

# Operating Systems

**BS ARTIFICIAL INTELLIGENCE & MULTIMEDIA GAMING- FALL-2024**

**LAB – 02**

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# BASICS OF OPERATING SYSTEMS

- ▶ **Contents:**
  - ▶ **Download and install Virtual Box**
  - ▶ **Download the Linux ISO**
  - ▶ **Install Linux using Virtual Box**
  - ▶ **Linux Shell or “Terminal”**
  - ▶ **Basic Commands**

# Step 1: Download and install Virtual Box

- ▶ Go to the website of Oracle Virtual Box and get the latest stable version from link given below:
- ▶ <https://www.virtualbox.org/wiki/Downloads>
- ▶ Click on Windows hosts
- ▶ Installing Virtual Box, Just double-click on the downloaded .exe file and follow the instructions on the screen. It is like installing any regular software on Windows.



## Step 2: Download The Linux ISO File

- ▶ Next, you need to download the ISO file of the Linux distribution. You can get this image file from the official website of the Linux distribution you are trying to use.
- ▶ The Link is given below:
- ▶ <https://ubuntu.com/download/desktop>

Ubuntu 24.04.1 LTS



The latest LTS version of Ubuntu, for desktop PCs and laptops. LTS stands for long-term support — which means five years of free security and maintenance updates, extended up to 12 years with [Ubuntu Pro](#).

Download 24.04.1 LTS

5.8GB

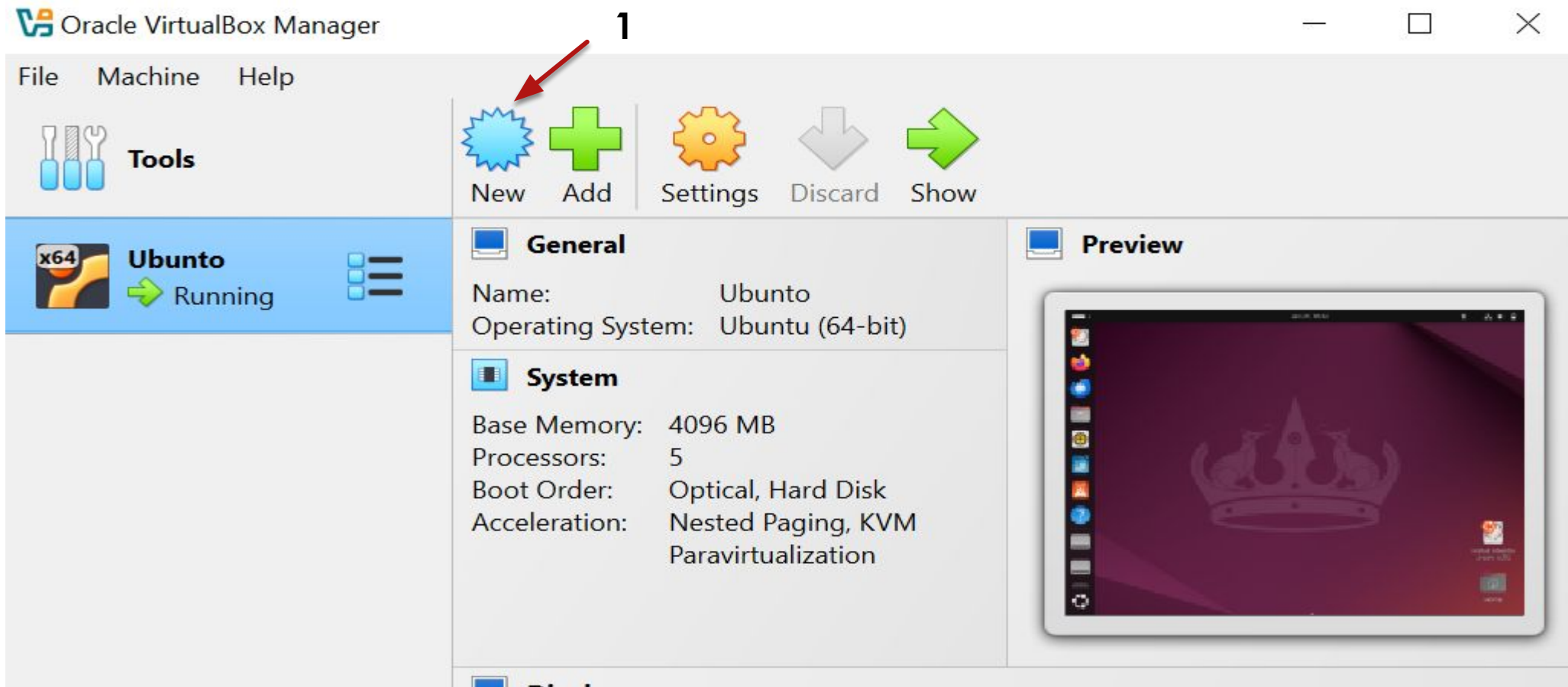
For other versions of Ubuntu Desktop including torrents, the network installer, a list of local mirrors and past releases [check out our alternative downloads](#).

What's new

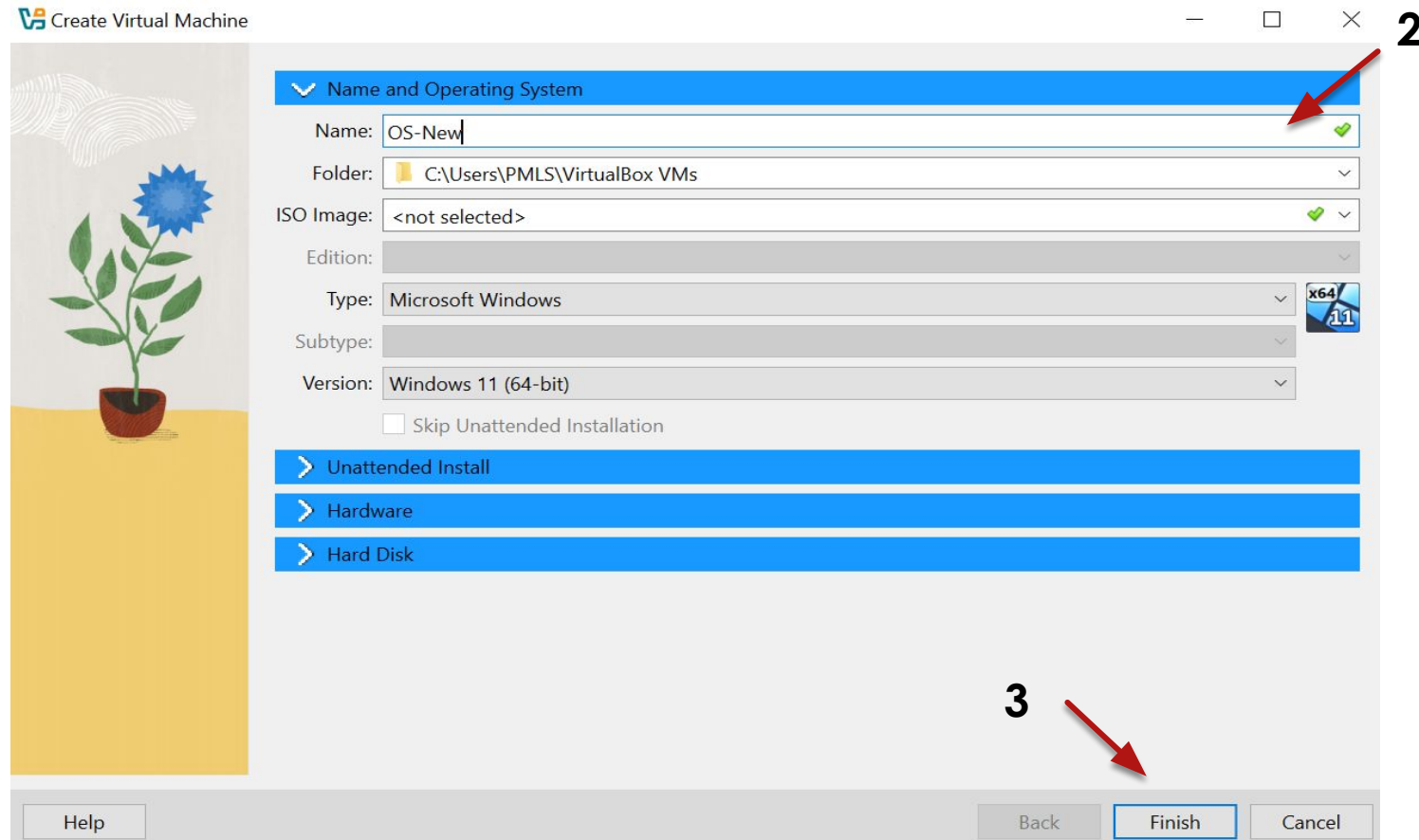
System requirements

How to install

# Step 3: Install Linux Using Virtual Box - Configuration

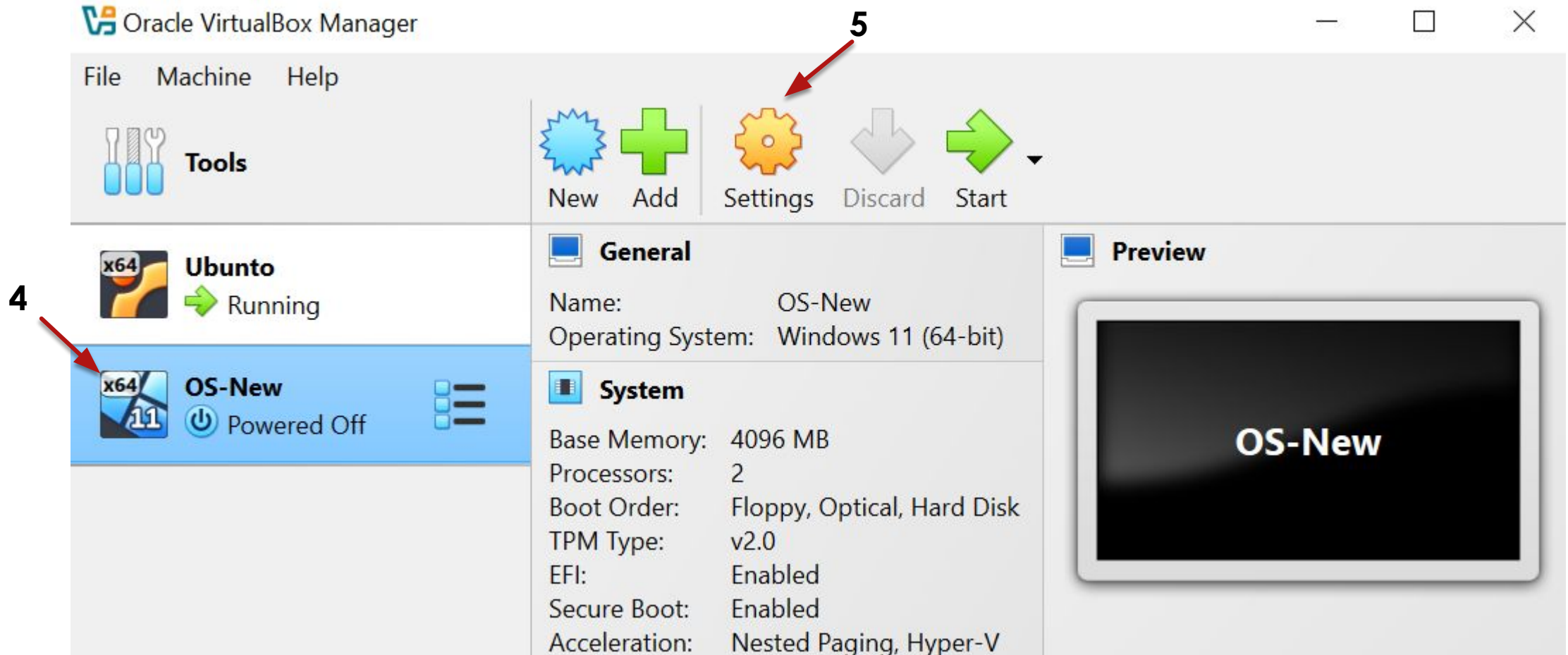


# Step 3: Install Linux Using Virtual Box - Configuration(Cont)



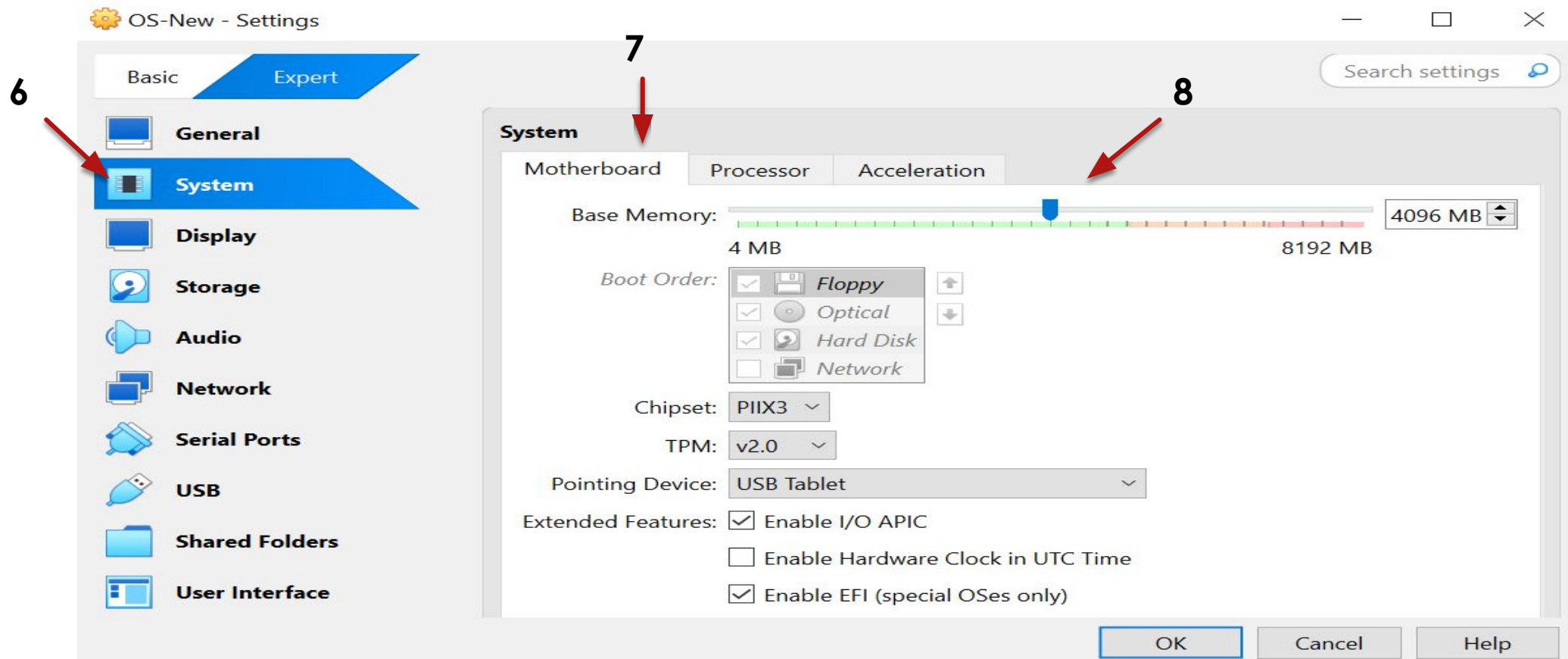


# Step 3: Install Linux Using Virtual Box - Configuration (Cont)

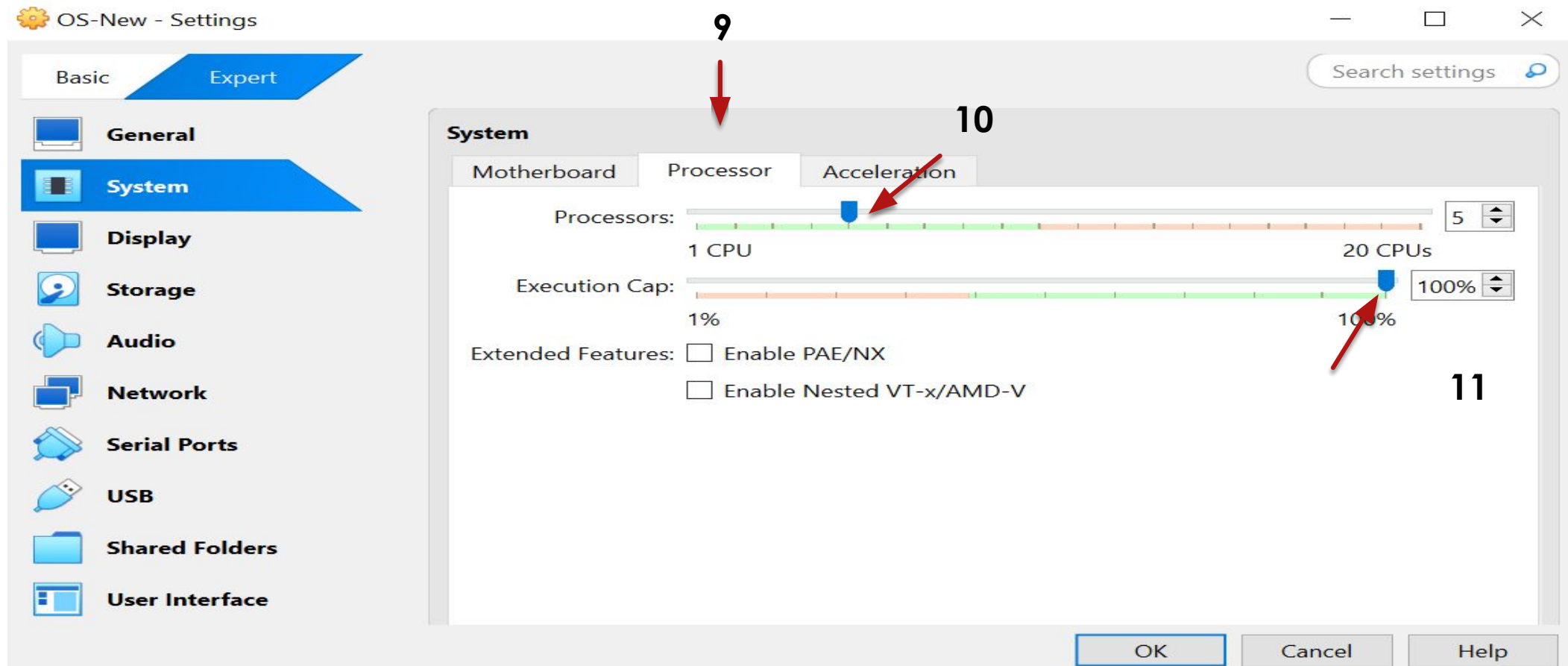




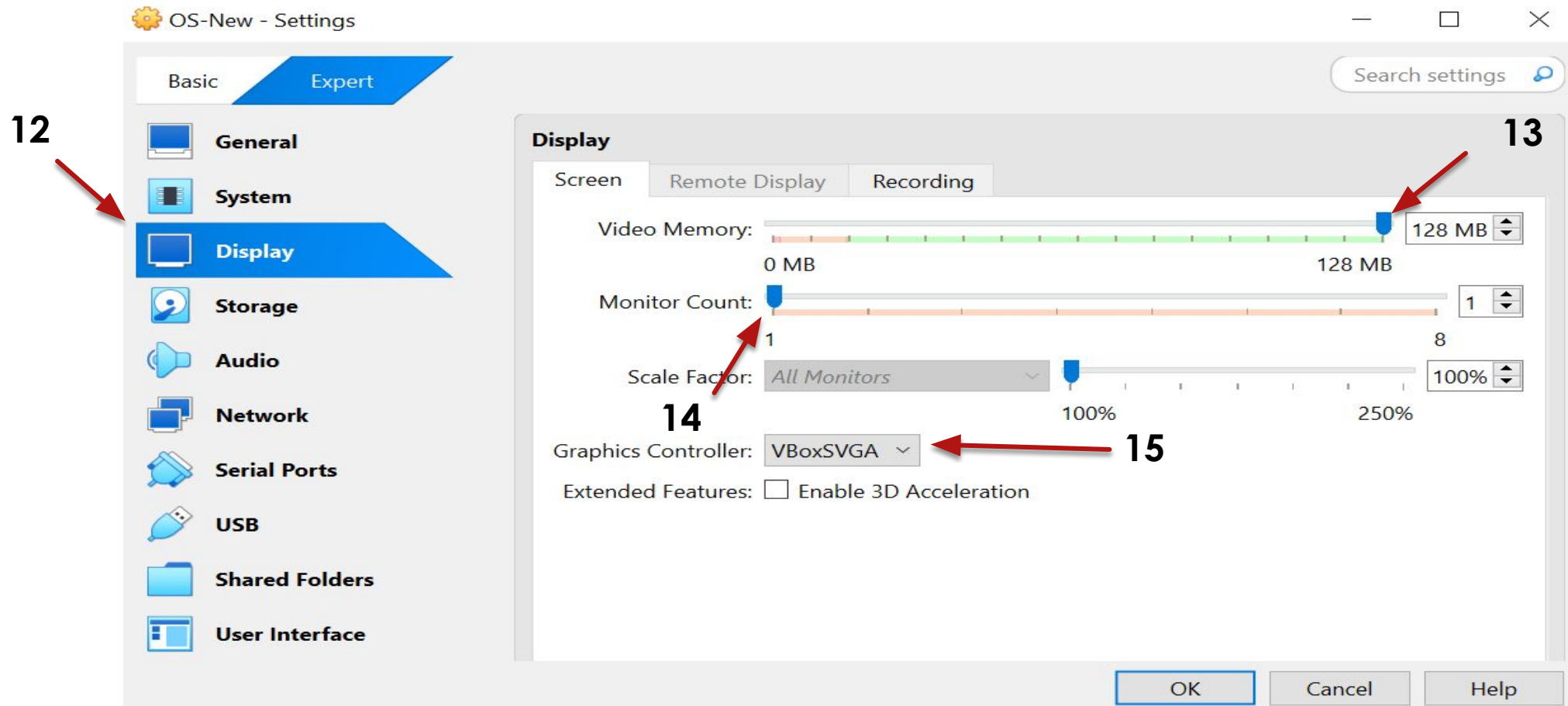
# Step 3: Install Linux Using Virtual Box - Configuration (Cont)



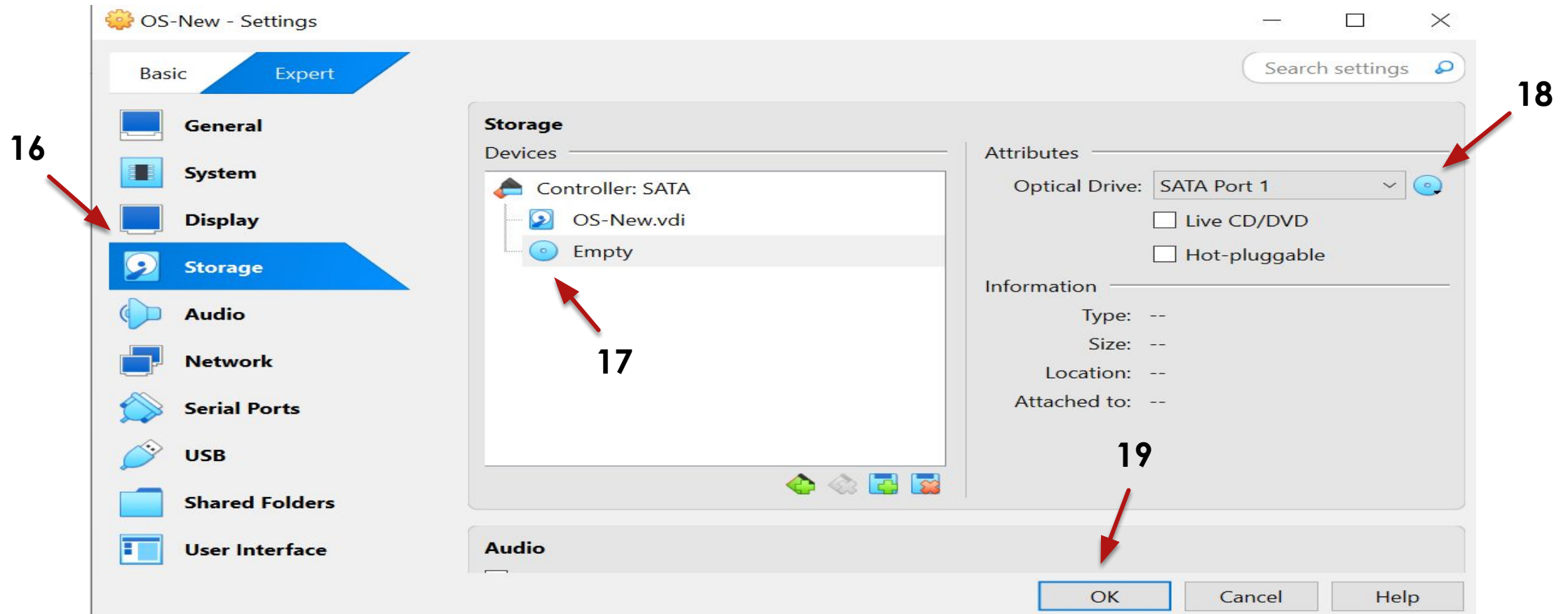
# Step 3: Install Linux Using Virtual Box - Configuration (Cont)



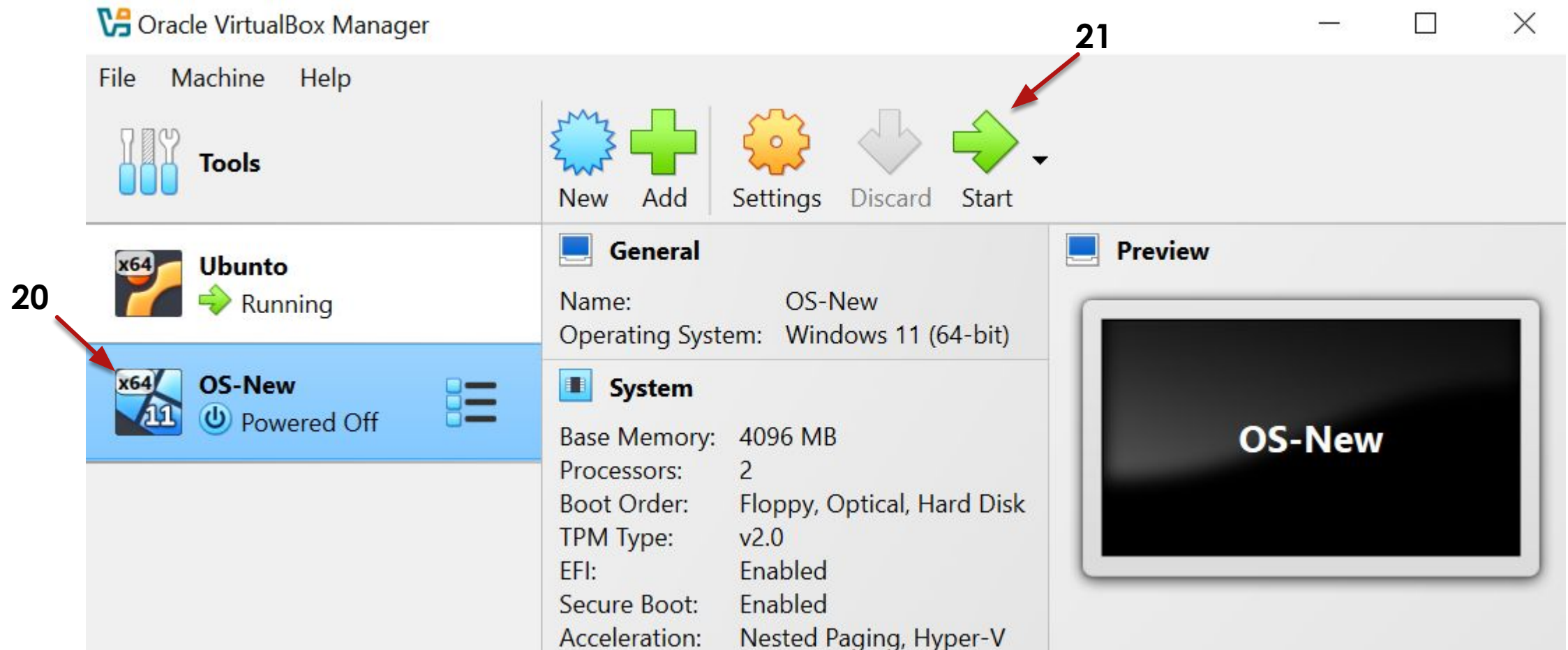
# Step 3: Install Linux Using Virtual Box - Configuration (Cont)



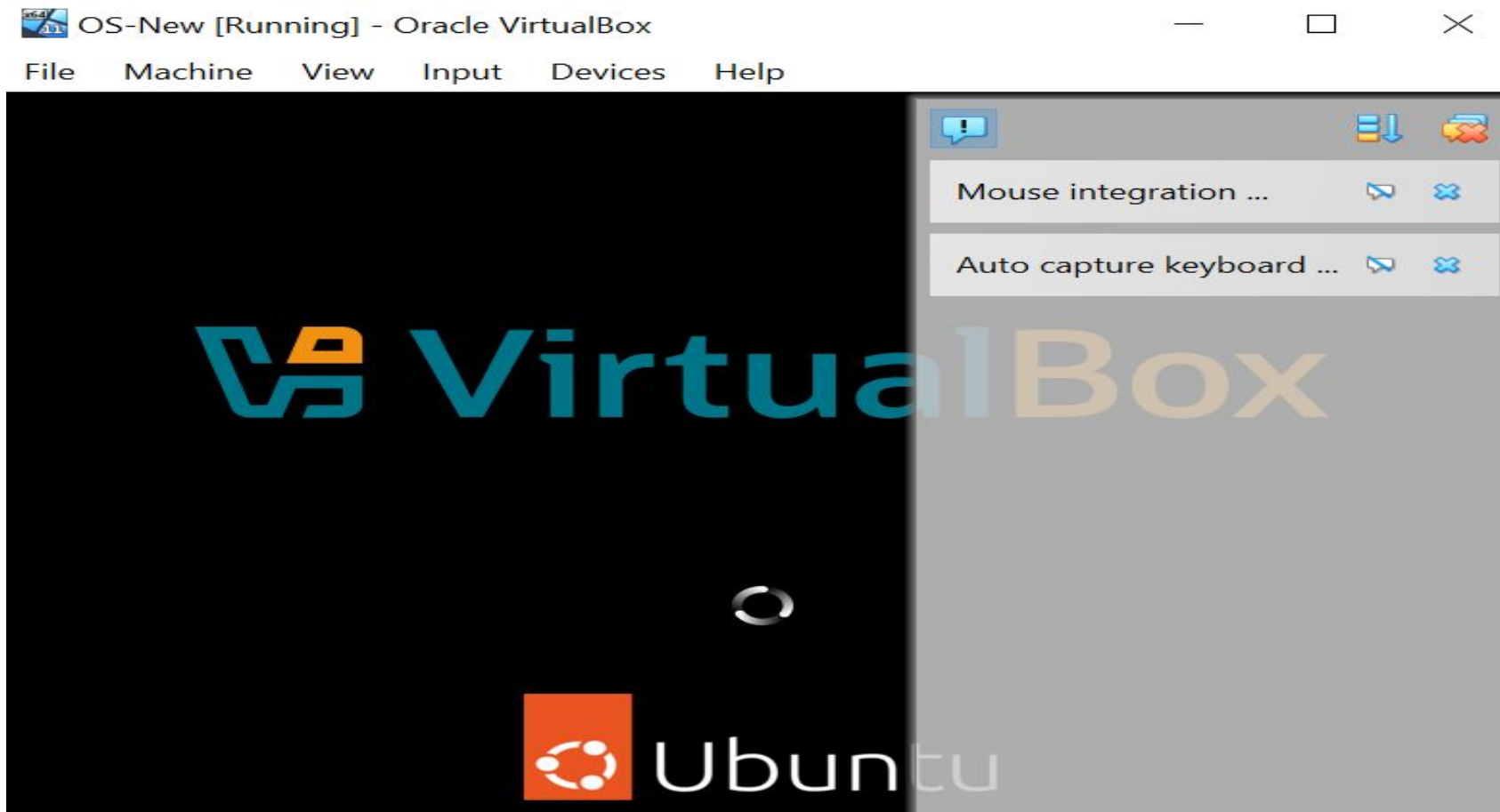
# Step 3: Install Linux Using Virtual Box - Configuration (Cont)



# Step 4: Starting Linux O.S

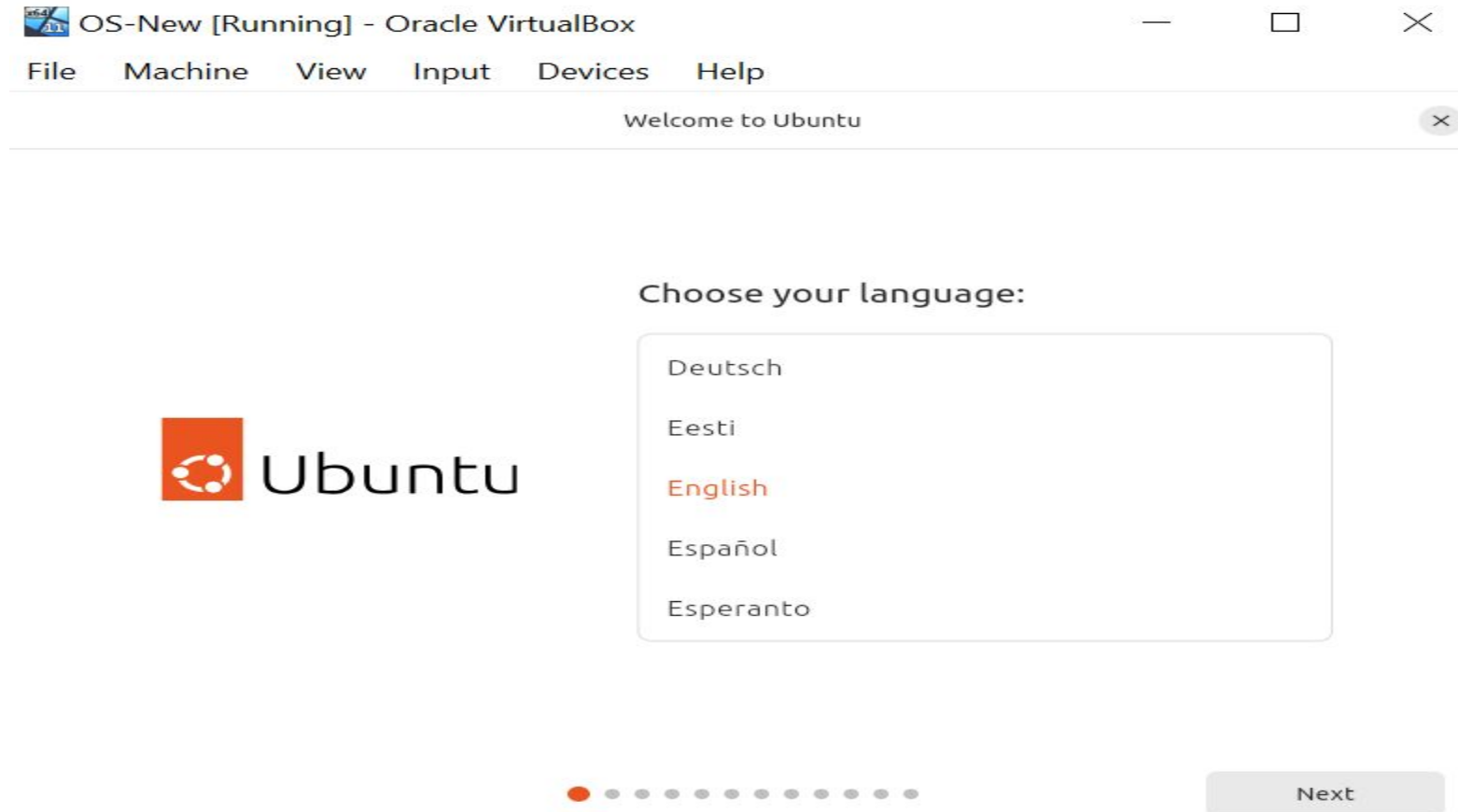


# Step 4: Starting Linux Setup (Cont)






# Step 5: Configuring Ubuntu OS





# Step 5: Configuring Ubuntu OS (Cont)



### Accessibility in Ubuntu

Customise Ubuntu to your needs before you set up. You can change them later in System Settings.

- ☒ Seeing >
- ☐ Hearing >
- ☐ Typing >
- ☐ Pointing and clicking >
- ☐ Zoom >

Back Next

### What do you want to do with Ubuntu?

- ☒ **Install Ubuntu**  
Install Ubuntu alongside (or instead of) your current operating system. This shouldn't take too long.
- ☐ **Try Ubuntu**  
You can try Ubuntu without making any changes to your computer.

Next

### Select your keyboard layout

Detect

English (UK)  
**English (US)**  
Esperanto

Select your keyboard variant: English (US) v


Type here to test your keyboard

Next

### How would you like to install Ubuntu?

- ☒ **Interactive installation**  
For users who want to be guided step by step through the installation.
- ☐ **Automated installation**  
For advanced users who have an autoinstall.yaml for consistent and repeatable system setups.

Next



### An update is available for the installer

Update to the latest version for improved reliability and more features.

**Update now**

## What apps would you like to install to start with?

- ☐ **Default selection**  
Just the essentials, web browser and basic utilities.
- ☒ **Extended selection**  
An offline-friendly selection of office tools, utilities and web browser.

### Connect to the internet

An internet connection will improve your installation with compatibility check and extra software packages.

- ☒ Use wired connection
- ☐ No Wi-Fi devices detected
- ☐ Do not connect to the internet

### Install recommended proprietary software?

Ubuntu ships with no proprietary software by default. Installing additional software may improve your computer's performance.

- ☒ Install third-party software for graphics and Wi-Fi hardware  
Including but not limited to NVIDIA drivers and similar
- ☒ Download and install support for additional media formats  
Including but not limited to MP3, MP4, MOV and similar

Next

# Step 5: Configuring Ubuntu OS (Cont)

## How do you want to install Ubuntu?

- ☒ Erase disk and install Ubuntu  
Start from scratch on your selected disk.
- ☐ Manual installation  
For advanced users seeking customized disk setups.

Advanced features...

None  
selected

Next

## Create your account

Your name  
OS-2 ✓

Your computer's name  
os-2-VirtualBox ✓

Your username  
os-2 ✓

Password  
... Show Weak password

Confirm password  
... ✓

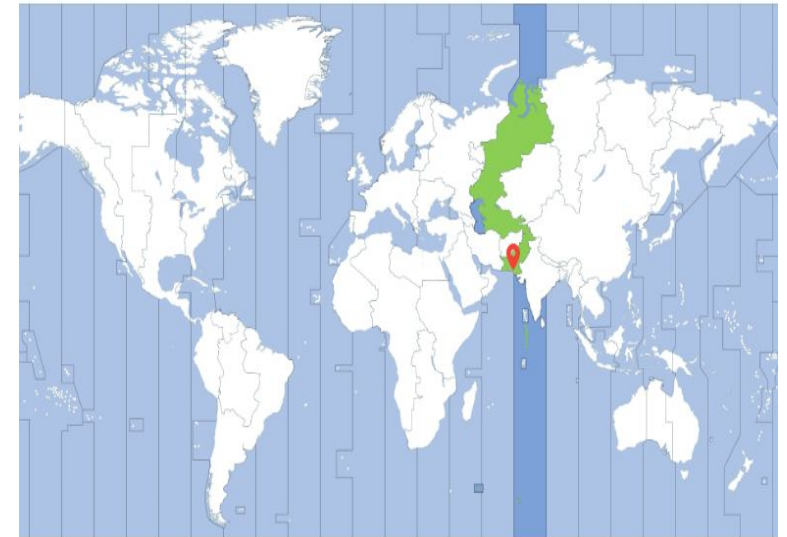
☒ Require my password to log in

☐ Use Active Directory

Next

Location  
Karachi (Sindh, Pakistan)

Timezone  
Asia/Karachi



Back

Next

# Step 6: Install Ubuntu OS

## Review your choices

### General

Disk setup

Erase disk and install  
Ubuntu

Installation disk

VBOX HARDDISK  
**sda**

Applications

Extended selection

### Security & more

Disk encryption

None

Proprietary software

Codecs & drivers

### Partitions

partition **sda1** formatted as **fat32** used for /  
**boot/efi**

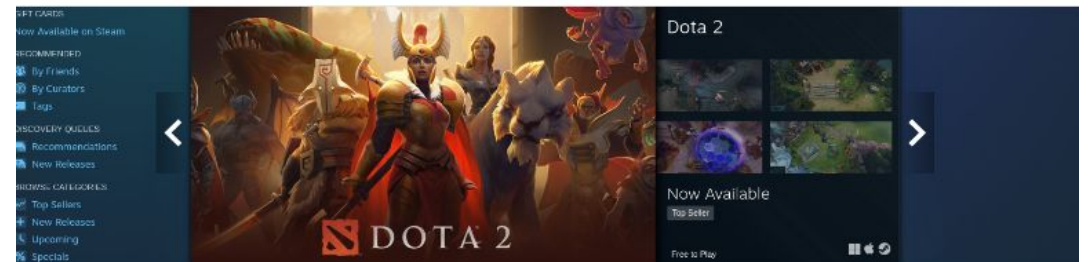
partition **sda2** formatted as **ext4** used for /

Install

OS-New [Running] - Oracle VirtualBox

File Machine View Input Devices Help

Ubuntu 24.04.1 LTS



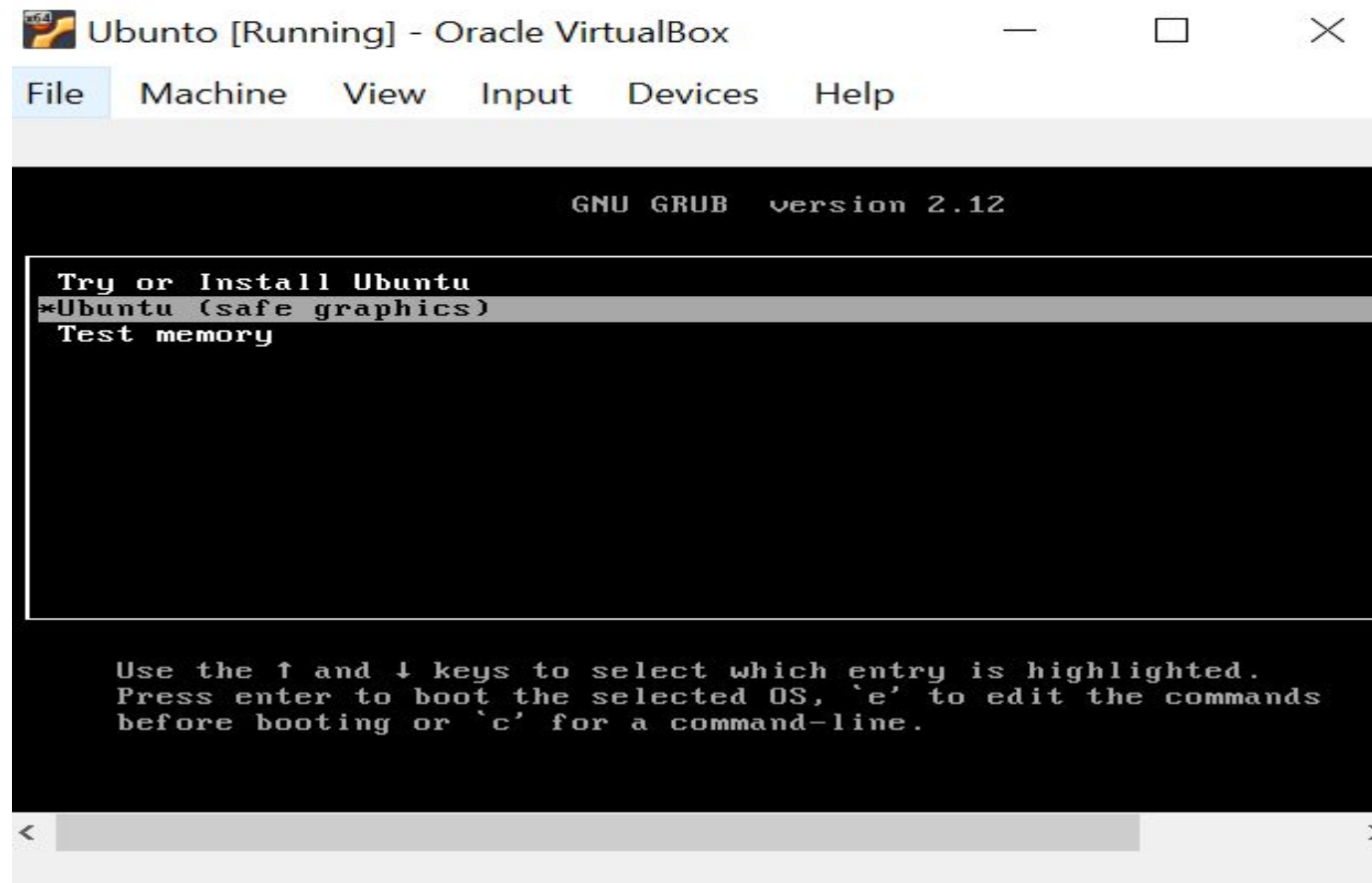
## Great for gaming

Ubuntu supports the latest NVIDIA and Mesa drivers to improve performance and compatibility. Thousands of Windows titles play great on Ubuntu via applications like Steam with no additional configuration.

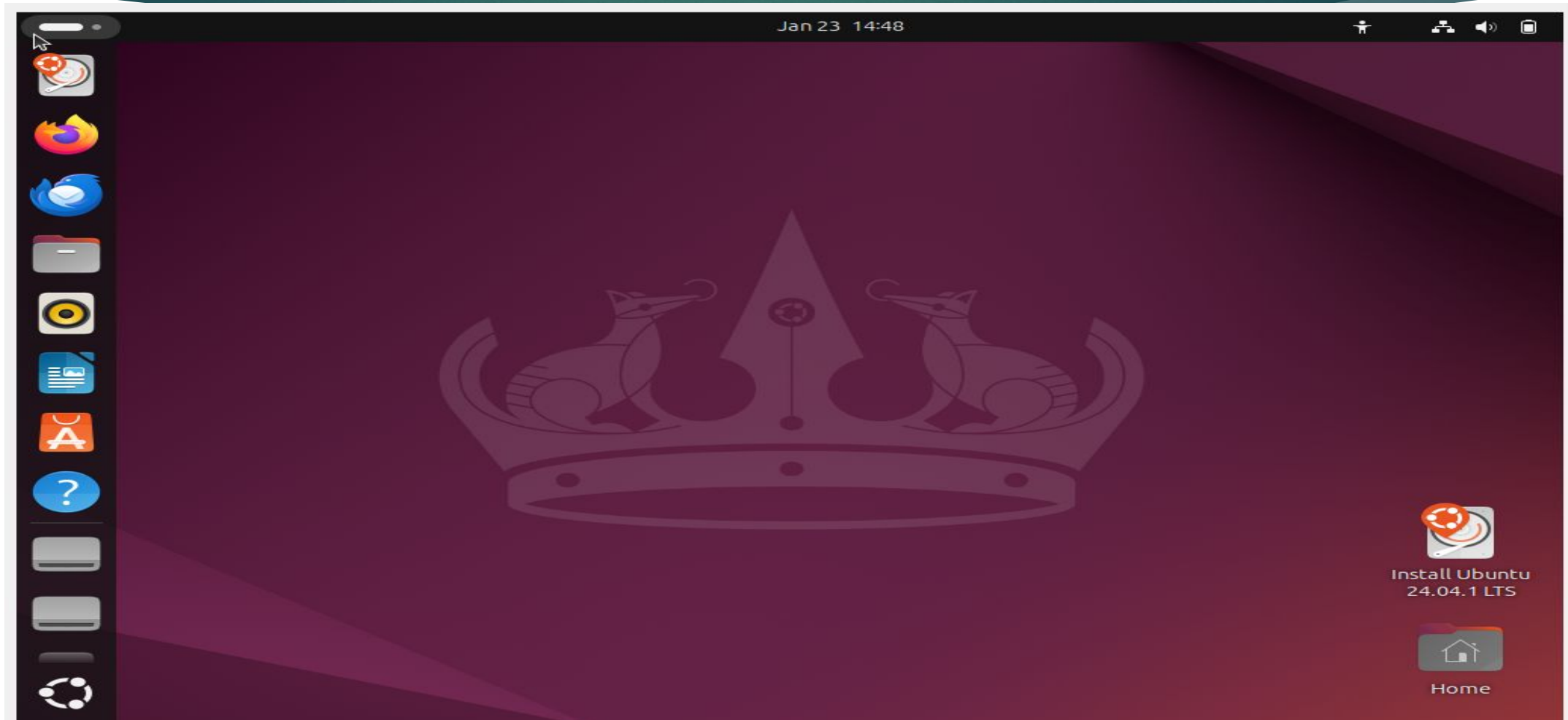
Feral GameMode Steam Discord  
OBS Studio

Installing the system...

# Step 7: Run Ubuntu Safe Graphics



# Step 8: Interface of Ubuntu – Linux Distribution OS



**End of LAB!**