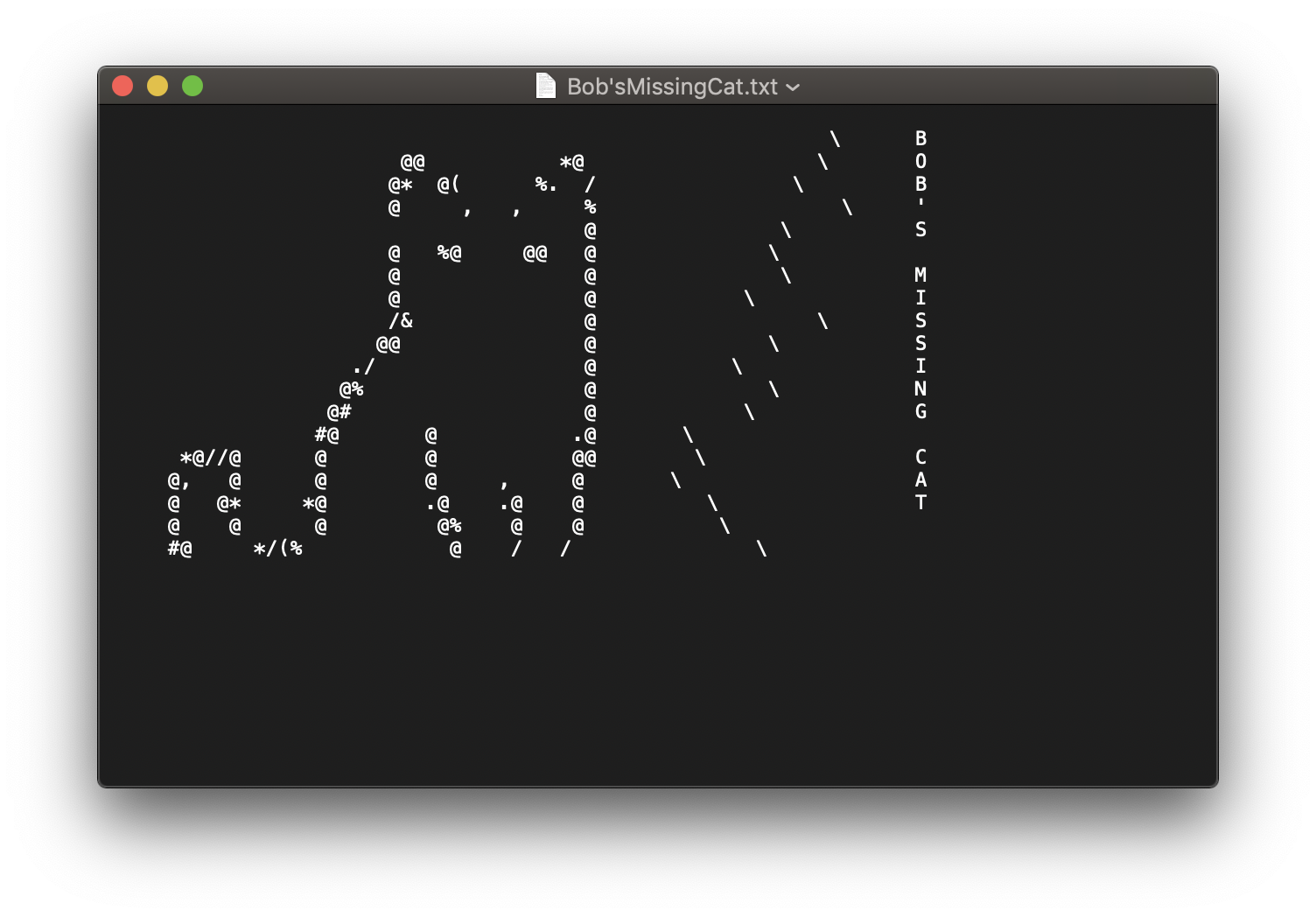
Bob’s Missing Cat

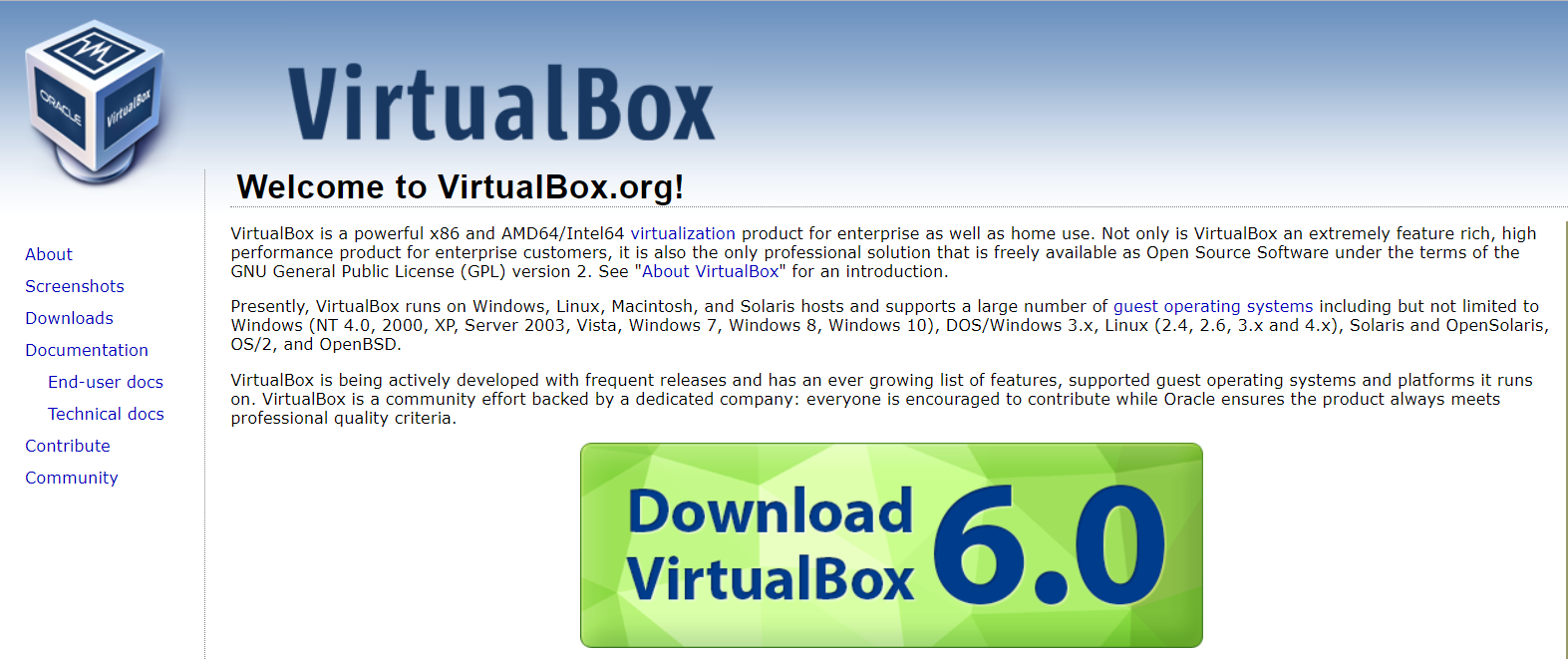


**INSTALL ORACLE VM VIRTUAL BOX**

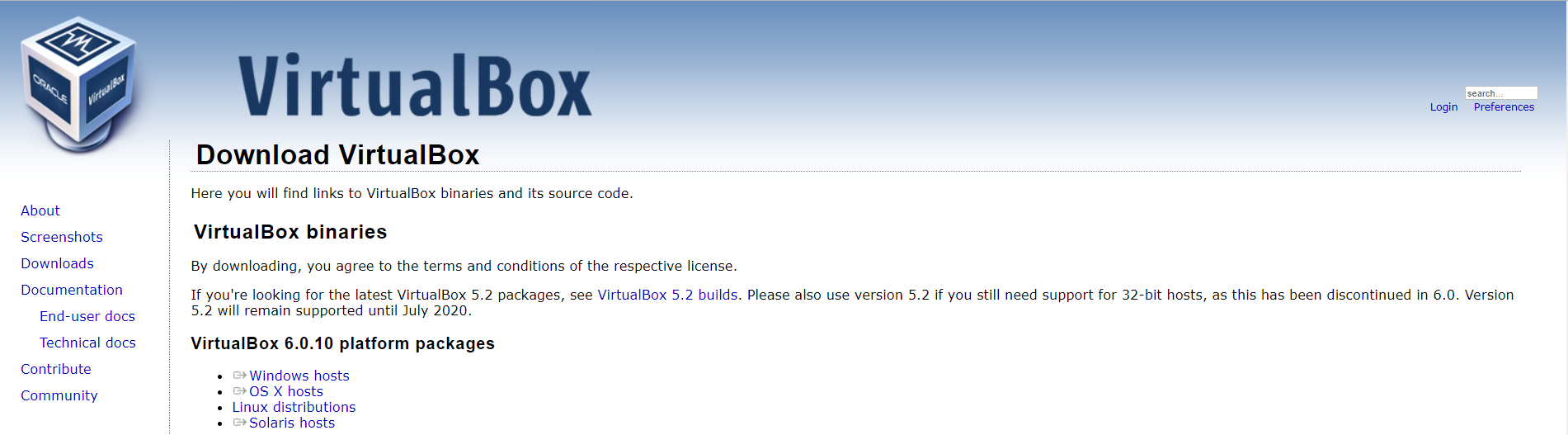
Virtual Box is a ***software hypervisor*** which will run the ***virtual machine*** we have created for this exercise. Follow the link here <https://www.virtualbox.org/> to download.

If you have downloaded and installed software before this should be straightforward. Otherwise we have outlined the steps necessary for install on a Windows ***host operating system*** below. For assistance with download and installation on other supported operating systems, please follow the link here <https://www.virtualbox.org/manual/UserManual.html#installation>.

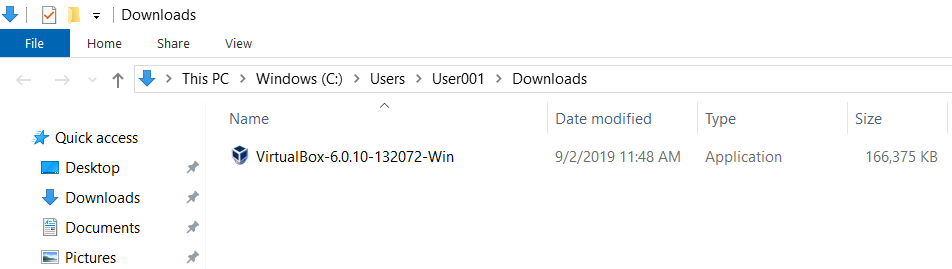
Select the latest version for download on the Virtual Box homepage.

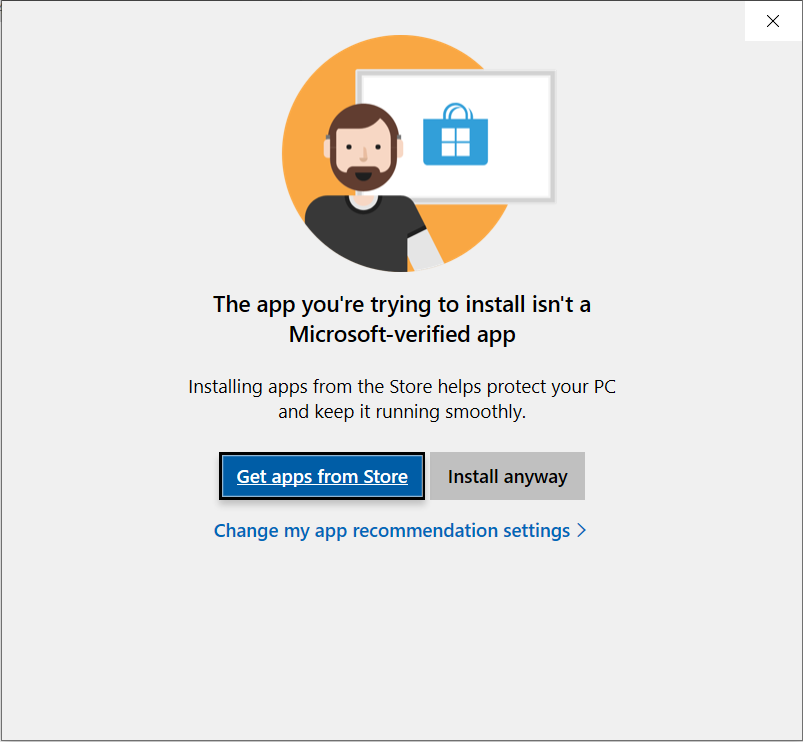


Select Windows hosts listed underneath VirtualBox platform packages to begin the download.

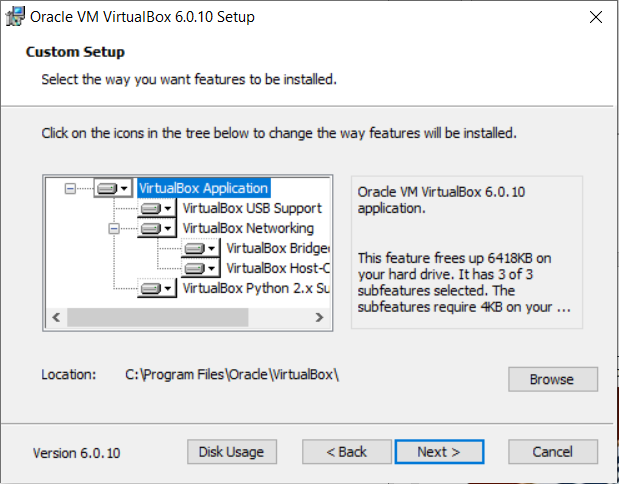
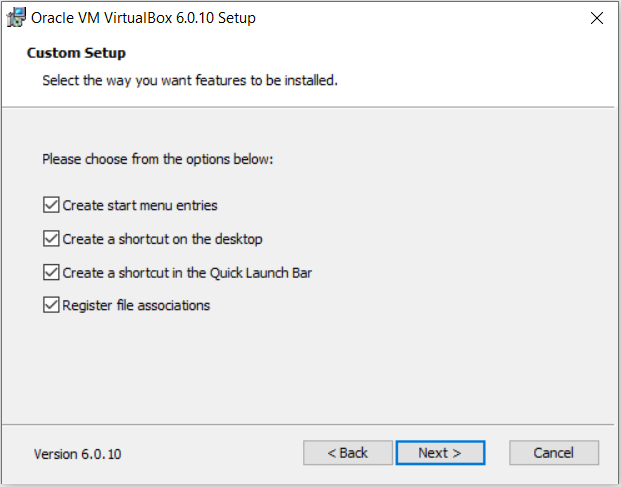


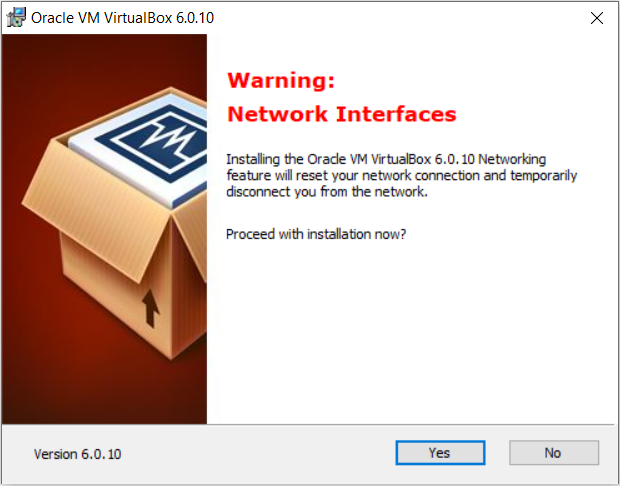
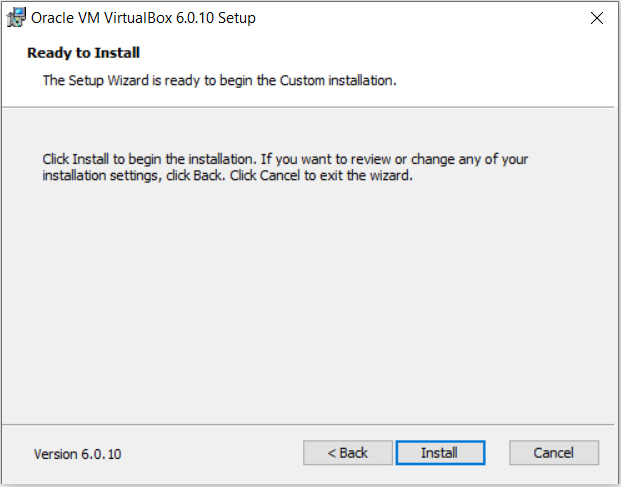
Once the download is complete navigate to your Downloads folder. Double-click the executable (.exe) file or right-click the file and select Run as administrator. You may receive a warning notification, select install anyway to continue. If you receive another notification to allow this device to make changes to your device, select Yes to continue.

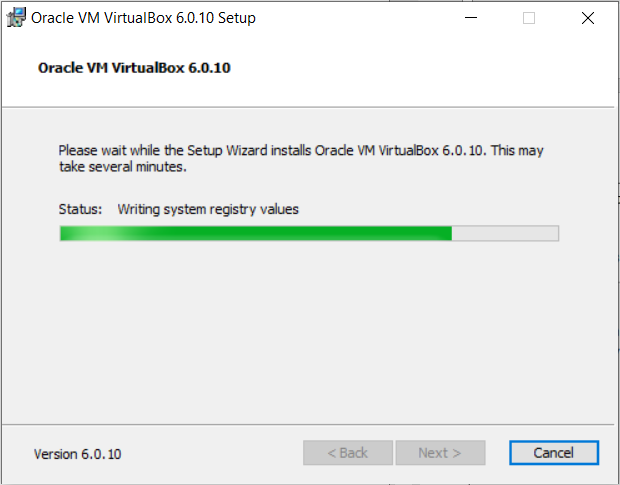
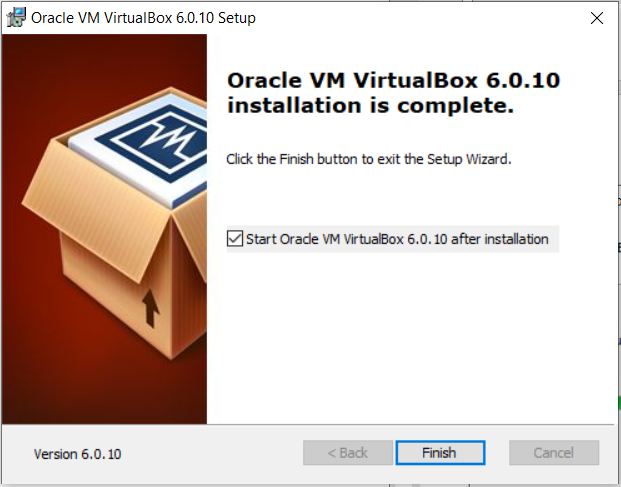


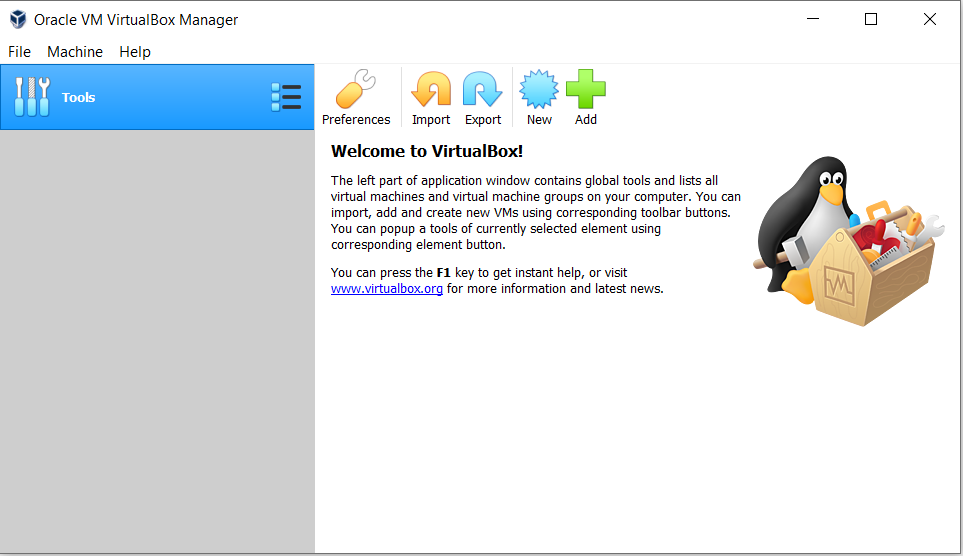
Select Next and accept all the default settings in the Installation Setup Wizard.

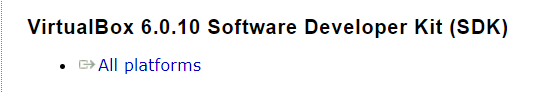
 

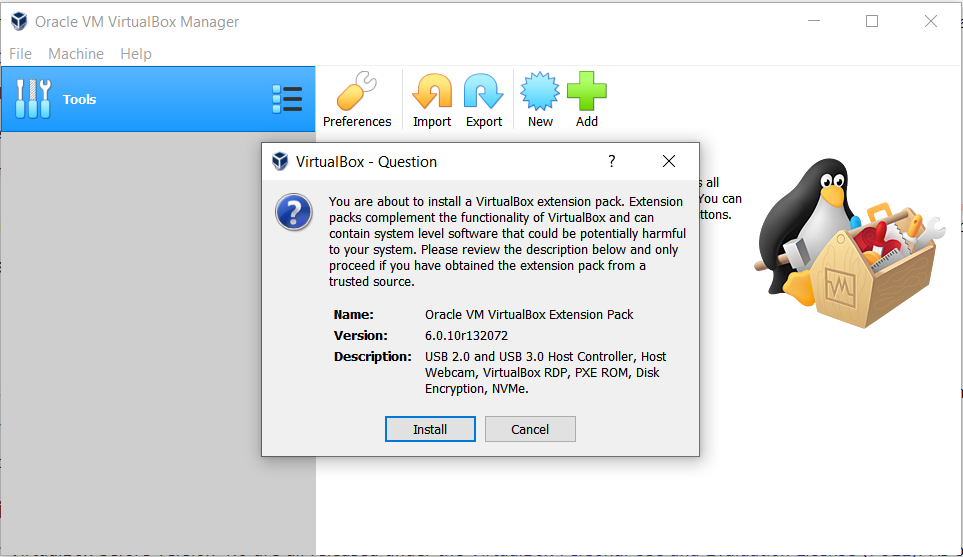
 

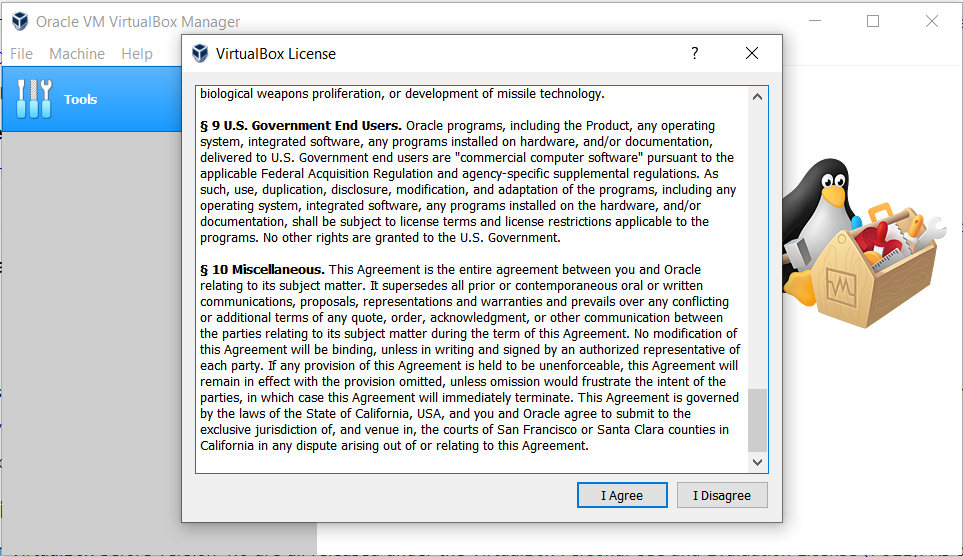
 

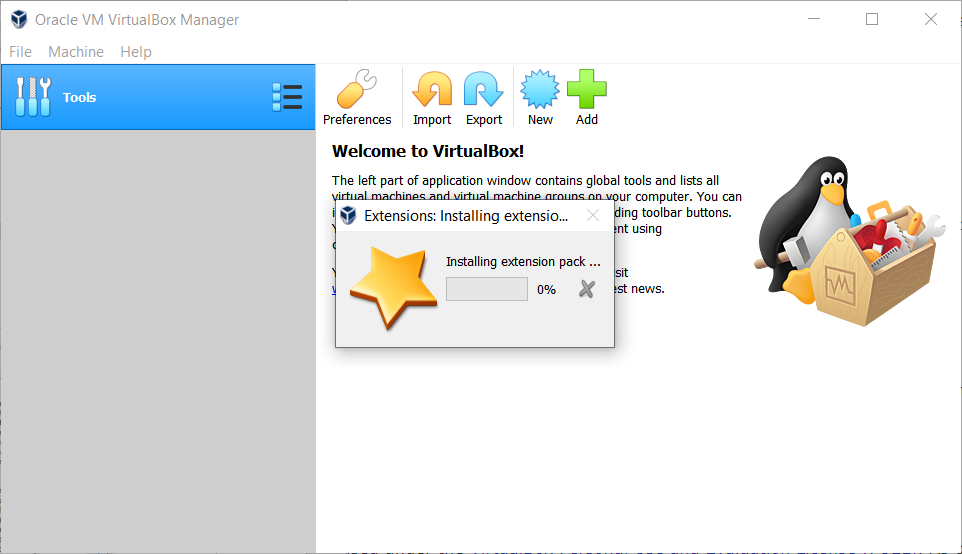
Select Finish when the installation is complete.

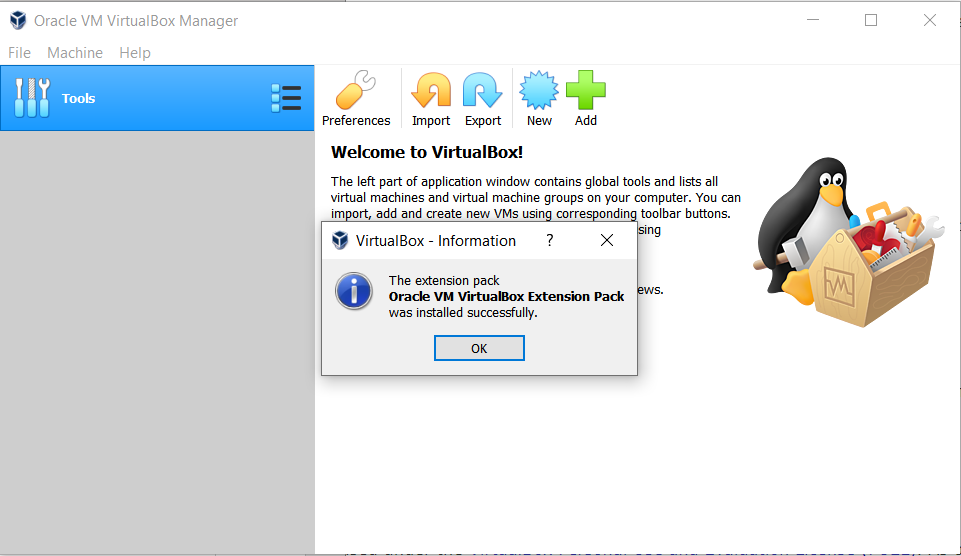












**BOB’S MISSING CAT, PART 1.**

**Note: This machine can be finished with the commands that we teach you.**

You come home from work to discover your beloved cat is nowhere to be found. You will learn some basic commands to navigate the file structure of the virtual machine. We have included some details on the commands you will use, however you may want to do some further self-learning on your own to gain a better understanding of command syntax, options, and arguments.

You are ready to START! Go.

1. **Log into the Virtual Machine by entering the following credentials at the kali login *command prompt***

* Login: bob
* Password: preludec1

**Follow the instructions displayed on the command line interface**

**Let's go home with this command: cd /home**

|  |
| --- |
| **cd**, or change the current working directory, is used to navigate through the Linux filesystem. |
| **Syntax:** cd [option] [directory] |
| **How to:** provide a directory name to the command to move into it.   * You can use a local path, when the location is a subdirectory of the current working directory. * You can move to any directory in the filesystem regardless of it’s location in the hierarchy by using an absolute path, this means describing the location of the directory you want to move into starting from the root directory. * .. two consecutive dots represent the parent directory of your current location. |

1. **“whew, I'm home. I think?” Let's double check.**

**Use these commands to see where you in the directory hierarchy and gain some info about who you are and what day it is: pwd, whoami, date**

|  |
| --- |
| **pwd:** or print working directory, outputs the location of the directory the user is currently working within as an absolute path. |
| **whoami:** outputs the username of the owner of the current session. |
| **date:** outputs the system date and time |

1. **Let's look at what's in your home. Is your cat home?**

**Use the ls command to look around inside your current directory.**

|  |
| --- |
| **ls:** lists the current directories contents, including subdirectories and files alphabetically. |

Take a look around and explore the inside of your home using the commands you have learned so far. If you get lost you can always return to the starting location with the absolute path of the home directory, just use the same command from before **cd /home** and verify your location using **pwd**.

if you would like to clear the contents of your screen you can use the **clear** command at any time.

|  |
| --- |
| **clear**: used to clear the contents of the screen. |

1. **Can’t find it. Where is the cat? Try calling out for it?**

**Use the echo command to call for the cat: echo “Cat where are you?”**

|  |
| --- |
| **echo**: will output the line of text you give the command to the screen. |

1. **Let's try to find the cat.**

**Navigate to the bedroom and look under the bed! (Use cd to move around, ls to list what is in the directory, and pwd to confirm your current location.)**

**Whoa! It’s a mess, maybe he’s hiding there.**

1. **How about we try using a special command to find the cat.**

**Use the ls -la command. The -la option reveals hidden files.**

|  |
| --- |
| **ls -la:** the -l option is used for the long listing format, which includes additional details on the contents of this directory. |
| The -a option will include hidden files in the output. They are identified with a . at the beginning. |

1. **Darn! Still can't find the cat, but we did find her favorite cat toy hidden under the bed. Maybe if we try the cat toy the cat will come to us.**

**Use this command to run the .cattoy script to use the cat toy.** **./.cattoy.sh**

Remember that the .cattoy script is hidden and has a period in front of it. Make sure to include the full filename when running the script.

A script is a sequence of commands put into a single executable file.

1. **When the cat disappears, he is usually hiding in the kitchen.**

**Navigate into the kitchen using cd /home/kitchen/fridge.**

**Use ls -la to find the catnote.txt**

**It looks like your sweet cat did leave a note!**

**Use the cat command to read the note the cat left you. cat catnote.txt**

|  |
| --- |
| **cat**: displays file contents to the screen. |

**This doesn't look good. She usually never leaves a note with exclamations and question marks!**

1. **Let’s move the note into the bed directory, where we will know to find it later.**

**Use the following command to move the cat note from the fridge to the bed: sudo mv .catnote.txt /home/bedroom/bed.**

|  |
| --- |
| **sudo**: gives an authorized user temporary ***root*** permission. |
| **mv:** used to move and/or rename files and directories. |

**Verify the note is no longer in the current directory using the ls -la command.**

1. **Let’s go back to the bed and verify that the file was moved there.**

**Use the following command to navigate directly to the bed from the fridge using the absolute path:** **cd /home/bedroom/bed.**

**Use ls -la to verify that the .catnote.txt is there.**

1. **Let’s make a catbox, where we can store the .catnote.txt for safekeeping.**

**Use the following command to create a new subdirectory in the bed directory: sudo mkdir catbox.**

|  |
| --- |
| **mkdir:** “make directory” used to create new directories. |

**Put the .catnote.txt into the catbox.**

**Use the same mv command from before, this time using a local path: sudo mv .catnote.txt catbox. Verify the changes were made using ls -la.**

1. **You still haven’t been able to locate your cat anywhere! It’s getting late, maybe you should get some rest before continuing your search.**

**Go to the bed and run the .sleep.sh script using the following command ./.sleep.sh.**

1. **Let's leave a note for your cat just in case she comes back while you're gone. Navigate to the fridge since this is where you and your cat leave notes to each other.**

**Get to the fridge using cd /home/kitchen/fridge**

**Use the following command to write the note sudo nano noteforcat.txt.**

|  |
| --- |
| **nano**: easy to use text editor. |

**Write whatever you would like in the note to your cat. When you are done use the following command to save your note and exit the text editor.**

**Ctrl + O, Enter**

**Ctrl + X**

1. **Let's leave the house through the front door. Oops its locked.**

**Use the command sudo chmod 777 frontdoor to allow ourselves out.**

|  |
| --- |
| **chmod**: aka change mode, allows an administrative user to modify permissions per file or directory. |

1. Read the note left in the frontdoor directory.

**INDEX**

**For more definitions and further reading we recommend The Linux Information Project** <http://www.linfo.org/index.html>.

**Commands:** instructions given to a computer at the command line to do something. The usual syntax of a command is the command name followed by an option and arguments. Options and arguments are optional, while some commands have no options available.

* syntax: [command] [option] [arguments]

**Command line interface:** (aka CLI) text only display interface for Linux operating systems, more powerful than the better-known graphical user interface (GUI).

**Command prompt:** normally displayed at the end of some text to let the user know the computer is ready to accept instructions.

**Directory:** folder that contains more directories or files, and all the information about them used to structure the computer system in an efficient way.

**Host operating system:** the operating system of the physical computer on which you will install Virtual Box.

**Root:** (aka superuser) administrative user account which has privileges to all commands and ability to make changes to the system.

**Software hypervisor:** (aka hosted hypervisor) allows a computer to run multiple operating systems on top of the existing operating system, along other applications.

**Virtual machine:** (aka guest operating system) an emulated computer system which shares the hardware resources of the host OS, while functioning as a separate physical computer.