**Running Linux OS on a Windows Machine via USB Booting**

**Introduction:**

There are many ways to repurpose a windows laptop into a Linux machine all with various benefits and drawbacks. The method this report uses will be to access Linux from a portable storage media and boot Linux from it. Both OS's will be accessible. With this method, Windows will still serve as the primary OS (as it is initially installed on the laptop's SSD), allowing the user to still access Windows if needed. Additionally, as the Linux OS will be installed externally, multiple flavors can be installed and accessed depending on the user's needs. As such, for this lab, you will need a windows laptop (duh), a portable media storage with storage large enough to install a Linux flavor onto it, and [https://rufus.ie/en](https://rufus.ie/en%20) \*Note: Whichever media storage you install the Linux OS onto, ALL CONTENTS WILL BE DELETED\*

**Step 1: Installing Linux onto a USB drive**

In this lab, Kali Linux will be utilized, but any flavor can be utilized.

a. Download Kali Linux [https://www.kali.org/get-kali/#kali-installer-images](https://www.kali.org/get-kali/%23kali-installer-images%20) (or whatever flavor you want)

To utilize Kali (or any flavor) as a physical bootable OS, it must be formatted to do so. This lab will use [https://rufus.ie/en/](https://rufus.ie/en/%20) to do so.

b. Launch Rufus and insert the portable media storage you will be installing Linux onto in your machine

b.1) Ensure correct settings:

Device - The media storage you wish to install the flavor onto

Click "Select" and select the Linux OS you will be using

A screenshot of a computer

Description automatically generated

b.2) Click START to begin the formatting, will take ~10-15 minutes

*An alert may pop up, simply select the recommended settings.*

A screenshot of a computer error message

Description automatically generated

*This means the same image file can be used as the source for both a DVD and a USB stick without requiring conversion.*

Keep \_Write in ISO Image mode\_ selected and click on ***OK*** to continue.

A screenshot of a computer error

Description automatically generated

*Rufus requires additional files to format the drive as a bootable Linux drive*

Upon completion, proceed to step 2

**Step 2: Booting Linux from the media storage**

a) After Rufus has successful completed the formatting, simply eject the drive and insert it into the target machine.

b) Booting from the USB drive. The exact navigation steps will differ between manufacturers. I used a Dell laptop.

b.1) Restart the laptop and enter the BIOS (F2 key). Disable Secure Boot (Boot Configuration -> Secure Boot -> switch Secure Boot to off.). Apply the changes and exit the BIOS.

b.2) and enter One-Time Boot Settings (F12). Select the media storage that contains the Linux OS.

b.3) Install the Linux OS by selecting "Graphical Interface" and click enter. Follow and complete the initial set up steps.

**Step 3: Success!**