Hortonworks Sandbox with VirtualBox

June 2015

Overview

The Hortonworks Sandbox is delivered as a virtual appliance. The virtual appliance (indicated by an .ovf or .ova extension in the filename) runs in the context of a virtual machine (VM), a piece of software that appears to be an application to the underlying (host) operating system (OS), but that looks like a bare machine, including CPU, storage, network adapters, and so forth, to the operating system and applications that run on it.

To use the Hortonworks Sandbox, one of the supported virtual machine applications needs to installed on your host machine:

- VirtualBox
- VMware Fusion
- Hyper-V

This document describes importing the Hortonworks Sandbox virtual appliance into VirtualBox.

Prerequisites

To use the Hortonworks Sandbox with VirtualBox the following requirements need to be met:

- ✓ **Oracle VirtualBox installed**
  - o Version 4.2 or later
  - o You can download VirtualBox here:
    https://www.virtualbox.org/wiki/Downloads

- ✓ **Host Operating Systems:**
  - o Host operating system refers to the operating system of your computer. The following link gives an exhaustive list of operating systems supported to run VirtualBox
    https://www.virtualbox.org/manual/ch01.html#hostossupport.

- ✓ **Hardware** (The newer the hardware the better):
  - ✓ **CPU** - A 64-bit machine with a multi-core CPU that supports virtualization. Please look into your operating system's documentation to verify if you are running a 64 bit OS. Below are references for Mac OS X and Windows.

    Windows article:
    http://windows.microsoft.com/en-us/windows7/32-bit-and-64-bit-windows-frequently-asked-questions
    Mac OS X:
    https://support.apple.com/en-us/HT3696

- ✓ **BIOS** - Has been enabled for virtualization support. Please contact your specific computer vendor to determine how to enable/verify this feature in your machine's BIOS.

- ✓ **RAM** - At least 4 GB of RAM (The more, the better)
  If you wish to enable services such as Ambari, HBase, Storm, Kafka, or Spark please ensure you have at least 10 Gb of physical RAM in order to run the VM using 8 GB.

  More information for hardware requirements for VirtualBox can be found here
  https://www.virtualbox.org/wiki/End-user_documentation

- ✓ **Browsers**
    - o Chrome 25+,
    - o IE 9+ (Sandbox will not run on IE 10)
    - o Safari 6+

- ✓ **Hortonworks Sandbox virtual appliance for VirtualBox**
    - o Download the correct virtual appliance file for your environment from
      http://hortonworks.com/products/hortonworks-sandbox/#install
      The file extension for a virtual appliance for VirtualBox should be *.ova*

Procedure

The steps provided describe how to import the Hortonworks Sandbox virtual appliance into VirtualBox. The screenshots displayed are taken from Mac OS X and Windows 7 machine running the VirtualBox 4.3.x software.
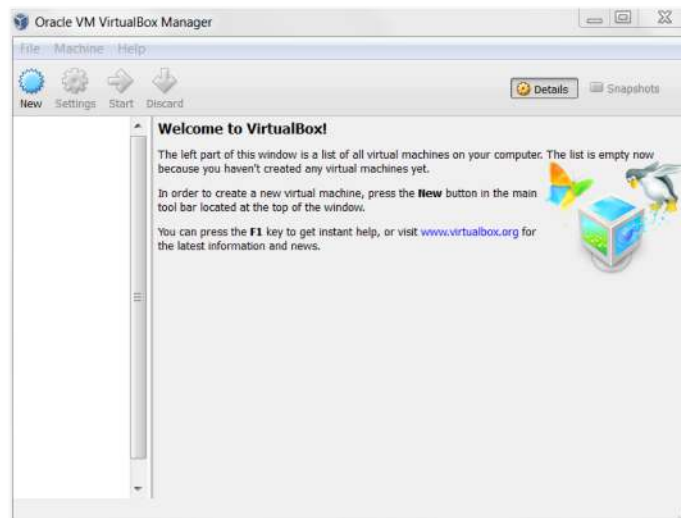
1. Open the **Oracle VM VirtualBox Manager**
   You can do so by double clicking the icon:

   On a Mac OS X machine, by default the application is installed within the Applications folder, hence the icon to launch the application can be found there.
   On a Windows machine, the executable (.exe) file is typically found in `c:\Program Files\Oracle\VirtualBox\VBoxManage.exe`
   The **Oracle VM VirtualBox Manager** window opens.
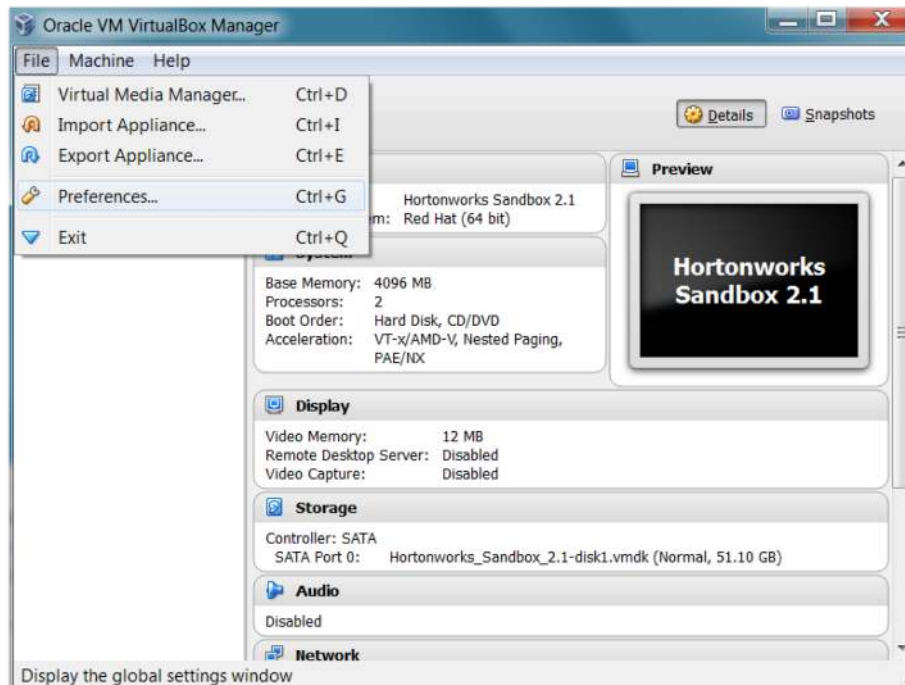   *Mac OS X:*

Windows 7:

2. Open the **Preferences** dialog window.
   Mac OS X: Select **VirtualBox->Preferences…** from the menu bar while the Oracle VM VirtualBox Manager application is in focus.
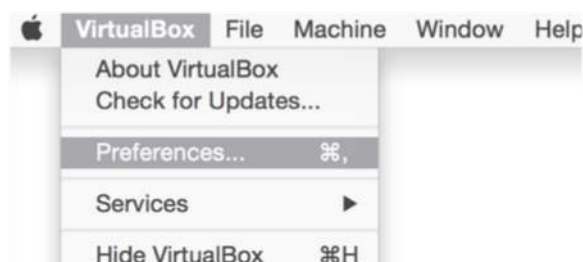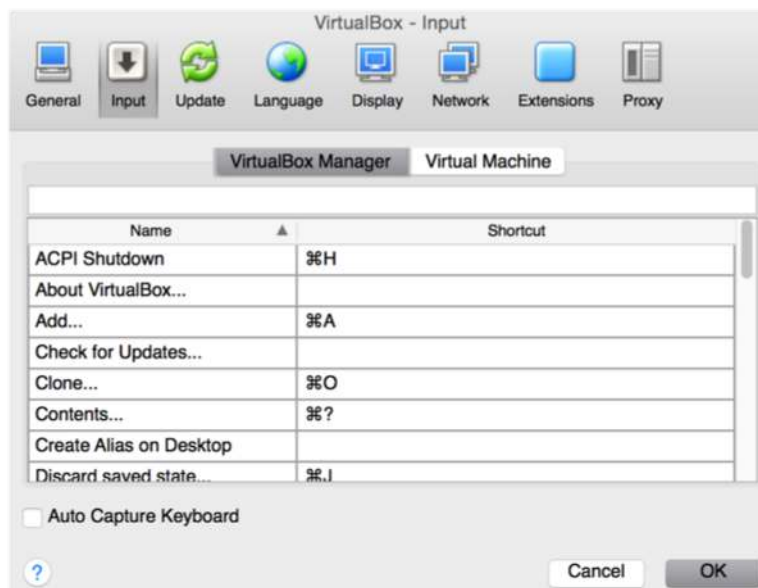

Windows 7:
Select **File->Preferences…** within the Oracle VM VirtualBox Manager

3. Uncheck **Auto-Capture Keyboard** within the Preferences dialog window.

   Mac OS X: Select the **Input** icon button from the top of the window first to get to the window containing the **Auto-Capture Keyboard** checkbox.

   Windows 7: Select the **Input** icon button from the left hand pane of the window first to get to the following window.

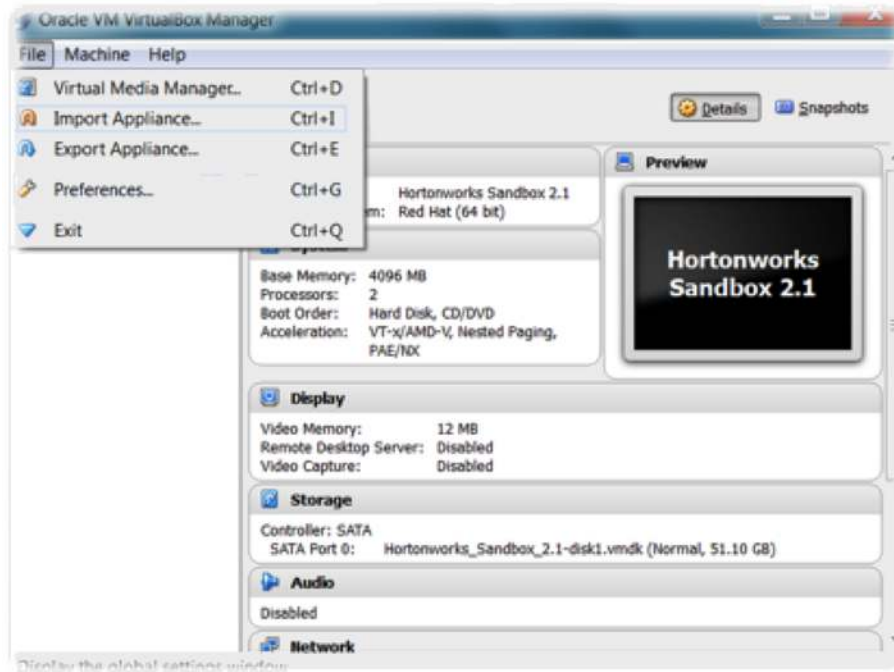Click the **OK** button once done. This will close the Preferences window.

4. Open the **Import Appliance** window.

Mac OS X: Select **File->Import Appliance…** from the menu bar while the Oracle VM VirtualBox Manager application is in focus.

Windows 7:
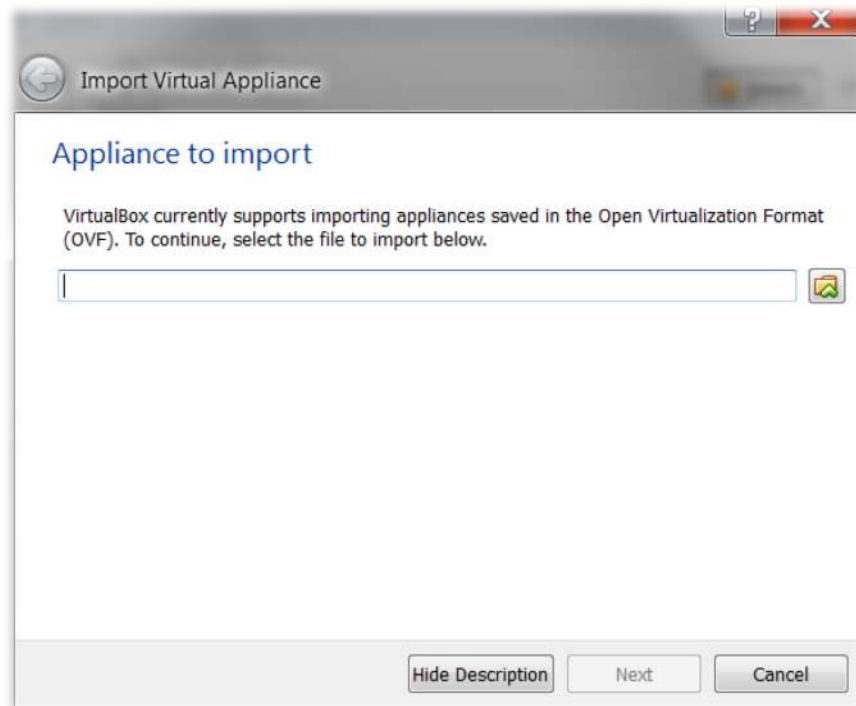Select **File->Import Appliance…** within the Oracle VM VirtualBox Manager

The **Appliance to Import** dialog window will then display allowing to select the virtual appliance to import.
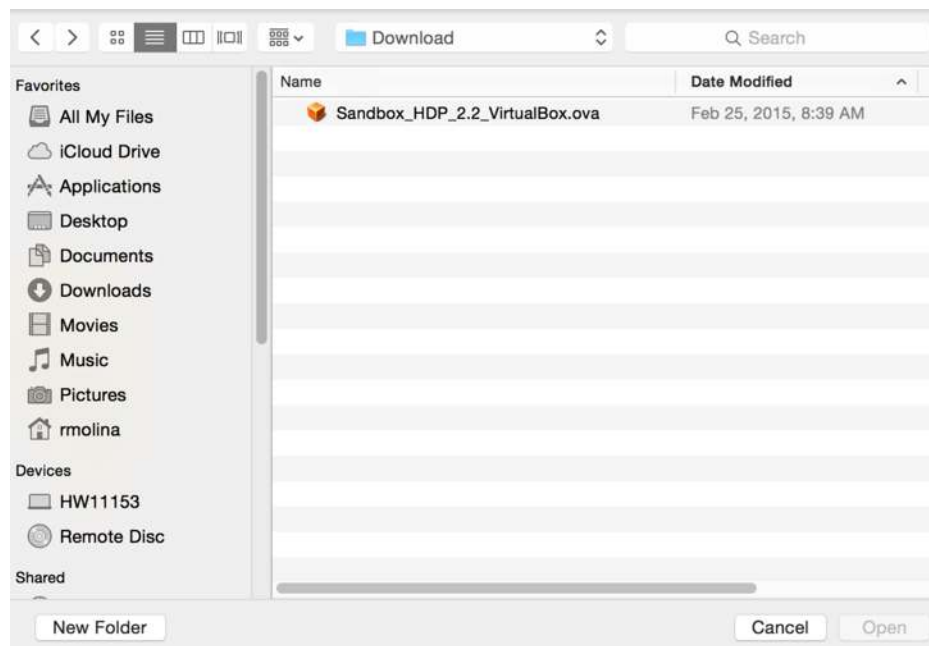
Mac OS X:
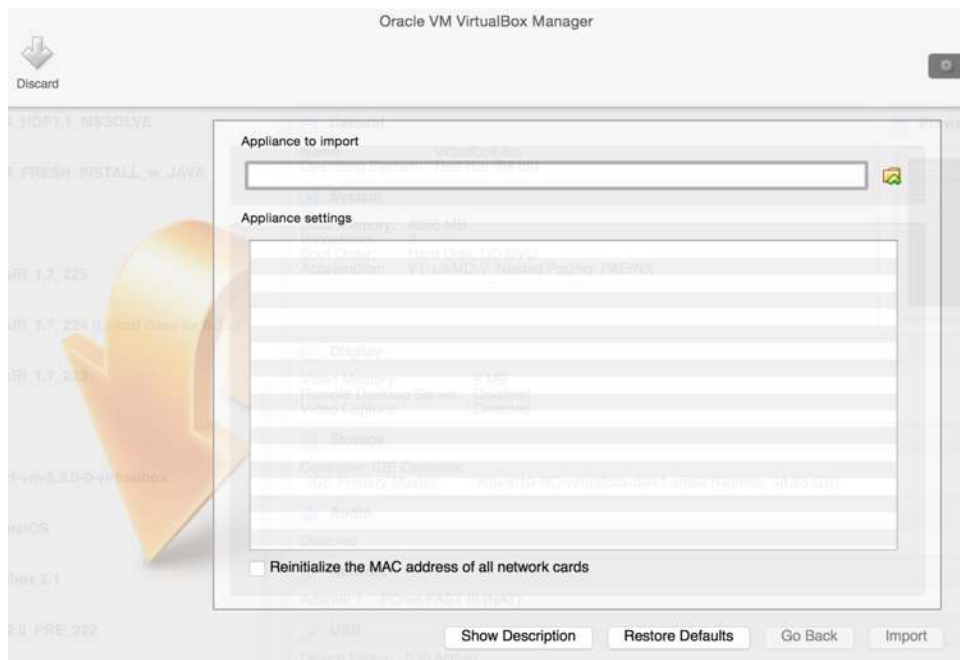
Windows 7: A separate dialog window is put in front of the **VM VirtualBox Manager** window:
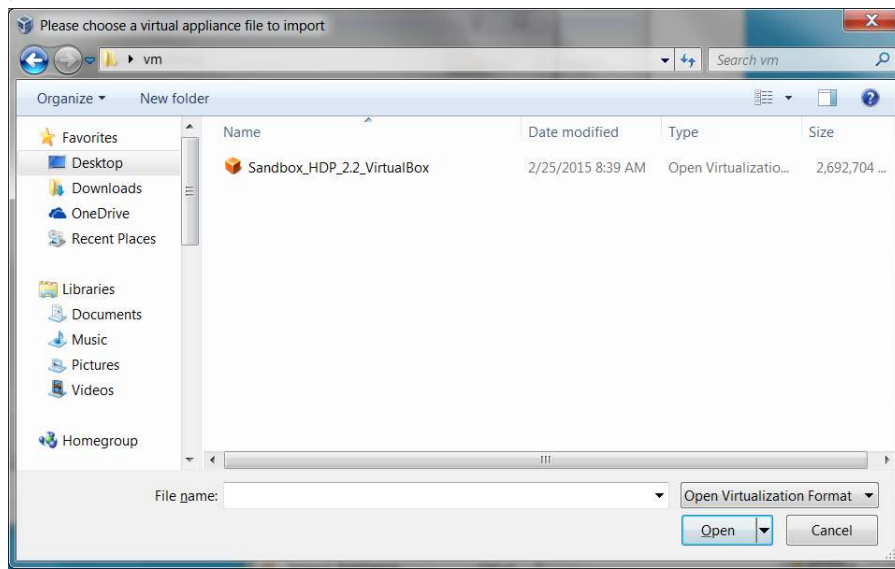
5. Click on the **folder** icon that will open a file dialog window. Select the virtual appliance file that you downloaded as a prerequisite. After selecting the file click the **Open** button.
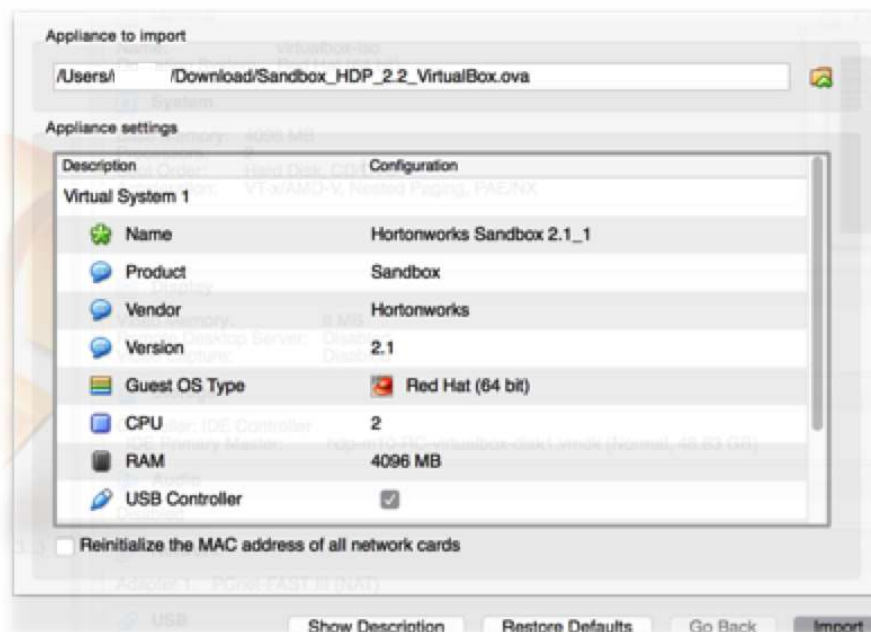
Mac OS X:

Windows 7:

NOTE: *The name of the file you have downloaded depends on the version of the Hortonworks Sandbox you have chosen to download. The above pictures are referencing Sandbox HDP version 2.2*
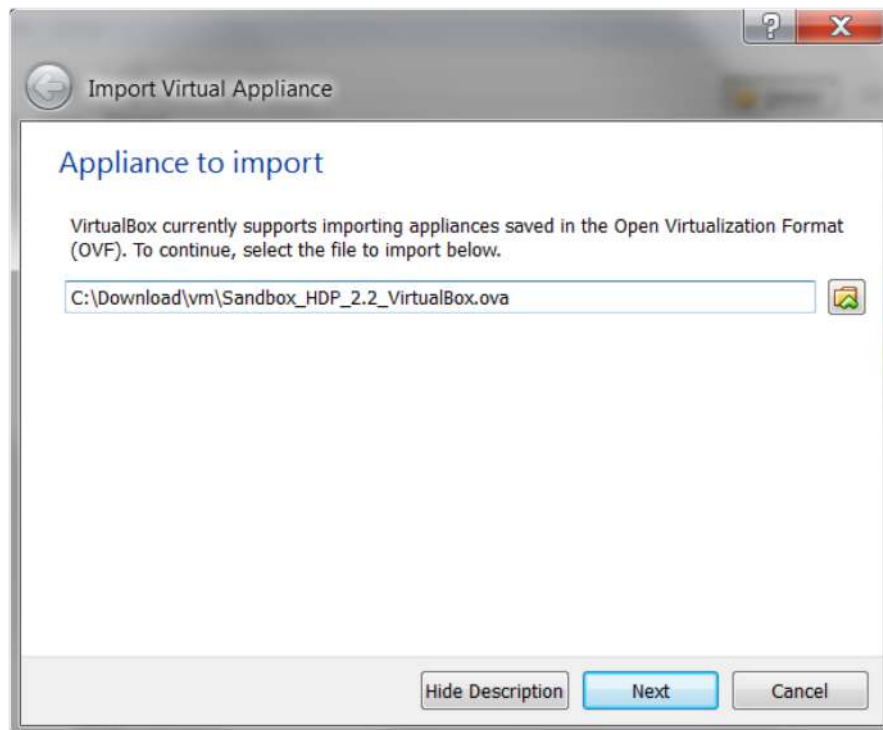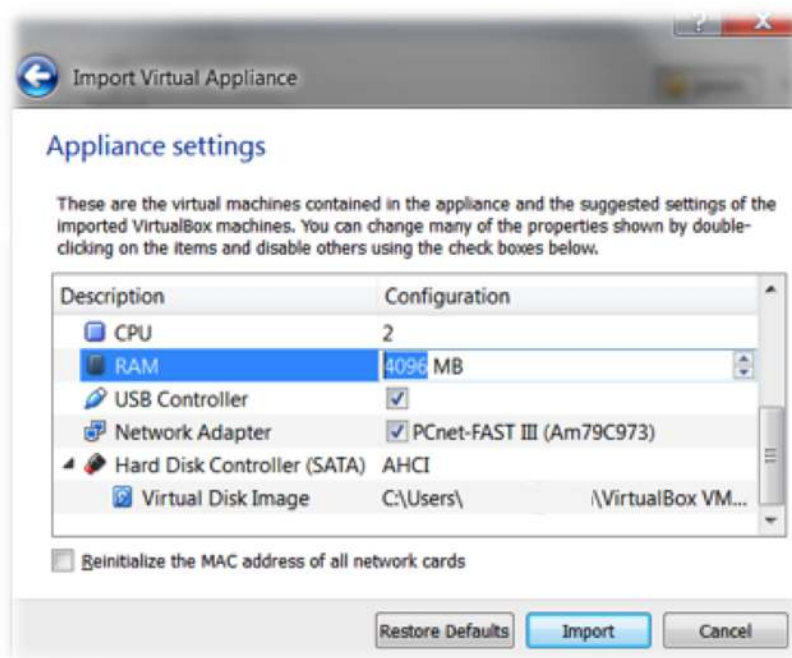
Application settings are now displayed.
Mac OS X:

Windows 7:

On Windows after you select the virtual appliance file, you are brought back to this window.


After clicking on **Next**, the Appliance Settings are displayed.

6. Modify Appliance Settings as needed.
   Within the Appliance Settings section you may wish to allocate more RAM to the virtual appliance. Setting 8GB of RAM to the Hortonworks Sandbox virtual appliance will improve the performance. Make sure you have enough physical RAM on the host machine to make this change. To make the change, click on the specific value to modify and make your edits. Once finished configuring, click **Import**.
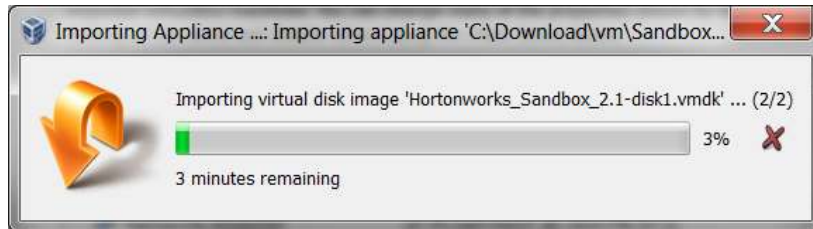   *Mac OS X:*
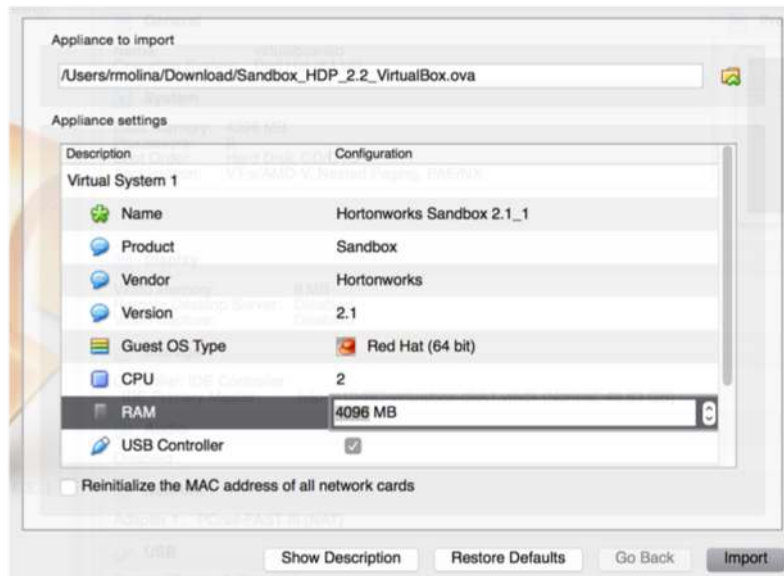
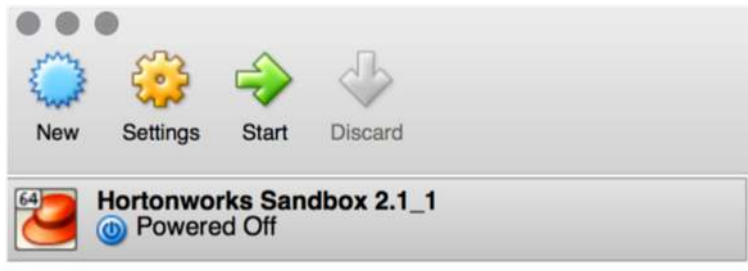*Windows 7:*
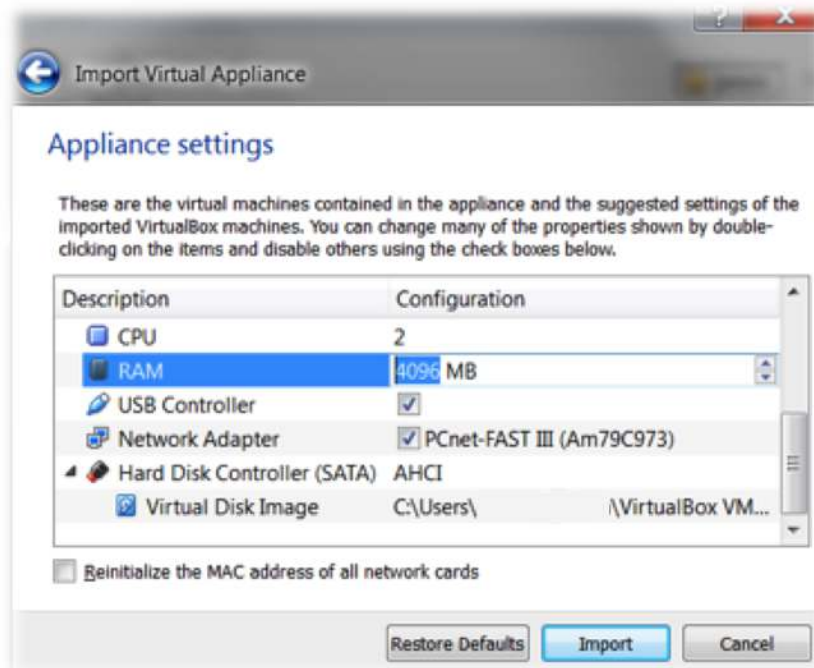
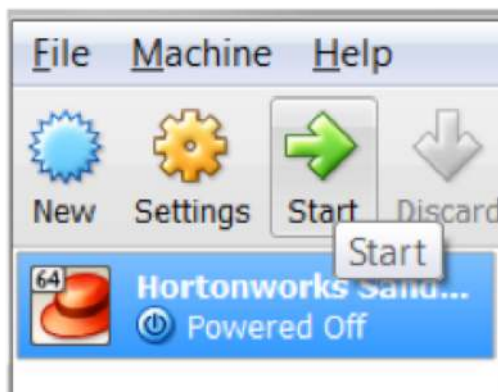Progress of the Import
Mac OS X:

Windows 7:

7. Once the import finishes, you are brought to the main Oracle VM VirtualBox Manager screen. From the left hand pane, select the appliance you just imported and click the green **Start** arrow.
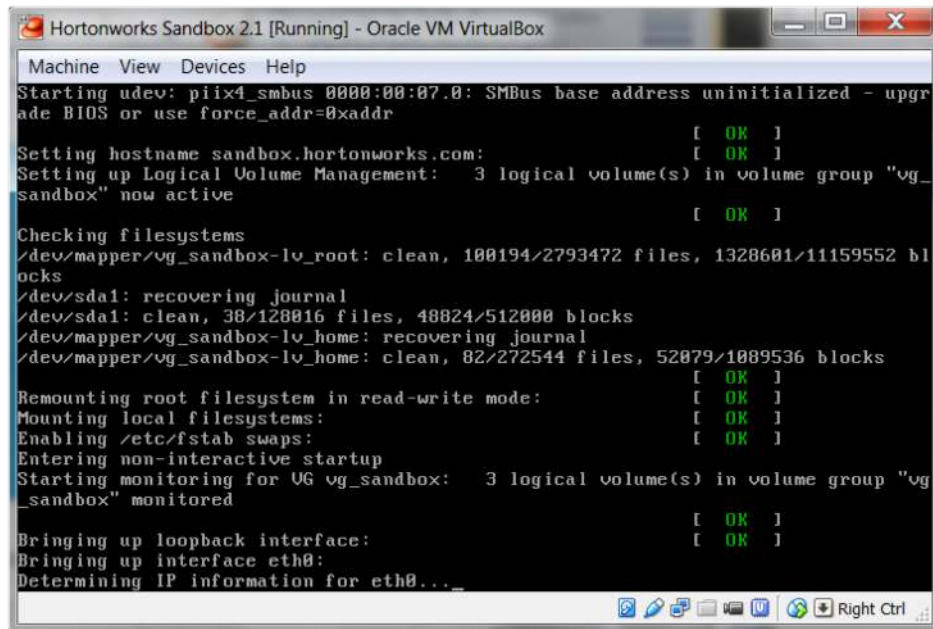
Mac OS X:

Windows 7:

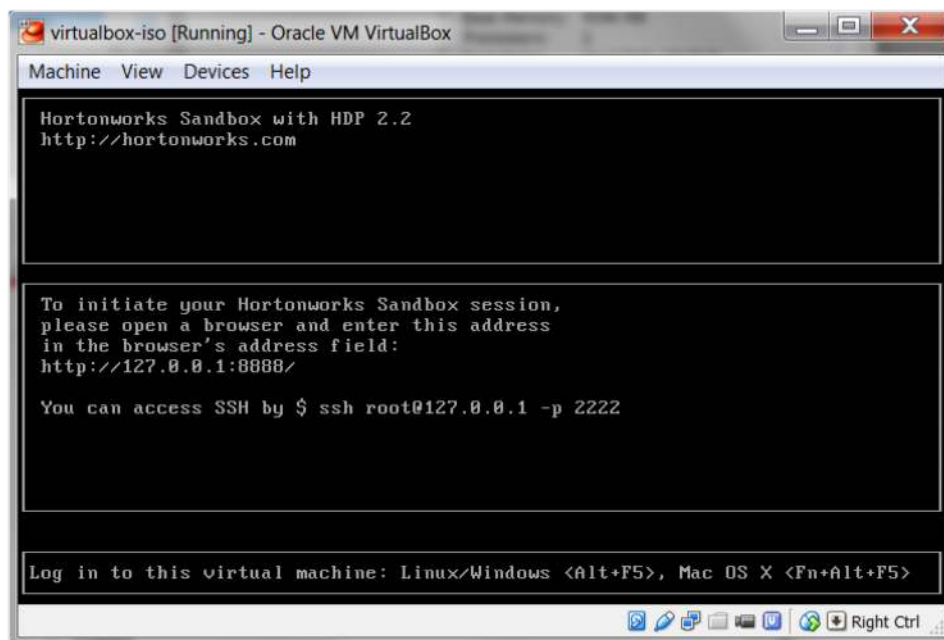A console window opens and displaying the boot up information.

Once the virtual machine fully boots up, the console displays the login instructions.

8. Use one of the supported browsers mentioned in the prerequisites section of this document within your host machine. Enter the URL displayed in the console. By default it should be http://127.0.0.1:8888. The registration form should appear:

Welcome to Sandbox!

The Hortonworks Sandbox is designed to provide you with a personal Hadoop solution and learning platform in one convenient package. The Sandbox comes with step-by-step hands-on tutorials, demos, videos that allow you to go from Zero to Big Data in 15 Minutes.

To get started with the Hortonworks Sandbox, please register using the form below.

First Name:	
Last Name:	
Email Address:	
Company Name:	
Phone Number:	
I agree to Terms of Use	☐
	Submit

NOTE: You just need to do this once. The next time you reboot Sandbox, you will not be prompted for this registration page.

9. Once you fill it out, clicking the submit button brings you to the Welcome page. That's it. Read over the information and links to get started in exploring HDP with the Hortonworks Sandbox!

Welcome to the Hortonworks Sandbox with HDP 2.3 Preview

Hortonworks Data Platform Version 2.3 represents yet another major step forward for Hadoop as the foundation of a Modern Data Architecture. This release incorporates the last six months of innovation across Apache Hadoop and its related projects.

Every component is updated and we have added some key technologies and capabilities to HDP 2.3. It provides dramatic improvement in the **User Experience** by eliminating much of the complexity administering Hadoop and improves developer productivity.

HDP 2.3 provides enhanced **Security** and **Data Governance** through new encryption of data at rest, and extending the data governance initiative with Apache™ Atlas.

If you would like to experience our new features, try some of the "what's New" tutorials below.

Dive right in

Get started using Sandbox with your own datasets, and connect it to your existing tools and applications.

To use the Ambari interface to explore HDP 2.3 navigate to http://127.0.0.1:8080. The username and password is admin and admin respectively.

To SSH into the VM and explore HDP 2.3 Sandbox from the command line

```
ssh root@127.0.0.1 -p 2222;
```

The password is `hadoop`