabled in BIOS/UEFI

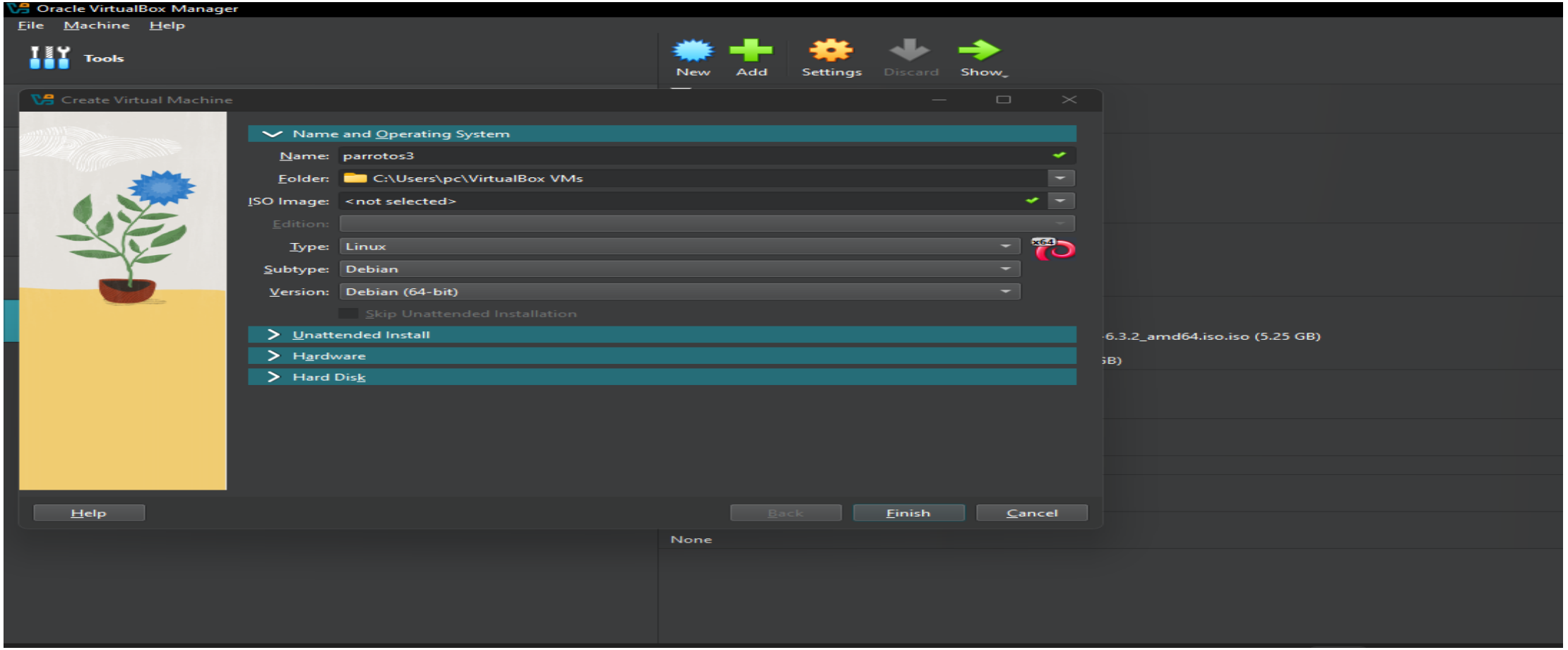
Software Requirements

- Operating System: A host OS like Windows, macOS, or Linux.
- Virtualization Software: Oracle VM VirtualBox ,VMware Workstation.
- Parrot OS Image File: .iso or .vdi file: For downloading updates or extra tools, though the installation itself can be done offline

INSTALLATION STEPS

- Step 1: Open VirtualBox and Create a New Virtual Machine
- Click on “New”.
- Enter the name of your virtual machine choose Linux as the type, and Debian (64-bit) as the version.
- Launch Oracle VM VirtualBox.

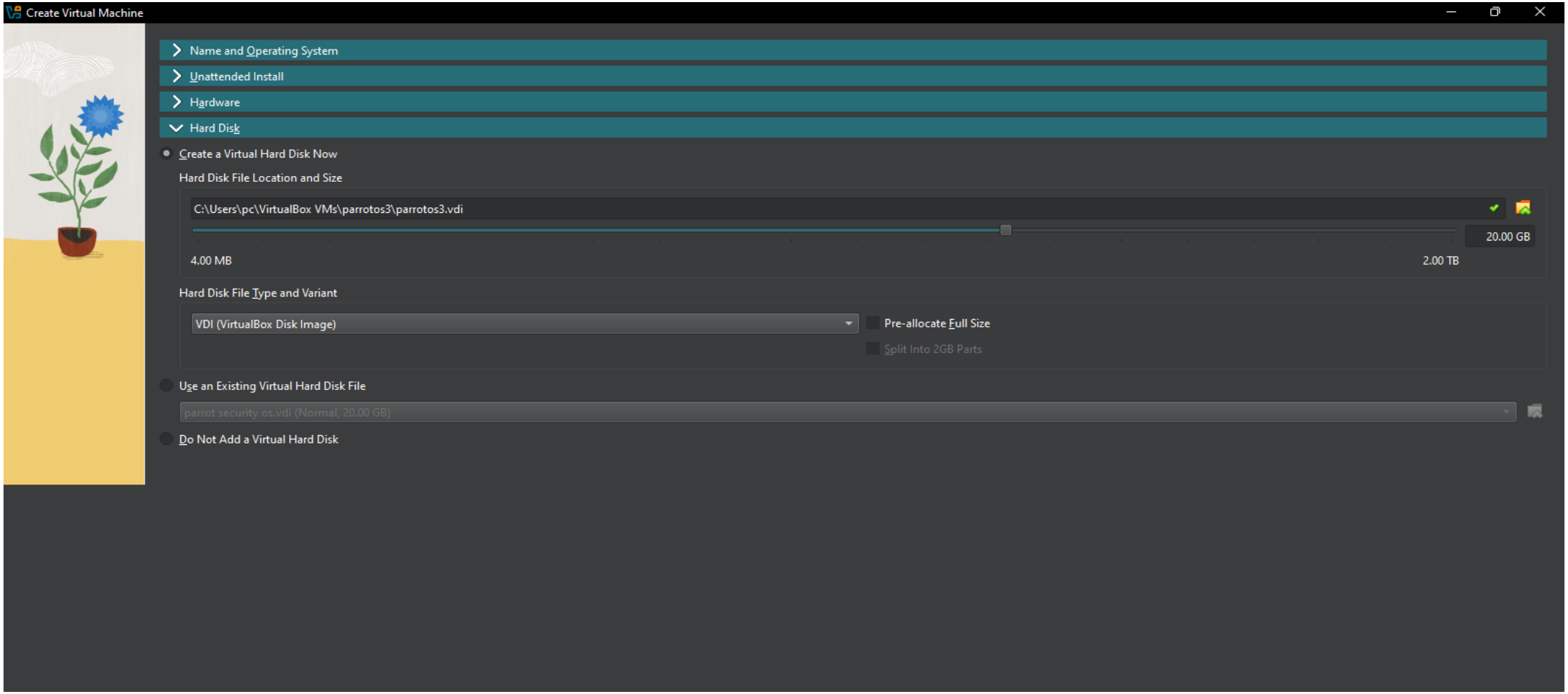
pic.1.A : the VM name and OS type selection



Step 2: Allocate Memory (RAM)

. Assign at least 4096 MB (4 GB) of RAM.

pic1.B:the memory size allocation

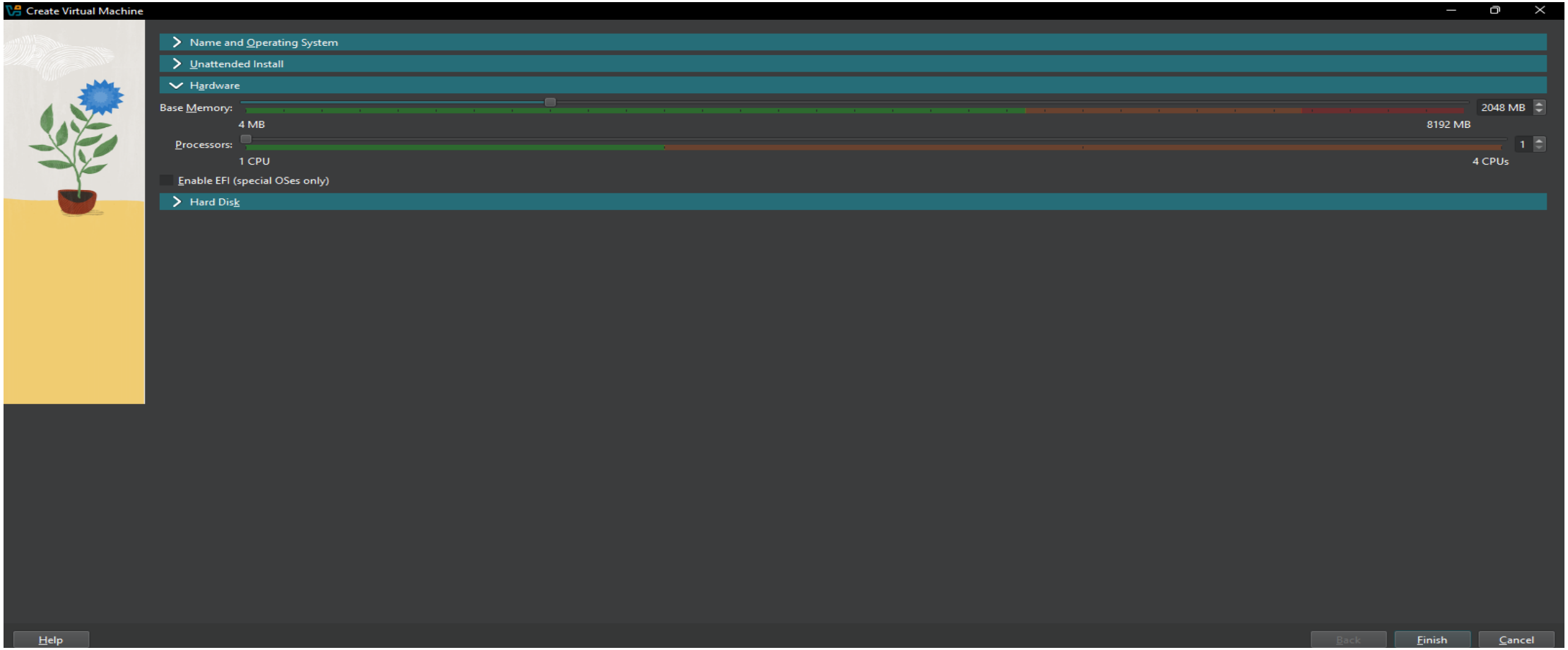


Step 3: Use an Existing Virtual Hard Disk File

. Select “Use an existing virtual hard disk file”.

. Browse and choose the downloaded parrot security-.vdi file.

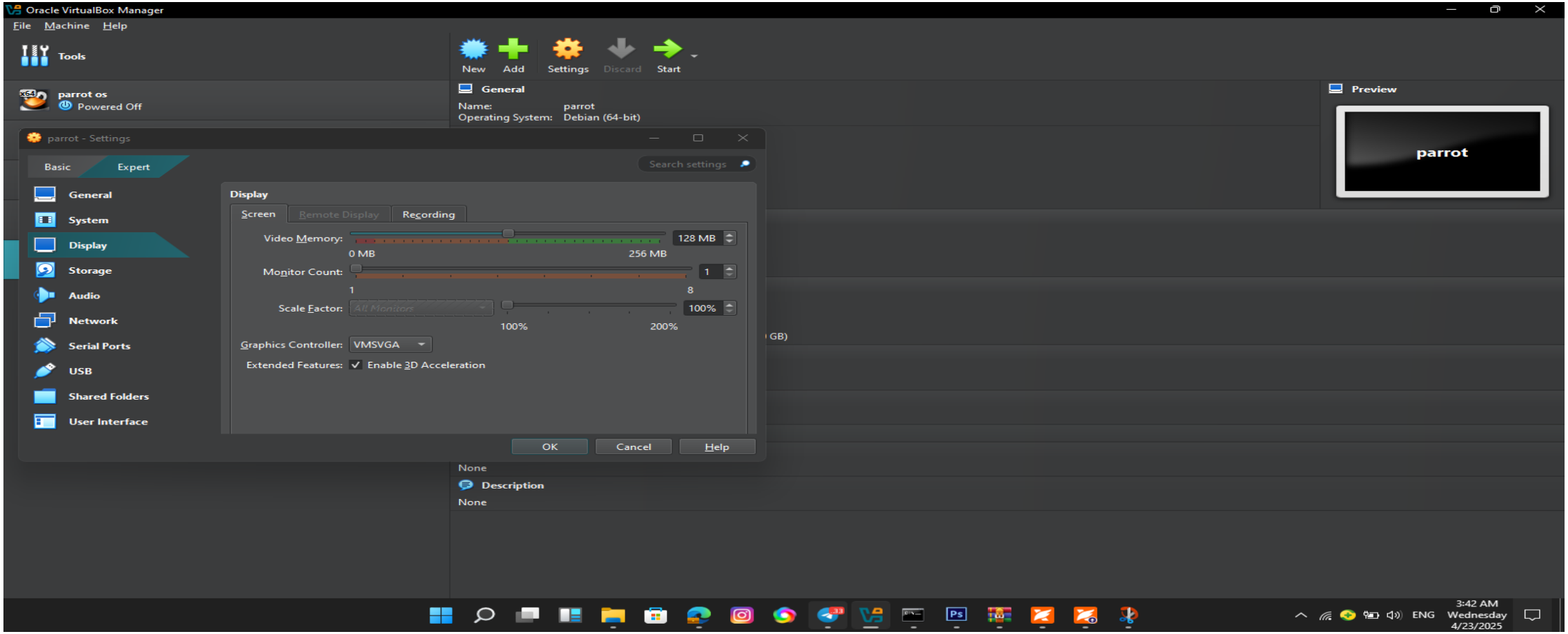
pic1.C:the VDI file selection



Step 4: Adjust System Settings

- ✓ Go to Settings System.
- ✓ Under the Motherboard tab : Uncheck Floppy from the boot order.
- ✓ Under the Processor tab, allocate 2 or more CPUs.
- ✓ Click OK to save.

Pic 2.A:the boot order and processor settings

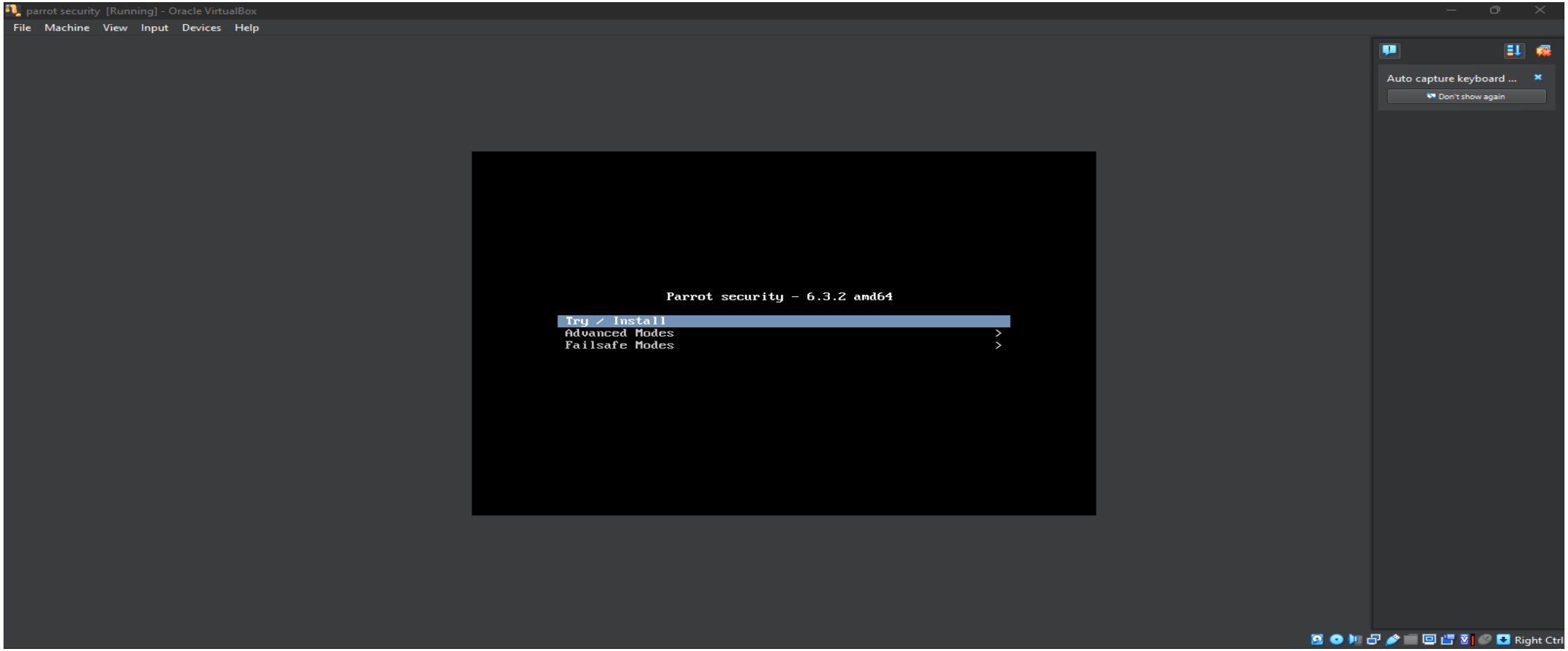


Step 5: Start the Virtual Machine

. Click Start to launch your Parrot OS virtual machine.

. It will begin booting into Parrot OS.

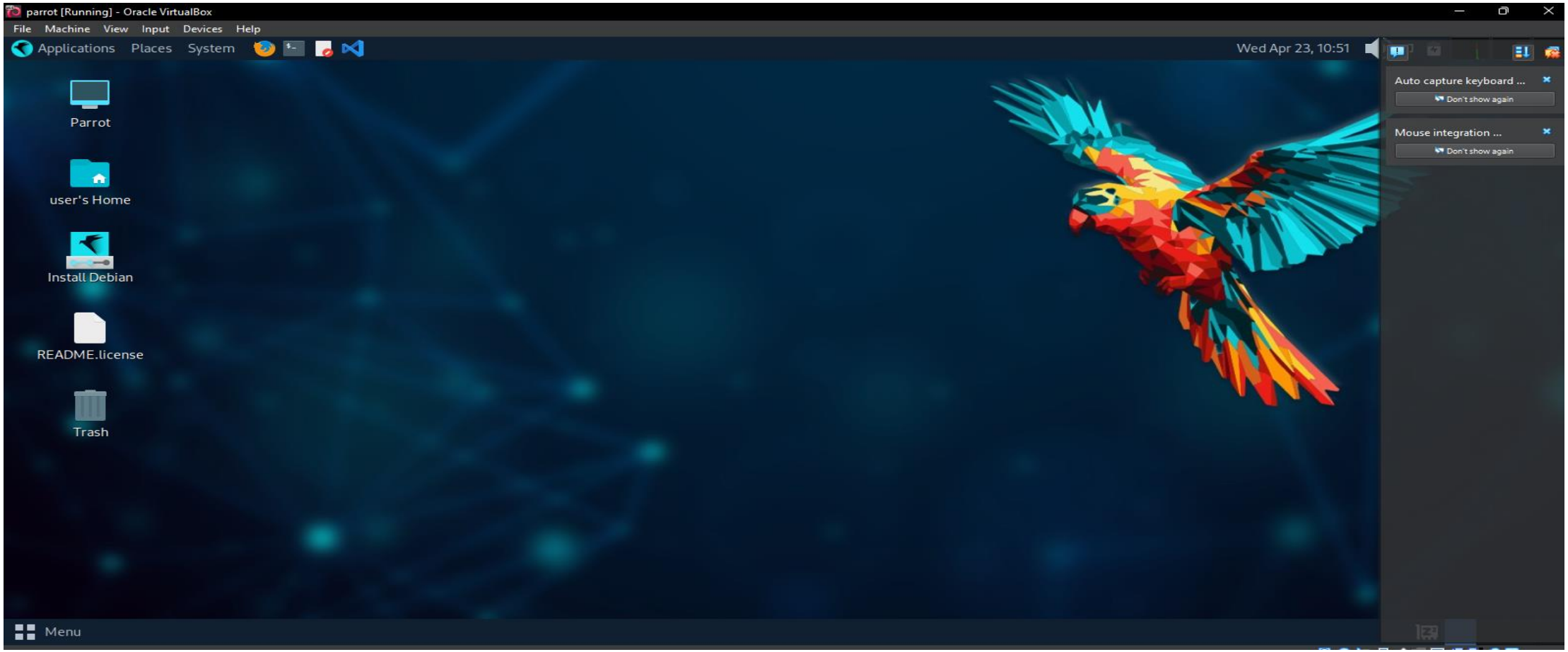
Pic2.B:VM booting



Step 6.A: Begin the Installation

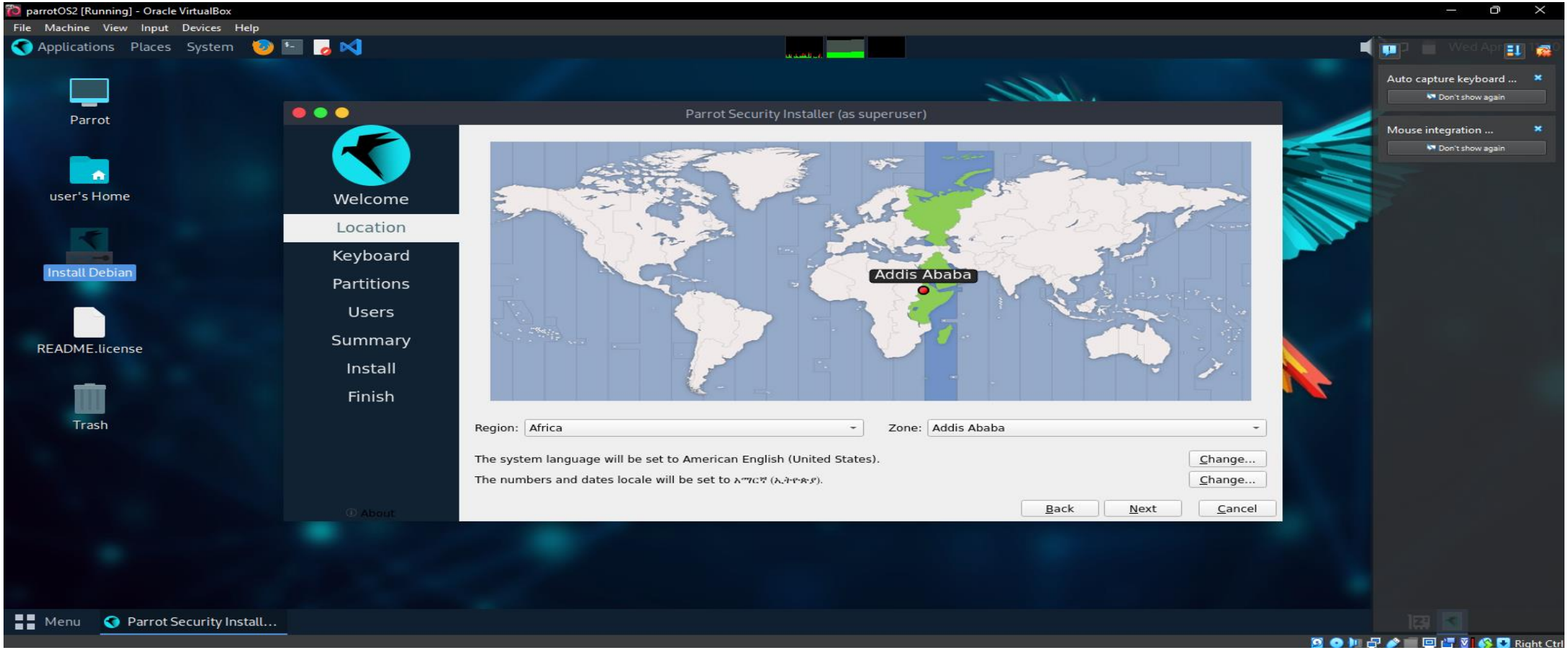
Select the “Install with GTK GUI”

pic3.A:instalation



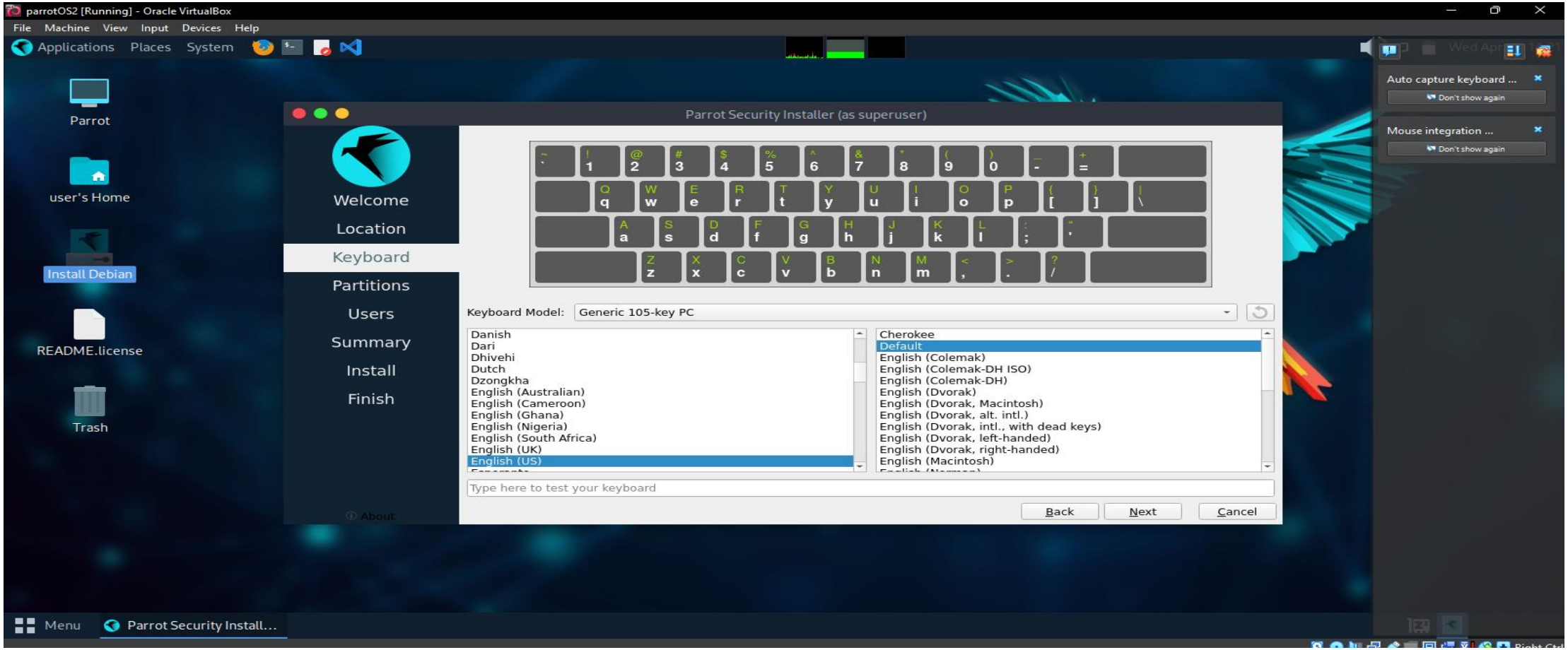
Step 6.B: user region

pic3.B:select region



Step 6.C:user keyboard type

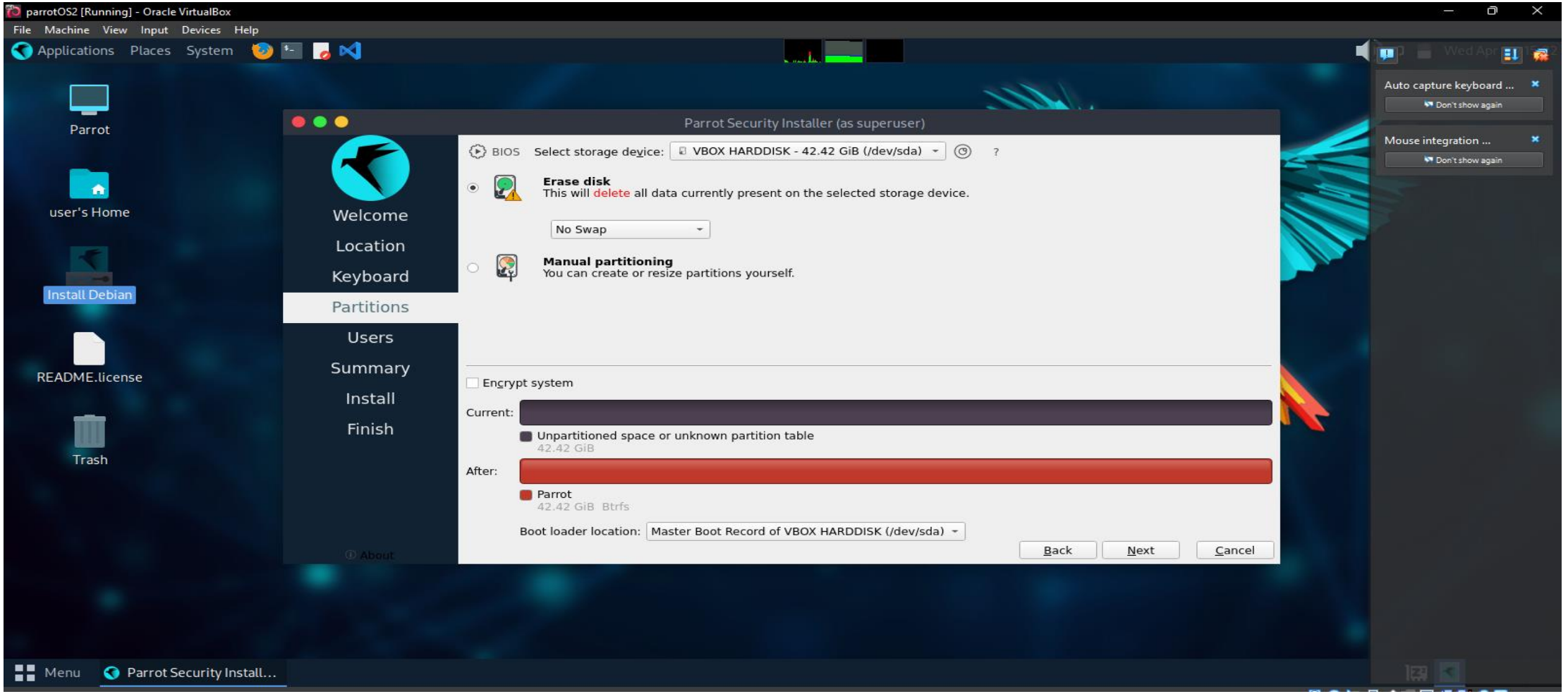
pic 3.C: select the keyboard type



Step 6.D: Disk Partitioning

Choose Erase Disk for automatic partitioning

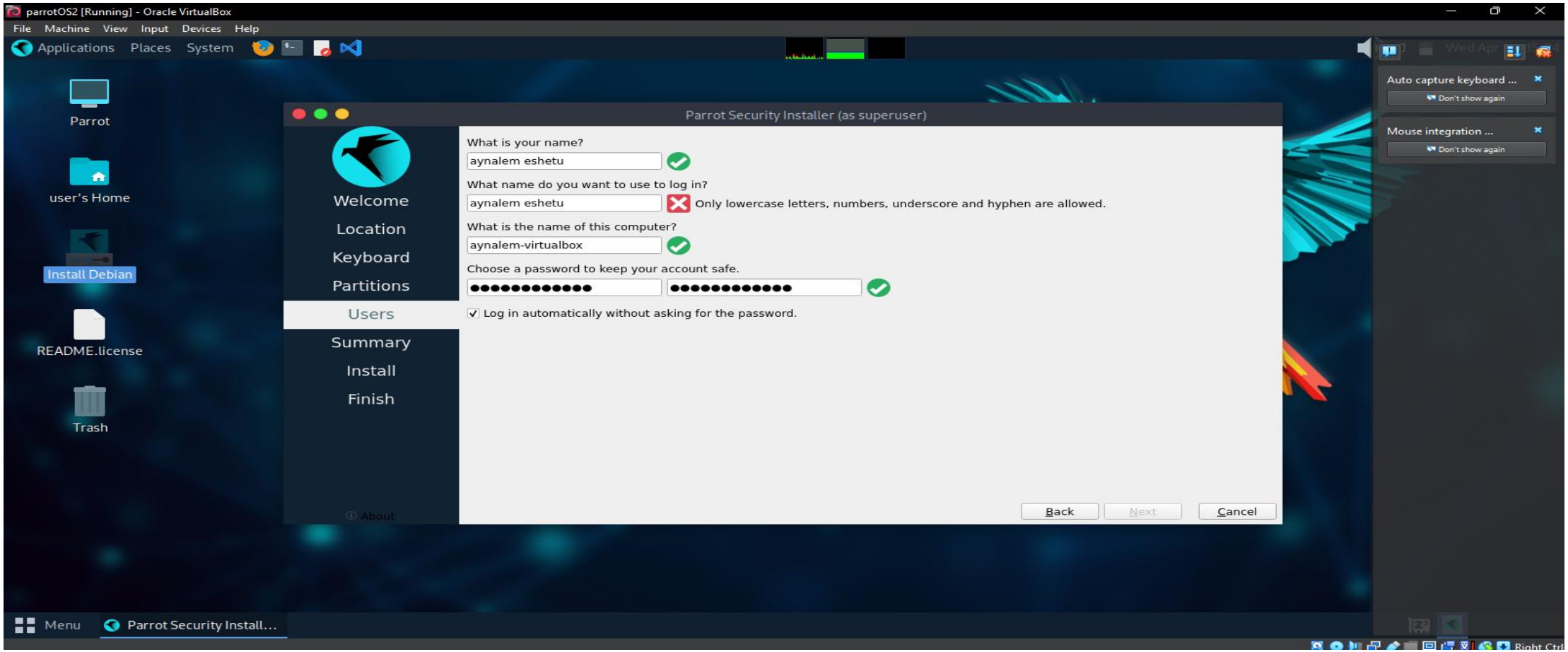
pic3.D:partition



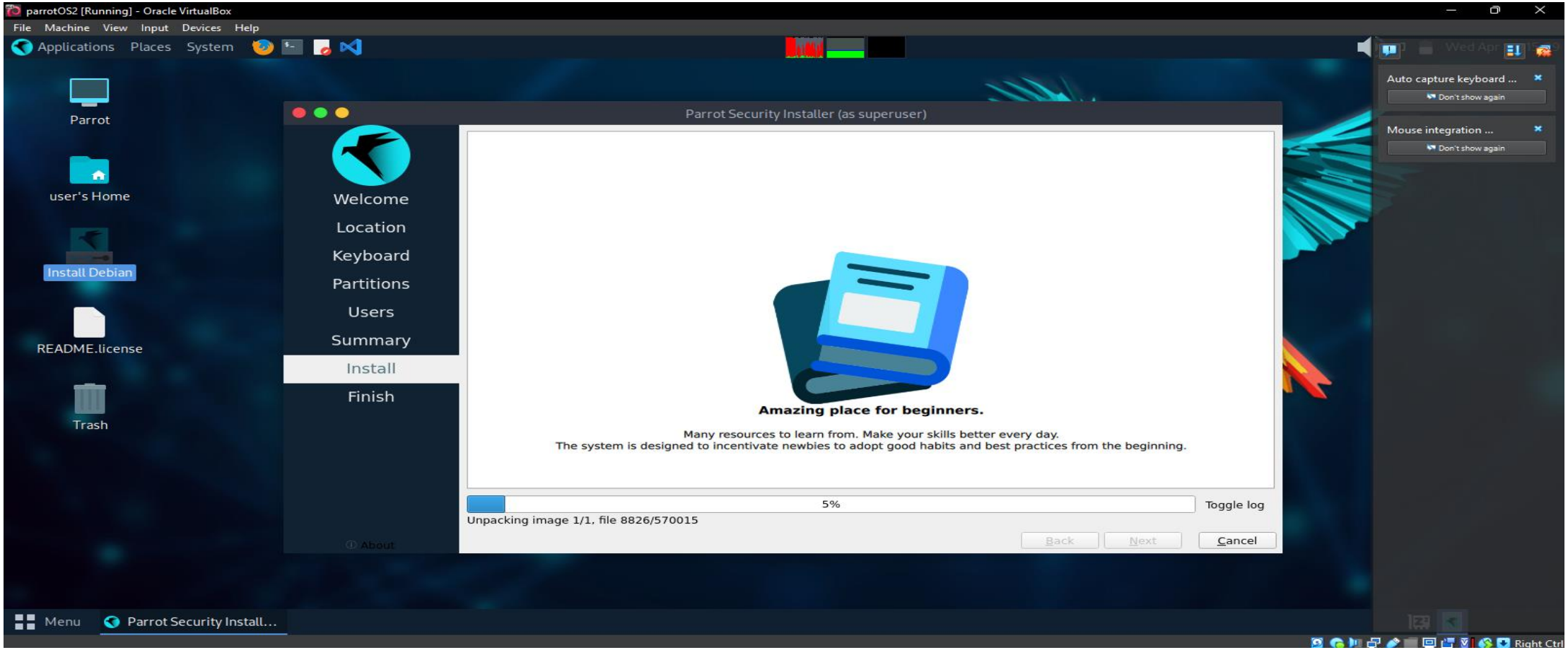
Step 6.F: Enter your full name when prompted to create a user account (e.g., aynalemeshetu).

. Password

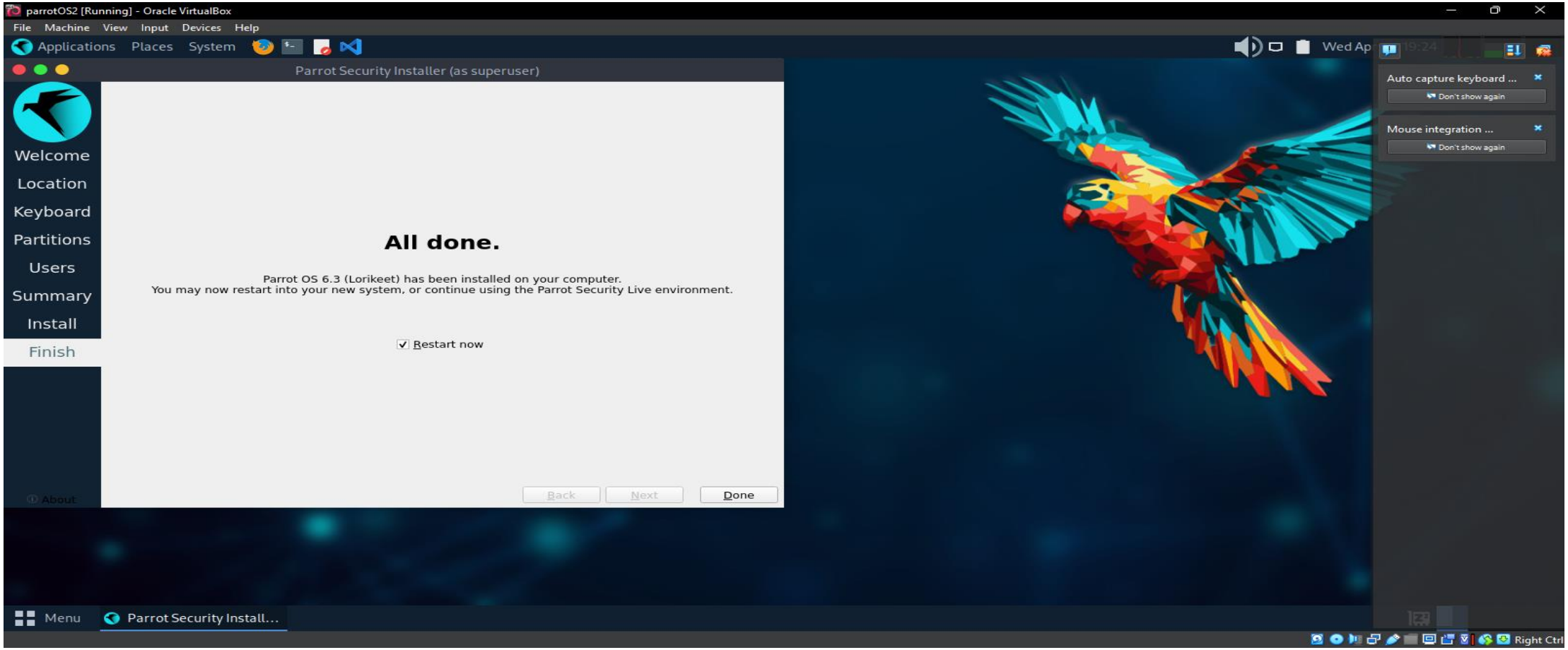
pic 3.F:user application



Step 7: Wait for Installation to Complete



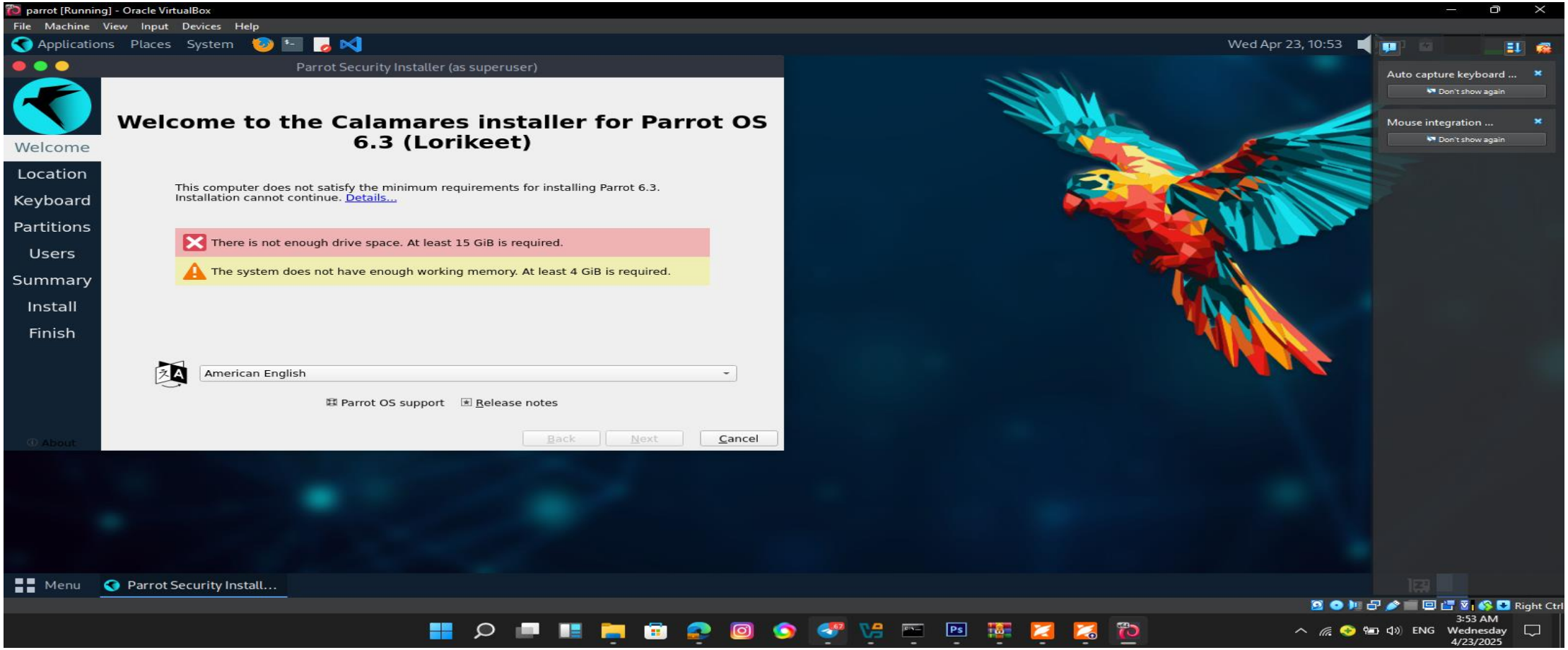
Step 8: Finish Installation and Reboot



ISSUES FACED AND SOLUTIONS

- **Problem 1**: During installation, an error message appeared:
- **"**There is not enough drive space. At least 15 GiB is required.**"**
- **Cause**: The virtual hard disk was smaller than 15 GiB.
- **Solution:** Created a new virtual hard disk with at least 20 GiB storage when setting up the VM or resized the existing .vdi file.

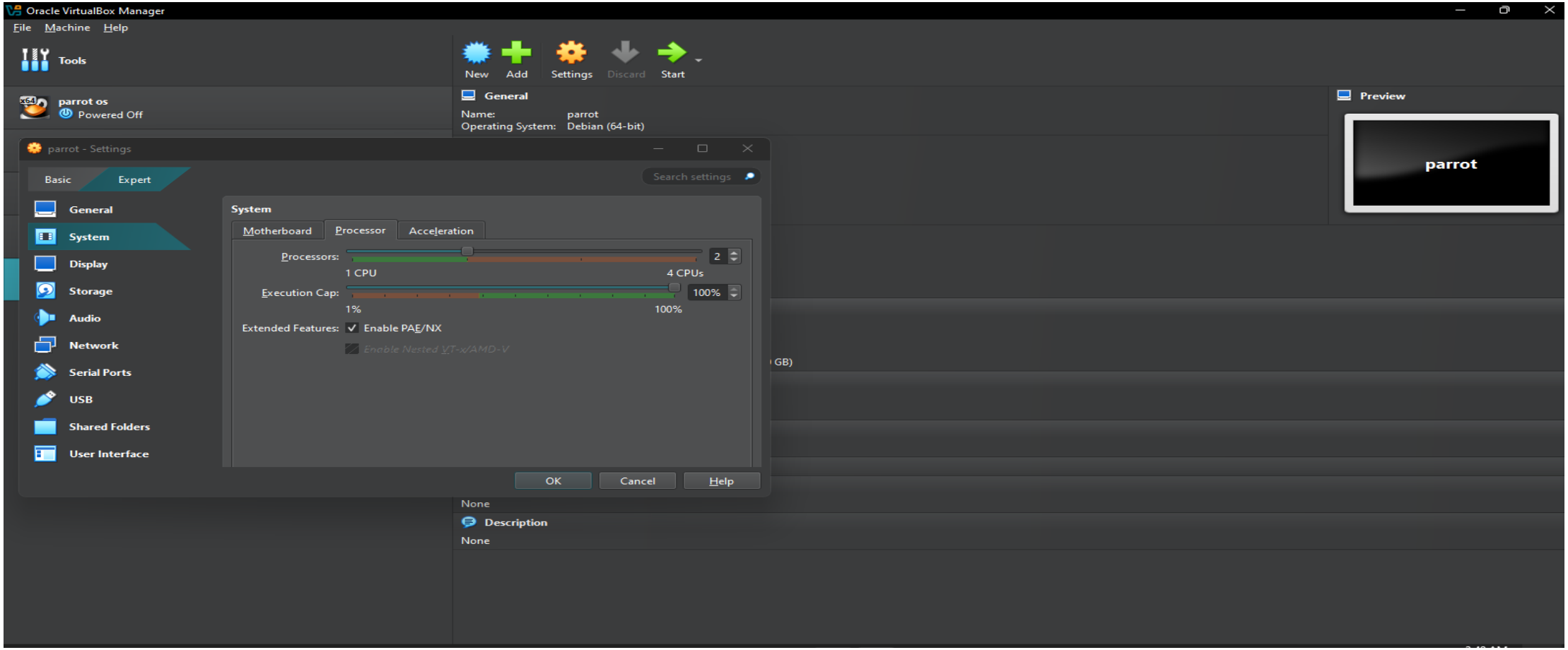
Pic 4.A:Error message



2. Insufficient Working Memory

- **Problem 2**: Error message said:
- “System does not have enough working memory. At least 4 GiB is required.”
- **Cause**: Less than 4 GB of RAM was allocated to the virtual machine.
- **Solution**: Increased the memory to 4096 MB (4 GB) in Settings > System > Base Memory.

Pic 4.B:VirtualBox memory settings.



3. Error Caused by Space in Virtual Machine Name

- **Problem 3**: An error occurred during setup when the virtual machine name included spaces (e.g., "Parrot OS").
- **Cause**: Some systems or VirtualBox configurations may not handle spaces in VM or disk names well, causing unexpected behavior or installation failure.
- **Solution**: Used underscores (_) or no spaces in names (e.g., "ParrotOS" or "Parrot_OS").

pic 4.C:the error with the space in the name