Having a Virtual Machine is essential for trying any new technology. Be it DevOps tools, Cloud automation, AI. Below documentation is a guide to set up a Virtual Machine in your system.

Lab Setup Guide: Hypervisors, Linux ISOs, and Virtual Machine Creation

Phase 1: Downloading Hypervisors (Windows & macOS)

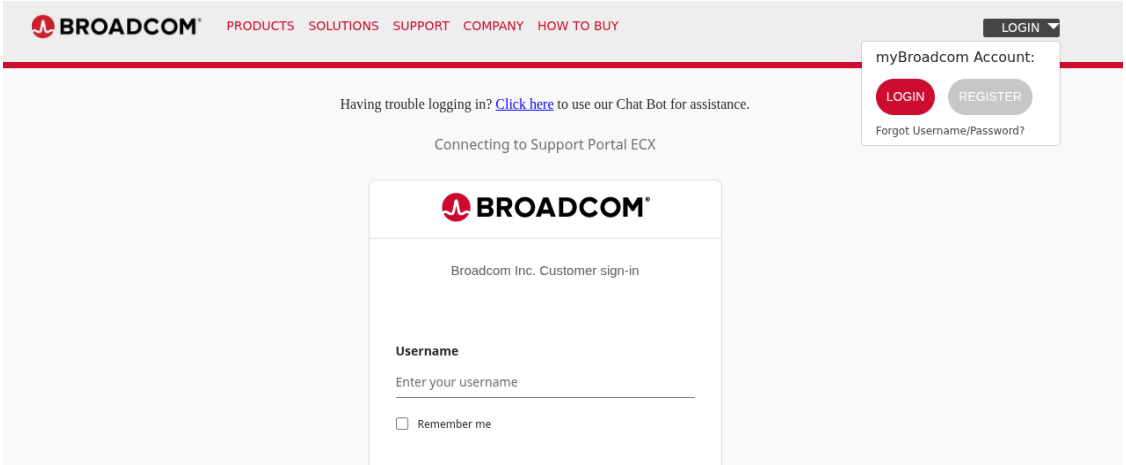
VMware Workstation Pro (for Windows) and VMware Fusion Pro (for Mac) are completely free for personal, educational, and commercial use (managed through Broadcom's support portal).

1. VMware Workstation Pro for Windows 11

• **Where to get it:** Head to the Broadcom Support Portal (support.broadcom.com) or search for VMware Workstation Pro personal use download.

• **Installation Steps:**

1. Create a free Broadcom account or log in.
2. Navigate to **Software** > **VMware Cloud Foundation** > **My Downloads** (or search directly for VMware Workstation Pro).



3. Select **VMware Workstation Pro 17.x for Personal Use** (or the latest version).
4. Accept terms, fill out profile verification details, and download the Windows installer .exe file.
5. Run the installer, keep default settings (enable Enhanced Keyboard Driver if prompted), and complete the setup.

2. VMware Fusion Pro for macOS

• **Where to get it:** Available via the same Broadcom Support Portal under VMware Fusion Pro.

• **Installation Steps:**

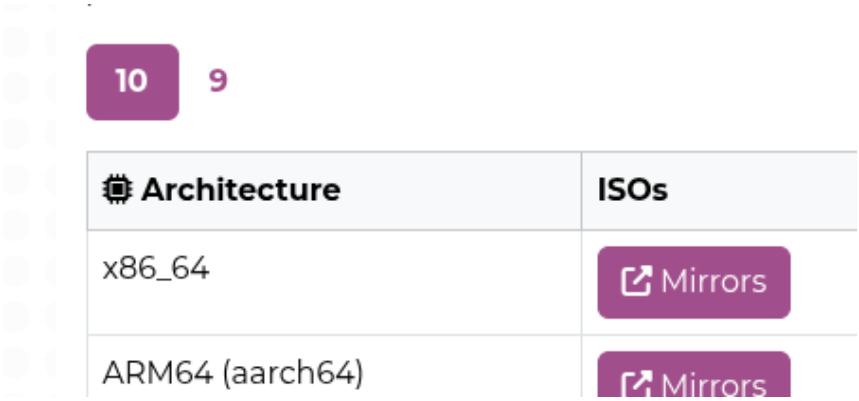
1. Log into your Broadcom account and search for **VMware Fusion Pro for Personal Use**.
2. Download the disk image (.dmg) file.
3. Open the .dmg file and drag the VMware Fusion app into your Applications folder.
4. *Note for Apple Silicon (M1/M2/M3/M4) Macs:* Fusion runs ARM-based operating systems natively (like Ubuntu ARM64). For x86_64 ISOs, performance will vary based on architecture compatibility.

Phase 2: Downloading Linux ISO Images

To build your lab VMs, download official, stable installation media:

• **Ubuntu (Desktop or Server):** Go to the official Ubuntu Downloads page (ubuntu.com/download). Choose Ubuntu Desktop (beginner-friendly GUI) or Ubuntu Server (headless CLI enterprise setup). Download the .iso file (e.g., Ubuntu 24.04 LTS).

• **CentOS (CentOS Stream):** Go to the CentOS Download Portal (centos.org). Download CentOS Stream (typically the x86_64 architecture DVD/Boot ISO image).



Phase 3: Creating a Linux Virtual Machine (Step-by-Step Lab Exercise)

Step 1: Initialize New Virtual Machine Wizard

1. Open VMware Workstation Pro (Windows) or VMware Fusion (Mac).
2. Click **Create a New Virtual Machine**.
3. Select **Installer disc image file (iso)** and browse to select your downloaded Ubuntu or CentOS .iso file. Click Next.

Step 2: Personalize Guest Operating System

1. Enter your details:
- Full Name: student
- User Name: student
- Password: Choose a secure password (e.g., linux123).
2. Click Next.

Step 3: Name and Location

1. Name your virtual machine (e.g., Ubuntu-Lab-01 or CentOS-Stream-Lab).
2. Choose a destination folder on your host machine with adequate free space (at least 30 GB free). Click Next.

Step 4: Specify Disk Capacity

1. Set the maximum disk size to **40 GB** (or leave the default 20–40 GB).
2. Select **Store virtual disk as a single file** (easier to manage/backup). Click Next.

Step 5: Customize Hardware Resources

1. Click **Customize Hardware** before finishing:
- **Memory (RAM):** Allocate at least 4 GB (4096 MB) if your host PC has 16 GB RAM.
- **Processors:** Assign 2 Processor Cores.
- **Network Adapter:** Set to **NAT** (shares host internet connection automatically via DHCP) or **Bridged** (gets an IP directly from your local router network).
2. Click Close, then click Finish.

Step 6: Power On and Verify Installation

1. The VM will automatically power on and boot into the Linux installer.
2. Allow the automated installer or manual wizard to complete. Once finished, log in using the credentials created in Step 2.
3. **Verification:** Open the terminal inside your new VM and run:

```
ip a && uname -r
```

• **Success Criteria:** You should see a valid IP address assigned to your network interface and output displaying the active Linux kernel version.