

Project 1: Environment Setup

In this exercise, you will be working in an Ubuntu 16.04 virtual appliance, which is provided with the download.

Follow the steps accordingly for **Windows** vs. **Mac**

Windows:

The file will look something like this:

2vYOIVYkEei6-Q5oMldTA_db109ab0562411e893fa877286bab8c4_Ethereum.tar

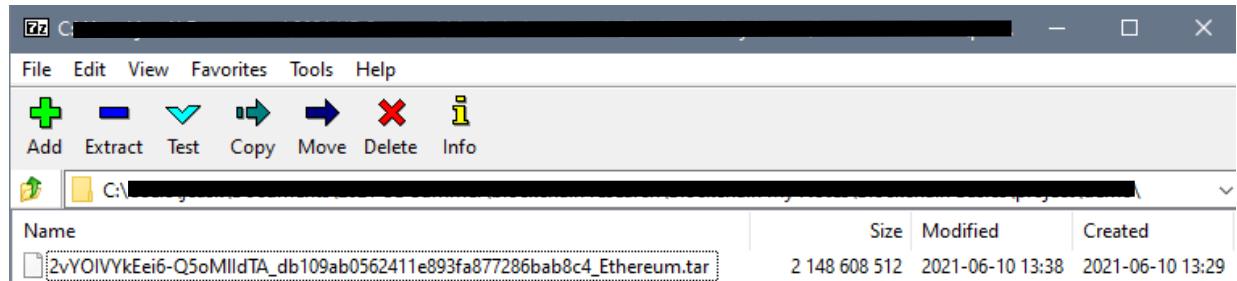
This is a **.tar** file, a compressed filetype similar to a Windows **.zip** file. Like a **ZIP** file, the contents need to be extracted before being used.

1. Download a free program called **7-Zip**. There are two versions, one for 32-bit processors and one for 64-bit processors. Select the Download link corresponding to your processor. (If you don't know which your processor is (for Windows 10 users), open Settings -> System -> About).

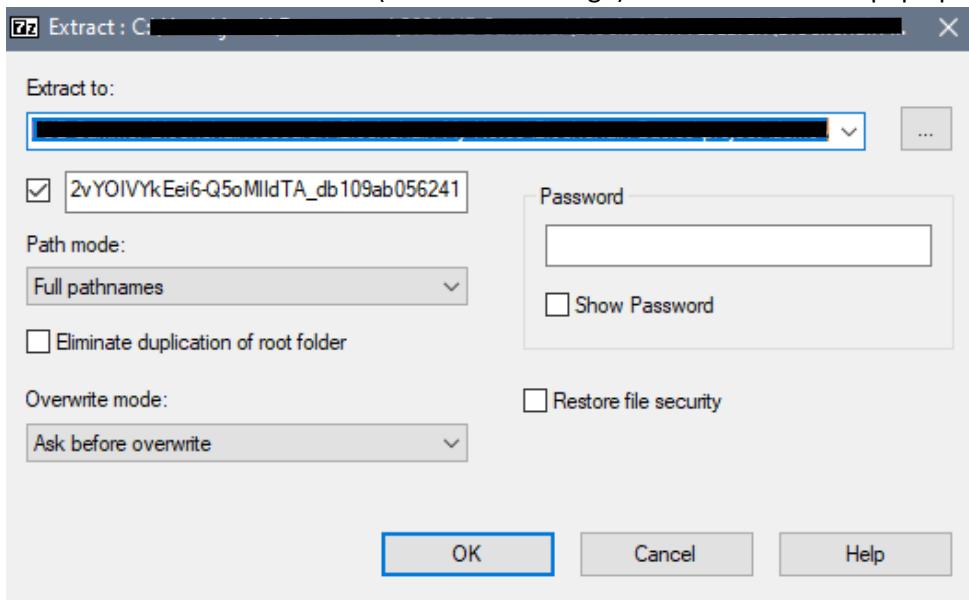
The screenshot shows the official 7-Zip website. The main header features the 7-Zip logo. Below it, a descriptive text states: "7-Zip is a file archiver with a high compression ratio." A prominent call-to-action button says "Download 7-Zip 19.00 (2019-02-21) for Windows". To the left, a sidebar menu includes links for Home, 7z Format, LZMA SDK, Download, FAQ, and Support. On the right, a table provides download links for different architectures:

Link	Type	Windows	Size
Download	.exe	32-bit x86	1.2 MB
Download	.exe	64-bit x64	1.4 MB

2. Open 7-zip and navigate to where the **.tar** file is stored.

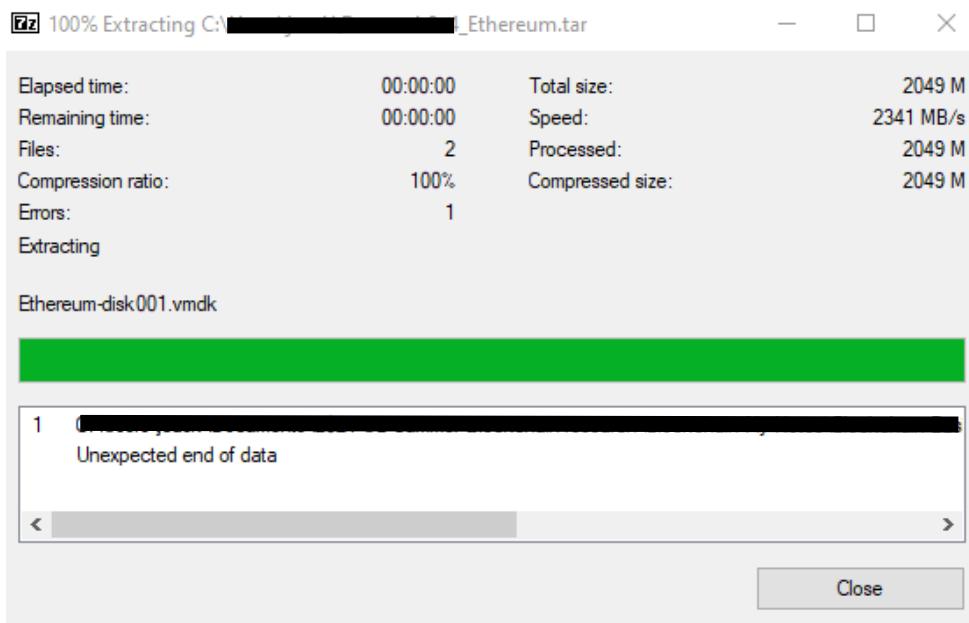


3. Select the file and click **Extract** (the blue minus sign). A new window will pop up:



4. Click **OK**.

5. When the green bar is full, click **Close**.



6. There should now be a folder next to the .tar file of the same name.

Name	Date modified	Type	Size
2vYOIVYkEei6-Q5oMIdTA_db109ab056241	7/17/2021 2:58 PM	File folder	
2vYOIVYkEei6-Q5oMIdTA_db109ab056241	6/10/2021 1:38 PM	TAR File	2,098,251 KB

7. Enter it, and you should see two files.

Name	Date modified	Type	Size
Ethereum.ovf	5/12/2018 5:19 AM	Open Virtualizatio...	11 KB
Ethereum-disk001.vmdk	5/12/2018 5:19 AM	Virtual Machine Di...	2,098,239 KB

8. For the later steps of this project while importing to VirtualBox, you'll select the **Ethereum.ovf** file.

Mac:

1. The **Ethereum.ova** file should be downloaded and stored in an OVA format. This is what you will use for importing to VirtualBox.

Importing the Virtual Machine

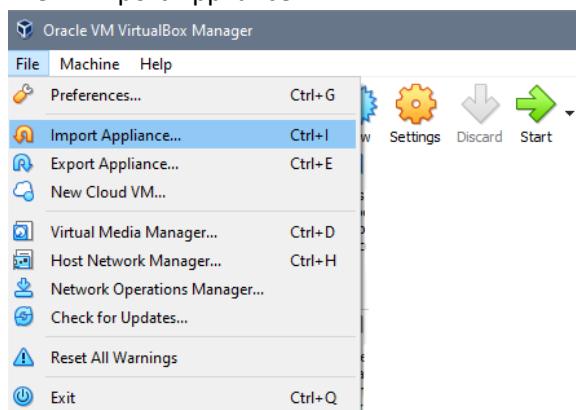
Now that the .tar file is extracted, we'll move on to installing [VirtualBox](#). This **.ovf/.ova** file contains the guest Ubuntu (Linux) operating system with all the installations necessary to run a full Ethereum Node (along with the .vmdk file).

VirtualBox will create a Virtual Machine instance, separate from your computer, to run the Node.

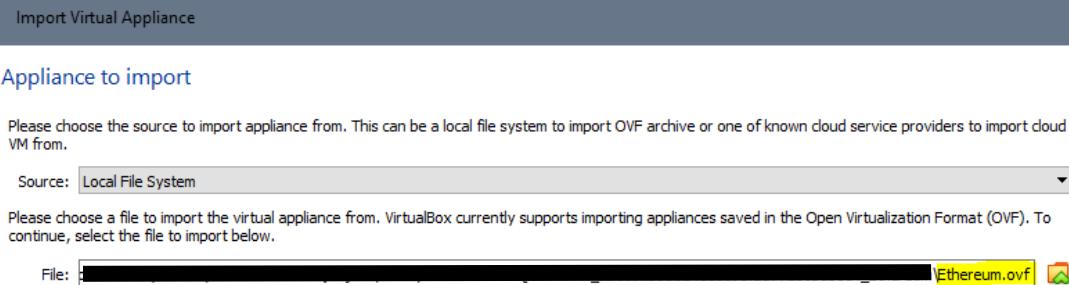
1. Download VirtualBox from this link:
<https://www.virtualbox.org/wiki/Downloads>
 - a. **Windows users** – Open the download file as an Administrator to install, otherwise the virtual machine may not connect to the Internet.

Next, you will need to install **Ethereum.ovf** (Windows) or **Ethereum.ova** (Mac) into VirtualBox.

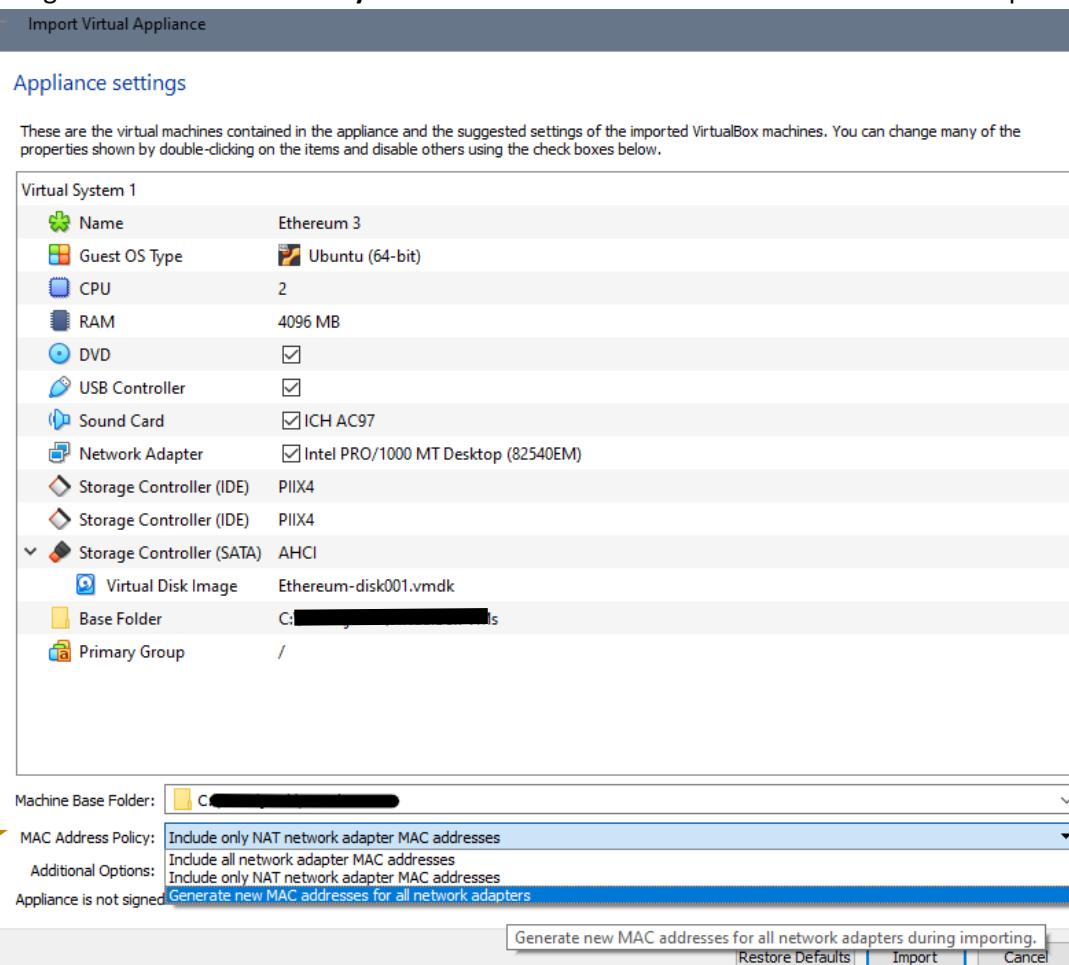
2. Open VirtualBox
3. File -> Import Appliance



4. Select **Ethereum.ovf** (Windows) or **Ethereum.ova** (Mac) and click **Next**.

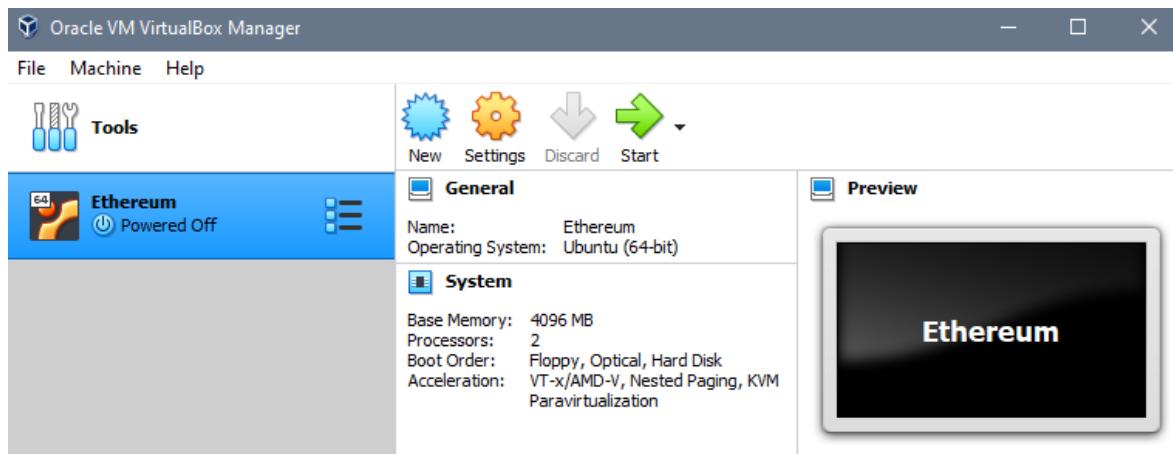


5. Change the **MAC Address Policy** to “Generate new MAC addresses for all network adapters”



6. Click Import.

This imports the Ethereum Ubuntu appliance into VirtualBox.

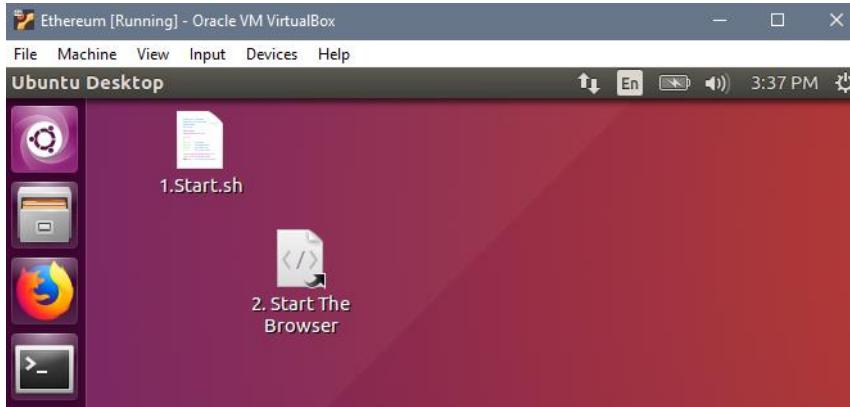


Running the Virtual Machine

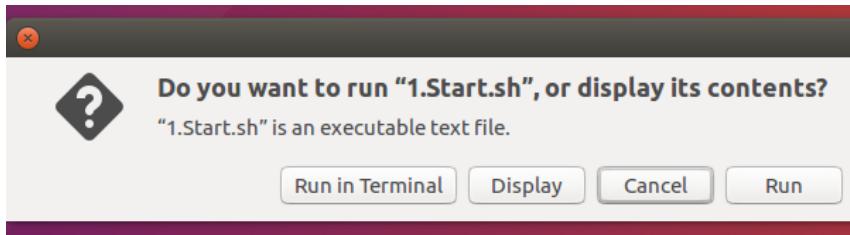
1. Select the VM you've imported and click the green **Start** arrow.
2. Password: **ubuntu**

Starting the Project

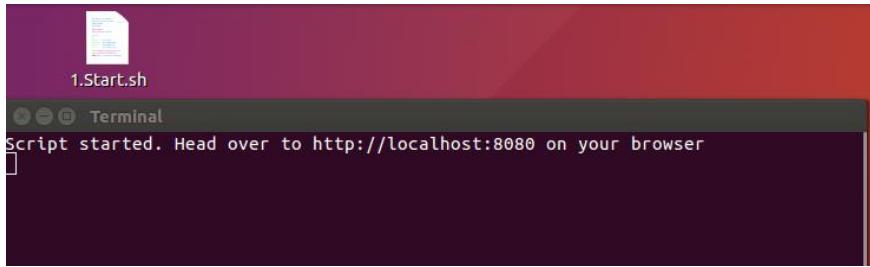
1. Once the VM is running, double click the file named "1.Start.sh"



2. Select **Run in Terminal**



Note: This will start the terminal in a few seconds. **Do not** close the terminal until the end of the exercise.



3. Minimize the terminal. (Do not close it)
4. Double click the shortcut file named "2. Start the Browser"

A screenshot of a web browser window. The title bar says "Getting Started with Ethereum". The address bar shows "localhost:8080/index.html". The main content area has a heading "Getting Started with Ethereum" and a sub-section "1. Create Ethereum accounts". The text explains that two new accounts need to be created for two Ethereum nodes. It includes two input fields labeled "Enter your Password here for Node_1" and "Enter your Password here for Node_2", and a blue "Create Accounts" button.

You are now ready to proceed with the project!