Practical 10: Install Linux Operating System Using Oracle VirtualBox

Linux is an open-source operating system widely used in programming, cybersecurity, networking, and servers.
 In this practical, we learn how to install a Linux OS (Ubuntu/Linux Mint/Manjaro etc.) safely using **Oracle VirtualBox** by creating a virtual machine (VM).

Installing inside VirtualBox does *not* harm your actual computer, so it's perfect for learning.

Requirements

- Oracle VirtualBox installed

- Linux ISO file (Ubuntu recommended)

- 2–4 GB RAM available

- 20–25 GB free disk

- A working PC/laptop

Steps to Install Linux OS Using Oracle VirtualBox

Step 1: Install and Open VirtualBox

1. Download & install Oracle VirtualBox.

2. Open VirtualBox from the Desktop/Start menu.

Step 2: Create a New Virtual Machine (VM)

1. Click **New**.

2. Name: *Linux OS / Ubuntu / Mint*

3. Type: **Linux**

4. Version: **Ubuntu (64-bit)** or whichever Linux you downloaded.

5. Click **Next**.

Step 3: Allocate RAM

- Minimum recommended: **2048 MB (2GB)**

- Best performance: **4096 MB (4GB)**

Move the slider → Click Next.

Step 4: Create Virtual Hard Disk

1. Select **Create a virtual hard disk now** → Next.

2. Choose **VDI** (VirtualBox Disk Image).

3. Select **Dynamically allocated**.

4. Size: **20–30 GB** recommended.

5. Click **Create**.

Step 5: Attach Linux ISO File

1. Select your Linux VM → click **Settings**.

2. Go to **Storage**.

3. Under Controller: IDE → click **Empty**.

4. On the right side, click **CD icon** → **Choose Disk File**.

5. Select the **Linux ISO**.

6. Click **OK**.

Step 6: Start the Virtual Machine

- Click **Start** to launch your Linux VM.

- Linux installer will load.

Linux Installation Process (Ubuntu Example)

Step 1: Choose "Try or Install Ubuntu"

A black/purple screen appears:
→ Select **Install Ubuntu**

Step 2: Select Keyboard Layout

- Choose **English (US)**

- Next

Step 3: Updates & Third-Party Software

Choose:

- Normal Installation

- Install third-party software (optional)

Click **Next**.

Step 4: Installation Type

Choose:
→ **Erase disk and install Ubuntu**
(Ye sirf VirtualBox ke virtual disk ko erase karega — real PC ko nahi.)

Click **Install Now**.

Step 5: Set User Details

You will enter:

- Name

- Computer name

- Username

- Password

Click **Continue**.

Step 6: Final Installation

Linux will now:

- Copy files

- Install system components

- Install bootloader

- Configure settings

Time: 10–20 minutes depending on PC speed.

Step 7: Restart Virtual Machine

After installation completes →
 → Click **Restart Now**

Remove ISO auto-happens → Linux boots normally.

Your Linux desktop appears — installation successful 🎉

Basic Linux Desktop Overview

1. Launcher / Dock

Contains shortcuts for apps like Terminal, Files, Browser.

2. Terminal

Command-line window for Linux commands.
 Shortcut: **Ctrl + Alt + T**

3. File Manager

Manage folders & files.

4. Software Center

Install apps easily.

5. Settings Panel

Set display, WiFi, keyboard, users, updates.

Important Linux Features

- Secure (virus-free)

- Open-source

- Used in hacking, server management, programming

- Highly customizable

- Supports command-line & GUI

Advantages of Installing Linux in VirtualBox

- Safe for beginners

- Doesn't touch main PC

- Multiple Linux distros can be tested

- Good for practicing terminal commands

- No risk of system crash

- Snapshots allow instant backup