

# **Lab Manual**

## **EXPERIMENT NUMBER 1**

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### **Title: Virtual Lab setup for network security**

**Aim:** Demonstrate setup of a virtual lab to work with multiple operating systems to perform various network security tasks.

**Objective:** To make students work with multiple operating systems simultaneously using virtualization.

#### **Theory:**

There are multiple cross-platform software available for virtualization like Oracle VM VirtualBox, VMWare fusion etc. This software helps the user to create a virtual environment to install multiple OS as virtual machines. The following steps will allow a Windows user to create a virtual machine using Oracle VirtualBox.

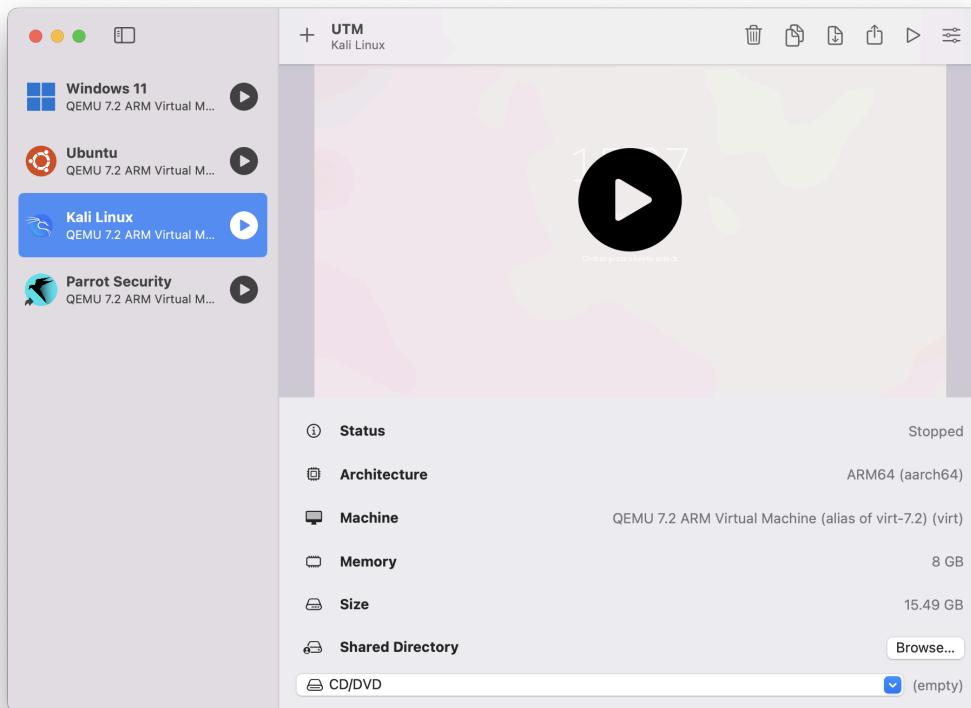
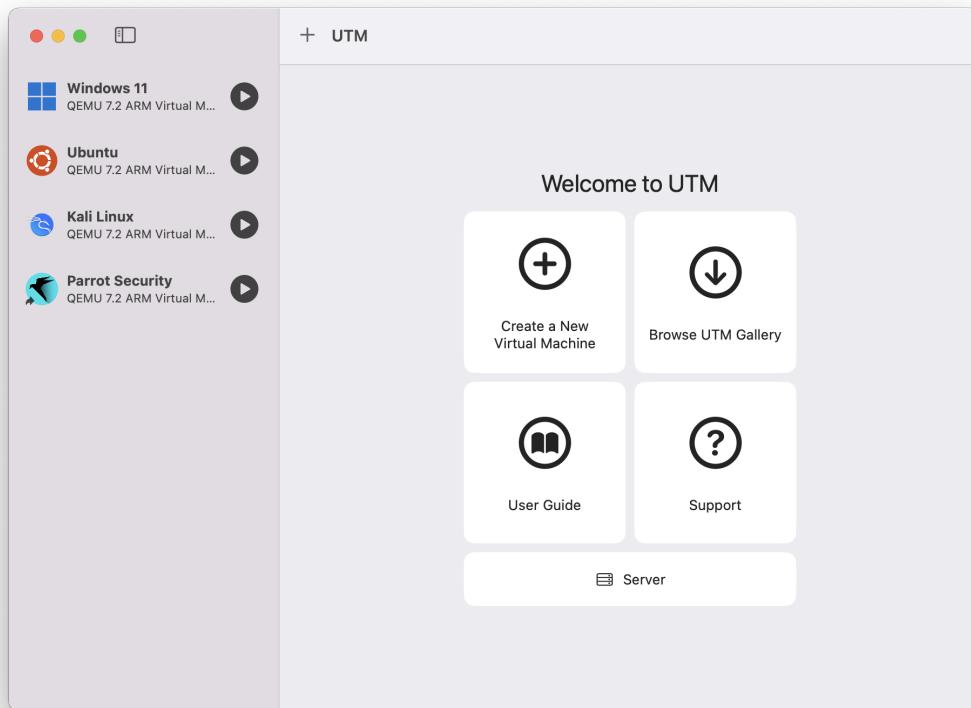
- 1) Visit the link below and download the appropriate software as per your system requirements.  
<https://www.oracle.com/in/virtualization/technologies/vm/downloads/virtualbox-downloads.html>
- 2) Double click on the downloaded executable file and follow the instructions. By default, installation will be performed in C drive. You can select any drive of your choice before continuing installation.
- 3) Download Kali Linux ISO file using link:  
<https://www.kali.org/get-kali/#kali-platforms>
- 4) Select 64 bit installer image to download ISO file.
- 5) Start VirtualBox by double clicking on its icon.
- 6) Goto Machine -> New to create a virtual machine.
- 7) Give name for your VM - here for example KaliOS23
- 8) Select Kali ISO file downloaded in step 3 and click next.
- 9) You can keep RAM, CPU and HDD size to default or adjust as per your requirements.
- 10) Click next to complete attaching ISO image to VM.
- 11) Once done, start KaliOS23 created in step 7. This will open your dialog box of Kali Linux OS installation.
- 12) Follow the instructions and install Kali Linux like any other Linux flavour OS.

**Conclusion:** In this experiment, we set up a virtual lab using Oracle VM VirtualBox (In my case: UTM for Macs - Apple Silicone) and installed Kali Linux & Parrot Security. This taught us the importance of virtualization for network security tasks, enabling us to efficiently handle complex IT scenarios.

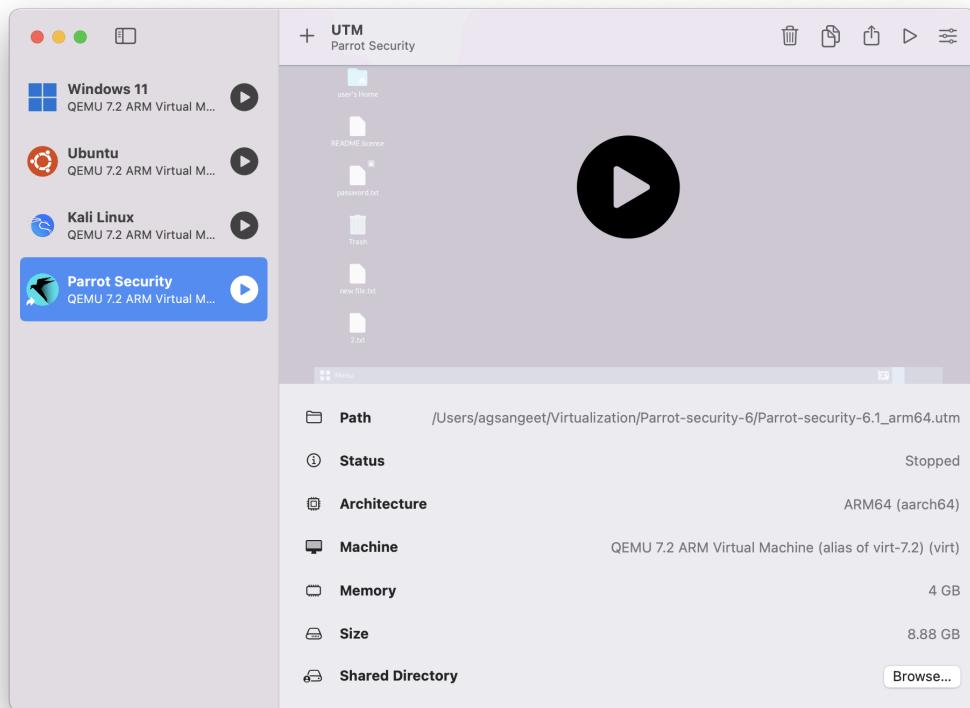
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## Implementation question:

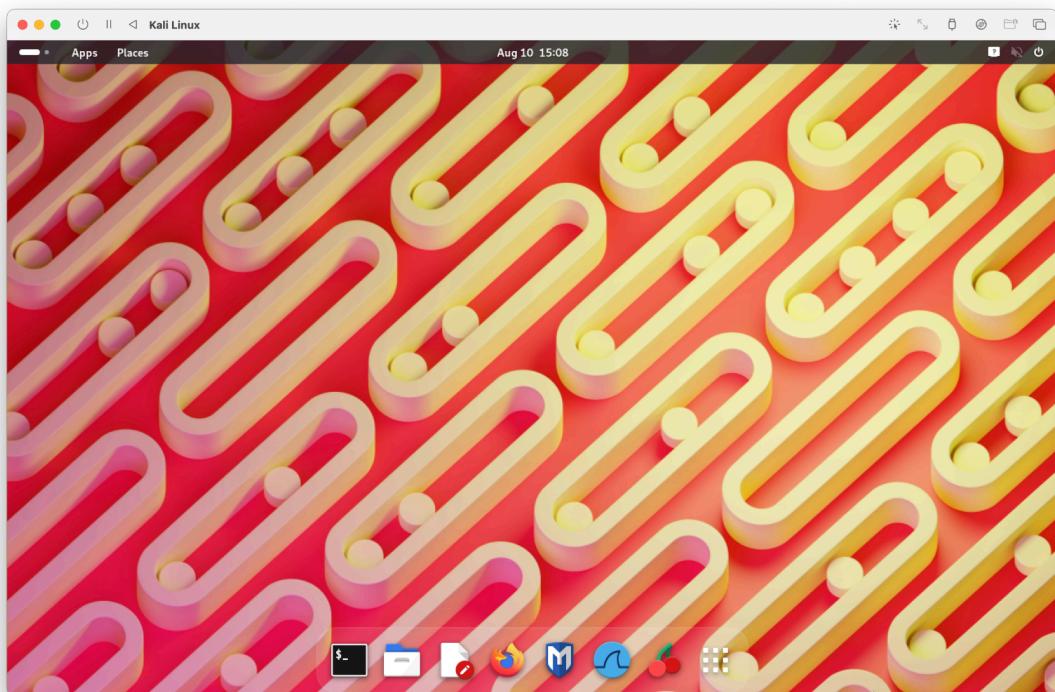
- 1) Installation of virtual box



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## 2) Installation of Kali or Parrot OS, any one Windows flavour OS



# *Lab Manual*

