**Title:** Setting Up an Ubuntu Linux Virtual Machine on Windows Using VMware Workstation

**1. Introduction**  
Virtualization has become a crucial technology in the IT industry, allowing users to run multiple operating systems on a single machine. VMware Workstation is one of the leading tools used for creating virtual environments. This report explores the process of setting up an Ubuntu Linux virtual machine (VM) on a Windows operating system using VMware Workstation. The goal is to provide a structured approach that IT professionals and students can follow to efficiently configure and use a Linux VM for development, testing, or educational purposes.

**2. Background**  
Ubuntu Linux is one of the most popular open-source operating systems, known for its security, flexibility, and extensive support community. VMware Workstation is a hypervisor that enables users to create and manage virtual machines within a Windows environment. Understanding virtualization and its applications is essential for IT professionals, as it enhances software development, testing, and cybersecurity practices.

**3. Findings**

**3.1 System Requirements**

Before setting up the VM, users must ensure their system meets the following requirements:

* **Operating System:** Windows 10 or 11
* **Processor:** 64-bit CPU with Virtualization Technology (VT-x/AMD-V) enabled
* **RAM:** Minimum 4GB (8GB recommended)
* **Storage:** At least 20GB of free disk space
* **VMware Workstation Version:** 16.x or later

**3.2 Steps to Install Ubuntu VM on Windows Using VMware Workstation**

1. **Download and Install VMware Workstation**
   * Visit the official VMware website and download the latest version.
   * Follow the installation wizard and complete the setup.
2. **Download Ubuntu ISO Image**
   * Obtain the latest Ubuntu LTS (Long-Term Support) version from the official Ubuntu website.
3. **Create a New Virtual Machine**
   * Open VMware Workstation and select **Create a New Virtual Machine**.
   * Choose **Installer disc image file (ISO)** and browse for the downloaded Ubuntu ISO.
   * Configure VM settings such as allocated RAM, processors, and storage.
4. **Install Ubuntu on the VM**
   * Start the VM and follow the on-screen instructions to install Ubuntu.
   * Set up user credentials and complete the installation.
5. **Post-Installation Configurations**
   * Install VMware Tools for better performance and integration.
   * Configure network settings and shared folders if needed.

**4. Analysis & Discussion**

**4.1 Challenges and Troubleshooting**

* **VM Performance Issues:** Users may experience lag if they allocate insufficient RAM or CPU resources.
* **Virtualization Disabled:** Some systems require enabling virtualization in BIOS settings.
* **Compatibility Issues:** Older versions of VMware Workstation may not support the latest Ubuntu releases.

**4.2 Alternative Virtualization Tools**

While VMware Workstation is a robust option, alternatives like VirtualBox and Hyper-V offer similar functionalities. However, VMware provides better performance and advanced features for professional use.

**5. Conclusion**  
Setting up an Ubuntu VM on Windows using VMware Workstation is a straightforward process that allows users to leverage Linux within a controlled environment. This setup is particularly useful for developers, system administrators, and cybersecurity professionals who need a secure and isolated Linux system for testing and development.

**6. References**  
(To be added: A minimum of five sources following APA citation format.)

**7. Illustration**  
(Include a screenshot of the installation process, a system requirements table, or a workflow diagram.)