Exploring How to Set Up an Ubuntu Virtual Machine on Windows 10/11 Using VMware Workstation: A Guide for Students and Developers in North America and Europe.

Introduction

Virtual machines (VMs) permits users to run multiple operating systems on a single computer, providing a controlled environment for software development, cybersecurity testing, and server management. For students and developers, setting up an Ubuntu virtual machine on Windows allows seamless switching between Windows and Ubuntu without rebooting. *VMware Workstation* is a popular virtualization software known for its stability and features. However, challenges such as performance issues, compatibility errors, and network configuration difficulties may arise. This guide explores the process of setting up an *Ubuntu VM* using *VMware Workstation* and highlights alternative solutions like *Windows Subsystem for Linux (WSL2)*.

System Requirements (We are dealing with a computer so only its system need specifications)

- A Windows 10/11 (64-bit) computer with at least 8GB RAM and 50GB free storage
- VMware Workstation (downloaded from the official VMware website)
- Ubuntu ISO file (downloaded from the official Ubuntu website)
- Internet connection

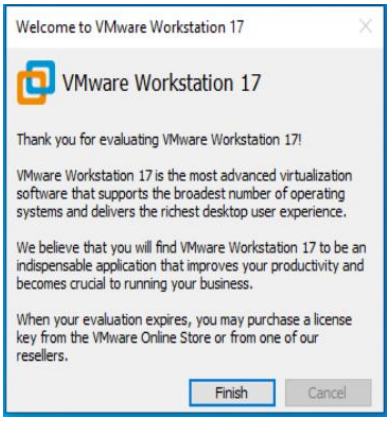
Step-by-Step Installation Guide

Step 1: Download and Install VMware Workstation

1. **Visit the VMware website:** Open a web browser and go to VMware Workstation Pro Now Available for Free.
2. **Download VMware Workstation:** Click on **Download Now** and choose the appropriate version for Windows.

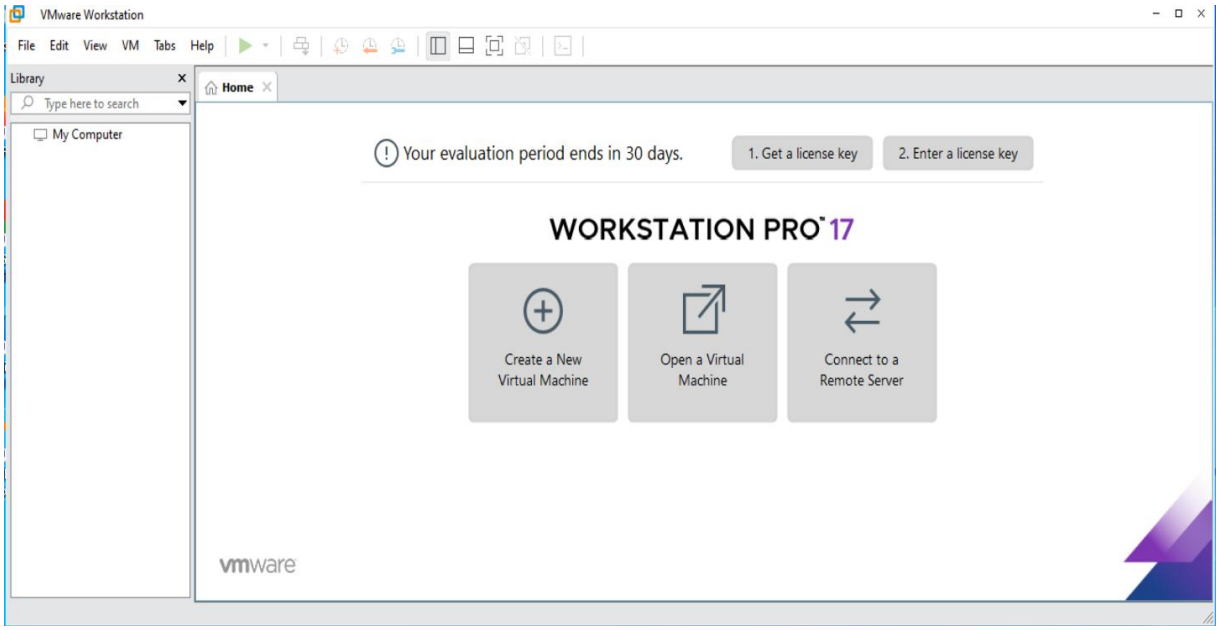
Step 2: Install VMware Workstation

1. Once the download is complete, navigate to the folder where the installer file was saved. Double-click the downloaded file to launch the setup wizard.
2. Begin the installation: Click **Next** to proceed. Read the **End User License Agreement (EULA)** and click **I accept** followed by **Next**.
3. Choose a custom location or leave it as the default, then click **Next**. Configure additional settings and click **Next**.
4. Click **Install** to begin the installation process. Wait for installation to complete, click **Finish** and restart your computer if prompted.



Step 3: Launch VMware Workstation

1. Open VMware Workstation from the Start menu or desktop shortcut.
2. If prompted by User Account Control, click **Yes** to allow the application to run.



Step 4: Create a New Virtual Machine

1. Click **Create a New Virtual Machine** on the home screen.
2. Select **Typical (recommended)** and click **Next**.

Step 5: Select Ubuntu Installation Media

1. Choose **Installer disc image file (ISO)**.
2. Click **Browse** and select the downloaded Ubuntu ISO file.
3. Click **Next** to proceed.

Step 6: Name the Virtual Machine & Select Storage Location

1. Enter a name for your VM (e.g., "Ubuntu VM").
2. Choose a storage location for the virtual machine files or leave it as default.
3. Click **Next**.

Step 7: Allocate Storage Space

1. Set the maximum disk size (recommended: **20GB or more**).
2. Choose **Store virtual disk as a single file** for better performance.
3. Click **Next**.

Step 8: Customize Hardware Settings (Optional)

1. Click **Customize Hardware** before finishing the setup.
2. Adjust settings as needed:
    - **Memory:** Allocate at least **4GB RAM** for better performance.
    - **Processors:** Assign **2 or more cores** if available.
    - **Network Adapter:** Set to **Bridged** or **NAT** mode based on your needs.
3. Click **Close** to save changes.

Step 9: Start the Virtual Machine

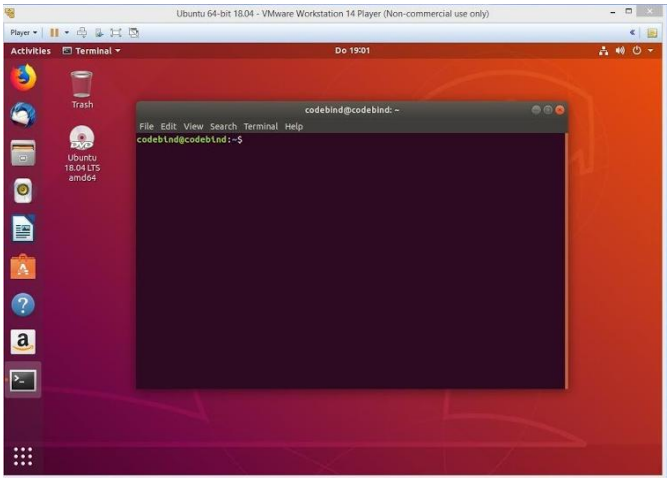
1. Click **Finish** to create the virtual machine.
2. Select the VM from the VMware home screen and click **Power on this virtual machine**.

Step 10: Install Ubuntu

1. Follow the on-screen instructions to install Ubuntu.
2. Choose **Install Ubuntu**, select your preferred language, and click **Continue**.
3. Select **Erase disk and install Ubuntu** (this only affects the VM, not your physical computer).
4. Click **Install Now** and proceed with the installation.

Step 11: Complete Ubuntu Setup

1. Create a username and password when prompted.
2. Configure additional settings such as time zone and keyboard layout.
3. Restart the VM when the installation is complete.



Conclusion

Setting up an Ubuntu virtual machine using VMware Workstation is a practical approach for students and developers, offering a cost-effective and secure environment for development and learning. Despite challenges such as performance demands and network configuration, following this guide ensures a successful setup.

Troubleshooting Tips

- If the VM runs slowly, increase the allocated **RAM** and **CPU cores** in VMware settings.
- If networking issues occur, switch the network adapter mode to **Bridged**.
- If the installation fails, verify that the **ISO file** is not corrupted.

Alternative Solutions

- **Windows Subsystem for Linux (WSL2):** Allows running Linux directly on Windows without full virtualization but lacks a complete GUI by default.

To install and enable WSL on Windows, follow the instructions:

1. Open Windows Terminal and install WSL2 by typing wsl *--install*
2. Once WSL2 is installed, open a terminal and install the Ubuntu Linux distribution by typing *wsl --install -d ubuntu.*
3. Now that Ubuntu is installed, you should be able to launch it from the apps menu or by typing 'ubuntu' into the search box.
4. Launch Ubuntu. The first time, it will ask you to specify a login id and a password. Make sure you can remember both.
5. It may make you restart. Once you do so, start Ubuntu again and log in with the credentials you just specified.
6. Finally, we're going to update your Ubuntu install's software to the latest versions. Run the following command to connect to the Ubuntu servers and get the latest software versions: *sudo apt update*. It may prompt you for your password.
7. Now upgrade your installed software to the latest versions: *sudo apt upgrade*

References

craigloewen-msft. (2024, November 19). *Install WSL*. Learn.microsoft.com. https://learn.microsoft.com/en-us/windows/wsl/install

Get Ubuntu | *Download* | *Ubuntu*. (2019). Ubuntu. https://ubuntu.com/download

Roy, M. (2024, May 13). *VMware Workstation Pro: Now Available Free for Personal Use*. VMware Workstation Zealot. https://blogs.vmware.com/workstation/2024/05/vmware-workstation-pro-now-available-free-for-personal-use.html

VMware. (2019, December 19). *VMware – Cloud, Mobility, Networking & Security Solutions*. VMware. https://www.vmware.com/