

Setting up Kali Linux Virtual Machine

To set up a Kali Linux virtual machine (VM), you'll need a virtualization platform like VirtualBox or VMware. Here's a step-by-step guide using VirtualBox:

1. Download VirtualBox and Install It

- Visit the [VirtualBox website](#) and download the latest version for your operating system.
- Install VirtualBox by following the on-screen instructions.

2. Download Kali Linux ISO or Pre-built Virtual Image

- Go to the Kali Linux official website and download either:
 - The **ISO file** if you prefer to set it up manually, or
 - A **pre-built VirtualBox image** for quicker setup.

Note: Pre-built images simplify the process as they come pre-configured with VirtualBox settings.

3. Create a New Virtual Machine in VirtualBox

If you downloaded the ISO:

- Open VirtualBox and click **New** to create a new virtual machine.
- Set the **Name** (e.g., "Kali Linux").
- Choose **Linux** as the type and **Debian (64-bit)** as the version.
- Allocate **RAM** (e.g., 2048 MB or more, depending on your system).
- Create a **Virtual Hard Disk** (at least 20 GB for basic use).

4. Mount the Kali Linux ISO

- After creating the VM, select it from the VirtualBox main window and click **Settings**.

- Go to the **Storage** tab, click on the **Empty CD/DVD** icon, and choose **Choose a disk file**.
- Browse to and select the Kali Linux ISO you downloaded.
- Save the settings.

5. Start the Kali Linux Virtual Machine

- Start the VM by selecting it and clicking **Start**.
- Follow the on-screen instructions to install Kali Linux:
 - Choose **Graphical Install**.
 - Select the **language**, **location**, and **keyboard** layout.
 - Set a **root password**.
 - Partition the disk (you can use the default options).
 - Complete the installation process, allowing Kali Linux to install on the virtual hard drive.

6. Install VirtualBox Guest Additions (Optional but Recommended)

- Once Kali is installed and running, you can improve VM performance and screen resolution by installing Guest Additions.
- In the running VM, go to **Devices > Insert Guest Additions CD image**.
- Open the terminal in Kali and run the following commands to mount the CD and install the additions:

```
bash
```

```
sudo apt update
sudo apt install -y build-essential dkms linux-headers-$(uname -r)
sudo mount /dev/cdrom /media/cdrom
sudo /media/cdrom/VBoxLinuxAdditions.run
```

7. Set Up Networking

- By default, VirtualBox uses NAT for networking, allowing the VM to access the internet.
- If you need advanced networking, go to **Settings** > **Network** and configure **Bridged Adapter** or **Host-only Adapter** based on your needs.

8. Update Kali Linux

- After installation, update Kali to ensure you have the latest tools and security patches:

```
bash
```

```
sudo apt update
```

```
sudo apt full-upgrade
```