

CREATING A VIRTUAL MACHINE AND INSTALLING A GUEST OS

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INTRODUCTION:

There exist numerous complexities that could arise in multi-platform applications such as Jalview. It is essential to constantly test such applications across a wide range of supported platforms to ensure full compatibility. This is commonly a challenge as the developers usually work on one platform. To carry out cross-platform testing, developers would need to either:

- Purchase multiple systems with various operating systems as needed or
- Employ virtualisation solutions¹

The former option is very expensive and less practical, while the later is inexpensive and highly practical. This document aims to provide a technical guide for installing a virtualisation software and creating one or more virtual operating system.

THINGS YOU NEED:

1. Virtualisation software
2. Guest OS Image - An ISO image of any OS supported by the virtualisation software

Note: For the purpose of this documentation, I shall employ the following:

- Host OS – Mac OS X
- Virtualisation Software – Virtual Box
- Guest OS - Linux Ubuntu -16.04.2

SETUP STEPS:

1. Download and Install Virtual Box from here - <https://www.virtualbox.org/>
2. Download Ubuntu-16.04.2 from here - <https://www.ubuntu.com/download/desktop>
3. Create a VM for the new guest OS:
 - a. Start Virtual Box
 - b. Click 'New' button on the main tool bar menu
 - c. Provide a name for the new guest OS (i.e. Ubuntu-16.04.2)
 - d. Select guest OS type and version, then click continue
 - e. Allocate memory (I recommend 2048MB or more)
 - f. Create a virtual hard disk using the following settings:
 - Hard disk file type – VDI (Virtual Disk Image)
 - Storage on Physical hard disk – Dynamically allocated

¹ https://en.wikipedia.org/wiki/Comparison_of_platform_virtualization_software

- Hard disk size – (I recommend something above 10GB)
 - File location – use default
- g. Click 'Create' and the new VM will appear on the main left menu bar
4. Next configure and load a guest OS:
 - a. Select the new VM created and click the "Settings" button on the main tool bar menu. This will pop up a new dialog.
 - b. Go to the "Storage" tab
 - c. Add new virtual optical
 - Choose disk
 - Next, select the downloaded ISO from step two
 - Ensure virtual optical drive is set to 'IDE Primary Master'
 - Click 'Ok'
 5. Select the new VM again and click 'Start' button on the main tool bar
 6. Next, follow the standard OS installation to complete the installation.

Note: You can repeat steps 2 – 6 to add as many Guest OS variant as you need, provided that the VM software supports it. More ISO for variants of various OS can be obtained from the links below:

- Linux ISOs – http://linuxlookup.com/linux_iso
- Windows ISOs - <http://windowsiso.net/>
- Other Unix ISOs - <http://www.unixdownload.net/>

SCREENSHOTS



Figure 1: Virtual Box Interface

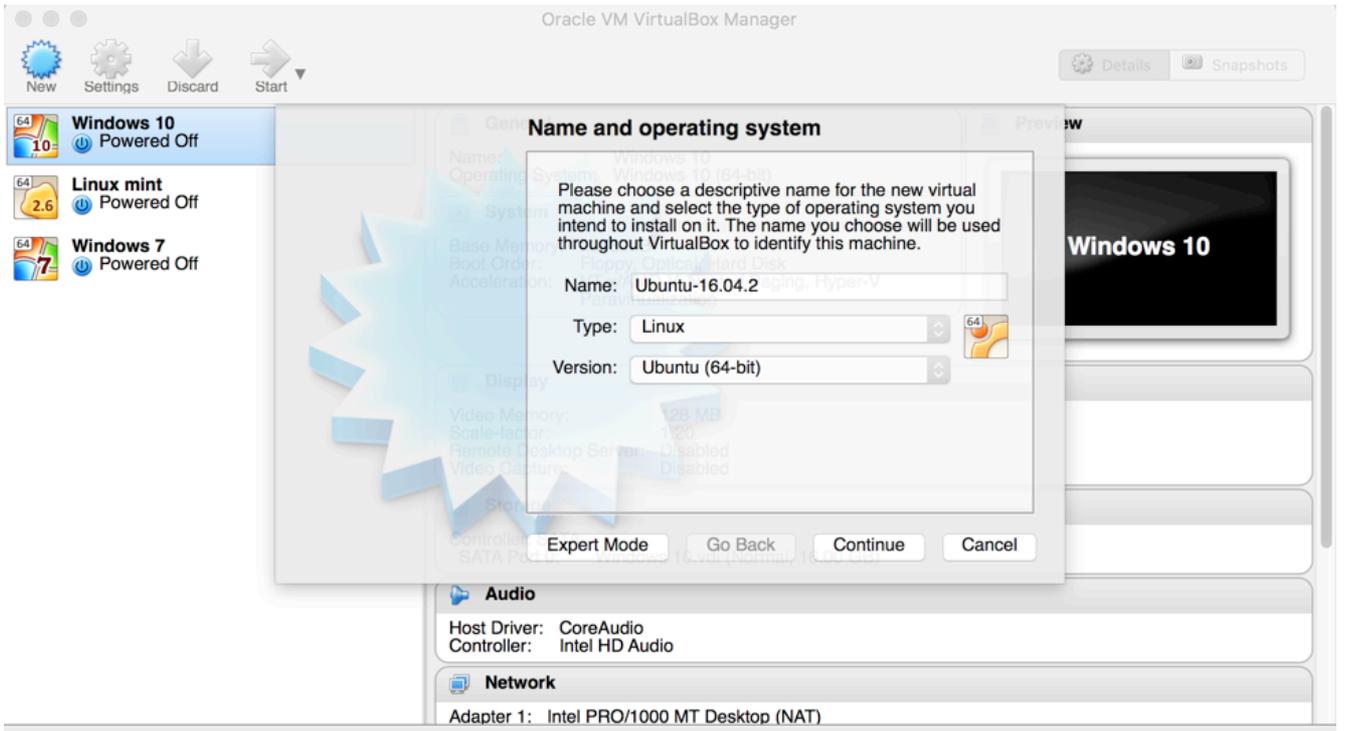


Figure 2: Adding a new VM

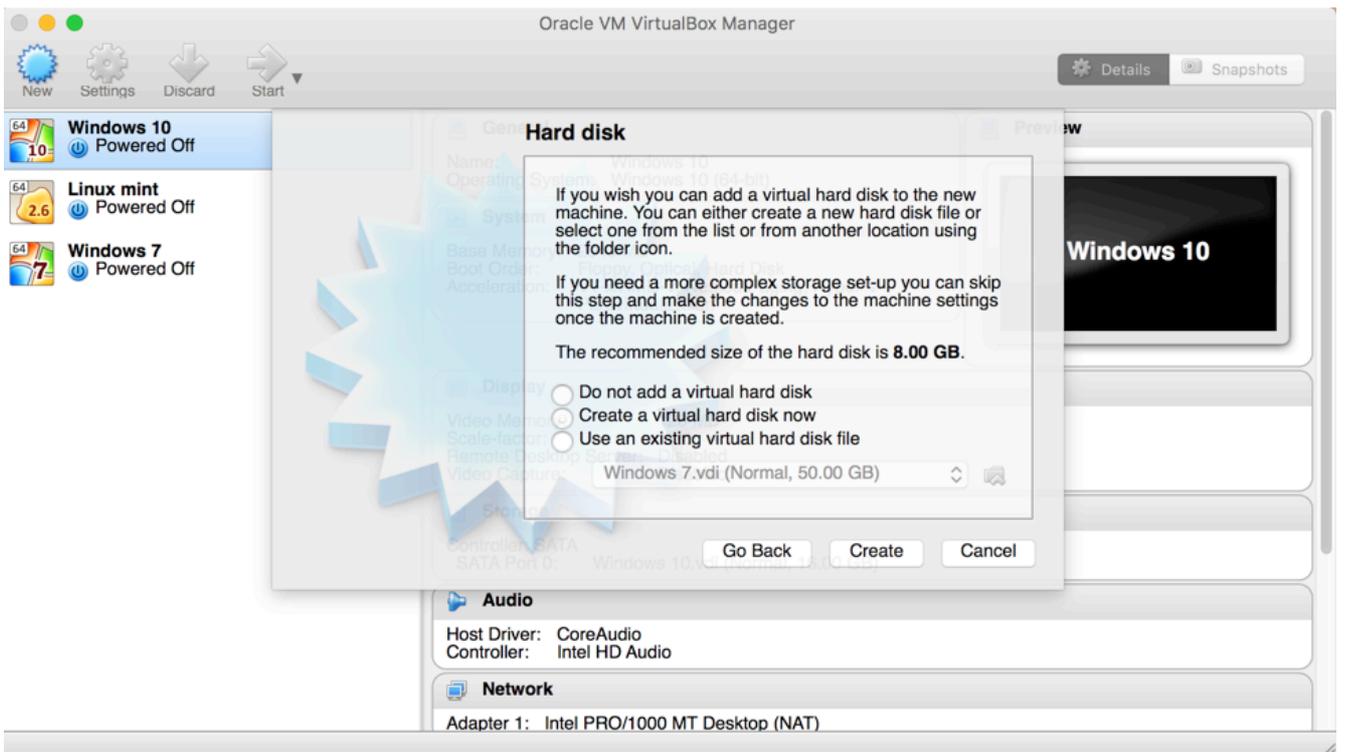


Figure 3: Adding Hard disk for a new VM

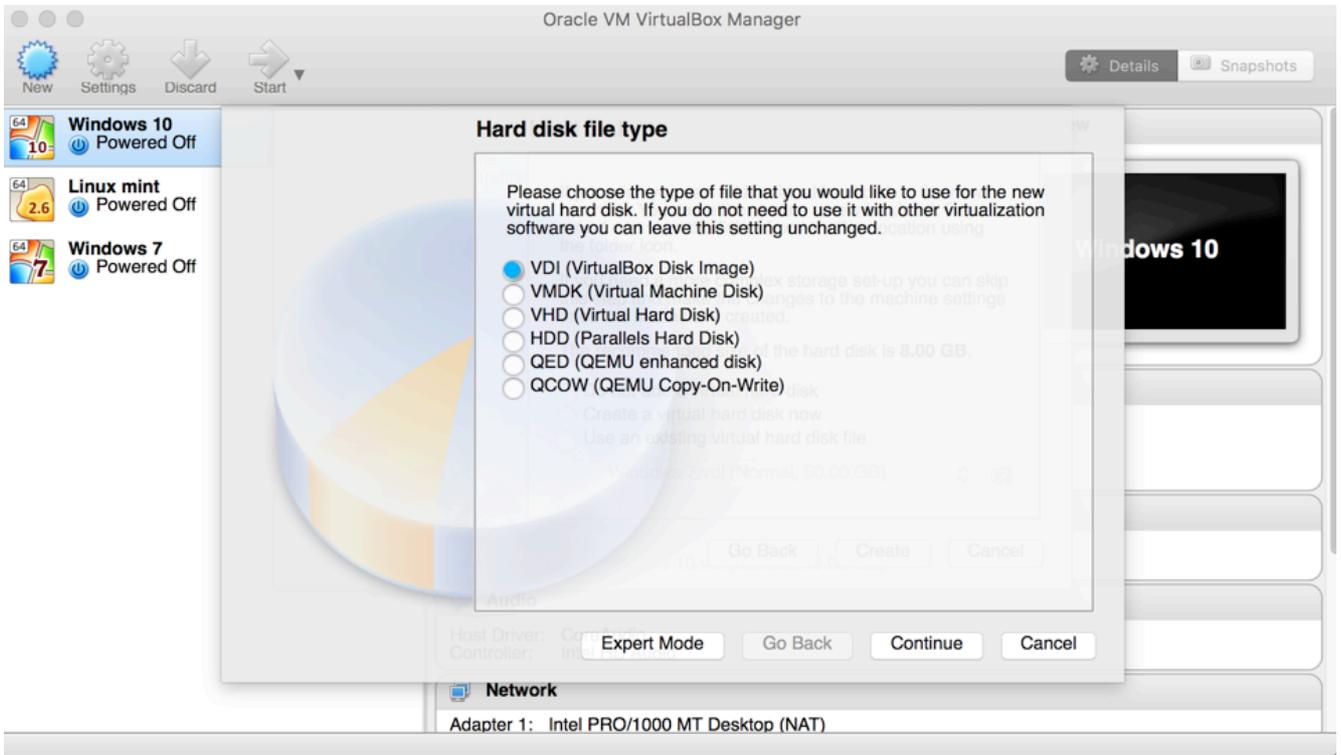


Figure 4: Configuring Hard disk

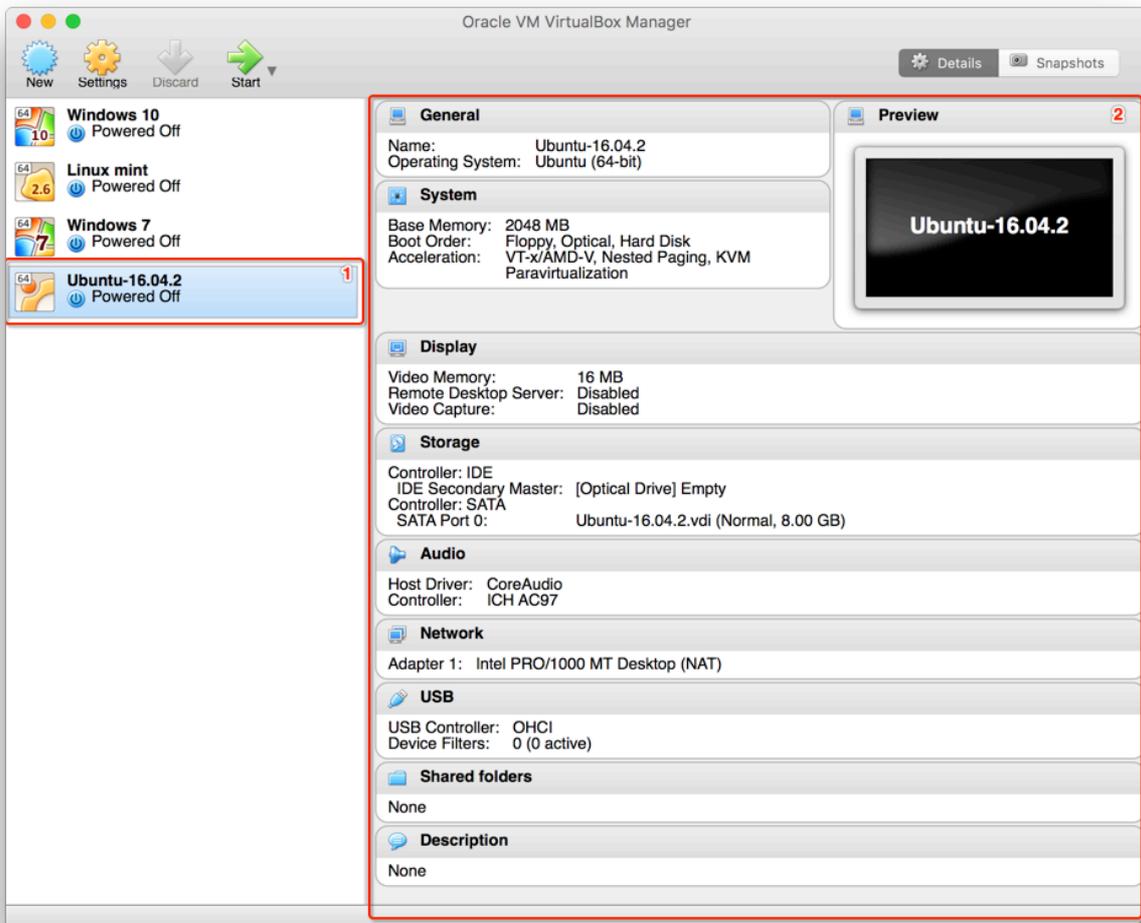


Figure 5: Added VM and its System Information

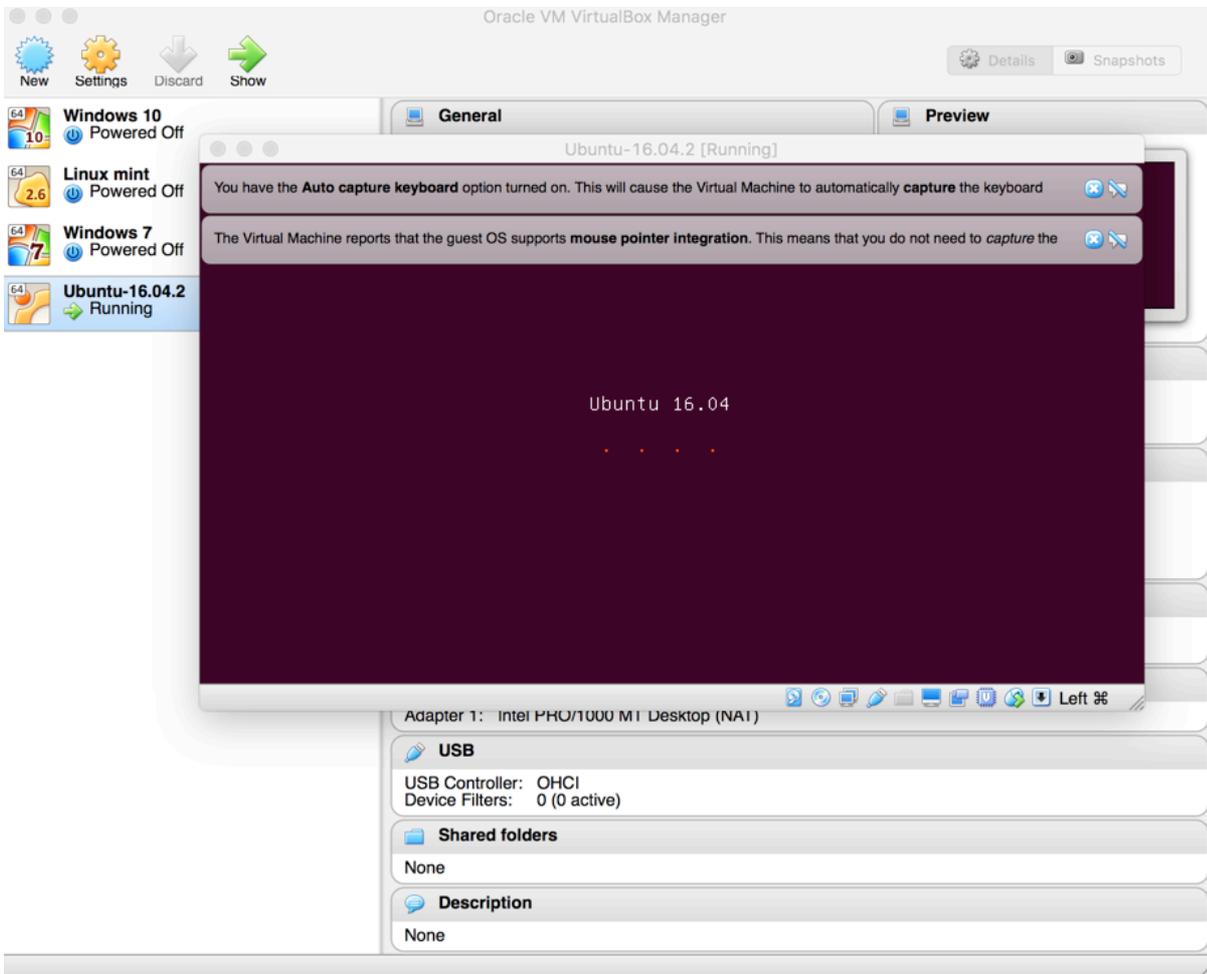


Figure 6: Loading Ubuntu 16.04

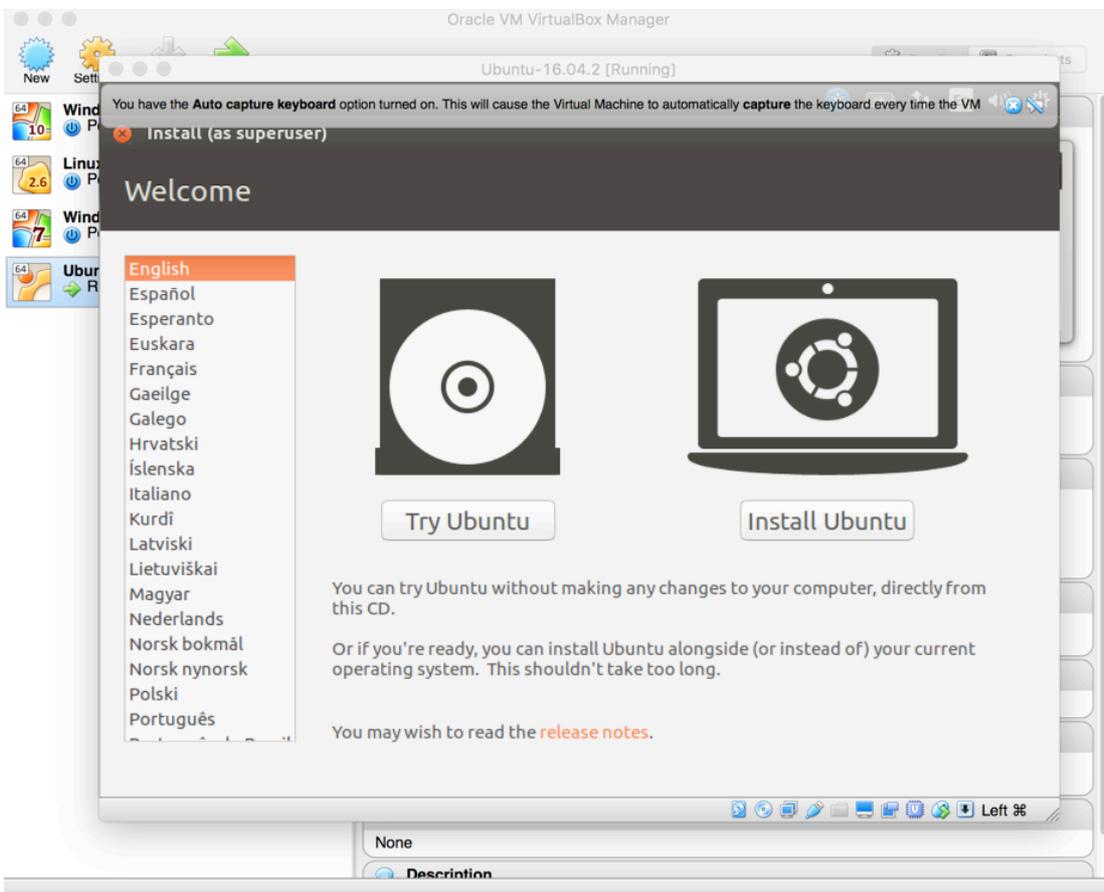


Figure 7: Installing Ubuntu

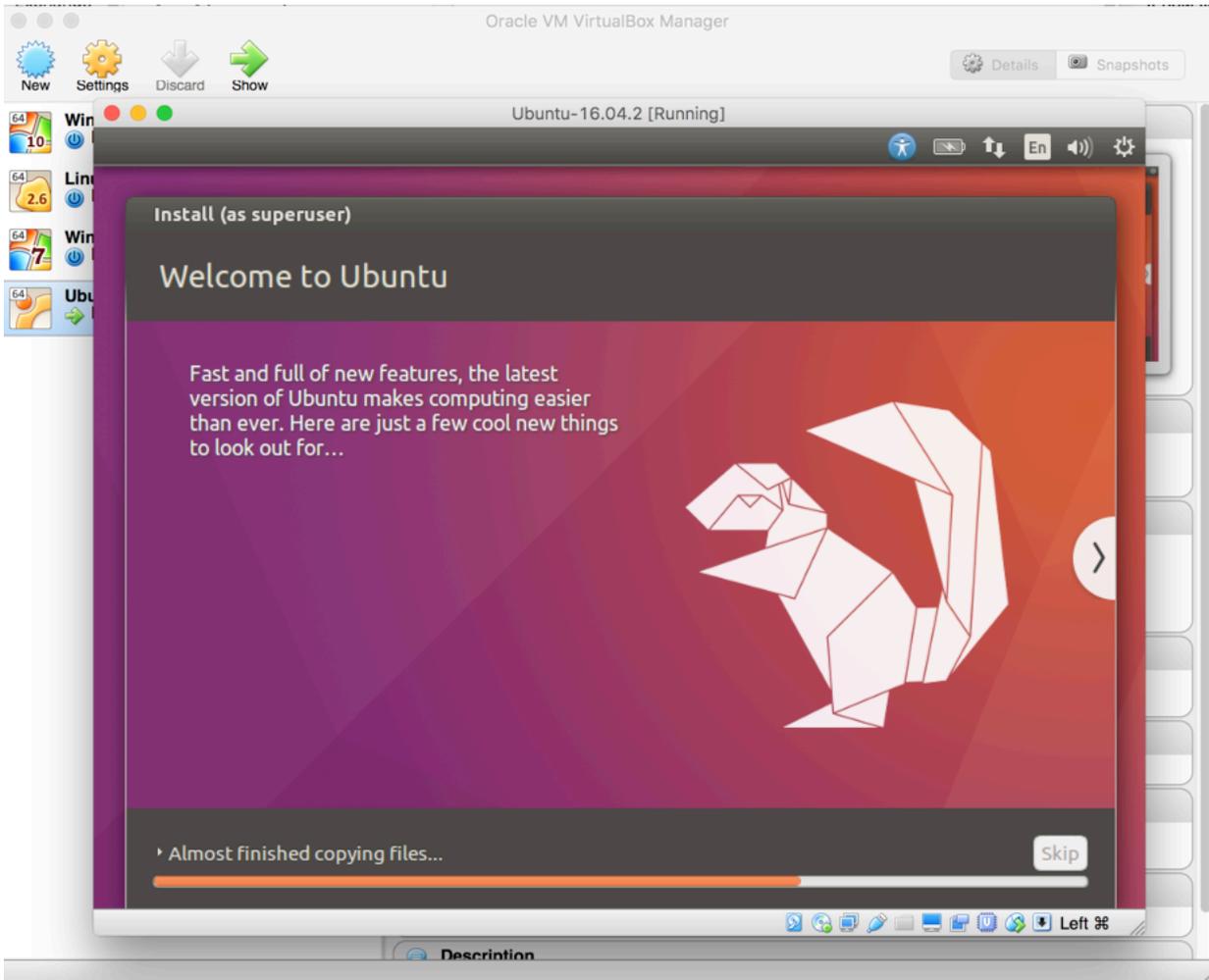


Figure 8: Progressed Ubuntu Installation

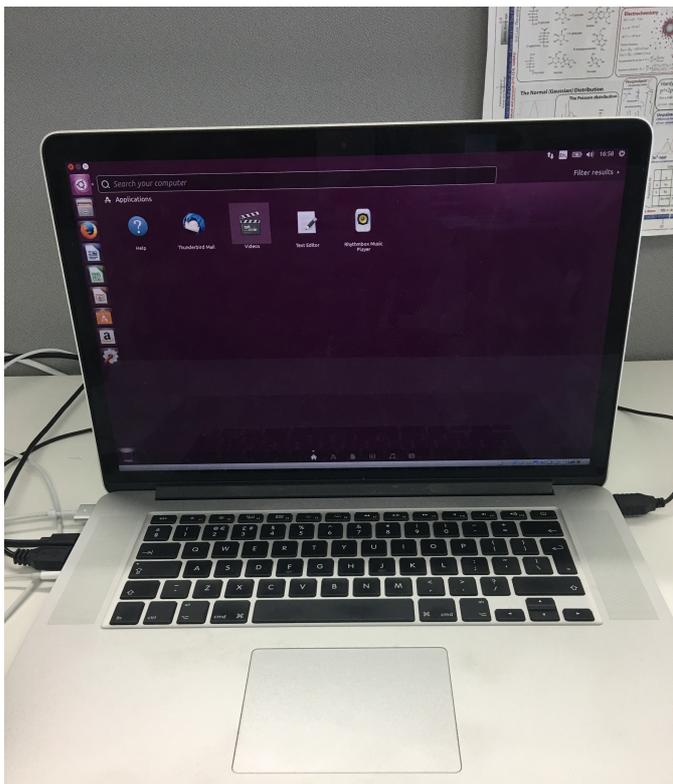


Figure 9: Final Output - Ubuntu OS Guest on Mac OS Host