Installing Oracle VM VirtualBox and setting up a virtual machine (VM) is a straightforward process. Below is a **step-by-step guide** for installing and configuring a virtual machine using Oracle VirtualBox:

🛠️ Step 1: Download & Install VirtualBox

1. Go to the official site: https://www.virtualbox.org/
2. Click **Download VirtualBox**.
3. Select your platform (Windows, macOS, Linux, Solaris).
4. Download and run the installer.
5. Follow the prompts and install VirtualBox.

✅ Optional: Install **VirtualBox Extension Pack** (for USB 2.0/3.0, RDP, disk encryption):

- Download from the same page.
- Open VirtualBox → File → Preferences → Extensions → Add.

🖥️ Step 2: Create a New Virtual Machine

1. Open VirtualBox.
2. Click **New**.
3. Enter:
    - **Name** (e.g., `Ubuntu_Server` or `Windows11`)
    - **Type** (Linux, Windows, etc.)
    - **Version** (e.g., Ubuntu 64-bit)
4. Click **Next**.

💾 Step 3: Assign Memory (RAM)

- Choose RAM size (e.g., 2048 MB for Linux, 4096+ MB for Windows).
- Click **Next**.

📀 Step 4: Create a Virtual Hard Disk

1. Choose **Create a virtual hard disk now** → Click **Create**.

2. Choose disk type: **VDI (VirtualBox Disk Image)**.
3. Choose **Dynamically allocated** or **Fixed size**.
4. Set size (e.g., 20 GB or more) → Click **Create**.

💿 Step 5: Load Operating System ISO

1. Select your VM → Click **Settings** → Go to **Storage**.
2. Under "Controller: IDE" → Click Empty.
3. On the right, click the CD icon → Choose a disk file.
4. Select your ISO image (Ubuntu, Windows, etc.).

▶ Step 6: Start the Virtual Machine

1. Click **Start**.
2. The VM boots from the ISO.
3. Proceed with OS installation as you would on a real PC.

🌐 Step 7: Enable Networking (Optional)

Go to **Settings → Network**, and choose:

- **NAT** (default): allows internet access.
- **Bridged Adapter**: makes the VM visible on the same network as your host.

🛠 Optional: Install Guest Additions

Once the OS is installed and running:

1. Go to **Devices → Insert Guest Additions CD Image**.
2. Run the installer inside the guest OS.
3. Reboot the VM.

This enables features like:

- Seamless mouse integration

- Shared clipboard
- Drag and drop
- Auto screen resize
