

# ASSIGNMENT 0 • VIRTUAL MACHINE SETUP

## OVERVIEW

The purpose of this lab is to setup VirtualBox and install the virtual machine that we will be using in this course.

1. Kali Linux: A widely used Linux distribution with many tools for penetration testing installed by default.

Assignment 0 does not have any assessable components that need to be handed in. It is intended to help you get ready for the later labs. If you have trouble with setting up the virtual machines, you can get help after Thursday's lecture.

## INSTALLING AND SETTING UP ORACLE VM VIRTUALBOX

1. Go to <https://www.virtualbox.org/wiki/Downloads> and download the VirtualBox 6.0.x platform packages for your host machine (i.e. Windows hosts, OS X hosts, Linux).
2. Follow the installation instructions to install VirtualBox.

## DOWNLOAD KALI LINUX VM IMAGE

**WARNING: Kali Linux comes with many ethical hacking tools pre-installed. Be careful with how you use these tools.**

1. Go to <https://www.offensive-security.com/kali-linux-vmware-virtualbox-image-download/>
2. Under the **Kali Linux VirtualBox Images (NOT VMware or Hyper-V images)**, download the Kali Linux 64 bit VirtualBox image. This will download an .ova image file that we will import to VirtualBox.

## SETTING UP KALI LINUX

1. In VirtualBox, select *File > Import Appliance*.
2. Use the file explorer to select the **Kali Linux ova file** that you downloaded. Click *Continue/Next*.
3. **Do not** change any of the default configuration settings and **do not** select *Reinitialize the MAC address of all network cards*. Click *Import*.
4. In VirtualBox, select the newly created Kali Linux VM and select *Settings* (top). If an "invalid settings detected" message appears at the bottom of the Settings window, you need to install the VirtualBox Extension pack:
  - a. Make sure VirtualBox is closed and not running!

- b. Go to <https://www.virtualbox.org/wiki/Downloads>. Under the **VirtualBox 6.0.x Oracle VM VirtualBox Extension Pack** heading, select **All supported platforms**.
  - c. Open VirtualBox and Select *File > Preferences* (for Windows) or *VirtualBox > Preferences* (for OS X).
  - d. In the *Preferences* window, select the *Extensions* tab.
  - e. Use the *Pull down* tab (right) and select the extension pack that you downloaded.
  - f. Select *Install* in the popup (agree to the License). Click *OK* after the extension pack has been installed.
5. Before we change some VM settings, check to make sure the Kali Linux VM works. In VirtualBox, select the Kali Linux VM and click *Start* (top) to power on the VM.
  6. Kali Linux will start and you should be prompted for a username. The default user in Kali Linux is *root*. The default password is *toor*.
  7. You should now have a working Kali Linux VM! Open the Terminal (search in Applications for Terminal or select it from the side-menu). Notice that you are root. It is advised that you change the password. Enter the command **passwd root**. Enter and confirm your new password.
  8. Power off the VM by shutting down Kali Linux (top right).
  9. In VirtualBox, select the Kali Linux VM and click *Settings* (top).
  10. Select the *System* tab and under the *Motherboard* tab set the Base Memory size for the VM (The more memory you allocate to the VM, the better it will perform). Under the *Processor* tab you can increase the processors to 2 or more depending on your machine.

## MISCELLANEOUS NOTES

When creating new VMs, if **VirtualBox is only showing 32-bit versions in the Version list** (and you want a 64-bit VM) make sure:

- Your host OS is 64-bits
- Intel Virtualization Technology and VT-d are both enabled in the BIOS
- The Hyper-V, VMWare, or Parallels platforms are disabled in your Windows Features list

(From <https://superuser.com/questions/866962/why-does-virtualbox-only-have-32-bit-option-no-64-bit-option-on-windows-7>)