

Getting Linux

TPC NA 2017

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Preliminaries

My background

- I'm a retired USAF fighter pilot (1987-12-31), and retired engineer (2016-01-01) with ManTech International Corporation (<http://mantech.com>)
- I've used Unix and GNU/Linux and FOSS professionally for over 23 years
- I still use them daily in my personal projects as well as my work on FOSS projects
- Perl 6 is my programming language of choice (since 1993)
- My favorite hobby is supporting the development of Perl 6

- Three color calendars
- Three B and W calendars

This link will get you to some public files for the calendar:

`<https://computertechnwf.org/2017/sessions/>`

Getting Linux

Pros and cons for each:

- Virtual Box
- Live CD/DVD
- Bootable USB drive
- Spare computer (native install; dual or single boot)

We'll use VirtualBox for this presentation

The VirtualBox site

Note:

- the “Downloads” link
- the “End-user docs” link
- the “News Flash” section

The website



The screenshot shows a web browser window displaying the Oracle VM VirtualBox website. The browser's address bar shows the URL <https://www.virtualbox.org>. The website features a blue header with the VirtualBox logo on the left and a search bar on the right. Below the header, there is a main heading "Welcome to VirtualBox.org!" followed by a paragraph describing the product as a powerful x86 and AMD64/Intel64 virtualization solution. A sidebar on the left contains navigation links: "About", "Screenshots", "Downloads" (highlighted with a mouse cursor), "Documentation", "End-user docs", "Technical docs", "Contribute", and "Community". On the right side, there is a "News Flash" section with a list of recent releases, including VirtualBox 5.0.6, 5.0, 4.3.38, 4.3.32, 4.3.30, and 4.3.37.

VirtualBox

Log in

Welcome to VirtualBox.org!

VirtualBox is a powerful x86 and AMD64/Intel64 virtualization product for enterprise as well as home use. Not only is VirtualBox an extremely feature rich, high performance product for enterprise customers, it is also the only professional solution that is freely available as Open Source Software under the terms of the GNU General Public License (GPL) version 2. See "About VirtualBox" for an introduction.

Presently, VirtualBox runs on Windows, Linux, Macintosh, and Solaris hosts and supports a large number of guest operating systems including but not limited to Windows (NT 4.0, 2000, XP, Server 2003, Vista, Windows 7, Windows 8), DOS/Windows 3.x, Linux (2.4, 2.6 and 3.x), Solaris and OpenSolaris, OS/2, and OpenBSD.

VirtualBox is being actively developed with frequent releases and has an ever growing list of features, supported guest operating systems and platforms it runs on. VirtualBox is a community effort backed by a dedicated company. Everyone is encouraged to contribute while Oracle ensures the product always meets professional quality criteria.

News Flash

- **Hot!** **October 2nd, 2015**
VirtualBox 5.0.6 released!
Oracle today released the first 5.0 maintenance release which improves stability and fixes regressions. See the [ChangeLog](#) for details.
- **Hot!** **July 30th, 2015**
VirtualBox 5.0 released!
Read the official [see press release](#) for details.
- **Hot!** **July 28th, 2015**
VirtualBox 4.3.38, 4.3.32, 4.3.30, and 4.3.37 released!
Oracle today released maintenance releases which improve stability and fixes regressions. See the respective [change logs](#) for details.
- **Hot!** **February 2015**

After selecting "Downloads"



The screenshot shows a web browser window with the address bar displaying `https://www.virtualbox.org/wiki/Downloads`. The browser's tab bar shows "Inbox (13,254) - to" and "Downloads - Oracle". The browser's address bar includes navigation icons and a search icon. Below the address bar, there are several folder icons representing bookmarks: "Apps", "ManTech", "BRL-CAD", "CompuTech", "Development", "P&SRR", and another folder icon. The main content area features the VirtualBox logo on the left, which is a blue cube with "ORACLE" and "VirtualBox" text. To the right of the logo is the heading "VirtualBox" in a large, dark blue font. Below this heading is the sub-heading "Download VirtualBox" in a smaller, dark blue font. Underneath, there is a paragraph of text: "Here, you will find links to VirtualBox binaries and its source code." Below this paragraph is another sub-heading "VirtualBox binaries" in a dark blue font. Underneath this sub-heading is another paragraph of text: "By downloading, you agree to the terms and conditions of the respective...". At the bottom of the page, there is a list of links, with the first item being "VirtualBox platform packages. The binaries are released under...". This item has two sub-items: "VirtualBox 5.0.6 for Windows hosts" and "VirtualBox 5.0.6 for OS X hosts". The "VirtualBox 5.0.6 for Windows hosts" link is highlighted in blue, and a mouse cursor is pointing at it.

Inbox (13,254) - to x Downloads - Oracle x

← → ↻ 🏠 <https://www.virtualbox.org/wiki/Downloads>

Apps ManTech BRL-CAD CompuTech Development P&SRR



VirtualBox

Download VirtualBox

Here, you will find links to VirtualBox binaries and its source code.

VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective...

- VirtualBox platform packages. The binaries are released under...
 - VirtualBox 5.0.6 for Windows hosts [x86/amd64](#)
 - VirtualBox 5.0.6 for OS X hosts [amd64](#)

Don't forget the "Extension Pack"

It's for USB 2/3, and it's not distributable.

Inbox (13,254) - to x Downloads - Oracle x
← → ↻ 🏠 <https://www.virtualbox.org/wiki/Downloads> ☆ 📄 ☰
Apps ManTech BRL-CAD CompuTech Development P&SRR Cookbook My Web Sites Other bookmarks



VirtualBox

Log in

Download VirtualBox

Here, you will find links to VirtualBox binaries and its source code.

VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

- **VirtualBox platform packages.** The binaries are released under the terms of the GPL version 2.
 - [VirtualBox 5.0.6 for Windows hosts](#) ⇨ [x86/amd64](#)
 - [VirtualBox 5.0.6 for OS X hosts](#) ⇨ [amd64](#)
 - [VirtualBox 5.0.6 for Linux hosts](#)
 - [VirtualBox 5.0.6 for Solaris hosts](#) ⇨ [amd64](#)
- **VirtualBox 5.0.6 Oracle VM VirtualBox Extension Pack** ⇨ [All supported platforms](#)
Support for USB 2.0 devices, VirtualBox RDP and PXE boot for Intel cards. See this chapter from the User Manual for an introduction to this Extension Pack. The Extension Pack binaries are released under the VirtualBox Personal Use and Evaluation License (PUEL).
Please install the extension pack with the same version as your installed version of VirtualBox!
 - If you are using [VirtualBox 4.1.30](#), please download the extension pack ⇨ [here](#).
 - If you are using [VirtualBox 4.2.32](#), please download the extension pack ⇨ [here](#).
 - If you are using [VirtualBox 4.1.40](#), please download the extension pack ⇨ [here](#).
 - If you are using [VirtualBox 4.6.32](#), please download the extension pack ⇨ [here](#).
- **VirtualBox 5.0.6 Software Developer Kit (SDK)** ⇨ [All platforms](#)
See the [change log](#) for what has changed. You might want to compare the
 - [SHA256 checksums](#) or the

download.virtualbox.org/virtualbox/5.0.6/Oracle_VM_VirtualBox_Extension_Pack-5.0.6-103037.vbox-extpack

Upgrading or installing

When upgrading or installing, you lose network access temporarily. You may have to uninstall an old version when upgrading.

Selecting the Linux distro

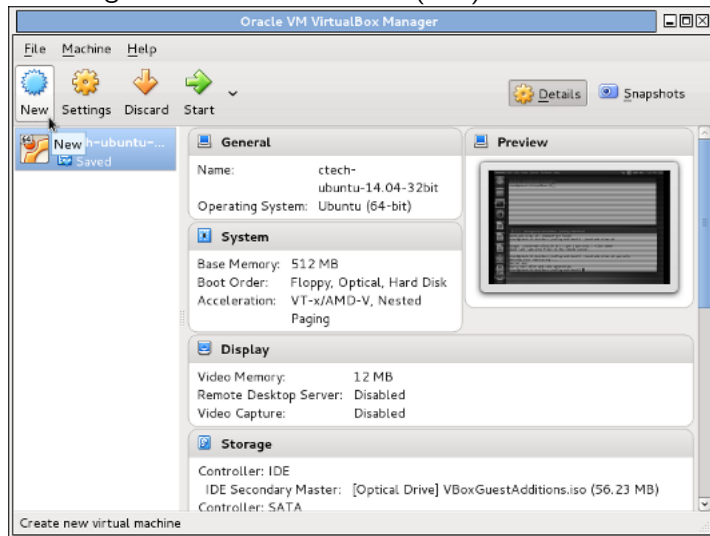
Considerations (* recommended)

- amount of RAM (* 2 GB+)
- 32- or 64-bit (* 64-bit)
- 64-bit guest on 32-bit host? (NOT recommended)
- type network interface (remote access needed?)

Note we have an Ubuntu 32-bit VirtualBox image on the Computer Tech website.

Installing the Linux guest. . .

.Creating a new Virtual Machine (VM)



Create Virtual Machine

Name and operating system

Please choose a descriptive name for the virtual machine. The name you choose will be used throughout the installation process. You can also select the type of operating system you want to install on this machine.

Name:

Type:

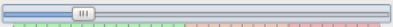
Choose RAM allocation

Create Virtual Machine

Memory size

Select the amount of memory (RAM) in megabytes to be allocated to the virtual machine.

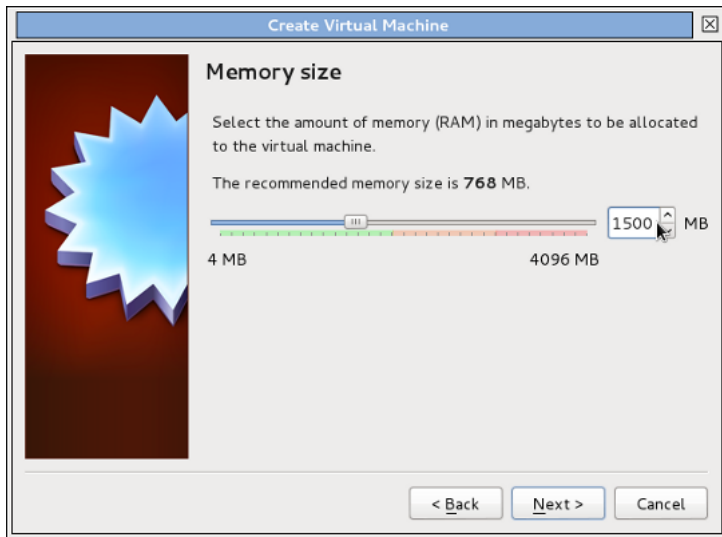
The recommended memory size is **768** MB.

 768 MB

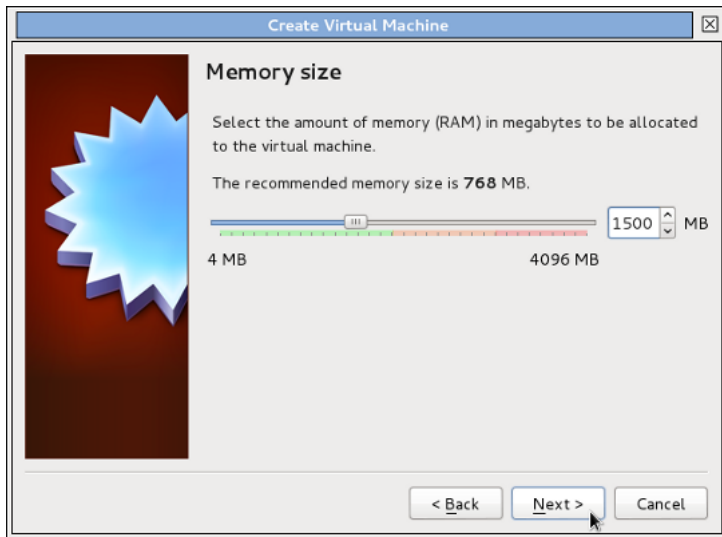
4 MB 4096 MB

< Back Next > Cancel

May need at least 1.5 Gb



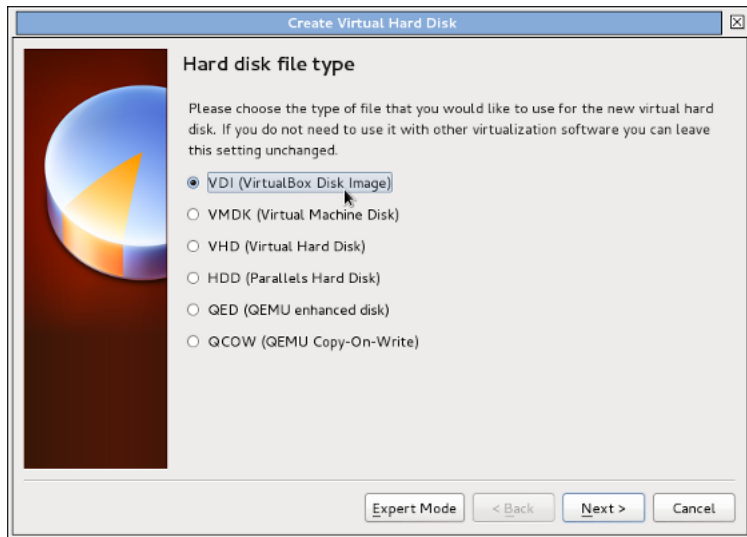
Select "Next"



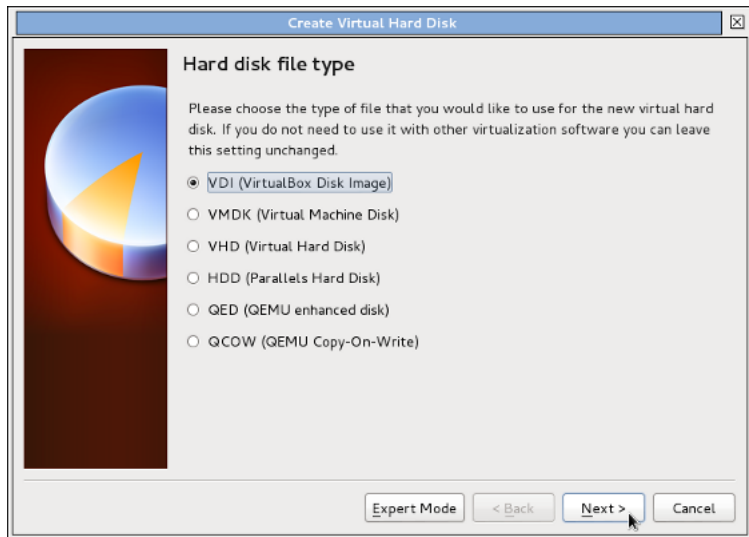
Creating a virtual hard disk



Use the default disk type (VDI)



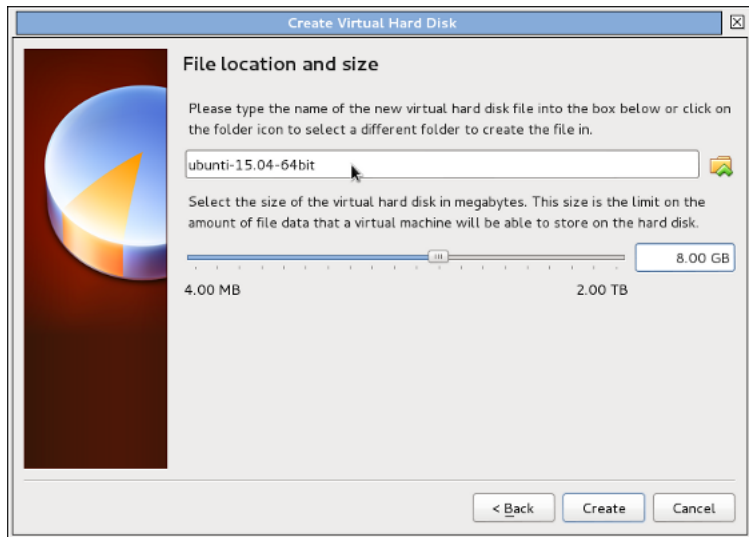
Select "Next"



Choose “Dynamically allocated”

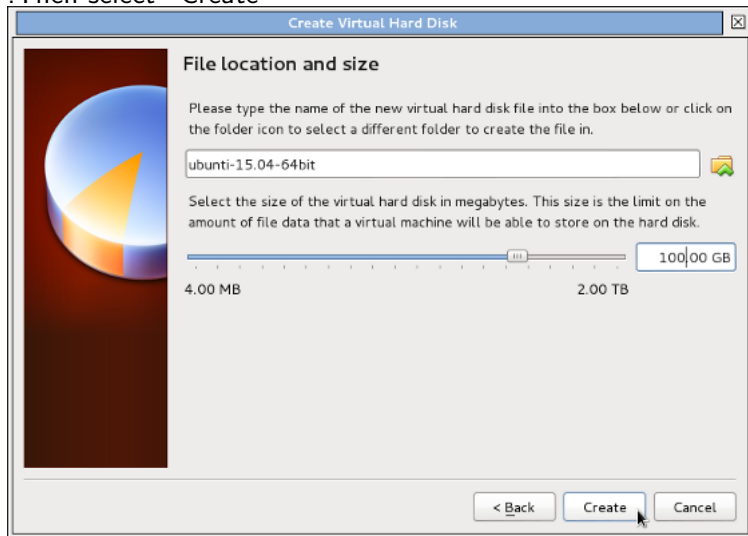


Normally accept the default name



Be generous selecting disk size

.Then select "Create"



The new VM appears in the list

The screenshot shows the Oracle VM VirtualBox Manager interface. At the top, the title bar reads "Oracle VM VirtualBox Manager". Below it is a menu bar with "File", "Machine", and "Help". A toolbar contains icons for "New" (a blue gear), "Settings" (a yellow gear), "Discard" (a grey arrow pointing down), and "Start" (a green arrow pointing right). Below the toolbar is a list of virtual machines. The first VM is "ctech-ubuntu-...", with a status of "Saved". The second VM is "ubuntu-15.04-...", with a status of "Powered Off". To the right of the VM list is a settings panel. The "General" tab is selected, showing the VM's name as "ubuntu-15.04-64bit" and its operating system as "Ubuntu (64-bit)". The "System" tab is also visible, showing settings for "Base Memory" (1500 MB), "Boot Order" (Floppy, Optical, Hard Disk), and "Acceleration" (VT-x/AMD-V, Nested Paging, KVM).

Oracle VM VirtualBox Manager

File Machine Help

New Settings Discard Start

ctech-ubuntu-...
Saved

ubuntu-15.04-...
Powered Off

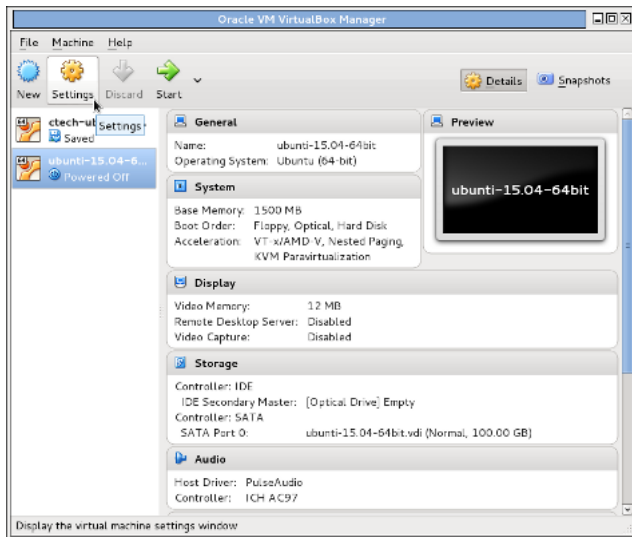
General

Name: ubuntu-15.04-64bit
Operating System: Ubuntu (64-bit)

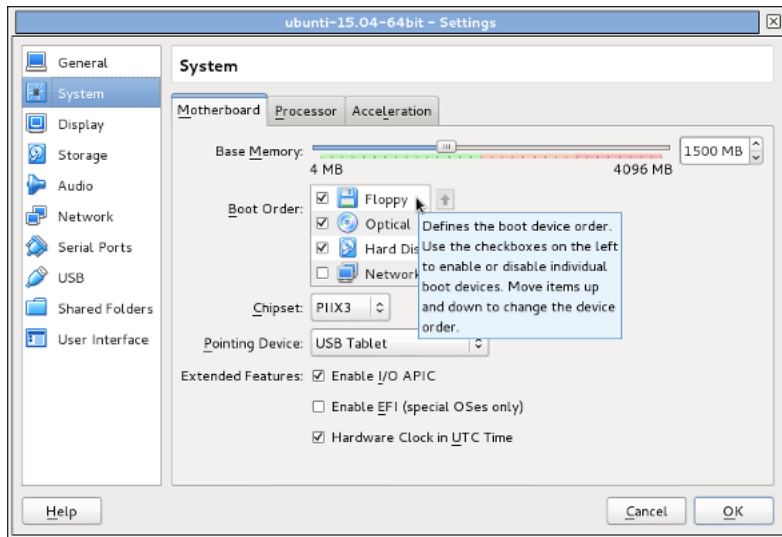
System

Base Memory: 1500 MB
Boot Order: Floppy, Optical, Hard Disk
Acceleration: VT-x/AMD-V, Nested Paging, KVM

More VM settings to be made

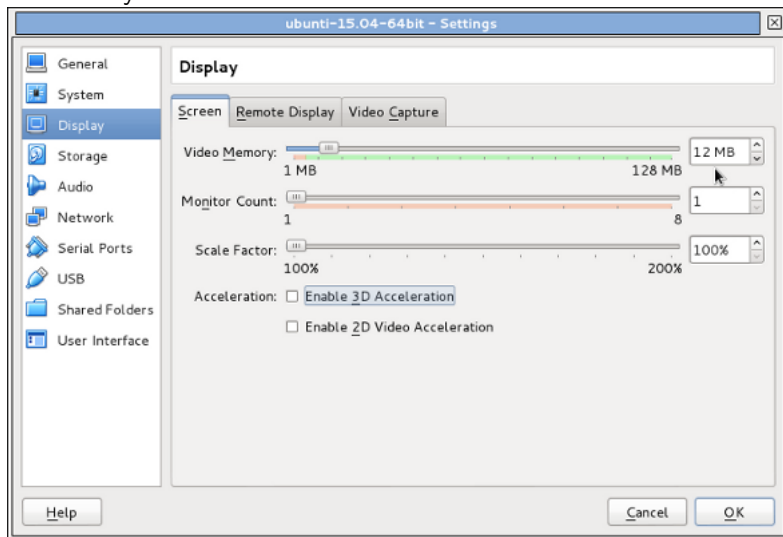


System options



Display options


.I normally choose 24 Mb



Attach the installation CD/DVD

ubuntu-15.04-64bit - Se

 General

 System

 Display

 Storage

 Audio

 Network

 Serial Ports


 USB

 Shared Folders

Storage

Storage Tree

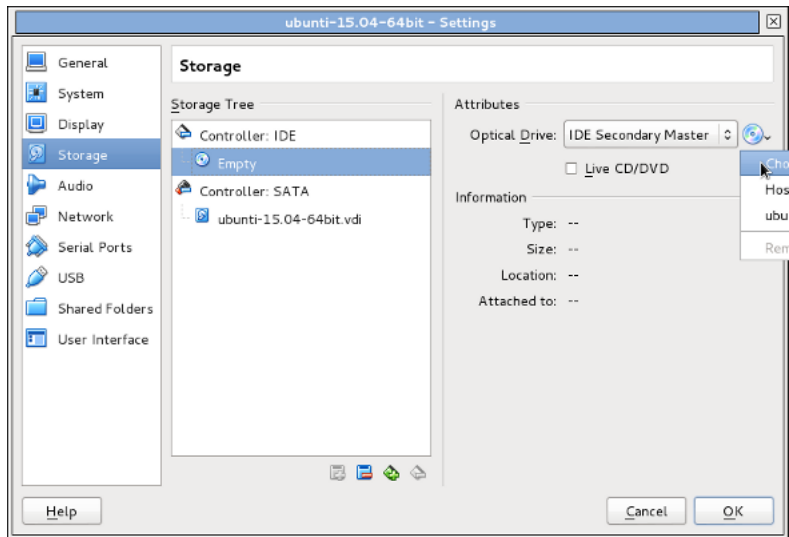
 Controller: IDE

 Empty

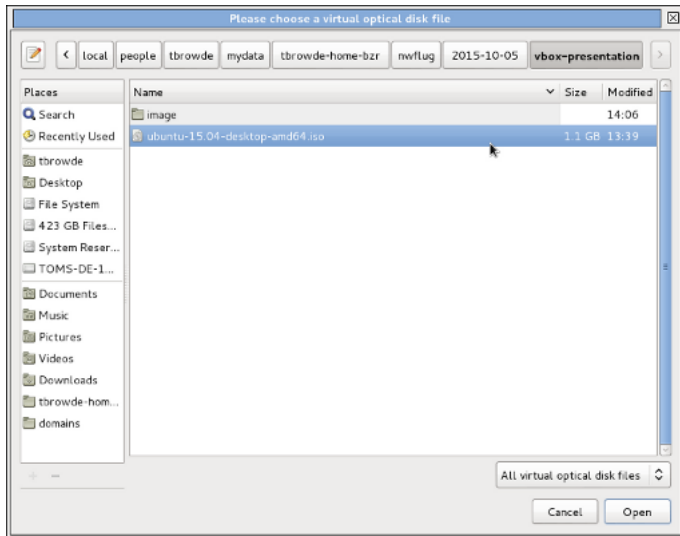
 Controller: SATA

 ubuntu-15.04-64bit.vdi

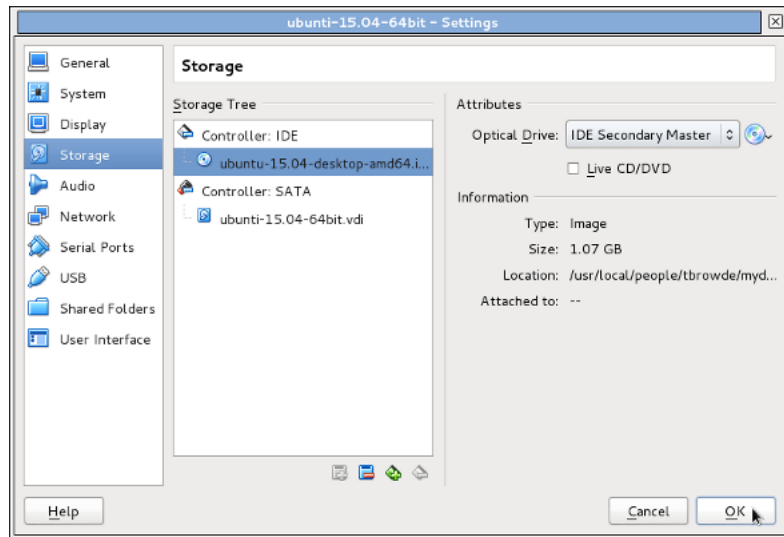
Navigate to the location



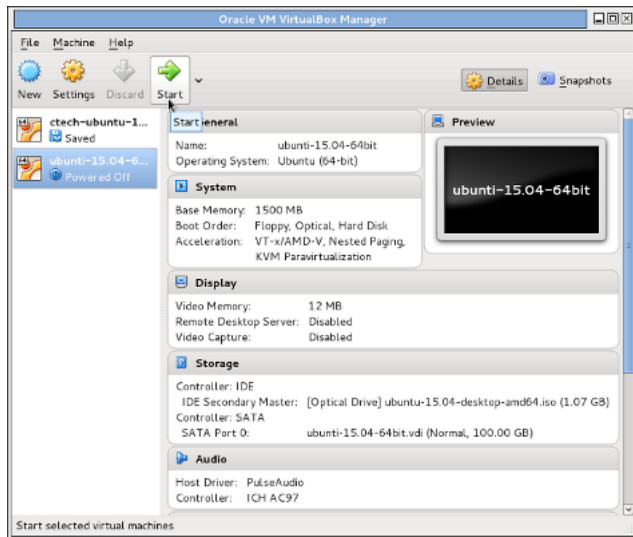
Select the desired CD/DVD



Check the desired CD/DVD shows as attached



Now start the VM



I made a typo on the guest name. We can rename the host easily, but we have to remove the disk and create a new one to rename it, which is too complicated for me.

The easiest thing to do is to start all over again and use the correct spelling OR accept the misspelled hard disk name.

After installation

After starting and finishing the installation, you'll want to install "Guest Additions" to have the windowing and other features work well.

Please experiment and read the excellent documentation—there's much more that can be done to tweak a host but this should get you started.

- A live CD/DVD is the easiest way to test a Linux distro.
- VirtualBox is the easiest way to have and use a Linux distro.
- A bootable USB drive may be even better (I have no experience with it).
- A native installation is best.
- I have a Debian 8 host running on VB on my small laptop.
 - I'll have it at the NWFLUG table after the 1100 session.

- I am glad to help via e-mail (please mention TPC NA 2017 in the subject):
 - [tom.browder@gmail.com]