**Setting Up a Home Lab on a VMware NAT Network**

Setting up a home lab is the foundation of applied cyber security. It practically applies knowledge of many areas of IT like networking, cloud, security, and administration. Let’s dive into setting up a home lab. What’s the point of doing this? A sandbox for learning cybersecurity, networking, and system administration. This lab will consist of 4 virtual machines that will simulate a production network. This Sandbox will consist of a domain controller, a user machine, a database server, and a kali Linux VM for security testing.

**Resources**

1. Kali Linux - <https://www.kali.org/get-kali/#kali-installer-images>
2. Windwos Server 2022 -<https://portal.azure.com/#view/Microsoft_Azure_Education/EducationMenuBlade/~/software>
   * NOTE – Must create an Azure account
3. VMware Pro Workstation - https://www.vmware.com/

**The Setup**

**VMware NAT Network**

I’m using a NAT network (vmware8) so the VMs can talk to each other and the internet, but the network is isolated from my host.

**Where to find the Virtual Machine Image files.**

1. **Windows Server 2022**:
   * Download the Windows Server 2022 Standard image off Microsoft Azure
     1. The Image file will be under Education > Software
2. **Kali Linux**:
   * Download the ISO from the official Kali Linux site.
   * Go through the normal config.
   * NOTE - It is quicker to download a pre-configured VM.

**2. Windows Server 2022 VM**

1. **VM Creation**:
   * System Stats: 4 GB RAM, 4 vCPUs, and a 60 GB disk.
   * Mount the Windows Server 2022 ISO under “Installer Disk Image”
2. **Install & Configure**:
   * Copy the Windows License when prompted

**3. Kali Linux VM**

1. **VM Creation**:
   * System stats: 2 GB RAM, 2, and a 30 GB disk.
   * Mount the ISO under “Installer Disk Image”
2. **Post-Install Setup**:
   * Updated the system
     1. Open up Terminal and run “Sudo apt update && upgrade”
3. **Networking**
   * Ensure Network Connectivity
     1. Ping youtube.com
     2. Ping 192.168.139.142 (Domain Controller)

**Next Steps**

This is a foundation for a production network. For the next steps more structure needs to be configured. Setting up a Domain, Active Directory, and static network configuration will be the next steps for this environment.